Contesting the future:

Schismogenesis and the production of knowledge in a mining dispute

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Abstract

This thesis presents an ethnographic account of a dispute between conservationists and developers over a proposed solar salt field adjacent to the Exmouth Gulf on the northwest coast of Western Australia. If successful, the mine would have become the largest of its kind in the world, requiring significant infrastructure development in a landscape that had so far remained largely unknown and under researched. In the process of undergoing the environmental reviews process, both developers and conservationists were obliged to produce valid and 'objective' scientific environmental knowledge as evidence to support their beliefs as to why the mine should or should not be constructed in area about which so little was understood. In this way, they were drawn into a dispute that became increasingly polarised, bitter, and personal. To frame this discussion, I draw on the notion of schismogenesis (Bateson 1972, Binde & Boholm 2004) to illustrate the process whereby the two opposing groups became locked in an increasingly polarised and simplistic dispute over whose environmental narratives should be used to decide the future of the environment. The result was the production of two utterly opposing bodies of environmental knowledge, which were both equally supported by valid scientific and local experiential knowledge.

Often, the oppositional beliefs, values, and knowledge presented by the conservationists and developers were presented in public discourse as "shallow", driven primarily by economic greed or superficial aesthetic motivations. As such, both conservationists and developers emphasised the importance of 'good' science in the arbitration of dispute. Yet while science provided knowledge in the form of 'facts', it was the role of decision-makers and the wider public to decide what to do with it. As I show throughout this thesis, the knowledge that arose out of the web of daily interactions with the environment and with other people generated far deeper and impassioned commitments to certain ways of knowing and being in the world than is usually given credit in public discourse.

My aim in this thesis is therefore to provide a more nuanced account of the production and contestation of knowledge in dispute, and to illustrate what it meant to the participants to care for the environment in the context of their own lives. In doing so, I take up Miller's (2006:385) argument that the framing and production of environmental

knowledge and narrative has as much to do with *how* people come to know the environment as it does with *what* they know.

Through this research, I extend current ethnographic research in environmental dispute by taking up Satterfield's (2002:161) call for anthropologists to provide an equal analysis of both parties involved in the decision-making process. Often, a focus on one interest group, to the exclusion of another, can lead to an overemphasis on what appears to be an incommensurable, morally-based difference of worldview. By positioning this ethnographic account from 'the middle', I provide a more holistic analysis of the similarities and differences between the conservationists and developers. This broader focus serves to highlight the complex relationships *between* the two groups in order to understand the process through which moral difference was imagined and created as a result of dispute, rather than simply as a cause of it. I therefore argue that members of the two groups played an active role in the construction of difference throughout the dispute, which was articulated through increasingly polarised environmental narratives. Ultimately, it was these bodies of knowledge that came to underpin, and legitimise, each group's moral assertion of the right or wrong ways for human society to exist within nature.

Statement of candidate contribution

Except where otherwise acknowledged, this thesis contains only sole-authored research and analysis. An earlier version of Chapter 4 has been published in Ethnos. The bibliographical details of the work are outlined below.

Hobbs, E. 2011 'Performing Wilderness, Performing Difference: Schismogenesis in a Mining Dispute', *Ethnos: Journal of Anthropology*, Volume 76 Issue 1, Pp. 109-129.

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Glossary and Abbreviations

CALM	The Department of Conservation and Land Management (now known as DEC – the Department of Environment and Conservation)
CCG	Cape Conservation Group. I refer to this group as 'the conservationists' throughout this thesis.
CCWA	The Conservation Council of Western Australia
DEC	The Department of Environment and Conservation (formerly called CALM – Conservation and Land Management)
EPA	The Environmental Protection Authority of Western Australia
ERMP	Environmental Review and Management Plan.
Halt the Salt	The activist group created by Kailis, Recfishwest, CCWA and CCG to present an organised anti-mine campaign.
Kailis	M. G. Kailis Pty Ltd. This company, which is based in Perth, is the largest prawn fishing company working the Exmouth prawn fishery.
Recfishwest	A council representing recreational anglers in Western Australia
SRG	Stakeholder Reference Group.
Straits	Straits Resources Pty Ltd. I refer to the employees of this company as 'the developers' throughout the thesis.

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Author's Note

Naming conventions and concerns for anonymity

Due to the public nature of the dispute, and the importance of the descriptions of the physical place to the analysis of this research, I refer to specific places and the companies involved by using their real names. In this case, I only refer to the companies or agencies who had openly stated their support or opposition to the mine, and had done so in a deliberately public manner. However, in order to preserve a level of anonymity for the participants in this research, all the participants' personal names are pseudonyms. As is the nature of mobility in Exmouth and the development industry, a number of key participants from both groups left the dispute due to new employment opportunities or because they were moving away from town, and others took their place. As such, not all the participants in this thesis were known to each other, and the professional labels (such as project manager) were held by a number of different participants over the year and a half of this fieldwork. As such, I refer to the professional positions or specific ages of the conservationists or the developers in a very general way.

Involvement of Indigenous people in the dispute

Although a number of Indigenous people were active stakeholders in the mining proposal, I do not present an in-depth discussion of their involvement in the dispute for two reasons. First, the negotiations between the Indigenous leaders and the developers were kept confidential, and were not divulged during the main Stakeholder Reference Group meetings. Second, at the time of research, there was an active Native Title application in progress. These negotiations have remained confidential, and I was specifically requested not to publish any information pertaining to this process. For this reason, I do not specifically discuss Indigenous peoples' participation in the Exmouth Salts dispute, nor do I directly discuss Indigenous heritage in the Exmouth Gulf and Cape Range region from the point of view of the traditional owners.

Chapter 1
Introduction: Environmental knowledge in dispute

> *I'm an environmentalist because we still need people who are willing to fight for it... balance I mean.*
>
> Paul, Conservation Activist (15 January 2007)[1]

> *I do care [about environmental protection], I care a lot. We're all environmentalists now whether or not we want to be.*
>
> Ian, Project Engineer (30 October 2006)

What does it mean to care about the environment in contemporary Australian society? How is this concern reconciled when personal beliefs and values are challenged through leisure or work activities, or more directly in the context of a dispute? In recent decades, environmentalist beliefs and values have posed significant challenges to the 'casual dominance' of capitalist ideologies in shaping human-nature relationships by questioning the '"freedom to narrate the world" that flows from economic power' (Trigger 1997:175). Sociological research has consistently found that environmental concern is widespread, with surges of interest corresponding to public campaigns or specific ecological disasters (Davison 2008, Tranter 2010:414). Within this context, environmental concern is usually identified in three ways; either as more general beliefs and values, as active membership in a community conservation organisation, or as individualistic acts such as recycling or installing energy conservation products in the home (see for example ABS 2009-10). This has led sociologist Bruce Tranter (2010) to argue that there is significant misunderstanding, in both public discourse and academia, about what environmentalism means to Australians in their everyday lives. Tranter's (2010) study has shown that the 'traditional' markers used in social science, such as environmental group membership and participation, do not provide an adequate portrait of exactly how individual people conceptualise their own environmentalist beliefs, values, or practices. Nor does it adequately encapsulate exactly how they understand the

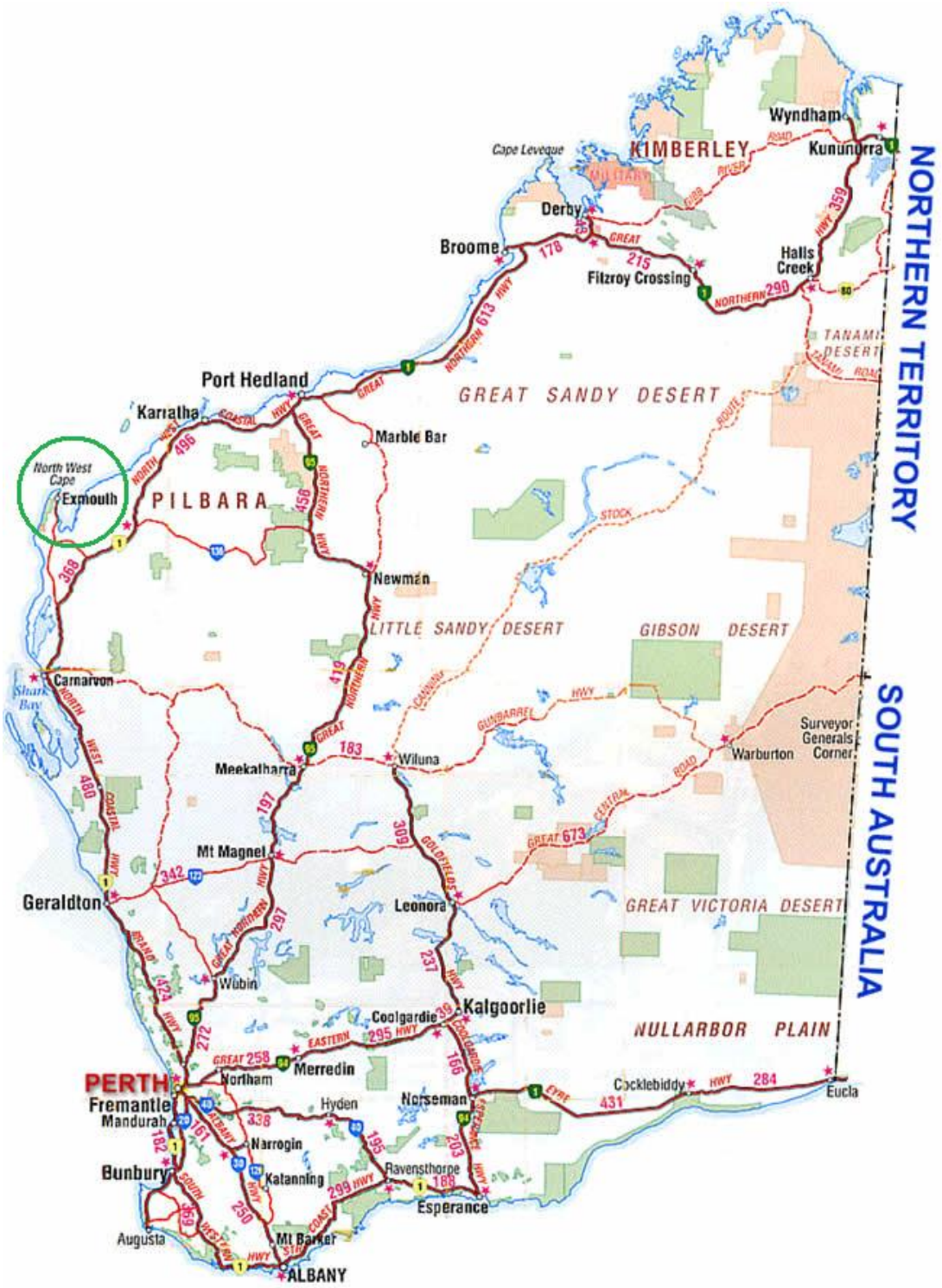
[1] All names of participants in this research are pseudonyms in order to protect the identity of those involved.

gap between their environmental values and their actions. Through my research with conservationists and developers in Exmouth, I aim to provide an insight into how members of ostensibly very different ideological beliefs regarding human-nature interaction come to understand and incorporate environmental beliefs and values into their work and leisure activities. In short, I ask, what does it mean for members of both groups to care for the environment? And, what impact does this have on the creation of new environmental knowledges?

This thesis is a study of the production and contestation of environmental knowledge within a dispute between local conservationists and mining developers over a proposed solar salt mine in Exmouth, Western Australia (see *Figure 1*).[2] It is the result of sixteen months of fieldwork in both Exmouth and Perth, conducted between September 2006 and December 2007. Prior to the dispute, the environment in question had remained largely unknown to the wider public, frequented mostly by recreational and professional fishers, wilderness tourism operations, and managers of the adjacent pastoral station. From the moment the proposal was announced, this area, encompassing a significant expanse of interconnected land and sea-based ecological systems, was brought immediately into public scrutiny. In the process of undergoing the environmental approvals process, the environment became the subject of intense and relatively rapid science-based 'audit' as conservationists and developers raced to provide empirical evidence for the mining proposal's suitability, or otherwise, within the allocated timeframes set by the proponent and the review board of the Environmental Protection Agency of Western Australia (which I now refer to as the EPA).

[2] I use the term conservationists, or local conservationists, to refer to the local residents who were also members of the local conservation group, called CCG (Cape Conservation Group). Developers refers to the employees of Straits Resources who were permanently employed to work on the proposal. They included engineers, project managers, and environmental advisors. Any consultants who were contracted to conduct work for either group are identified in their capacity as independent consultants, and are therefore not included in these umbrella terms.

Figure 1: Map of Western Australia. Exmouth is circled in green. Source: Australian Travel and Tourism Network, 2011



In this thesis, I take up anthropologist Terre Satterfield's (2002:161) call for an equal focus on the differences *and* similarities between opposing groups of people in studies of dispute. Ethnographies of environmentalism tend to focus on the perspectives of conservation activists, while overlooking the knowledge, beliefs, values and objectives of those who work for the corporations are left out. Consequently, they remain a monolithic and relatively unknown entity in the background of ethnographic analysis (Ballard & Banks 2003:290). The relationship *between* oppositional groups is often overlooked, yet 'the tension between variation and commonality is a central site of culture in action' (Satterfield 2002:161). From this position 'in the middle', I found, as did Satterfield (2002:172) in her fieldwork with conservation and logging activists in North America, that I often empathised with the beliefs, values, and emotions of both groups, yet I rarely agreed with either. In doing so, I followed Berglund (1998) and Satterfield's (2002) stance by declining to commit to, or support, the arguments of either group. Instead, throughout this thesis, I aim to represent both in a way that reflects the beliefs, motivations, and obligations of the participants who espoused these environmental narratives.

My aim in this thesis is therefore to examine the ways in which different people, who represented opposing ideological frameworks (environmentalism and development ideology), came to understand the role of environmentalist beliefs and values in their work. To do so, I highlight the role of the dispute itself in the formation of environmental knowledges of this previously little-known landscape. In particular, I examine the arena of the stakeholder reference group meeting (SRG) as an integral site of the production of these oppositional framings of environmental knowledges, which remains greatly under researched in anthropological studies of contesting environmental knowledges, beliefs, and values (Boholm 2008:121, Griffin 2009:557-8). In Exmouth, these meetings were the primary site through which much of the information about the proposal was raised and disputed, and provided the examples that were continuously referred to by participants in interviews and conversations. Indeed, much of the activism that occurred revolved around preparing for, or attending, these meetings. This thesis, then, is focused upon the stakeholder meetings themselves, the private meetings in which stakeholders prepared for the SRG meetings, and individual participants' reflections on them in interviews.

Within this framework, I show how participants interpreted particular environmental knowledges or narratives as they arose, and creatively employed various social, economic, political, and scientific discourses in order to support and justify their own knowledges, and to devalue those of their opposition. As is commonly acknowledged in academic research, the development of knowledge is far from a value-free scientific enterprise, as is considered the ideal within the environmental decision-making process (Heatherington 2005:158). Consequently, the politics involved in the framing of environmental knowledges, defined as 'the process by which communities arrive at shared conceptual frameworks' through 'the communal interpretation of environmental issues', cannot be underestimated (Miller 2006:380). Additionally, the results of this thesis support Miller's (2006:385) assertion that the framing of environmental narratives has as much to do with *how* people know the environment, as it does with *what* they know. In this chapter, therefore, I show how shared beliefs, values, and knowledges of each group came to inform and support two widely opposing, yet supposedly objective, environmental narratives, which ultimately came to neatly represent the conservationists' and developers' causes. I argue that, importantly, these opposing knowledges played a significant role in individuals' interpretations of what it meant for them to care for the environment in everyday life, and how they believed these values should translate into action.

Disputing the science of salt mining

The salt mine, referred to within the dispute as "Yannarie Solar" or the "Exmouth Salts" project, was initially proposed in 2003 (Department of Mines and Petroleum 2011) by Straits Resources Pty Ltd (Straits) (see *Figures 2, 3, 4 and 5*).[3] The proposal involved the construction of a series of solar salt fields, producing up to 10 million tonne per annum of salt at full production.[4] Once completed, the mine would have extended along over 70 kilometres of coastline, covering 411 square kilometres of land. The mine would follow "conventional" production techniques, in which salt water is pumped from the ocean into a series of evaporation ponds. As the water is pumped from one

[3] Due to the public nature of the dispute, I refer proposed mine site, mining companies, and activist groups using their real names. However, as I will explain in Chapter 2, the names of the participants involved are given pseudonyms in order to maintain their anonymity.

[4] As a point of comparison, the developers identified the world demand for salt to be approximately 225 million tonnes per annum, with pre-existing facilities in Western Australia already exporting over 10 million tonnes per annum (ERMP 2006:2.19-2.20).

pond to the next, the seawater evaporates, leaving an increasingly saline brine solution. In the final pond, the seawater evaporates entirely, leaving crystallised sodium chloride (salt). At this point, the salt is processed and shipped overseas (primarily to Asia) for a number of uses, including the making of chemicals and plastics, as edible table salt, and as a de-icing agent (ERMP 2006:1.1). Solar salt production is often promoted as an 'ideal' sustainable industry because the process does not use chemicals during production, its primary source of energy is the sun, and sea water is endlessly renewable. Indeed, the proposed solar salt facility was often touted by the developers as more of a "farm" in which salt is harvested from the land and sea, as opposed to an extractive mine in which resources are stripped from the ground.

The developers chose this area for the proposed site due to the ideal weather conditions, and because the flat landscape that was already a naturally occurring salt field. The area had been set aside specifically for the purpose of future developments such as salt mining (Department of Mines and Petroleum 2011). As a semi-arid desert, this region is one of the hottest and driest coastal strips in Australia. The protected waters of the Exmouth Gulf meant it would be ideally suited for shipping, and some areas of the water were already sufficiently deep so as to minimise the need for dredging. The pre-existing salt flats, which were already deemed large enough to support the scale of production necessary for the mine to become financially viable, would require no significant landscape change as a result. Although some small amounts of mangroves would need to be bulldozed for the construction of jetties and pumping stations, examples from other mine sites had shown that the environment would survive within and surrounding the mine site. Often, flora and fauna are pumped into the initial pond with the sea water. As a result, these species continue to live in the pond, and come to create an entirely 'new' environment from which many fish and bird species could benefit. The developers also saw it as a very stable form of industry that would support the local community by offering long-term employment. The developers thus promoted it as an ideal sustainable industry, in a similar league as the harvesting of wind, solar, or wave energy (despite the primary use of salt being in the production of chemicals and plastics).

Figure 2: A Halt the Salt campaign flyer of the proposed mine site. On the left is the actual image of the proposal. On the right, the boundary of the proposed mine has been superimposed over the Perth city area to show the scale of the mine. Source: HalttheSalt.org.au, February 2007

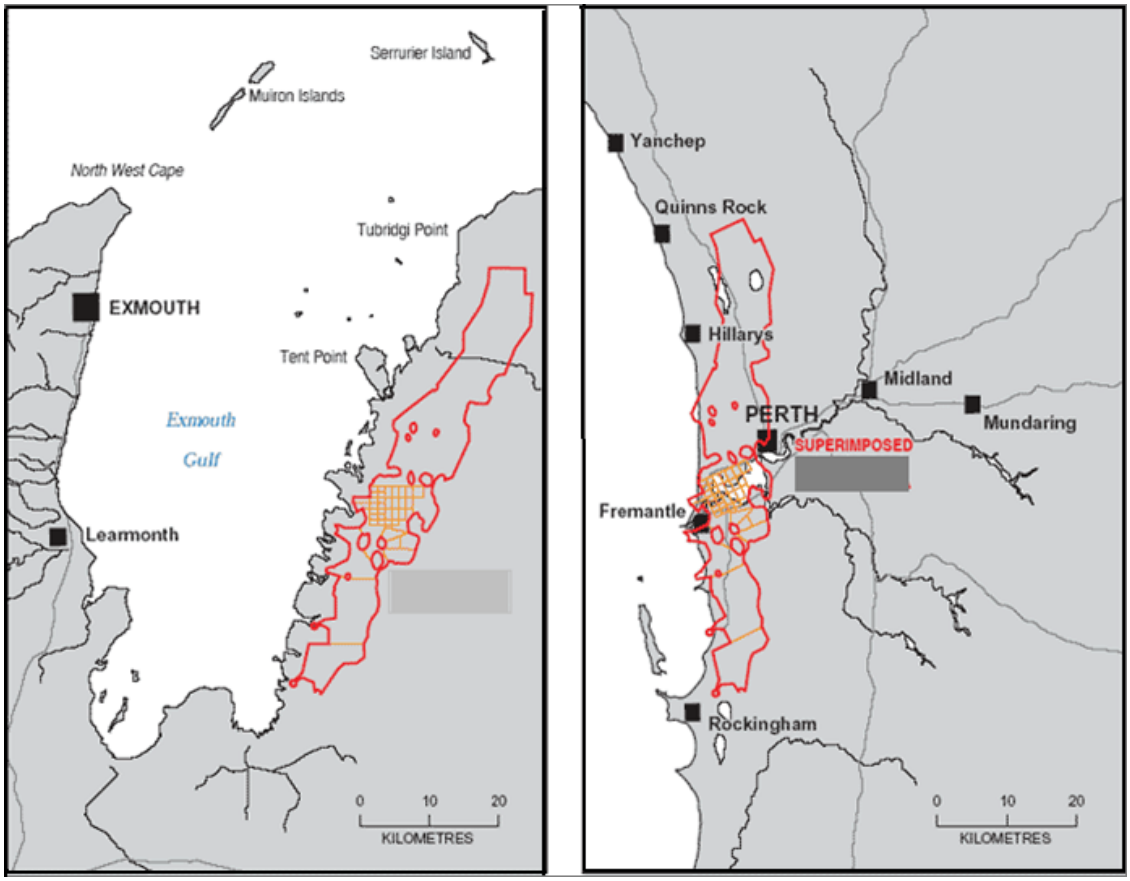


Figure 3: The shallow creek systems between the proposed mine boundary and the gulf. Source: HalttheSalt.org.au, February 2007

Figure 4: Image created by the Halt the Salt campaign, depicting the connection between ocean and landscape. Source: HalttheSalt.org.au, February 2007

Figure 5: The view from the ground while following a research team.
Source: Author, November 2006

Despite many local residents agreeing with this view, a number of others believed that the mine still posed an unacceptable risk to the environment. Through personal experience, many of them had seen a large variety of fish and marine mammal species living in the gulf. Although there was some contention amongst local residents as to the extent of the damage caused by commercial fishing practices in the past, the mangrove systems, shallow reef and seagrass beds were generally believed to function as 'nurseries' for baby animals such as sharks and stingrays. Many participants believed that the large numbers and diversity of the juvenile fish species that inhabit the shallow waters of the Gulf strongly suggested that there may be significant connections between the Gulf ecosystem and those of the Ningaloo Reef. Local conservationists in particular saw that the mangrove systems provided an important habitat for many fish, birds, and crustaceans. Many of these personal observations were supported by ongoing research conducted by Kailis (an Australian business with commercial prawning licences in the Gulf) in order to prove the sustainability of their commercial fishing operations. They routinely calculated and published their annual catch of prawns, and matched them to environmental events, including cyclones, storms, and droughts. The research suggested that the populations of prawns and other similar species appeared to rise significantly soon after large rainfall events, which washed large plumes of nutrients and soils into the Gulf from the intertidal mudflats and salt planes. These observations were further supported by the growing body of information they discovered when they began research on the impacts of similar salt mines elsewhere.

As a result of these shared concerns, a number of businesses, community organisations, and scientific institutions also had significant concerns. For many, their livelihoods and recreation were dependent upon the ongoing health of this region. Others, including the conservationists, were concerned for the health of the environment for its own sake. As a result, M. G. Kailis Group (known locally as 'Kailis'), the State recreational fishing body Recfishwest, the Conservation Council of Western Australia (CCWA), and local conservation group called 'Cape Conservation Group' (CCG) worked together to form the *Halt the Salt Alliance* in order to stop the proposal being accepted by government. Eight further institutions, businesses and organisations later joined the alliance, which also lent support to continue the campaign. The combined effort of this group enabled them to gain legitimacy for their cause through their extensive research and political campaigning.

As the Halt the Salt Alliance discovered through research of similar mines, there are a number of potential environmental hazards involved in the construction of this type of mine. Firstly, salt "farming" involves large-scale changes to extensive tracts of visible landscapes. The Yannarie Solar proposal required the removal of approximately 5 square kilometres of terrestrial vegetation (including mangroves), and 411 square kilometres of naturally occurring salt flats and arid vegetation adjacent to the mangrove systems. This process is similar to that of agriculture, in which tracts of land are cleared for the creation of fields or paddocks. In order to construct the ponds, the entire area would have been bounded by levees. This would prevent natural run-off during large rainfall events, which was believed to be a primary source of nutrients upon which the adjacent mangrove and shallow-water ecosystems relied (Dunlop et al. n/d). In addition, the process of evaporating water from sodium chloride results in the creation of a toxic by-product called *bitterns*. In fact, the mine would create over 11 million cubic metres of toxic bitterns over each 10 year period (EPA 2008:1), which would have to be stored until a potential use was found for them. In similar production facilities in Australia and around the world, companies release them back into the ocean to be dissolved back into the seawater. However, participants in this research who had seen these mines (except for the developers themselves) often cited the widespread deaths of mangrove and seagrass ecosystems in other salt facilities in Western Australia that had resulted from the release of bitterns. In addition, it was believed that the levees would prevent the natural cycle of erosion and renewal of the coastline, and the mangroves from colonising shallower areas if the shallow water was eroded (MG Kailis & WAFIC 2007:7-10). Although the developers never directly referred to these deaths, they did acknowledge the potential harm caused by bitterns. They therefore proposed to store the bitterns for up to 10 years until a commercially viable use could be found. According to their opposition, though, the large quantities of bitterns would have made safe storage difficult. Additionally, no plan was put forward to outline their safe disposal if no use was found for them. Lastly, the risks of dredging, which would have been necessary for the Straits proposal so as to allow for large ships to enter the gulf and load the salt for transport, have also been proven to pose significant risks to marine life.

Additionally, participants often argued that there were already a number of salt mines in Western Australia, many of which were no longer financially viable. A number of participants in this research who had worked for government agencies involved in the

industry believed that these mines were kept running at minimal capacity because it was much cheaper than decommissioning them, which would have required them by law to return the environment to its 'natural' state prior to mining operations. The only other known proposal of a comparable size and production capacity had been put forward in Mexico. Ultimately, it had been rejected due to the high risk of negative impact on the overall ecosystem (Profepa 1998). The potential risks posed by the mine would have occurred throughout everyday production activities (as opposed to an unintended incident such as an oil spill), which therefore raised concerns amongst many local businesses and residents.

Consequently, public trust in the laws governing environmental protection in mining, as well as in the developers themselves, was already extremely low. They felt obliged to enter into the dispute so as to hold the developers publicly accountable, and to ensure that the decision-makers therefore heard their alternative knowledge and experiences. The potential risk, combined with public concern, meant the proposal was referred to the Environmental Protection Agency (EPA), and was required to complete an Environmental Review and Management Plan (ERMP). Once completed, the EPA would submit a recommendation as to whether the mine should be approved to the government in power. It was therefore the government in power that made the final decision on the mine.

At the time of research, an ERMP was the most stringent level of assessment conducted by the EPA, and was used to projects that were deemed to be of high risk to the environment. In order to complete this assessment, the developers were obliged to produce a thorough analysis of any potential environmental damage or change that would occur as a direct result of the mine, backed up with a thorough scientific audit of the surrounding environment. Using this data, they were then obliged to explain how they would mitigate any potential risk. The scientific audit included surveys that were carried out over two to three years, and included geological, hydrological, and biological surveys of the marine and terrestrial ecosystems that would be potentially affected by mining activities.

Under Part IV, section 40 of the *Environmental Protection Act 1986*, the environmental review process required the developers to incorporate the public's response by releasing their draft environmental review document for public comment (in this case, the

ERMP). However, EPA guidelines and policies specifically state that the company's consultation with potentially affected members of the public, in addition to more formal Stakeholder Impact Assessments, will be taken into consideration when the whole ERMP document is considered (which I will examine in more detail in Chapter 3) (EPA 2002:572-3). One of the only means by which the public can have an impact on the decision-making processes in such proposals is through the environmental assessment process. The Halt the Salt Alliance (and many non-affiliated organisations and government agencies) therefore used the ERMP process to voice their knowledge and opinion on whether or not the mine should proceed. As a result, the Stakeholder Reference Group (SRG) meetings became a primary site through which the subsequent dispute was waged, as it was the main site in which the developers were obliged by law to listen to, and take account of their concerns.

As I show in this thesis, both the Halt the Salt Alliance members and the developers worked hard to provide strong evidence to support their claims. In such situations, development companies tend to hold significant amounts of power in this process due to financial capital and political connections (see Berglund 1998, Trigger 1997). Although this was this case in this dispute, the Halt the Salt Alliance also held significant political connections, and had sufficient finances (albeit much less time) to generate research and public relations material. The public backlash to the proposal, combined with the relatively high risk and low economic returns of this type of mine, meant that the result of the dispute was never certain for either developers or the conservationists. In 2008, the EPA submitted its recommendation to parliament, in which they believed the mine should not be allowed to go ahead (EPA 2008:ii). Their reasons for the decision mirrored the concerns raised by the Halt the Salt Alliance I described above. As a result, the government decided to reject the proposal formally in 2008. Although the developers lodged an appeal in 2009, they ultimately withdrew the proposal before the government released its decision with the intention of reapplying at some time in the future.

Methodology

This multi-sited research is the product of sixteen months of fieldwork in Exmouth and Perth (the capital city of Western Australia), conducted between September 2006 and December 2007. During this time, I moved regularly between the two towns, spending a

total of eleven months in Exmouth, and five months in Perth. As is common in rural and remote development proposals in Western Australia, the decision-making process involved many different people who lived and worked in a number of different physical places. Although the proposed mine site was an area of land along the eastern shoreline of the Exmouth Gulf, very little of the debate or decision-making actually occurred there. Instead, most of the interactions between the developers and stakeholders took place in Exmouth, which was one of the two towns that would have been impacted by the proposal. The developers were based in their company offices in Perth, as were the employees of the EPA and other government agencies involved in making decisions.

Participant observation and interviews

In this thesis, I focus specifically on two main groups; the conservationists and the developers. As I have outlined, the dispute involved a large variety of actors, including representatives from the local conservation group (CCG), Indigenous families[5], the Exmouth Chamber of Commerce, local council representatives, local commercial operations, local residents, State Government Agencies including the Department of Environment and Conservation (DEC) and the Department of Fisheries, non-government representative bodies including the Conservation Council of Western Australia and Recfishwest[6], pastoralists, scientists, the EPA, the State Government, and the developers. Over the course of this research, I interviewed representatives from many of these agencies (see *Table 1*), which helped to contextualise the dispute as it was waged between the development company (Straits) and the Halt the Salt Alliance (of which MG Kailis, Recfishwest, and CCWA [represented by CCG in Exmouth], were the active members).

[5] As described in the 'Authors Note' at the beginning of this thesis, a number of Indigenous people were active stakeholders in the proposal. As such, at least one representative always attended each meeting. However, many of the negotiations between the Indigenous leaders and the developers were kept confidential, and were not discussed during SRG meetings regarding the environmental reviews process. These negotiations have remained confidential due to an ongoing legal action related to a Native Title claim, and I was specifically requested not to publish any information pertaining to this process. For this reason, I do not specifically discuss Indigenous peoples' participation in the salts dispute in this thesis.

[6] The Conservation Council of Western Australia is an organisation that represents and advocates for local conservation and activist groups in Western Australia, including the Cape Conservation Group. Recfishwest is a similar organisation, which advocates for recreational fishers in Western Australia.

Table 1: All interviewed participants involved in the dispute

Participant relationship to the dispute	Number of participants interviewed
Members of Cape Conservation Group (the conservationists)	12
Conservation Council of WA employees	3
Straits employees (referred to as 'developers')	6
Employees of other mining companies with local interests	4
Representatives of commercial fishing operations based in Exmouth (with head office in Perth)	2
Department of Environment and Conservation employees (State government)	5
Scientists (commissioned or funded to conduct research specifically in relation to the dispute by either developers or conservationists).	4
Local residents who supported the mine	11
Local residents who supported the conservation group, and helped in activities, yet did not have time to join.	10
Employees of local shire council	2
TOTAL	**59**

The scope of the research did not allow for a broader discussion of the dispute as it played out through these many networks. In order to conduct a long-term and in-depth analysis of the dispute through participant observation and extended interviews, which are commonly understood as the defining research methodologies of anthropology (see Atkinson 2001:4-5, Marcus & Fischer 1986:22), I chose to focus on the aspects of dispute that involved direct interactions between the local conservation group and the developers. Over the course of fieldwork, I conducted participant observation and semi-structured interviews with members of both groups. For a number of key members, I carried out up to three follow-up interviews in order to discuss how their opinions, beliefs and values had changed in regards to the project. Although I regularly attended meetings held by both groups, I did not actively participate in them. Instead, I

maintained the role of observer so as not to openly or publicly be seen as supporting or opposing any one side.

The members of the conservation group were local residents (and a small number of interested visitors) who were interested in environmental conservation. Their stated aim was to act as the 'watchdog' of the Cape Range to ensure the future conservation of the region. As a group, they were very active in organising rubbish clean-up days, anti plastic bag campaigns, community monitoring programs for a number of different fauna, and in participating as a stakeholder in development and conservation proposals. I spent much of my time in Exmouth following the activities of this group; attending meetings and working groups who were organising various activities, and attending these activities and functions. Through attendance at these activities, I met, and spent a significant amount of time with six key informants; Laura, Karen, Emma, Susan and Anne, who were variously employed by government agencies, and tourism businesses related to the environment. While Karen was aged between 21 and 30 years, Laura, Emma, and Susan were aged 31 – 40 years, and Anne was aged between 41-50 years.

In order to carry out the proposal, the company that owned the mining proposal had created a small subsidiary company to manage it. Over the course of my fieldwork, I attended the public and SRG (Stakeholder Reference Group) meetings held by the developers in Exmouth. I spoke to them after each meeting, and sometimes met the day after in order to discuss their opinions on the meeting. I also met them in their Perth offices on three occasions to meet with each developer individually in order to conduct an interview. I met regularly with five developers who worked on the project at various times, including Rob, Steve, Ian, Nick and Jack. All men were aged between 41 and 50 years, and were permanent employees of the mining company.

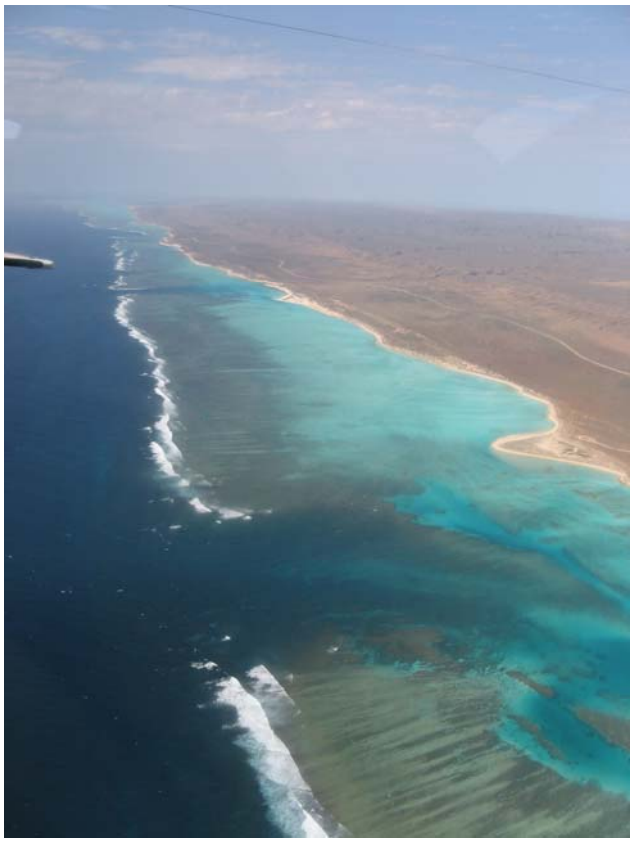
Exmouth and its environment

The developers often expressed surprise at the strength and breadth of the backlash against the mine, despite having significant support from other local businesses and residents. To appreciate the strength of the divide within the local community over the opposing knowledges and values regarding the local environment, requires an understanding of how the town of Exmouth came to exist, and its current economic and social basis. Built in 1967 to service an American-Australian Naval communications base, Exmouth is a small township of approximately 1,800 people (ABS 2007), which

sits on the eastern shore of the Cape Range peninsula, a 70 kilometre long finger of land that juts northwards into the Indian Ocean, forming the most north-western point of the Western Australian coastline (*see Figures 6 and 7*). Fringing the western shores of the peninsula, the Ningaloo Reef extends southwards for over 250 kilometres, forming protected lagoons that provide stark contrast to the arid-desert landscape (See *Figures 2 and 3*). It is this stretch of land and seascape that has attracted a vast number of tourists, local residents, and scientists in recent decades, ensuring that this previously remote and inaccessible landscape is rapidly becoming, in Peace's (2009:55) words, a 'knowable, calculable and administrative object'.

Figure 6: Image of the town from the air. The strip of white in the background is the beginning of the Ningaloo Marine Park. Source: Author. October 2006

Figure 7: The Ningaloo Marine Park and Cape Range National Park from the air. Source: Author, October 2006



To the tourist's gaze, Exmouth is an isolated town in the midst of a largely untamed and wild desert landscape. Tourism operators and the Shire Council promote the area as a human-less wilderness. As one journalist has written,

> Travel pamphlets universally proclaim Exmouth to be "where the outback meets the sea", and the eclectic mix of rugged gorge, desert landscape and ocean vista is admittedly alluring. It's a place where the spinifex, red sand and rugged rocky outcrops of the Cape Range National Park tumble down to meet turquoise bays and white beaches, where Sturt's Desert Peas grow in the table drains near the boat ramp and where kangaroos graze among giant termite mounds only meters from the crashing surf (Auldist 2006).

It is the opposite shores of the peninsula, which form the sheltered waters of the Exmouth Gulf, though, which have become the subject of intense public scrutiny as the mining boom in the state's north has moved south into Exmouth waters. The photogenic limestone ranges and gorges of the Cape Range Peninsula, much of which are now a closely managed national park, create a barrier that shelters a large body of water called the Exmouth Gulf, in which pearl harvesting and prawn fishing industries have operated since the late 19th century (Forrest 1996:110). This area has remained outside of the general tourist gaze due to the lack of accessibility, the often extreme heat, and the 'unromantic' nature of the mosquito and fly-infested mudflats. The mainland shore of the Exmouth Gulf is lined with arid-zone mangroves and shallow creek systems that extend up to one kilometre inland (See *Figures 3 and 4*), and are listed as a Wetland of National Importance (Department of Sustainability, Environment, Water, Population and Communities 2011). The mangroves then merge into tidal mudflats and algal mats. Naturally occurring salt plains stand adjacent to these systems, and extend up to 15 kilometres inland before eventually giving way to inland desert scrub ecosystems. This landscape has created a diverse and unique environment that has sustained populations of human and non-human species for many thousands of years (Przywolnik 2003). However, the majority of this area is 'visually remote'. Only dirt tracks, fences, and a pastoral homestead remain as visual clues of human habitation, lending itself to the title of wilderness. The result was what Lockie (2004:26) calls 'a blank canvas onto which human aspirations... could be painted'.

The ways in which this 'blank canvas' has come to be painted with contesting visions of landscape is therefore the subject of this thesis. With the rapid technological advancement in mining exploration and transport of the 1980s, previously inaccessible mineral deposits of this region are now technically and financially viable. Consequently, those who have lived in the region for a number of years have seen a steady progress of mining proposals, including off-shore oil and gas, limestone, on-shore gas, and salt mining, most of which were given approval for development. As of 2006, there were at least four companies holding quarterly Stakeholder Reference Group meetings (SRG), and three community consultation meetings were held for new development proposals in my final month of residence in August 2007. Despite such a strong emphasis on development activities, environmental conservation measures have paralleled the surge in industrial development around Cape Range. Much of the Cape Range Peninsula became a National Park in 1971 (CALM 2006:12), and the Ningaloo Marine Park was then gazetted in 1987 (CALM 2005:3) (*see Figures 2 and 3*). Under the banner of Corporate Social Responsibility, in which planning and infrastructure development must be inclusive of local communities that will be affected by change (Livesey & Graham 2007), both environmental government bodies and private industry have vied for locals' support in the expansion of both conservation reserves and large-scale industrial development.

Local residents of Exmouth have therefore been caught at the centre of these conflicting management and development aims since the mid 1980s, over which time the town has evolved from a thriving American-run naval base, to a seasonal tourism town with a declining population and lack of a stable economic base. As Boholm and Löfstedt (2004:xv) point out, changes to policies often result in a clash with pre-existing structures through which local societies and economies are organised. As a result, when potentially negative (or even positive) changes occur to local communities or the environment, particularly if the change is a result of development or industry, local residents gain an increased awareness of the fragility of the community and the surrounding natural environment (Sjolander Lindqvist 2004:196). In Exmouth, residents were constantly being made aware of new changes to their town in the form of mining exploration and development. This occurred through announcements in the local paper and noticeboards, mail advertisements, and activist notices or stickers, as well as from the physical presence of tankers entering the gulf, and the visible flares of the gas

platforms on the horizon. These factors combined to create an ongoing heightened awareness of the fragility of the community, and the dependency of the community upon the health and wellbeing of the environment (which I discuss in detail in Chapter 3). As a result, the almost daily reminders of ongoing contestations over conservation and development issues has come to play a significant role in the development of an identity and sense of place in this highly mobile and changing community, performed through opposing narratives of how the town residents should care for local economic and/or environmental futures. The Exmouth Salts dispute therefore fit relatively 'neatly' into the pre-existing schisms within the community.

'Clashing cosmologies' and the politics of knowledge

In this thesis, I therefore examine the 'shifting grounds' of environmental knowledges (Connor et al. 2009:493) as they were produced, disputed, altered, and reconceptualised by local conservationists and Perth-based developers in Exmouth. It is not my intention in this thesis to provide an account of the environmental knowledges produced through the dispute per se. Instead, it is about the role of dispute in creating particular *representations* of nature (Milton 2002:32), and the process by which the landscape in Exmouth came to be represented in two strongly opposing narratives that were generated from what might, in other circumstances, be understood as very similar knowledge, beliefs, and values. It was through these narratives that conservationists and developers creatively promoted their own interpretations of the *right* way to know the environment, and which of these narratives should be used to make decisions for the future of human-nature interaction. Ultimately, it was these representations that were used in the official decision-making process as to whether the mine posed an acceptable risk to the environment and community.

What we know, and how we know it, then, are representations of the world that we have gained through both our experiences with other people and (just as importantly) directly with our physical environments (Ingold 2000:314). As I show throughout this thesis, certain representations of nature, expressed through 'environmental narratives', were supported and promoted by each group over the course of the dispute. As scientific and local knowledge and values arose, they were selectively presented, disputed, and re-formed through the cultural tropes of wilderness, science, emotion and morality, in order to represent and legitimate the dominant beliefs and values of the group. Deeply

local, and often eclectic knowledges therefore came to be subsumed into global environmental discourses of the right way to know and act in the world.

Dualistic nature knowledges

The two prevailing discourses that arose through all environmental narratives were that of environmentalist and development ideologies. In general, these ostensibly opposing discourses represent human society in two very different ways. Environmentalists tend to portray capitalist societies as a dominant force within nature, that will only realise their true dependency upon the environment when all natural resources have been exploited, and there is nothing left to sustain life (Davison 2008). On the other hand, human society is conceptualised within development discourse as existing at the mercy of the vagaries of a much more powerful, bountiful, and resilient environment, which can change and withstand to accommodate human impact (Cronon 1996, McEachern 1995:57, Trigger 1997). Although society and the environment are situated in very different ways, both of these discourses share one main commonality. That is, the separation between humanity and nature. It was through this separation that both groups created opposing beliefs and values regarding the 'proper' management of human-nature interactions into the future.

Throughout of the rise of Western industrialist societies in the 17th and 18th centuries, nature came to be seen as separate from humanity, existing in order to provide tools and resources for the use of society (Lease 1995:8, Thomas 1983:25). The resulting dualism between nature and society is just one of a number of interdependent dualisms underlying the progression of Western ideologies, including distinctions between the mind and body, culture and nature, rationality and emotion, and knowledge and practice (Franklin 2002:180). These dualisms continue to be the 'the foil against which key Western ideas of human identity, cultural meaning and social purpose have developed' (Davison 2008:1284). They also play a significant role in the creation of theories that provide advice on how best to organise human-nature interactions, and what kinds of knowledges can legitimately inform them. The question of whether or not the Exmouth Salts proposal should proceed was based upon the assumption that humans have the capacity, and the right, to decide on the future of the environment, and organise the appropriate ways in which this should be done. The arguments debating these futures therefore involved a much deeper questioning of the complexities surrounding the

separation between society and the environment. To varying degrees, each aspect of the dispute revolved around questions such as; to what extent do different human activities have an impact on nature, and vice versa? Why do certain human industries (such as mining) appear to pose a greater threat to the environment, while others, which have the potential to be equally as destructive (such as agriculture or tourism), are not? How do we know this? Lastly, whose understanding of this should be relied upon when making decisions governing the extent to which society can impact upon the environment in different ways, and through different means?

The ongoing dispute over the answers to these questions inevitably involved debates over knowledge, and the legitimacy of the different means through which it was attained. Such questions lead to two further dualisms involved in the separation of society and environment. The first of these dualisms is the separation of universalised, objective scientific knowledge, and supposedly subjective, value-laden and experiential local knowledges. In this instance, rational scientific fact – gained through experimentation and abstracted from place and time – has come to be privileged over embodied, holistic knowledges learned through personal or shared experiences of particular landscapes (Franklin 2002:181). The second dualism is that which separates knowledge (understood as information existing in the mind) from practice (what people *do*) (Davison 2008:196-7, Ingold 2000). As a result, 'ideal' objectified knowledge is seen as separate from, rather than informed by, individual peoples' practical and emotional experiences of the environment (Ingold 2000). These dualisms are commonly accepted cultural constructions, and are commonly blamed for 'western' society's apparent destructive force on many environments and communities who depend upon it (Latour 1993, Woehrle 2010:937, Wright 1992:6). Yet while the opposition between them appears straightforward, the dispute between the conservationists and developers over particular ways of knowing reveals that the construction of knowledge is far more complex, in which notions of objectivity, subjectivity, practice, emotion, and morality are inextricably linked.

As is evident through each chapter of this thesis, these dualisms played a pivotal role in many aspects of participants' lives, and in the development of their personal senses of place, identity, and belonging. Throughout this research, almost all participants believed that scientific research played the most important role in deciding the future of the environment, as experiential knowledge did not necessarily provide an answer to what

damage could occur if mining operations were to proceed. Nevertheless, during SRG (Stakeholder Reference Group) meetings and in interviews for this research, both developers and conservationists regularly supported their arguments with their own experiences in the environment. For example, a conservationist might explain how they had witnessed large numbers of fauna inhabiting areas that would become shipping lanes if the proposal was accepted, while a developer would use his experience of camping in an area adjacent to the mine in his explanation of how the ecosystems could accommodate the proposed retaining walls. These experiences were understood to be either personal or shared 'observation' that had the potential to direct future avenues of research. They were also bound up with emotional and moral values surrounding the importance (or otherwise) of maintaining these areas as wilderness habitats.

Nevertheless, both the conservationists and developers believed that science would ultimately prove their subjective knowledges to be 'right'. The connection between objective and subjective knowledge, combined with the requirement for decision-makers to take *both* ways of knowing into account, show the process of knowledge production in dispute to be complex and changing. While it is important to acknowledge that these dualisms remained important to the ways in which participants constructed environmental knowledges, these dualisms also became the primary means through which groups could legitimately contest each others' arguments, and to overcome the separation between knowledge and action, and between supposed objective 'proof' and subjective 'observation'.

Everyday interactions between humans and the environment are far more integrated and co-dependent than is usually given credit in contemporary capitalist society in Australia, and change over time and place (Atran 1980:13, Cronon 1996, Davison 2008, Lockie 2004:35). Knowledge in this context is therefore understood to have 'a great deal to do with what we can claim to know and with how valid others take our knowledge to be' (Brosius & Hitchner (2010:146). Knowledge, then, is inherently political in any context, and no knowledge is objective (Brosius & Hitchner 2010:146). Throughout this thesis, I therefore aim to overcome the prevailing dogma that knowledge is simply a list of 'facts', and that these 'facts' produced by particular means (through scientific research) are separate from experience as well as morality and emotional attachments. Instead, I show how knowledge is a product of social actions, interactions, beliefs, and values involved in the 'messy' web of cultural production (see also Satterfield 2002:160-71).

Power and the politics of knowledge in dispute.

As in other environmental contestations, the dispute over the Exmouth Salts proposal was fought primarily through the questioning of what constituted legitimate knowledge, and who had the right (and the power) to proclaim it. In this thesis, I therefore draw on ethnographic analyses of the politics of knowledge that have examined the production of knowledge from a number of angles, including how certain knowledges are produced (Satterfield 2002, Scarce 2000, Theodossopoulos 2003), who has the power to define certain knowledges (Haraway 1988, Henry 1998, Tuck-Po 2005), and how these knowledges are used to marginalise and devalue those of others (Brosius & Hitchner 2010:146, Bryant 2005, Dove 2005, Fischer 2000). In the Exmouth case study, I examine how the conservationists and developers gained a sense of legitimacy (and therefore power) by drawing on particular identities associated with the group they represented.

For example, when interpreting the scientific research or local experiential knowledges, both conservationist and developers conceptualised the environment and human impact very differently. While the conservationists drew on environmentalist ethics, in which nature is understood to be fragile and susceptible to human impact, the developers conceptualised nature as dominant, bountiful, and able to withstand the rigours of human industry, which aligned more closely with prevailing development ideologies (which I will examine further in Chapter 5). Such discourses acted as 'cultural resources' that the participants employed in order to distinguish the legitimacy of their worldviews over that of their opposition. Over time, these opposing discourses came to represent each group, creating a distinct boundary through which participants could articulate either their support, or opposition, to the mine (Irwin et al. 1999:1321, Satterfield 2002:6). Anthropological research tends to analyse this common question of difference by focusing on the socio-politically based moral beliefs and values, which lead to different ways of *framing* the dispute (cf. Miller 2006:387, Roepstorff 2003, Satterfield 2002). Different groups can therefore be seen as having different 'styles of reasoning: sets of practices, networks, and institutions for creating and certifying knowledge and putting it to use' (Miller 2006:387).

Ethnographic research on disputes between conservationists and loggers in Canada (Satterfield 2002), and Australia (Peace 1996 & 1998, Trigger 1999, Trigger &

Mulcock 2005), and fishers and conservationists in Australia (Minnegal et al. 2003), each describe the process by which the activists found themselves becoming reliant upon self-defined identities that represented the group to which they belonged. For instance, the fishers in Minnegal, King, Just and Dwyer's (2003) study did not self-identify as fishers until their profession came under scrutiny. Before this, they identified as fishers because they fished for a living. However, in order to counter the criticism of overfishing in the industry, and the resulting implementation of conservation measures, the fishers drew upon tropes of indigeneity, such as the multigenerational nature of their industry, and the embeddedness of their knowledges through daily interaction with fish (Minnegal et al. 2003). Satterfield (2002) highlights the ways in which both loggers and conservationists worked to represent nature in a way that reflected their ideal imagined futures of human-nature relationships. By asserting their opposing beliefs, values, and identities through the dual process of resistance and activism (Satterfield 2002:161), they actively created deeply entrenched divisions between opposing groups.

Within this framework, socio-political classifications of class, gender, and ethnicity came second to work and/or moral ideals as they identified themselves within the dispute; as 'developer' or 'conservationist'. Like the environmentalists and loggers in Satterfield's (2002:38) study, it was therefore 'the self-reflective pursuit of recognition as a collective identity that define[d] these movements' or groups (Satterfield 2002:38). The developers – whose work involved intimate and often drastic alterations to the environment – both consciously and unconsciously manipulated dominant global identities of 'environmentalism', 'conservationist' and 'developer' to suit the purposes of their current predicament in a way that presented their own visions of a better future (see also Satterfield 2002:8). In the same way, the conservationists collectively sought to be identified as those who *cared* for the environment and wish to see a cease in its destruction (in the form of careful planning of future development). They therefore utilised these same identities and discourses as a way of maintaining the boundaries between their way of knowing and acting within the environment, and the attempts of the developers to assert their own understanding of environmentalism in the development of industry.

My aim in this thesis is therefore to understand the dispute as a significant site in the construction of environmental knowledge, and, therefore, of cultural production and change. To do so, I ask questions such as: what mechanisms and structures gave

participants the power to define certain knowledges and marginalise others in different contexts? How did this shape and define the relationships between conservationists and developers? And, how did members of each group come to trust their own knowledges while inherently distrusting that of their opposition – even when each group openly acknowledged the impossibility of knowing the 'ultimate truth'? These questions, I argue, can be answered through the use of Bateson's (1935, 1972) concept of schismogenesis, which I will describe below.

Knowing and re-presenting a changing world: the role of schismogenesis

My focus on the polarised debate between conservationists and developers, as it played out through dualistic beliefs, values and knowledges, can be seen as a contribution to ethnographies of 'clashing cosmologies' (cf. Roepstorff 2003). I argue that a focus solely on the assertion of difference tends to result in the conclusion that the production of oppositional knowledge claims and worldviews is a direct result of prevailing intellectual and morally-based differences, which are seen as ultimately incommensurable (Roepstorff 2003:138, Satterfield 2002:160). Instead, I contend that by changing the focus towards the process of dispute itself, and the similarities and differences between opposing parties that arose through the course of the dispute, it is possible to see the ways in which *different* beliefs and values came to be constructed as *opposing* beliefs and values.

As Binde and Boholm (2004:176) have noted, the extreme polarization of groups is a common attribute of political dispute, which almost inevitably becomes the sole focus of the public's attention. The dispute between the conservationists and developers in Exmouth was no exception. In conscious and unconscious ways, they actively represented themselves, and their environmental narratives, in drastically different ways, despite maintaining very similar beliefs and values regarding the importance of sustainability, and for protecting the future of the local environment. Throughout each SRG (stakeholder reference group) meeting, and over the course of my fieldwork, the arguments put forward by each group became increasingly simplistic and polarised.

Each SRG meeting began with a technical presentation on certain aspects of the scientific research or technical aspects of the mine construction, such as research on tracking whales, or on new plans for construction. Afterwards, members of the SRG were given the opportunity to raise questions or issues if they wished. The

conservationists would use this time to question developers on their interpretations of the science, and to present alternative interpretations or other local narratives that portrayed a very different outcome. They would argue that the developers had created a vastly different impression in their analyses than what the actual data had showed. The developers would then counter these arguments by drawing on further science and technical 'fact' that would be aimed at entirely dismissing, rather than directly addressing, the conservationists' concerns. Because their claims were not directly addressed, the conservationists would again assert a further counter-argument with either scientific or moral claims, arguing that the developers were putting the future of the environment and local economy at risk. By this stage, members of both sides would be visibly angry, upset, or frustrated, and were no longer in the position to clearly and 'dispassionately' outline the reasons behind why they were pursuing the arguments they did.

At this point, the argument would reach a stalemate, and the developers would inevitably assert their authority as hosts by stopping the line of questioning, and either move to a different topic, or end the meeting entirely. In the months between each meeting, the groups would develop new strategies and research new 'facts', which they would then employ at the following meeting. By the end of the series of SRG meetings (coinciding with the end of my fieldwork), the environmental narratives that each group drew on to represent themselves developed into almost utopian visions of sustainability, while their representation of their oppositions' narratives developed into dystopic visions of the future that foresaw the collapse of the currently fragile social and economic systems as the direct result of the decisions being made at that time. By this stage, members of both groups were essentially unable to communicate in any meaningful way. While the developers and conservationists frequently expressed frustration at their inability to find common ground, they never managed to break this pattern throughout the course of the environmental reviews process.

This intense style of dispute is not uncommon in environmental campaigns against development. Yet the generation of such extreme polarisation, as it occurs through interpersonal relationships, remains under-researched (Boholm 2008). To understand the process through which this occurred in the Exmouth Salts dispute, I draw upon Gregory Bateson's (1935, 1958, 1972) concept of schismogenesis. Schismogenesis, defined as the creation of a schism, is the name Bateson used to describe the process of

differentiation between individuals both within and between social groups and/or whole societies (Bateson 1958:175). In Bateson's view, the *process* of differentiation is what defines the nature of inequalities and difference between people (and/or whole societies) when they interact. The process of differentiation can take on one of two forms; complementary or symmetrical schismogenesis (1935:181). Complementary schismogenesis describes the relationships in which 'the behaviour and aspirations of the members of the two groups are fundamentally different', yet 'mutually appropriate' (Bateson 1935:181). For example, he suggests this can be used to analyse social interactions and behaviours between a dominant group over a submissive one, in which the behaviours of both groups mutually reinforce the power dynamics of dominance and submissiveness. Binde and Boholm (2004:175) found that certain forms of argument between planners and local activists exemplified complementary schismogenesis. They show how the planners resorted to making increasingly more rational and technical arguments whenever their opposition asserted emotional and personal concerns. The process of complementary schismogenesis led to an escalating opposition of standpoints through the emphasis of the planners' technical knowledge and the local activists' emotional connection to the landscape and community. Throughout the dispute between conservationists and developers in Exmouth, arguments based on popular discourses of rationality and emotion often occurred through a similar framework of complementary schismogenesis. Although the complementary form of schismogenesis occasionally arose within the direct context of the dispute when specifically moral issues, such as wilderness, were being disputed, most elements of the dispute were reflective of Bateson's second form of differentiation, which he called symmetrical schismogenesis.

Bateson describes symmetrical schismogenesis as a form of relationships that are characterised by increasingly acrimonious conflict, within which two individuals or opposing groups attempt to 'outdo' each other. He defines this process as 'those cases in which all the individuals in two groups A and B have the same aspirations and the same behaviour patterns, but are differentiated in the orientation of these patterns' (Bateson 1935:181). To illustrate this process, Binde and Boholm's (2004) use the example of an armaments race, in which opposing nations built up their weaponry in response to their opposition's stockpiling of weapons. This increased exponentially until it reached a point at which it became unsustainable for either country to continue (Binde and Boholm 2004, see also Gusterson 1996). As can be seen in the above description of the

increasing polarisation between conservationists and developers, the aim of both groups was to create a more legitimate representation of the environment than their opposition in order to have the greatest impact on the decision-making process. As a result of this set of relationships, neither group could acknowledge or accept their oppositions' arguments, as it would be assumed that they were retreating from the dispute. Consequently, each new argument was used as a 'weapon' (Binde & Boholm 2004:173) against their opposition, leaving no opportunity for compromise.

When Bateson posited the concept of schismogenesis in 1935, he was using it to outline new ways to understand the processes of cultural change that occur when different societies interact (Bateson 1935). Bateson suggests that the concept of schismogenesis is applicable across cultures, is accompanied by mutually reinforcing conflict, and that the two forms of schismogenesis are the only means of differentiation. In this thesis, I do not intend to use schismogenesis in such an all-encompassing fashion. Instead, I focus primarily on the concept of symmetrical schismogenesis, which, I argue, provides important insights into the analysis of the production of difference and opposition in the specific circumstance of the mining dispute. When the topic of environmental dispute is raised in public discourse, it is often assumed that it will be characterised by intense, and ultimately incommensurable, debate between two opposing worldviews. However, an analysis of schismogenesis helps to highlight ways in which these supposedly inevitable conflicts may be overcome.

Binde and Boholm (2004) similarly found the concept of schismogenesis useful in their analysis of a railway siting controversy in Sweden, in which the dispute between planners, residents, and scientists became increasingly acrimonious, leading to the gradual deterioration of relationships in the planning process. In particular, they employ the term schismogenesis to show how participants used knowledge and arguments as "weapons" in the dispute. These arguments could arise from any discourse; whether environmental, moral, scientific, economic, social, or even health-risk concerns (Binde & Boholm 2004:172). An argument was considered to be effective as long as they contributed to the shared notion of a 'good' argument, which should ideally be 'objective, reasonable and preferably scientific' (2004:175). Although the expression of personal emotions was seen to discredit a participant's argument, either group could cite the emotional suffering of others while simultaneously drawing on further scientific research to support their argument; thereby creating a rational argument regarding the

risk of the proposed railway development from both emotional and 'factual' sources (Binde & Boholm 2004:175). In his study of schismogenesis in controversies over the protection of predatory animals in Norway, Brox (2011) argues that as long as two competing parties are involved in this type of schismogenic dispute, no compromise can be made. As Brox (2011:403) argues, 'showing willingness to compromise is the first step towards defeat.' As a result, the arguments presented by any group involved in a schismogenic conflict inevitably come to be represented as utterly opposing, in which there is no room for consideration of other side's point of view. Both groups thus arrive at an apparently irreconcilable gulf, based on what appears to be 'profound, morally rooted, and ethically challenging' differences (Satterfield 2002:160).

In their fight to prove the legitimacy of their own knowledge, and to discredit those of their opposition, the developers and conservationists involved in the Exmouth Salts dispute were inescapably involved in a play for power and legitimacy. In doing so, they were using very similar modes of argument and behaviour, with entirely different outcomes in mind. That is, they were disputing knowledge within the prevailing discourse that the only legitimate (or ideal) way of knowing was through the application of universal and objective scientific research. Yet, as both conservationists and developers commonly pointed out, scientific narratives of the environment were simultaneously interwoven with emotional, moral, and aesthetic beliefs and values. From previous experience, both conservationists and developers knew that the debate could not be won with science alone. Instead, they creatively and selectively drew upon a combination of supposedly value-free scientific and technical knowledges, as well as moral and locally-bound beliefs and values, to create environmental narratives that supported their cause. In this thesis, I show how an analysis of the role of schismogenesis can refocus ethnographic research towards the process rather than the product of dispute, and potentially point towards ways in which the production of difference may be recognised and overcome in order to create working relationships between stakeholders in the assessment of risk in environmental decision-making frameworks.

'We are all environmentalists now'

Aligning with global environmentalist beliefs and values, the local campaign against the salts proposal was based on the prevailing belief that knowledge begets action (Milton 2002:32). That is, having all the facts at hand is understood to lead to the greatest likelihood of 'change for good'. The conservationists' campaign in Exmouth was based on educating local residents, the public, and decision-makers as to the potential perils of constructing a mine when so little about the environment was known. However, as I show in this thesis, the developers maintained a similar belief; that the 'facts' proving the low-risk of their proposed development should convince any rational person to change their mind and support them. In their eyes, if outsiders truly understood the technical details of designing and constructing a development, and truly appreciated the importance of these developments to maintaining the quality of life of the nation, then they too would support the development. In this way, a 'change for good' meant different things for different people.

The ethnographic case study presented in this thesis is just one local example of global debates over how society must organise itself to live in the world. It is not simply a question of resource availability, or whether certain species or ecosystems can survive with certain levels or types of human impact. Instead, it is a question that is intimately tied up within moral beliefs and values about how we *want* to live, how we believe we *should* live, and what we want human-nature relationships to look like in the future. Social research is therefore well placed in its ability to unravel the 'messy' web of social, cultural, economic, and political positions of groups and individuals to show how they have come to know, and fight for, a particular landscape in very different ways (Satterfield 2002:7).

In Chapter 2, I begin by outlining the general history of the region, and the ways in which local residents and visitors have come to know the landscape through historical narratives. I draw upon theories of place-making and belonging in environmental anthropology (such as Dominy 1997 & 2001, Edwards 1998, Milton 2002, Satterfield 2002, Trigger & Mulcock 2005) to show how people commonly employ history to conceptualise their sense of place today, and to imagine an ideal future for that region. In this context, I examine how the history of economic and social change in the region was understood as being heavily dependent upon the health of the environment, after

nearly destroying it through past unsustainable fishing and farming practices. I then look at how local and state-wide historical environmental narratives and ideologies have been incorporated into these contemporary historical narratives to form the basis of opposing ideologies used in the dispute.

In Chapter 3, I examine how the legal procedures outlined in the 'official' decision-making process, which oblige the developers to undertake community consultation, actually promote much of the contestation that these legal requirements were created to minimise. While the legislation is very specific when defining the roles and responsibilities of each group involved in the decision-making process, it does little to define the extent to which any community concerns or knowledge claims should be incorporated into the ERMP, as well as the final decision. The two groups therefore worked hard to present legitimate interpretations of sustainability that match their desired outcomes of the dispute. As a result, their aim in the dispute was to raise more legitimate knowledges than their opposition, rather than understand and address each others' concerns.

One of the primary means through which the participants in this study asserted their agency within these structures was through debating the concept of wilderness. Chapter 4 is therefore a detailed examination of the environmentalist and development ideologies that informed the two groups' construction of knowledge throughout the dispute. Wilderness remains a very important concept in national environmental discourses in Australia, and is a prominent characteristic of what is often presumed to be a relatively all-encompassing national identity, and a primary feature of human-nature relationships in the country. Through this chapter, I draw on the notion of schismogenesis to show how various aspects of wilderness narratives are taken up by each group, and re-formed to fashion each groups' imagined ideal futures as the ultimate in sustainability.

Chapter 5 returns to the concept of science as the ideal of objectivity and rationality in the decision-making process. Science is the primary means through which decisions are made in the environmental approvals process in Western Australia, and is even used to assess certain levels of wilderness. The aim of either group is therefore to discredit the science of the opposition, and provide either alternative research, or an alternative explanation for the same scientific research, in a way that legitimises their own. The

role of this chapter is to question the cultural construction of objectivity by showing how science is produced through very social mechanisms.

Rational knowledge cannot be discussed without an equal focus on the construction of what is often considered to be its opposite; emotion. Chapter 6 therefore focuses on the ways in which particular environmental narratives were legitimised or discredited on the basis of emotion, which was related strongly to the gender and age of the participants. I discuss the impact of gendered emotional expression in the performance of dispute, and how certain emotions were acceptable in this context, while others were not. I then examine the impact of these emotions in each group's interpretations and public representations of the supposedly rational and objective scientific knowledges.

Chapter 7 explores the concept of morality as one of the defining factors that underpinned the generation of opposing knowledges in the dispute. As I argue throughout this thesis, the dispute took the intensely schismogenic form that it did (played out through discourses of wilderness, scientific objectivity, and emotion), because of the prevailing belief of each participant that the group they represented was ultimately *right*. To illustrate this, I show how conservationist and development ideologies strongly correlate ideas of human 'moral goodness' to the state of the environment and economy in different ways. In the second half of the chapter, I then show how these moralised discourses of the ideal society have become so ingrained by illustrating the occasional instances in which these correlations between economic, social and environmental moralities are questioned.

Lastly, I conclude in Chapter 8 by connecting the ways in which environmental knowledges have been shaped, reformed, and represented throughout the dispute. In doing so, I highlight the ambiguities and complexities in what appeared to be very obvious and simplistic representations of two opposing worldviews. The result of engaging in a schismogenic dispute meant that the members of either group were obliged to present arguments and knowledges in increasingly exaggerated and polarised ways so as to always maintain a sense of difference between them.

Chapter 2
Place, landscape, and community on the North West Cape: contextualising activism

> Things and people are mutually transformative – the place changes according to who comes to occupy it and what they do there; the people change as a consequence of the place, which is itself defined not just by its form, but through the potentialities introduced in the intervals in its territory.
>
> (Muecke 2003:122)

The focus of this thesis is on the web of local, national, and global discourses of environmentalism and development, and in how they come to be incorporated into local environmental narratives within the context of dispute. It is impossible to gain an understanding of how knowledges come to be embodied through the dispute without a proper understanding of the place in which the proposed mine was to be constructed. I employ the concept of place to encompass both the physical landscape and the many social and economic activities that have shaped, and are shaped by, the environment today. Over time, a number of conflicting environmental narratives of these interrelationships have emerged, which have come to make up many personal and shared understandings of what the region is, and what it has come to mean to local residents. The many changes that have occurred to the environment as a result of different human industries and subsequent conservation programs have been incorporated into the narratives of local residents. The resulting narratives depicting human impacts and environmental changes have come to play a significant role in local residents' and developers' conceptualisation of place, and in their beliefs regarding the proper use of environmental resources. The purpose of this chapter is therefore to outline the social geography and history of the area in order to illustrate the web of social-environmental narratives upon which much of the dispute was based.

Place, Landscape and Community

Space and Place

It is clear within all environmental disputes that a strong sense of the physical landscape, and its role in peoples' everyday lives, is integral to the development of a sense of place (see Urry 1995:1). The analysis of space and place is central to the anthropological study of landscape and belonging (Peace 2005: 495). Place, and the idea that people can develop a 'sense of place' over time, is used to describe the ways in which an area can be more than simply a physical space in which people may dwell. They are also places that mean something, and can evoke emotional attachments, beliefs and values that may be shared (Simmons & Walker 2004: 91). A place, or locality, exists both as a physical entity, and in the minds of individuals, which may or may not be shared. The very concept of landscape itself is a result of the social and cultural constructions of the environment, in which people use symbols and social processes to make sense of the physical world around them, and the human and non-human species that form a part of it (Low 1999, Sampson & Goodrich 2009:902). Hence, 'places become central to identity as people draw on the range of social processes, symbols, and values to describe themselves' (Sampson & Goodrich 2009:902). An analysis of place is therefore of central concern in this thesis, as it provides a background to the ways in which particular understandings of the landscape is utilised by the local residents in the ordering of space, place and community relationships.

The meanings and analytical uses of space and place in the anthropology of landscape have changed over time. Both *spaces* and *places* are generally understood to be a set geographical location. They can be any size, shape, or form, such as a town, a mountainside, or a room in a house – or all three may make up a more generalised and holistic image of place (Gieryn 2000: 464). Many scholars, such as Darby (2000:54-6), Peace (2005:495) and Sampson & Goodrich (2009) use *space* to connote the geographical location with which a person, or group of people, are unfamiliar. Consequently, *place* describes the processes through which space is appropriated, colonized and given meaning through naming, mapping, and experiencing.[7] In these depictions, scholars such as Hirsch (1995:5) argues that space is a hollow and passive term, which ignores the active, and culturally and symbolically meaningful histories and

[7] Others, such as Barcan and Buchanan (1999) and Low (1999) use the two terms interchangeably.

narratives that are enacted by any beings that dwell within it. To Ingold (2000), humans experience the environment both directly as an individual, and through culturally constructed models. Therefore, no place could ever be conceived of as an empty space. Instead, Ingold (2000:20) argues that the term *place*, or *environment*, more aptly encapsulates the product of personal and social experiences through which landscapes become meaningful. A place or landscape can be seen as a cultural process, in which both landscape and culture are active participants in the setting of boundaries, meanings, and semiotic processes (Hirsch 1995:5). For the purpose of this thesis, I employ the concept of place in order to describe a culturally constructed environment and landscape in which human society lives and interacts on a daily basis. My focus is primarily on the ways in which the symbols and meaning of place, and peoples' attachment to landscape and the community within it, are developed and changed over time through the social construction of place. These senses of place are then challenged and contested through disputes over the environment. Although some might understand this as the appropriation of space into place, the data emanating from my fieldwork did not reflect this. I argue that, while many newcomers to the region did indeed see the landscape as unfamiliar, wild, and empty, this supposedly unknown and wild 'space' that is yet to gain meaning for a new observer can be seen as part of a powerful cultural symbol that has deep historical associations with Australian national identity. As people come to know the landscape and develop a more localised sense of place over time, their understandings of these symbols and meanings change. The landscape, then, was never a totally unfamiliar space that is free of the ascription of cultural meanings and symbols for any participants in the research. What is important is the ways in which these constructions changed over time as they came to know the history of the region through their own experiences, and through exchanging historical narratives of how the landscape has come to look as it does today.

Place-making, belonging, and community.

Place, then, is much more than a theoretical set of prescriptive symbols and meanings that are passed from person to person. Instead, it is the product of both personal and shared experiences in diverse and changing physical environments. The process through which this occurs is the ongoing pursuit of cultural production, which is 'created, shaped and maintained through engaging in practices and behaviours that connect individuals to particular landscapes' (Sampson & Goodrich 2009:904). Through day to

day activities such as work, sport and leisure activities, participating in organised community events, or simply going for an afternoon walk, experiences and knowledge are interpreted, shared, discussed, and debated. For example, anthropologist Theodossopoulos (2003) writes about his first reactions to the landscape surrounding a Greek island community from the eyes of stranger, writing about the quaint rural wilderness aesthetic and uninhabited feel of a rural landlord's property. Over a number of years of fieldwork, he gained a much more intimate understanding of the human-nature relationships that had taken place there over time, and the associated meanings and values that shaped both the physical landscape, and the cultural categories of the people who lived in it. Writing about the same place one year later, he shows how his understandings of landscape have evolved to include a deeper sense of the ways in which local cultural histories, values, and experiences are embedded within the physical landscape, quoting one of his participants who said 'you have to live and work on this land to feel it' (Theodossopoulos 2003:15-6). Through day to day experience, as well as through social interactions and personal experiences, a person will develop new understandings of the symbols, meanings, and values of a place; some which are shared with one group of people, while others are shared with different groups of people. As a result, a sense of shared community, identity and belonging may be engendered amongst local residents of a region, while significant diversity remains within it (Darby 2000: 50, Dominy 2001, Low 1999).

Senses of place are most often theorized as positive feelings about a particular place (Simmons & Walker 2004: 92), frequently articulated in the literature as a place attachment, or sense of belonging (Dominy 1997 & 2001, Milton 2002, Satterfield 2002, Trigger & Mulcock 2005). Day-to-day activities and interactions with other people serve to reinforce what should have a place within the landscape, and what should not. As a person comes to know the symbols, meanings, and practices that constitute local histories and understandings of landscape and belonging, that person will come to associate both these knowledges, and their personal experiences and quality of life in that particular place and time, and may come to feel a strong sense attachment. It is also important to note here that a sense of place may not necessarily be positive, and does not necessarily lead to a sense of belonging (Simmons & Walker 2004:92). However, whether positive or negative, they do contribute to a person's developing sense of place. As I will show through this chapter, stories narrating the

history of the local area are used by residents to place themselves and others within the local landscape, as a part of the process developing their own understandings of place and senses of belonging. In particular, it is the many different narratives depicting the human-environment interactions of the past that have influenced current beliefs and values regarding the most appropriate ways to organise human industry in the environment into the future.

In Exmouth, the sense of place and community is inextricably bound with its position as a 'frontier' town, with an unstable economy and a clear dependence on the health of the environment for its ongoing survival. Whether or not a person tends to publicly support the environment or development plays a significant role in how a person becomes accepted (or not) into particular social groups that make up the town. A sense of place, based on values surrounding development or the environment was integrally linked the concept of community (see Lane 1997:160, Schroeder 2005:208). Although beliefs, values and meanings may be held individually, and vary greatly between people, the practises of place-making dictate that at least some form of these meanings and histories must be shared. Practical experiences, stories and knowledge are frequently made sense of in relation to other people who may also have had those experiences. On this basis, I draw on Cohen's (1985:15) use of the term, in which he defines community as a symbol 'held in common by its members'. Different people hold varying relationships to the community depending upon their position within or around it (Cohen 1985:15), such as their length of residence, their knowledge of surrounding areas, leisure and work activities and social relationships. The complexities involved in the globalisation of ideas, values, and material goods (particularly in connection with environmentalist and development ideologies), confuse the concept of community even further, as it must also encompass more abstract connections between people across space and time (Cohen 1985:13). For many theorists, community mediates place-making through the identification, discussion and dispute of particular meanings that constitutes a 'sense of community' (Cohen 1985, Pred 1983, Sampson & Goodrich 2009:904). It is through an often intangible sense of place and community – in the many ways that they are imagined – that ideas about landscape, and the future of the landscape and the community, are disputed. This is particularly evident in the ongoing contestation over the environment and development in Exmouth.

Senses of place in dispute- learning from the past, imagining the future

In many cases, senses of place and community are expressed and performed through dominant historical narratives. In her study of English identity and landscape in the 1990s, Edwards (1998:150) discovered that her participants most frequently articulated their sense of place in the present day by referring to historical narratives; some that happened to the participants personally, and others that they had only heard about, or which had occurred much earlier than their residence in the area. She argues that stories about local history are as 'much to do with forging local identities and senses of belonging as they are to do with history' (Edwards 1998:150). Similarly to Edwards, the participants in Sjolander and Linqvist's (2004:125) study of a railway siting controversy in Sweden were able to place themselves within the cultural history of the area through such narratives, and used them to articulate their sense of contribution to the future of the landscape and community.

Thus, when a variety of local identities or senses of belonging are performed 'to produce a common landscape... [they] tend to become contested and potentially destabilized' (Duncan & Duncan 2004:7). The introduction of new natural resource management practices or development issues, and the subsequent disputes surrounding their implementation, often highlights the disparity between local residents' knowledges and values, which are reflected through historical narratives. In the circumstance of a dispute, shared histories may be challenged or renegotiated to suit the needs of the present population (Bohlin 1998:168). Often, the contestation lies not within the historical narrative itself, but the role of that history in directing local beliefs, practices, and actions in local residents' imagined futures. In essence, disputes over the potential uses of the environment, or of the resources contained within it, are disputes over who has the legitimacy to speak for the landscape and local community, and who has the right to dictate the ways in which people may or may not make use of the landscape (Duncan & Duncan 2004, Satterfield 2002:108). In many countries, activist groups involved in environmental disputes thus seek legitimacy by laying claim to a privileged knowledge of the environment that has been gained through personal and shared experiences, usually over a long period of time (Satterfield 2002, Theodossopoulos 2003).

Places like the North West Cape, which appear visually to be wild and pristine, are often conceptualised as flexible and amenable to different imagined futures. An isolated township placed in the midst of apparently endless and biologically rich landscapes, physically distanced from the mainland and far from large-scale human development, may be seen in many ways; as a unique opportunity to become one of the few self-sustaining eco-friendly townships in Australia, or as a new and exciting opportunity to extract a vast array of primary resources that could help to sustain the Australian population into the future. Exmouth residents are currently positioned in the midst of rapid change, in which the future relationships between the environment and society are a central concern. As a consequence, peoples' relationships with the environment and wilderness take on a heightened meaning in the social ordering of space and place within the community. The environment is therefore both an important aspect in the development of a shared local identity, and a main point of contestation between local residents, in which the future of what a shared community identity should look like is under scrutiny. If understood in this way, the many disputes over environmental management or development proposals can be seen as a localised expression of the ongoing national and global debates over the future capacity and limits of human-environment relationships.

'The land of the free' – construction of 'local character'

For many visitors and local residents, the region around the Cape Range Peninsula, Ningaloo Reef, and surrounding desert epitomises the aesthetic values of what it means to 'be Australian', and to be free to roam and explore regions that exist (visually at least) far from official regulation (although this is rapidly becoming less so) (Jones et al. 2007:80, 86). In the various regions in which the colonisers settled around the continent, they began to 'engage intellectually with the land by bringing it within a culturally meaningful aesthetic' (Trigger 2003:3). From the moment the Australian environment became a subject of Anglo-Saxon colonial history, it was brought into the same timescale as colonial expansion and development. Over time, local regions have developed their own local histories and environmental narratives. Although they are inherently local, these narratives are simultaneously permeated by more widely shared environmental and cultural sensibilities, which are tied up in national identities and global environmental or social concerns. In contemporary Australian societies, these narratives are fraught with tensions between Indigenous narratives of environment,

community, and sense of belonging. In this section, I provide an historical overview of colonial expansion on the peninsula and mainland, followed by the construction of the town as is commonly depicted by local residents, and through primary sources such as old newspapers and diaries. I argue that the construction of a sense of 'local character', or identity, has been based on local historical narratives of the extreme difficulties experienced by early colonists and later generations in living in such a harsh and remote environment, the personal attributes required to survive the hard conditions, and the construction of Indigenous narratives as "absent" from the region (despite Aboriginal families constituting 1.7% of the town population in 2006 [ABS 2008]). In current disputes over environmental management and development, this sense of character, and the beliefs, values, and activities associated with it, are at the centre of the debate over the imagined future of the local community.

Unlike many country towns, very few Indigenous people currently live in Exmouth, and at the time of research, no one had claimed prior ownership to the North West Cape (Przywolnik 2003:15-6). Nevertheless, it is well documented that Aboriginal people have inhabited the Cape for many thousands of years. Archaeological research has found evidence that Aboriginal people have lived on, or at least visited, the Cape as early as 32,000 years ago (Morse 1993:877, Przywolnik 2003:17), and have left artefacts and artwork along the Cape until very recently (Przywolnik 2003). Ethnographic evidence suggests that Aboriginal people lived on the Cape until the early 1900s. Przywolnik (2003:14) cites E. M. Curr's description of Aboriginal groups in the region, in which he identifies the Cape Range inhabitants as Kakarakala, and who had obvious signs of European infections such as small pox. Thomas Carter, the first pastoralist to take up residence on the Cape in 1898, wrote extensive diaries and publications describing his bird-watching and collecting expeditions along the Cape. He describes the expeditions he led in great detail, including the Aboriginal people he hired, and those he met as he passed through the different areas (Vines 1968:12-3). By 1940, Norman Tindale (1974) identified the Aboriginal people living on Cape Range as part of the Thalanyji language group, who were not seen as separate from the mainland Thalanyji who lived along the surrounding mainland areas further to the North, and up to 100 km south of the Peninsula. Although, no Indigenous groups officially claimed ownership of the Cape Range area at the time of this fieldwork, the Thalanyji Native Title claim had been lodged. This claim included areas of the mainland adjacent to the

Cape, but not the Cape itself (although the omission of the Cape Range region was highly contested between Aboriginal families in Carnarvon and Exmouth. [A. Beard, pers. comm. October 2006]). Despite the successful outcome of the claim in 2008 (National Native Title Tribunal 2011), there remained very little understanding amongst the wider Exmouth population of the relationship of Aboriginal people to the Cape. The apparent 'absence' of local Indigenous histories of the Cape served only to reinforce the wilderness narratives that depict the region as remote, rugged, and relatively free of large-scale human industry.

Prior to the construction of the town of Exmouth in 1967, much of the Cape was protected from large-scale colonial expansion because of its inaccessible terrain, arid desert climate, and lack of easily accessible minerals and resources for mining and development (Przywolnik 2003:14). Yet, as most local stories describe, the Cape was certainly not immune from all colonial impact. By the 1870s and 1880s, much of the North West of the continent had been explored, mapped, and appropriated by government. After the government's appropriation, the land was leased back to pastoralists, many who were already living on and using the land (Jones et al. 2007:86). Concurrently to land-based pastoral expansion, pearling fleets set up camps and trading routes along much of the Western Australian coastline (Moore 1994:121). During this period, the Cape Range Peninsula and surrounding mainland areas became working pastoral stations, although it was not until 1889 that the first pastoralist, Thomas Carter took up permanent residence at Cape Range (Forrest 1996:274-5). Carter's primary interest was in ornithology, and his published descriptions of exploring the landscape in search of birdlife- with the help of local Indigenous people who may have been part of the Thalanyji language group - describe a dry and difficult landscape (Vines 1968). Indeed, despite constructing a number of wells for his cattle, he never managed to find permanent reliable fresh water (Przywolnik 2003:14). The few others living on the Cape during this period were pearlers who stayed temporarily to trade and rest their crew, and a lighthouse keeper (Rathe 1990).

Contemporary local narratives of this era, which are frequently expounded to visitors and new residents, describe the peninsula, and the experiences of the very few British colonial inhabitants, as utterly isolated, harsh and wild. The only form of communication with the rest of the state was by ship, or by occasional horse and cart from the mainland, over 300 kilometres away. However, the harsh weather conditions

and treacherous rocky coastline meant that many of the ships were wrecked along the coast before even reaching land (Rathe 1990). A number of those who lived there, in particular the lighthouse keepers of the two main lighthouses along the Ningaloo coastline, are commonly said by local residents to have committed suicide before their terms of employment ended, as they could not cope with the isolation. Conditions are assumed to have stayed this way until World War II, when the isolation and inaccessibility of the peninsula provided a convenient and relatively secret base for the Australian military. By this time, it was believed that no Aboriginal people remained living on the Cape (Forrest 1996:275). There are a number of theories regarding their supposed disappearance, and this remains a popular discussion point amongst local residents. I will discuss these theories in the following section.

Although the base was largely dismantled by the late 1940s, this era began a steady flow of exploration. In 1948, Ampol acquired a lease to drill for oil in the Cape Range (Knife 1988:1). From the early 1950s and 1960s, company employees lived a very lonely and isolated camp life in their search for a navigable route into the canyons to drill for oil. Although they discovered oil, it was not available in commercial quantities, and exploration was abandoned by the 1960s (Knife 1988:1). By this time, abundant stocks of prawns in the Exmouth gulf were attracting 'adventurous' crayfishers from the south coast of Western Australia (*Exmouth Expressions* May 1993:1). At the beginning and end of each season, fishermen sailed their boats up to 800 kilometres from the south, and their wives and children towed caravans over 600 kilometres of gravel roads to reach the fishing base (*Exmouth Expressions* May 1993:5). The emphasis in all these stories is that life was difficult. Communication was virtually impossible, and the lack of a sealed road meant that supplies came roughly once a month by ship.

By the mid 1960s, the U.S. and Australia had reached agreement to construct a joint U.S.-Australian military communications base on the peninsula (Przywolnik 2003:14). The town of Exmouth was gazetted in 1963 to service the base, which was simultaneously under construction at the tip of the peninsula. Construction of the township commenced soon after, and Exmouth was officially opened in 1967. This saw the introduction of more effective and regular communications between the Cape Range region and the mainland, and the gravel road was eventually sealed by 1980 (S. Whitburn, pers comm. 15 September 2011). The above average wages attracted Australians to move to Exmouth to work on the base or in town, and soon after, basic

community services such as a school, hospital, and sports facilities and shops were constructed (Horak, January 1993:1). Long term local residents often refer to the days of dual U.S.-Australian presence on the Cape as 'the good years', in which town services and social life were maintained to a high standard. Edith, a woman who had moved to Exmouth in 1977 when she was twenty five years old, describes her first ten years in Exmouth as 'golden'. She said during one interview we had on her front porch (February 2007),

> They were good days, great days. I was stepping out with my now husband and we would go to the outdoor cinema in the evenings with our friends.... And we drove on the [...right] hand side of the road. Yes! It was like going on holiday to the States without leaving the country. The shops sold mostly American food and everything. It [the community] really buzzed.

Until the late 1980s, the population of the town remained level at around 3,500 to 4000 people (ABS 2008). By the early 1990s, though, the future of the Americans in town was in doubt. The presence of the U.S. military bases had become widely known in Australia, and there was growing support for their removal (*Exmouth Expressions* October 1992:1-2). To compound the uncertainty, years of unregulated fishing in the prawning industry had led to several successive years of low catches in the Exmouth Gulf. This coincided with a tightening of restrictions on the new Cape Range National Park, and the Ningaloo Marine Park. By this time, the wild surrounds and Ningaloo reef were also attracting increasing numbers of tourists to the area, whose access was made easier by sealed roads and developing tourism infrastructure. Many residents in the town began to contemplate tourism as a viable future of the town (see for example *Exmouth Expressions* March 1988:1-2). Consequently, many local residents supported state government regulations in local industry, and environmental conservation became an increased concern amongst the community.

By the mid 1990s, Australia-wide protests against the presence of the American military on Australian soil had forced the Australian federal government to close a number of bases, including Exmouth (*Exmouth Expressions* October 1992:1-2). In 1993, the Americans officially withdrew from the town, and the base was handed over to private contractors (*Exmouth Expressions* October 1993:1). Residents of the town were then forced to find an alternative long-term economic basis to support the town. Since 1994,

the permanent population has decreased substantially, from 3,823 in 1991, to 1,996 in 2006 (ABS 2008). Services at the local hospital and school have been reduced over time, and amenities, such as the cinema, have been closed down. Both the commercial fishing industry and tourism provide only seasonal and highly unstable work. Many workers must therefore either leave town to find work, or claim unemployment benefits until they can begin work again at the commencement of the new season. School students above the age of fifteen who wish to enter university must complete the final two years of school, and their university degrees, in Perth or by distance education. In addition, the cost of living has become higher than in capital cities as the result of housing shortages, positive speculation over the growth of the Exmouth tourism industry, and the cost of shipping food and goods to the town (ABS 2007). Combined with the low and often seasonal variations in individual earnings, living in Exmouth long term can be very difficult, and many residents are forced to leave in order to find a more stable lifestyle elsewhere.

Although life on the Cape is now far less isolated than in previous decades, town residents still face many barriers to their ability to live in the town long-term, which I have described above. One of the main reasons that many residents felt willing to stay was their proximity to the remote natural environment. The idea of wilderness and the characteristics associated with the colonial history of the region were often ascribed to the town itself, as well as to the residents who live in it. It is this history, in addition to the imagined sense of a shared appreciation of the landscape and the difficulties associated with it that provided the foil against which local residents come to define their own individual senses of place in the local community. This timeline of the development of the town was known relatively widely amongst local residents, and was drawn on regularly when participants attempted to explain the ways in which the local economy has become utterly dependent (in positive and negative ways) upon the environment.

When Exmouth residents describe the life of the few who managed to live on the peninsula during the early colonial years, they depict courageous, resilient, adventurous people, who were capable of making do with the scantest of materials. The long-term pastoralists, and the fishermen of the 1960s, are generally seen to have earned their fortune through their willingness and ability to endure the conditions required to obtain it. In essence, the personal attributes ascribed to these pastoralists and early inhabitants

are a local personification of the characteristics of the Australian colonial bushman; a mythical figure that plays a significant role in the formation of a broader Australian national identity (Jones et al. 2007:86). This independent character was depicted in nineteenth and twentieth century Australian literature as a brave and resourceful young man who made a living from coming to know the rugged countryside, and transforming it into useful resources upon which a nation was subsequently built (Hall 2007). The character became synonymous with depictions of the untamed and unconquerable wilderness of the Australian landscape, and has become an integral aspect of contemporary Australians' connections with, and explorations of, wild places (Hall 2007:45-7), which I will examine in more depth in Chapter 4.

Wilderness, and the personal attributes required to 'discover' and explore it, are therefore central in broader Australian connections to place, and by extension, to a shared sense of locality and place in Exmouth. Yet ironically, it is also the main issue dividing social groups within the community. Many of the characteristics ascribed to earlier colonists arise in the descriptions of long term residents who have lived in Exmouth for thirty or forty years. These local residents are often described euphemistically as 'real characters', who are a little wild or uncivilized themselves because the lifestyle of Exmouth in the earlier days of exploration prior to the late 1970s. They lived on the Cape at a time when the land was largely unregulated by governments, local councils or environmental managers. They were essentially free to live and travel through the landscape as they wished, while later generations are subject to much stricter environmental management and laws, which is seen as changing the character of the town.

Many local residents who have moved to Exmouth within the past fifteen years could be termed what Peace (1996) calls 'urban refugees'. With the exception of some tradespeople, many have given up higher paid work in mainland towns and cities to experience life, work, and leisure in close proximity to the wild. As one local resident wrote in the local newspaper in 1993, with the increase in environmental regulation and the exit of the Americans, 'the motivating force [to live in Exmouth] moved from one of money to a quality of life that money could not buy' (Horak 1993:1). As Horak (1993:1) writes, this had brought about a change in the ethos of the town; from a general focus on money and the independence that accompanies a relatively unregulated lifestyle, towards contemporary conservation ethics, which promote a shift away from

money gained from perceived environmental degradation, towards protecting the environment. While the environment is now seen as a promising basis for economic development in the town, Horak (1993:1) argues that the issue of long term job security has persisted as a major concern amongst many local residents, which was confirmed through my research with both local conservationists and other local residents who supported development.

Therefore, each new development application or any change to environmental management in the area has been met with intense debate that splits the community along well-established social divisions. As each company commences their application process, they almost always promise long term sustainable employment. This is a tempting proposition for those who have seen the slow decline of the town over a number of years, and who would like to provide local opportunities for themselves or their families. On the other hand, the town has come to rely on the image of a remote wilderness for their economic survival (Jones et al. 2007:80), both as their main tourist drawcard, and as a basis for a sustainable commercial fishery. Many local residents see the potential risks to the tourism industry posed by large-scale mining to be of greater economic and social detriment than any positive outcomes that one or two mining companies could provide the local community. Others, often those who are not involved directly in tourism or environmental management, argue that mining offers too big an economic opportunity to ignore. The resulting disputes that have been waged since the 1980s have the appearance of splitting the town in two. On one side, the majority of long-term residents, tradespeople, and some business owners tend to argue for development, and against conservation restrictions. On the other side, many residents involved directly in the tourism industry or environmental management, and residents who have lived for a shorter time on the Cape, tend to support tightening conservation legislation and are against large-scale development. While many local residents may see and argue both sides of the story, the disputes often become so heated that they do not always have the opportunity to acknowledge any similarities publicly without risking their current social relationships. Instead, they use local narratives to explain the perceived differences between themselves and their self-nominated opposition, which I will discuss later in this chapter. Firstly, I will outline another widely shared narrative – that of indigenous histories of the landscape.

Cape Range: construction of place in the wilderness

Indigenous landscapes

One of the most striking aspects pervading many historical narratives of the area was a focus on the contrast between the landscape during local Anglo-Australian inhabitation of the area, and the age of the broader geographical landscape. In a narrative common to many countries colonised by the British during the 18th and 19th centuries, the landscape prior to the arrival of the British is seen as timeless, existing in a state of 'natural' equilibrium in which the environment gradually adapted to the changing climatic conditions that created the gullies and hills of the peninsula over many thousands of years. The Indigenous inhabitants who lived there are similarly depicted as existing in relative harmony with the landscape, adapting to any environmental changes as they occurred (Bolton 1981: 4-5). Of course, the reality was very different. Anglo-Australian national and local identities have largely been forged through the subjugation of the environment and the Indigenous people who lived there (Bolton 1981, Flannery 1997). In doing so, Indigenous peoples' narratives of place and senses of belonging have been significantly silenced in mainstream environmental discourse. In Exmouth, these colonial narratives are as notable for who they leave out, as for what they include. In this section, I outline the local narratives and scant documented evidence to outline the ways in which Indigenous histories of the landscape are interpreted and incorporated into the development of non-Indigenous senses of belonging in the landscape, and come to inform concepts of wilderness and belonging.

One of the first things many tourists ask, particularly tourists who are visiting from overseas, is why Aboriginal people do not appear to live in Exmouth when they are much more highly visible in other country towns. Often, these tourists have already travelled in other parts of Australia, where Aboriginal people maintain a high presence in the tourism industry, and evidence of their cultural beliefs and values is displayed in public arenas such as television advertisements directed towards, or featuring Indigenous people, in environmental education programs in national parks, and through art, music, or theatre. I quote below from an instance that occurred on a tour (November 15 2006), when I recorded a discussion between an American tourist and a local man, George, who worked as a guide on nature tours on the Cape. After George had described some of the medicinal properties of a particular plant that he claimed was

used by Aboriginal people ‘in the old days’, an American woman, Suzie, asked ‘where are the Aboriginals now?’ To this, George responded

> We know for sure that Aboriginal people lived here for thousands and thousands of years before we ever got here. In fact, an archaeologist who finished her PhD here says Cape Range has some of the oldest known evidence of the existence of Aborigines in Australia. Some locals say that they died perhaps about 150 years ago from a tidal wave.

At this, many in the tour group raised their eyes, and George continued,

> Yep we do get ‘em up here very occasionally so it wouldn’t be unheard of. But no joke some say it’s a condemned place or taboo place because of a wave. But more likely they just died or moved to Carnarvon... because the archaeological evidence shows they must have relied on trade with mainland groups to survive.

Suzie’s friend asked George ‘what makes you say 150 years? Do you know, was there really a tsunami then?’ to which George replied,

> Of course it’s all speculation, but we know that there were definitely people here when early trade was starting to happen along the coast and shipping would often become wrecked on the reef here... there’s a great book just out about a Croatian ship that wrecked at Point Cloates in 1875 I think it was, and of ten survivors, two were rescued by an Aboriginal group who took them to the tip of the Cape here [where we were standing], which was used then as a trading point by pearling fleets. But after that, who knows what happened?

Throughout my fieldwork, many people narrated these two stories that George describes in his well-rehearsed speech. One theory holds that one of the tsunamis to hit this area of the coastline must have killed a number of Aboriginal people, causing the Cape to become a ‘taboo’ area. Other residents believed that Aboriginal people must have lived on the Cape when the local climate was wetter and the sea levels lower. Then, when sea levels rose and fresh water supposedly became much more difficult to find, they were gradually forced to leave, only to return occasionally for the purposes of fishing or hunting. This latter story is often backed up by the claim that the first White pastoralists to run stock on the Cape spent most of their lives trying to find permanent sources of

water, largely unsuccessfully (these theories are also recounted in Forrest 1996:275). Although both stories are highly unlikely, they are largely propagated because there is very little publicly available evidence to explain what may have happened (Przywolnik 2003:14). Combined with a widespread lack of understanding about the processes of dispossession of Aboriginal people that occurred through colonisation, the contestation between Aboriginal families over whether or not the Cape should be included in the Thalanyiji Native Title claim meant that there was very little understanding amongst non-Indigenous town residents of the complex nature of Aboriginal belonging and heritage. Representatives of Indigenous families who did claim ownership of the Cape were rarely taken seriously by non-Indigenous residents – particularly by those non-Indigenous residents who had lived in Exmouth before Indigenous families also moved into the town. Instead, popular narratives fell back on a very popular story that is used to explain the disappearance of societies over the world. That is, the environment is believed to be the main factor in their demise; whether it is through environmental change, or through their perceived inability to cope with the extreme conditions of the Cape, such as the heat, drought, or unpredictable ocean conditions. Local residents' own experiences of the Cape and the stories they have heard depicting the isolated and difficult life of early pastoralists make these stories appear a valid possibility to them.

Post-1960s activism and education programs have had some impact on educating non-Indigenous people about the ways in which particular aspects of landscape may be seen through the lens of 'traditional' Indigenous cultural stories. To an extent, some non-Indigenous Australians have incorporated these into their senses of place. For example, conservationists sometimes employ Indigenous environmental and spiritual narratives to provide alternative perspectives in environmental campaigns, or in education programs, which often help to strengthen the sense of importance in conserving particular regions (Ellen & Harris 2000). Others find that they gain a deeper sense of spirituality and connection to the environment through Indigenous narratives (Trigger & Mulcock 2005). Meanwhile, others might resent the ways in which Indigenous Australian narratives are used to define an authentic, or true, senses of belonging. For them, this destabilises and delegitimizes their own sense of place and belonging that they gain through non-Indigenous histories, stories and experiences (Satterfield 2002). Indigenous peoples' own perspectives do not generally play a significant role in non-Indigenous peoples' day-to-day experiences of place-making. In fact, the main advocate of the local

Indigenous families, Sally (who came originally from Carnarvon to live in Exmouth), said she was often not taken seriously when advocating Indigenous heritage in the landscape. So strong was the belief that no ‘original’ inhabitants lived there that local non-Indigenous people have completely discredited any notion of ‘authentic’ Indigenous heritage of the area.

The narratives of the supposed disappearance of Indigenous people, despite the fact that they still lived and worked in Exmouth at the time of research, were often used to emphasise the isolation, harsh conditions, and difficulty of living on the Cape. The perception that Aboriginal people, who had lived in the country for up to 40,000 years, were apparently no longer able to make a living on the Cape, or that somehow it had become a taboo to visit the Cape, subtly reinforces the harsh conditions that were seen to make life more difficult for colonial settlers in the past, and even for those who live there now. The senses of isolation, wilderness, and the harshness of the elements, which are so integral to the development of non-Indigenous senses of place on the Cape, are therefore supported through the narration of these stories. In a way, the denial of a contemporary ‘authentic’ Indigenous belonging as a result of their disappearance in the 1940s appears to have created a space for non-Indigenous senses of belonging and place. This posits the environment itself as the ultimate force determining human habitation of the region, and any person who can survive, and even revel in the isolation where Indigenous people ultimately did not, has been granted the status of ‘true’ or ‘old-style’ explorer who has gained sufficient understanding of the environment to survive.

Conservation and development in Exmouth

At the heart of many local environmental narratives is not just the character of the people, but the character of the environment as well. Integral to local senses of place are questions regarding the extent to which the landscape and eco-system may have changed over time, and their capacity to withstand or accommodate different types of human and non-human impact. Beliefs and perceptions about the impacts of past human residents on the landscape, and the ways in which the environment is understood to have coped with the resulting change, play a role in directing local residents' actions in the present, as well as in their beliefs and values regarding appropriate human-environment management in the future. It is on this point that much of the separation between development ideologies and environmentalist beliefs and values occurs. The developers and the local residents who supported development, all conceptualised the environment as resilient, and perfectly able to withstand the rigours of human industry. Yet participants who opposed the mine (and any similar developments in the local region) tended to describe the environment as much more fragile, and susceptible to large-scale human impact. Within this discourse, human society was seen as a dominating force, which must carefully choose how to use natural resources in order to prevent complete devastation. These global discourses became common in Exmouth since the early 1980s as mining exploration and conservation management arose simultaneously in the region. The ongoing debates about these developments have shaped and divided the community along these lines. As a result, these very different beliefs and values regarding the environment played a similarly important role in laying the foundations for the dispute that arose when the salts proposal was made public. In the final section of this chapter, I examine the historical progression of conservation and development surrounding the Cape that led up to the Straits Salts Proposal. I then examine the ways in which locals recount their initial experiences of Cape Range in order to contextualise their current beliefs and values. In particular, I focus on how these beliefs and values are impacted by the disputes in which they become involved.

The ecological importance of the Cape Range and Ningaloo region was already identified in the 1960s. In 1964 (DEC 2006:12), the state government announced their intention to allocate a large portion of the western half of the Cape Range peninsula for rehabilitation, which previously accommodated a substantial pastoral lease for grazing sheep and cattle. They acquired the lease soon afterwards, and the area was

subsequently declared a national park in 1974 (DEC 2006:12), and has been subject to a constant restriction of public access ever since. The Ningaloo Marine Park was then established in 1987 (DEC 2005:1, 12) in order to address the environmental impacts posed by growing numbers of tourists and the increasing pressures of development. The popularity of the region to both tourists and scientists has grown significantly since this time. As a result of the region's scientific status as a biological 'hotspot', a large proportion of the Cape, coastline, and reef were in the process of nomination for listing as a World Heritage Area 'in recognition of the area's outstanding natural beauty, its biological richness, and international geological significance' (DEC 2011:1).[8]

As an administrative object of high conservation value, government authorities have developed management plans within currently accepted guidelines put forward within conservation science. That is, they actively remove people from the environment, concentrating human activity into particular areas that can be monitored, managed, and, to an extent, sacrificed. In doing so, they aim to return the environment to what is considered its original state before large-scale human impact and grazing. In turn, the local environment, and the perception of wilderness, becomes a commodity, in which nothing is allowed to sully its wild and pristine appearance (see Peace 2009:55). The western coastline of the Cape Range Peninsula is therefore a highly managed area of land. As numbers of visitors have increased, access has decreased, and opportunities for local residents to access the park and partake in activities through which they originally developed a sense of belonging to the area have decreased. It is the newer residents who develop their own sense of place within the context of these newer restrictions through their work and leisure activities.

While conservationists tended to focus on the importance of coming to know the landscape through activities with minimal environmental impact, residents who had lived in Exmouth for longer, or who tended to support development, often expressed their experiences of wilderness as a sense of freedom from societal expectations and regulations. As can be seen in the following example, they also frequently couched their narratives within a sense of resentment towards increasing environmental regulations. Bob, a local resident since the mid 1970s, is in his mid sixties and is active in his opposition to the conservationists' campaign against the salt mine. Although initially

[8] The nomination was passed in 2011, and it is now world heritage area (DEC 2011:1-2)

reluctant to be interviewed, he ultimately agreed, saying it was important for me to understand that the wilderness had been a much wilder and inaccessible place before government agencies began managing the landscape as a national park. In the following excerpt from the interview (20 November 2006), he drew on many popular historical narratives in order to prove this, explaining the early days of the township as:

> ...before... all that 'I want to become one with the wilderness' crap you mean... yeah. It was a pretty decent place. I mean hang on, it's still alright [now] as long as you don't get yourself fined for camping in the middle of nowhere. I mean damn, you can't even take a piss anymore without filling in a form and paying an entrance fee....

He trailed off, and I then asked him what kinds of activities they did in those days before the National Park was so highly managed. He replied,

> We used to go over the west side [western coastline of the National Park, along the shores of the Ningaloo Reef] all the time and fish and camp and light fires and that. The fishing was always the best. There were no bitumen roads down in the park in those days so it'd take ages to get there, and there'd be no one around past the old Yardie homestead. You could almost pluck the fish out of the sea there were that many! You could go explore wherever you liked and just camp all up the coast. It was fantastic for the kids growing up 'ay. Then they starting taking the signs down and all of a sudden there was nowhere to go except the main bitumen road. It's like 'subliminal herding'. They're herding us like cattle and keeping us away from the actual interesting stuff.

Bob's depiction of an idyllic lifestyle and relative freedom of access was a very common story told to me by those who lived in Exmouth before the mid 1980s, and remains the 'ideal' experience of the environment for long-term and generally older residents. Their stories focused on a sense of complete freedom of exploration, movement, and the ability to do whatever they wished, which generally involved fishing for as many fish as they could catch, camping in remote places without the restrictions of campgrounds, payment to a government authority, or laws regarding what they could or could not do. At times, they did acknowledge the need to manage the large numbers of visitors, particularly in regards to the perceived decline in fish stocks. Yet they argued that as locals, they should have been allowed the right to continue the activities

they had always done. In order to support this argument, they would often recount these stories as a way of expressing how their senses of place, involving the perceived freedom to explore this isolated and wild landscape in the past, had been irrevocably changed.

For most long term residents of Exmouth at the time of this research, these initial settler-like explorations were the beginning of many years' of experiences in the environment, through which they slowly built their knowledge of the landscape, and understanding of the historical progression of the interactions between the local environment, history and community. It was through this process that they developed a sense of place in the environment, and their beliefs and values regarding acceptable modes of human-environment interaction on the Cape. The themes of adventure, depicted through the discovery and exploration of unknown wild places were threaded throughout both the conservationist and pro-development narratives. Importantly, both narratives also advocated the belief that before a person can feel truly 'comfortable', or 'at home' in Exmouth, they must first become more familiar with the environment surrounding them through leisure and work experiences. These personal experiences were often then shared with others at social gatherings, which further developed a person's sense of belonging to both community and environment. As I described earlier in this chapter, there was a sense of a shared understanding of the local environment based on a nationalistic depiction of human perseverance and adventure in the face of potential hardship and isolation. Any sense that these beliefs and values may be shared was often lost in the midst of ongoing disputes over the acceptable impacts of society on the environment; or rather, the acceptable ways for humans to interact with the environment. In general, of all the local residents that I met through this research, it was the more long-term residents who promoted this kind of story that also most vehemently supported development.

Conservationists often responded to this anti-government/pro-development narrative by describing it as a worldview that belongs in the past, and which no longer has a place in contemporary environmental management. They argued that the supposed freedoms that local residents enjoyed in the past had led to continued degradation of the environment. Conservationists frequently cited 'over-fishing, over-grazing, and over-use' as the principal motivations for the tightening of conservation management regulations into the future. Conversely, local residents who supported development tended to use

conservationist narratives to highlight the irony of the conservationist arguments; that conservationists work towards separating people from the ecosystem while they themselves held employment and enjoyed leisure activities that granted them regular access to areas that were restricted to the general public.

Since the late 1970s, therefore, conservation and development issues have remained constant concerns in Exmouth, as is evidenced by frequent articles in the monthly town newspaper regarding conservation or development issues. These concerns have primarily been directed at the potentially disastrous impacts of unchecked human industry. During late 1970s, the commercial fishing industry in the Exmouth Gulf experienced at least seven consecutive seasons of low catches (*Exmouth Expressions* May 1993:1-2), signalling severe long-term over-fishing. In parallel to the implementation of increasing conservation legislation, and tighter restrictions on fishing, new technologies developed during the 1980s allowed mining companies to explore isolated areas that had not been financially viable. As a result, mining exploration companies moved south into Exmouth waters, within ten nautical miles of the Ningaloo Reef. Since then, mining exploration has continued apace, and there are currently at least five exploration and drilling licences within ten nautical miles of the Ningaloo Reef, and more proposed in the Gulf and mainland areas. Additionally, Exmouth Limestone Pty Ltd was granted permission for the construction of a limestone quarry in 1996, although it has not yet been constructed (Department of Minerals and Petroleum n/d).

Mining and development are now listed as one of the fundamental pressures on Western Australia's environment (Environmental Protection Authority 2007). For much of Australia's colonial history, industries such as agriculture, logging and mining have benefitted from virtually unfettered access to environmental resources (Trigger 1995, Dovers 1994:126). Conservation science has identified this over-use as the main contributor to environmental decline throughout Australia, placing pressure on governments and industry to bring much stronger conservation measures to protect and/or restore environments to a more 'pristine' or 'original' state (Daily 1995). In line with global trends, environmentalist discourses are said to pose a significant threat to entrenched development ideologies in Australia (Trigger 1997:175). With the subsequent pressure on companies to work with any communities that may be potentially affected by any development, the community in Exmouth has become

involved in a constant stream of economic and conservation developments, becoming increasingly divided each time over the relative merits of conservation or development in the area.

For example, many local residents recall the dispute over the first wave of oil and gas exploration in the 1980s. Doris Frankston, a local resident, wrote a letter to the editor in order to put forward the opinion of what she felt was a minority in the town. She wrote,

> It is utterly disgraceful that our community and our shire should give way to the corporate monster all in the name of a few quick bucks... our unique environment will take this community into the future. All it would take is one mistake for the entire marine park to be washed away in a single wave of oil (Frankston 1988:9).

In the following month's edition, an anonymous resident replied to Doris' letter, writing

> The letter in last month's August issue, submitted by Doris Frankston, shows just how out of touch the conservation movement really is. This is Australia, not a third world country... Our industries are run on a tight ship... They [the companies] know the risks and have safeguards in place. There will be no waves of oil crashing on Ningaloo's shores (*Exmouth Expressions* 1988:10).

Local residents often described to me how this kind of dispute has been waged almost continuously over the years, as one mining or development proposal is won or lost, and a new proposal is advertised. Social relationships between community members became particularly heated during the early 2000s, when the department of conservation and land management (CALM, which is now renamed DEC) began the process of rezoning the marine park. Under pressure from conservationists and marine scientists, who believed the reef to be at risk from tourism and development, the state government commenced consultation with local residents to re-design the marine park to allow an acceptable amount of activities, and designate new areas to be re-zoned into 'sanctuary', or 'no take zones'. Within these zones, no extractive activities, including fishing, could take place. Through this process, local employees of the (then) Department of Conservation and Land Management facilitated workshops and meetings in which local community members identified, and subsequently agreed upon, appropriate zonings,

which would allow some areas to remain as fishing zones, while others would become sanctuary zones. One of the women involved in this project described the final agreement between local residents and DEC officers as ‘like a miracle, we all agreed on something!’ (Janet 20 May 2007). Yet when the state government released the final management plan for the zoning, the Perth-based planners had taken very little of the community consultation work into consideration.

The release of this document created a strong public backlash against the local government employees and conservationists. In an interview with Felicity, a DEC officer who had been involved in the local community workshops, she said

> It was terrifying then. At one point we had a large and angry group parading down the street towards the DEC office and burning blown-up photographs of us in effigy. We had to lock up the office and tell everyone to get home as soon as possible, or leave town if they could even. We lost several employees through that, they just never wanted to come back and who the hell can blame them?

Dale, an older male employee who worked for CALM during this time also told me of his experiences. He said that there were a number of occasions when a person would approach him in a public place (such a shop queue) to let him know that they supported what he and CALM were doing. He argued that these people were too afraid to acknowledge their support amongst friends in public for fear of reprisals. A local resident who was very vocal in his support of the zoning plans, Troy, stated he had received two anonymous death threats in the mail.

As is evidenced through these examples, disputes between local residents over conservation and development can be deeply personal. With the exception of the local conservation group, there were no officially defined groups within the community who specifically supported or opposed conservation or development. Despite this, everyone involved in this research was able to pinpoint particular worldviews that divided the town on conservation and development issues, and which community groups and individuals would support different types of development or conservation. On one side of the debate, generally older, longer term residents who support development, subscribe strongly to the ethic that they should be free to explore the landscape without management by distant government bodies. Essentially, they are seen to embody the character of the free-roaming Australian, to which many visitors also subscribe through

their annual holidays in the region (Jones et al. 2007:82-7). Just as the farmers in Theodossopoulos' (2002:44-6) study, they exercised their 'right' to do as they pleased in the landscape because that is what they had done in the past without the necessity for management. These people are known by other local residents to fish in areas that are now protected, to camp in now prohibited areas, and to fish for more than their legal limit (Jones et al. 2007:86). They were also behind any protest against government conservation measures. On the other hand, the conservationists tend to be newer residents (between 0 to 10 years), and are younger, university-educated families looking for employment in the burgeoning tourism and government departments involved in environmental management. They are understood to embody the environmentalist ethic of restraint (see Sponsel 2001), which stands in direct opposition to the strong sense of entitlement to access that is embodied in the 'free-roaming' ethic.

Like many small communities, local residents often formed professional or social relationships with those who had differing beliefs from themselves. Many residents often chose not openly state their beliefs about particular projects for fear of starting arguments amongst friends. The forceful nature of such disputes, and the frequency with which they occurred within the local community, had meant that many people had come to feel very strongly about particular environmentalist or development values. As a result, they also preferred to socialise amongst those who had similar opinions. With a heightened awareness of environmental and social issues from ongoing development, social groups in Exmouth tended to form along the lines of those who supported conservation, and those who promoted development. It is through these social groups, which were played out through conservationist and development ideologies in obviously opposing ways, that people came to explore, learn, and develop their environmental beliefs and practices.

Creating community at the 'frontier' of development

The formation of social groups that I have described above cannot be properly understood without reference to wider national and global discourses of environmentalism and development ideologies that play a significant role in questions of the future of human-nature relationships in Western Australia. These discourses are currently prevalent in Western Australia, which has been experiencing what is typically referred to as a 'mining boom' in media and public discourse (Richardson & Denniss 2011). The strength of the entire Australian economy is often seen as largely a result of mining and exploration in Western Australia and Queensland. In fact, mining is widely applauded for sheltering the country from the impact of recent economic downturns (Richardson 2009). Mining surged from producing four percent of Australia's gross domestic product in 2004, to just over nine percent in 2011 (Richardson & Denniss 2011:1). At the time I conducted fieldwork between 2006 and 2007, before the financial crisis had commenced, mining was seen as Australia's most promising industry. In Western Australia, the state Chamber of Minerals and Energy estimated that the mining sector contributed $101.2 billion to the economy in 2010-2011 (CME 2011). As a result of high commodity prices, and high demand from Asia (namely China), the profit margins of mining can be double, or even triple, that of other industries in Australia (Richardson & Denniss 2011:29). It is these figures that are alternately portrayed in media and public discourse as either Australia's "safety net" (Gillard 2011), or as the cause of many social and economic problems being experienced by those who do not work or depend on the mining industry, and who must experience the rise in costs of living that occur as a result.

One of the biggest concerns for Exmouth residents that were opposed to the encroachment of mining was the resulting rise in the cost of living that was not commensurate to the wages earned through industries upon which the town was dependent, such as tourism, fishing or conservation management (ABS 2007). The average weekly wage of an adult full time worker in Australia in February 2011 was AU$1,291.30 (ABS 2011a:6), while the average weekly wage of a full time employee in the mining sector was AU$2,098.00 (ABS 2011a:13), even though it only accounts for 2% of the overall Australian workforce (ABS 2011b). Although statistics vary significantly between sources, it is not uncommon for an average maximum weekly income in the mining industry to exceed AU$4,000 a week for skilled trades (G.

Pinzone, Pers Comm 20 April 2007). Towns that exist within the vicinity of mining have therefore experienced extreme rises in the cost of living. For example, the average cost of renting a small house in a mining town such as Karratha, with four bedrooms, one bathroom and that is forty years old, is between AU$2,000 to AU$2,800 per week, or available to buy for over $1,000,000 (Department of the Senate 2008). The skilled labour shortage has seen smaller businesses unable to find employees, and as a result, companies such as McDonald's have offered the equivalent wages to that of a low-paid mine worker in order to retain staff (Lewis 2011). As a result of this increased wealth in the extractive economies, the remaining non-extractive economic sectors suffer. This creates a situation in which both government and those working in the extractive economy have sufficient wealth to drive the cost of living higher, while those employed in the non-extractive industry must pay significantly for the higher cost of living without earning sufficient remunerations (Bridge 2004:228).

This possible future was often raised by participants in this research as one of the main reasons many local residents were eventually forced to move. House prices in Exmouth were already increasing rapidly at the time of my research as a result of public speculation regarding the potential future value brought by mining and tourism. These concerns were often raised during stakeholder meetings for the different mining operations in the Exmouth region. Often, they were raised in relation to the perception that the companies were not carrying out their promised plans to provide jobs or infrastructure for the town in return for the disruption involved in their mining activities. This expectation is not a concern of Exmouth alone, as many towns in the north of Western Australia have suffered as a result of mining. Due to current public pressure on companies to act in socially responsible way, companies who are seen to impact upon local communities with their activities are expected to 'give back' to that community. This is usually done in form of financial contributions to community infrastructure and utilities developments, such as donations to community groups, or for the construction or maintenance of schools, hospitals, swimming pools, accommodation, and even roads or railways, which have traditionally been the responsibility of local and state governments (as I will describe in Chapter 3) (Cheshire et al. 2011:124, Ferguson 2005). However, as many conservationists in this research observed, this made the town feel like a 'capitalist marketplace' (Laura, 20 February

2011), in which every service and building in the town would soon be sponsored by a company.

The emphasis on Australia's dependence upon mining, and the significant increase in size and production of mines themselves, has led to public criticism from conservation agencies that the state government had been allowing industry unfettered access to precious environmental resources for short term gains (CCWA 2011). According to these arguments, this access is causing widespread environmental degradation, which cannot be monitored with current government legislation. Although it was fairly common knowledge in industry at the time of my research, a recent audit of compliance to environmental and safety standards in mining, conducted by the Office of the Auditor General in 2011, has shown that compliance was extremely low on all levels (Office of the Auditor General Western Australia 2011). For conservationists in Exmouth, the strong possibility that companies would not follow laws to protect the environment was very concerning. In this case, both the aesthetic ideal of wilderness, as well as the health of the environment upon which the tourism and fishing industry depended, was at stake. Additionally, the town's historical dependence upon the US military operations had highlighted the problems associated with becoming dependent upon one single industry or company. The growth and high participation rate in the local Cape Conservation Group was a significant indicator of the concern of some locals about development, and the significant potential for environment damage to result.

As I described in Chapter 1, the two groups were already fundamentally aligned with national and global discourses that represented each group at the outset of the dispute. While the conservation group was created upon the premise of global eco-centric environmentalist agendas (Milton 1996), the developers had spent much of their working lives as engineers and managers in the mining industry, in which utilitarian development ideologies prevail (Trigger 1997). Although there was significant diversity between individual people within each group, members of each group both consciously and unconsciously worked to represent the beliefs and values of their group as a whole, to which their personal beliefs and values tended to align closely.

It was through these historical environmental-social narratives that the highly pervading dichotomy between the NIMBY (Not In My Backyard) conservationist and cold-hearted developer acting as a mindless automaton for a money-hungry corporation was created

in the Exmouth dispute. Just as the NIMBY syndrome rhetoric has been shown to be far too simplistic a depiction of conservationists' attachments of place (Berglund 1998:26-7), so too is the concept of 'greenwashing' (Bridge 2004:247), in which corporations are understood to deliberately manipulate environmentalist rhetoric in order to gain support and make more money (Pulver's 2007:45) As Annandale and Taplin (2003) found in their research of environmentalism in corporations in Perth, Western Australia, corporate actors are as embedded in a web of social relationships as are conservationists and everyone else, and make decisions based upon the competing social, economic, moral and political concerns of the many other actors within it. It is this web of historical, social, and environmental relationships that define the scope of their performances of dispute.

Conclusion

In disputes over conservation and development in Exmouth, it becomes evident that the historical narratives depicting past local human-environment interactions play a significant role in guiding peoples' beliefs and values in the present. In particular, historical narratives of the colonial conquest of the Cape, gleaned through the apparent absence of direct Indigenous claims on the land, have formed the background to the contemporary explorations and experiences for newly arrived residents and visitors to Exmouth. Yet those who become long-term residents soon come to realise that the legacy of the American naval base has left a town without a stable economic basis. The high cost of living, the sense of isolation from major towns or cities, the difficulty of finding permanent and well-paid professional work, and the long distances from hospitals, schools, and shops offering more than the basic services, makes staying in Exmouth for the long-term very difficult. Over time, the local residents in this study had witnessed their friends move away as a result of these pressures, and they often spoke about the constant assumption that they would one day move elsewhere as well; for many it was simply a matter of time.

For those who tended to support environmentalist values and human connections with nature, their growing sense of place corresponded more directly to global environmentalist discourses. Within this ideal, Exmouth was seen as having the potential to develop industries that dependent upon the environment, yet also respected and conserved it. To many, this was believed to involve a future based on eco-tourism

and sustainable fisheries. On the other hand, for those who tended to support development, this would require 'forgetting the history' of the town. Local pro-development discourses tended to support the need for what many called 'careful' development. However, the definition of 'careful' was fluid, and the promise of employment and a stable economy was often thought to be worth the sacrifice of localised environmental change or loss of the aesthetic appeal of the landscape.

The ways in which the supporting or opposing arguments regarding the proposed salt mine were therefore significantly related to past experiences of economic instability, environmental degradation from overfishing, and the more recent experiences of tourism and conservation management changes. These local experiences were combined with nation-wide anxieties regarding the impact of mining on the environment and local communities, as well as the economic uncertainty that would result if mining operations in the country were to slow or cease. For the Exmouth residents, and indeed the developers, who were involved in the dispute over the environment and economy, the risks and benefits of both conservation and development were argued primarily through opposing development and environmentalist narratives that had arisen through these narratives of the past.

The framework for the ensuing schismogenic conflict over the proposed salt mine had therefore already been laid out through past disputes that had divided the community. Social groups, such as the local conservation group, had arisen through these contestations in order to provide an alternative voice to the prevailing development ideologies. In response, local residents who saw the need to provide a stable economic basis for the town worked together to support development-centred narratives, and thereby providing an opposition to the growing conservationist ethic in the town. As a result, by the time the salt mine was proposed in 2003, both those who supported and those who opposed the mine were already well practised at disputing conservation and development issues. The developers then took up these development narratives as they entered into these pre-existing social relationships. While they initially used these narratives to emphasise the importance of the proposal to the town, they had also drawn on narratives that would immediately raise the concerns of local conservationists. Throughout the ensuing dispute, both the conservationists and developers employed scientific knowledges, local knowledges, environmental legislation, and moral and

emotional values in order to gain legitimacy over their opposition through the schismogenic process.

According to Bateson (1935:181), the necessary precondition for symmetrical schismogenesis to occur is that two opposing groups have the same aspirations (i.e. to influence the outcome of the parliament's decision for or against the mine by providing the most legitimate argument), yet with opposing outcomes in mind (one is supporting the proposal while one opposes it). As can be seen in this chapter, the framework for this increasingly oppositional dispute was already in place in the local community. What gave the two groups sufficient power to have a role in the dispute was government legislation, which obliged the developers to accommodate the concerns and knowledge of the local community. The role of the government and legislative procedures in the dispute is discussed in the following chapter.

Chapter 3
Governments and governance in decision-making: legislating stakeholder relationships

> We just have no time to have our say. [...] They've [the developers] had years to collect all their data and we get, what, 12 weeks? And they timed it to go over the Christmas break – so we have to spend our Christmas formulating a response! [...] They're being totally unfair and the EPA is just letting them walk all over us.
>
> Anne, local conservationist, 15 January 2007

> It's not fair on us. We are doing everything they [the EPA] ask and more and they're never satisfied with what we produce no matter how high we jump for them. It's that they're completely on the side of the Greenies. So yes, we are making a formal complaint about the way we're being treated. It's not on.
>
> Ian, Engineer for Straits, 15 June 2007

Introduction

Throughout the dispute over the proposed salt mine in Exmouth, both the conservationists and the developers employed a complex blend of scientific knowledge, local experiential knowledge, and moral and emotional arguments in order to prove that their account of the environment was more legitimate than that of their opposition. They worked hard to mould their environmental narratives in order to support their own representation of the future impact of the mine. In doing so, both groups attempted to appropriate the knowledge claims of their opposition, and to reinterpret them so that they were either proved invalid, or so that they came to support their own argument. Through this process, they drew boundaries between themselves and their opposition along the lines of opposing beliefs, values, and worldviews, and which were expressed through opposing environmental narratives. Thus, the two groups became locked in a schismogenic dispute in which their arguments became more exaggerated and oppositional as they worked to assert their differences to their opposition. Often, these oppositions were represented in public discourse as an inevitable aspect of the

environmental decision-making processes. The purpose of this chapter is to ask why this was the case, and to examine how the environmental approvals process in Western Australia played a role in framing the relationships between the conservationists and the developers.

One of the most striking aspects of this dispute was that members of both groups frequently expressed the belief that they were the victim of the more powerful ideologies and knowledge claims of their opposition. Members of both groups believed that their opposition was allowed too much power to shape the 'facts' that informed the decision-making process. As a result, both the conservationists and developers felt they were being unfairly discriminated against by a number of groups involved in the dispute. This included their opposition, the decision-makers employed by the EPA and the government in power. Both the conservationists and developers tended to place the blame for their poor management of the community consultation process on the EPA, and the legal structures that governed the decision-making process that forced them to contribute to the dispute in such an oppositional and uncompromising way. In this chapter, I show that the EPA remained uninvolved in the community consultation process throughout the dispute. Their removal from the process meant that the EPA played almost no role in overseeing the methods used by the developers to consult with the community, or in the ways in which the developers did or did not address stakeholder concerns that were raised in the context of the meetings. Instead, their power to shape the dispute came from the legislation and policies that defined the nature of each group's participation, and in their role as assessor of the environmental report (which included the Social Impact Assessment). This chapter therefore examines the legal requirements of the environmental decision-making process that obliged these two groups to enter into the dispute, and the ways in which they creatively used the legal framework to gain the most leverage in their attempts to prove the legitimacy of their arguments to the politicians charged with making the final decision on the proposal.

In this chapter, therefore, I focus on the ideology of governance. I illustrate how the implementation of governance ideology into practice has played a significant role in shaping the Exmouth Salts dispute (and therefore the production of knowledge) in a number of key ways. Firstly, I outline the meaning of governance, and the implementation of governance policies in the environmental approvals process in Western Australia. In doing so, I show how the role of government is understood to take

a reactive, rather than directive approach to decision-making by placing the responsibility for researching and reporting on ecological knowledge and social values in the hands of the stakeholders involved. Secondly, I show how the legislation specifically outlined the role and expectations incumbent upon each group when providing their knowledge and viewpoints. As a result of this positioning, each role provided certain avenues for the exertion of agency and power over others in shaping their ability to present certain types of knowledge. Lastly, I examine the Stakeholder Reference Group (SRG) meeting as the site through which much of the dispute over the legitimacy of knowledge took place. I show how the reactive positioning of government meant that there was no definition of the type or scale of knowledge or concern that should be relevant to a particular project. As a result, the developers and other stakeholders found themselves locked in a schismogenic dispute, comparing moral values with economic factors, answering a question on potential impacts on local communities with ecological scientific 'fact', or supporting local knowledge with evidence of global environmental degradation. I argue that this lack of a defined scale or boundary, combined with the power imbalances created by the positioning of each group in particular roles, served to magnify the dispute, decrease trust between participants, and created an atmosphere in which the participants felt a constant need to prove the legitimacy of their position.

Environmental governance: power and control

The theory of governance, as I refer to it in this thesis, can be defined as the devolution of state (government) power and control to non-government stakeholders, communities and industries (Charnely & Poe 2007:301). Broadly understood, governance in decision-making implies a multi-agency or actor approach, through which non-government stakeholders (defined here as any group who has an interest in a particular policy or development) have an opportunity to provide input into the process of creating and implementing policy decisions. The move towards governance in environmental decision-making can be seen as a response to global pressures for increased regulation of development and conservation for the purposes of creating a more sustainable future, as well as incorporating the knowledge and beliefs of those who would be affected by those policies. As an ideology, it was a deliberate move away from 'top-down' governmental arbitration, which was seen as blindly making policies based on what was best for the government, rather than for the people being governed (Argent 2011). In

reality, though, the more equal and democratic playing field it was designed to create has not eventuated. While the legislation involved with governance has gone some way to changing the nature of the relationships between the different groups, which I describe in this chapter, it has done little to alter the distribution of power in the decision-making process. Instead, these changes have opened up new avenues for capitalist ventures to 'turn critique into commercial and managerial assets' (Shamir 2010:531). Rather than making the process more flexible and democratic, it has created new platforms from which powerful actors can manipulate situations to best serve their interests (Banerjee 2007:23-4, Shamir 2010). Yet despite the unequal distribution of power between actors in Australian environmental decision-making frameworks, the process of governance does provide certain avenues for those with less power to exert their agency, even if it is a far more complex and difficult enterprise for them than it is for those with greater financial and political power.

Most forms of governance in this context are based on the incorporation of representative agencies, activist groups and other organisations, which have usually been created to represent broader sectors of individuals who may hold similar interests, values, or knowledges (Murdoch & Abram 2002:7). These can include government agencies, environmental councils, development organisations, and businesses or business groups. Thus, the state is said to have 'shifted from being both the formulator and deliverer of policy: it is now an orchestrator (or 'conductor') of networks [of institutions]' (Murdoch & Abram 2002:7). However, the case study of the Exmouth Salts dispute show that the distribution of power and responsibility in decision-making is far more complex.

Although the government retained the power to make the final decision, it played only a very small role in defining the environmental concerns to be addressed. Instead, the responsibility for overseeing the approvals process lay in the hands of the EPA (as a non-government agency providing advice to the government), which had to assess whether the environmental review conducted by the proponents was sufficiently detailed and correct. Although the EPA and government remained responsible for determining the outcome, they had little legislative power to define and control the processes through which governance actually took place. As a result of this positioning, both the EPA and government took on the role of passive arbitrator, rather than an active 'orchestrator', of the dispute. Instead, the devolution of the power to define the

issues to be involved in the process of decision-making was placed in the hands of the developers, who were obliged to identify problems, carry out scientific and social audits, and to provide a report that outlined the solutions to these problems. The conservationists' role was to therefore to act as 'lay participant' (which I will outline below), and to provide local knowledge or express community concern regarding the developers' assessment. Due the intensely political nature of this process, though, neither the conservationists nor the developers intended to carry out these roles unquestioningly. Instead, each stakeholder group worked hard to assert the legitimacy of their own knowledge over their oppositions' through the legal structures of the dispute. As a result, the government was no longer 'orchestrating' the roles and actions of each group. Instead, it was forced to arbitrate over a dispute that had grown exponentially over the year of public consultation. Rather than complying with the roles assigned to them, the participants creatively used all legal avenues possible to assert the legitimacy of their knowledge, beliefs, and values over other ways of knowing.

In her study of governance as it relates to development policies in Indonesia, Li (2007:7) identifies this process as a dual emergence of 'problematizing' [sic], and 'rendering technical'. Firstly, policies of governance must define the problem to be solved. The second practice is 'rendering technical', which, according to Li (2007:7), involves a wide variety of devices used to assess and gather knowledge in order to conceptualise the problem, therefore rendering the field known to those who must then make decisions and offer solutions in its management. As Li (2007:123) argues, an assessment of policy documents and processes demonstrates that they are as notable for what they leave out as much as for what they include. In particular, Li argues, they reveal gaps between the ideals that produced them, and the realities that occurred through their implementation. In this chapter, therefore, I draw on this argument in order to assess the impact on both the policy and process on the ways in the creation and exacerbation of conflict between the conservationists and developers.

The process of 'rendering technical' in environmental management involves extensive environmental audits in which scientific research is used to paint a picture of the ecosystems involved in a planning area. Incorporated into this are further assessments of the impacts of industry, and what Strathern (in Lakoff & Collier 2004:421) calls a 'social audit'. This involves the process in which governing agencies gather data in the form of social impact assessment to gain a clearer picture of the beliefs, values, and

knowledges that should be addressed. Often, this process is supported by ongoing meetings that involve local residents and other stakeholders. Hypothetically, contestation should therefore be minimised as each group holds a semblance of responsibility, and therefore power, in the ultimate outcome. In practice, the opposite tends to eventuate. Often, the involvement of many stakeholders has been shown to actually enhance uncertainty as a result of multiple and ever-conflicting views (Kamper 2000:32-33). Further, the process also relies heavily upon a high degree of public and corporate trust in governing agencies, as well as in the corporations who are perceived as holding significant political and economic power (Miller 2006:381-2). Such trust relationships are almost always fraught simply due to the highly bureaucratic nature of decision-making, and particularly because the institutions involved are many and diverse, with corporate aims and legislation that vary significantly (Argent 2011). Importantly, as Li (2007:7-8) illustrates, the act of rendering technical also makes it appear apolitical. That is, the political relations and economic motivations inherent in the subject being governed are seen as outside of the policy-making process. Instead, scientific assessment, in the form of audits described above, is seen as the most legitimate source of knowledge from which to formulate policy. Thus, the actual experience is always very different from ideological intentions.

While the ideals of governance in environmental decision-making support the transference of power and authority to be shared amongst stakeholders, in practice, it often serves to amplify the unequal power relationships already inherent between these groups. For example, Li (2007:24) states that the act of creating a policy relies on the assumption that those writing (or deciding the future of it) it have both the right and the expertise to do so, while those being governed (local communities) are implicitly understood to lack the capacity to ameliorate their situations. As a result, the practice of governance seeks to guide subjects' behaviour towards an improved result (2007:17). Charnley and Poe (2007:301) argue that, in the context of forestry management in Northern America, the devolution of control to local communities and stakeholders has been 'partial and disappointing' as the government and large industries continue to maintain the power to create and maintain policy. As a result, communities are often seen as having very little power to influence policies or decisions that affect them (Murdoch & Abrams 2002:6-8). The Exmouth Salts dispute provides a different perspective. While the power to define policy remained firmly in the hands of the

government and corporations (such as the salt developers), this did not necessarily prevent stakeholders in Exmouth from asserting significant opposition through the representation of legitimate environmental narratives based on scientific and local knowledge.

The ideology of governance described above is now well established in Western Australian decision-making formats in rural and remote areas. Public consultation and stakeholder engagement have therefore become commonplace (Cheshire et al. 2011:124), and are designed to bring people with polarised beliefs, values, and knowledges, to 'work together' in order to achieve common goals (Bostrom 2003, Roberge et al. 2011:656). Yet exactly what these common goals are, and how they should be achieved, remain elusive in both the legislation and in its implementation. In the case of the Exmouth Salts dispute, the aim was to assess the environmental risks posed by the mine. This involved the assessment of environmental risk as conceptualised both through supposedly 'objective' and 'apolitical' scientific knowledge, and through the residents' local environmental narratives. Although the written policy guiding the environmental reviews process in Western Australia certainly appears to promote this aim, the reality is much more complex. In the case of the Exmouth Salts proposal, the practice of governance was characterised by significant confusion about the expectations of the roles and responsibilities of each stakeholder, and the specific types and levels of expertise required to prove the legitimacy of the environmental narratives that each group created to support their positions. Such confusions led to further mismatched expectations between their assumed power and authority within the dispute (particularly for the developers), and the ways in which this was incorporated into the decision handed down by the EPA and then parliament.

The practice of governance within the environmental decision-making process in Western Australia is ill-defined, and much is left up to the discretion of EPA employees and government representatives. The EPA provided little specific explanation of the depth and scale that was expected of developers when they commissioned social impact assessments and undertook community consultation. Nor did they explain how the results of these assessments would be incorporated into the broader decision-making process (Argent 2011:98, Griffin 2009). While stakeholders were certainly given an opportunity to enter into the process of governance, the realities of its implementation generally resulted in much confusion regarding the different roles, responsibilities, and

power that each stakeholder is expected to have. These same confusions led to significant misunderstandings in the Exmouth Salts dispute, which led both the conservationists and developers to understand their role in the approvals process in very different ways. Before outlining the positioning of the stakeholders, I first briefly outline the legislation through which the environmental approvals process is carried out.

The role of the EPA

The state government, which had the responsibility of approving or rejecting the proposal, did not play any active public role in the decision-making process other than to hand down the government's decision. Rather than having a government agency preside over each proposal, the state government set up the Environmental Protection Authority (EPA) as a semi-independent organisation with the authority to implement the state's *Environmental Protection Act 1986*. The objectives of the EPA are to 'use its best endeavours – a) to protect the environment; and b) to prevent, control and abate pollution and environmental harm' (EPA 2011). The members of the EPA are not public servants, and they are not answerable to the Minister. Despite this apparent separation, they are integrally linked to the government in a number of ways. First, they carry out legislative procedures in order to enact state laws. Second, government funding supports their operation (EPA 2011b). Lastly, one of their main roles is to assess the proposals through the judgement of sound science so as to provide objective advice to the Minister, who must then use these findings to debate the issue in parliament so as to arrive at a final decision.

The agency's separation from government politics, and alignment with scientific expertise and objectivity, is aimed at achieving a higher level of neutrality. Their role as the expert is very clearly defined through these policies, and is written into the legislative procedures. The functions of the EPA are broad and include: conducting environmental impact assessments, preparing statutory policies for environmental protection, preparing and publishing guidelines for managing environmental impacts, and providing strategic advice to the Minister for Environment (EPA 2011). Within these broader objectives, the primary responsibility of the EPA is to assess any proposal that is 'likely, if implemented, to have a significant effect on the environment' (*Environmental Protection Act 1986*, Part IV. S. 37B).

Usually, a proposal is referred to the EPA by the proponent (the development company), a decision-making authority (government department), or by members of the public (EPA 2011). A proposal must be referred to the EPA if it appears likely to have a significant impact on the environment, and particularly if there is significant opposition within the community and/or government departments (under Part IV s. 38). Any decisions regarding the potential extent of impact, the type of information and level of detail required in the report are then governed by EPA policies and guidelines that support the legislation (see EPA 2002 for example).

To decide whether or not to assess a project, the proponent must submit an Environmental Scoping Document, which includes a preliminary assessment of the environmental and social context (EPA 2002:572), and 'a planned program of consultation with the public, key stakeholders and relevant government agencies' (EPA 2002:573). A key aspect of the environmental review is therefore to include the views of public and key stakeholders in the decision-making process. This is laid out clearly in the EPA's administrative procedures. It states,

> [T]he environmental impact assessment process is designed to be transparent and accountable, and includes specific points for public involvement, including opportunities for public review of the environmental review documents. The public review of the proponent's document ensures that the community, decision-making authorities and government agencies are informed about a proposal, have the opportunity to comment, and that their comments are considered by the Authority, before a decision is made by the State Government (EPA 2002:571).

Within this process, the proponent must respond to any issues raised through the public review in writing, and outline how they have been considered within the final report. It is through this means that the public are given the opportunity, at least in theory, to have a direct impact on decision-making.

As I described above, the EPA is ostensibly an independent body, separate from the Parliament and other state government agencies (including conservation departments and development departments). While it holds no powers to actually halt a development, it does have the power to make a recommendation as to whether a proposal should proceed, and any government who overturns the EPA recommendation

puts itself at significant risk of losing 'the green vote' if a development is approved despite serious (and now legitimised) misgivings that the proposal may cause environmental damage. Additionally, under the *Environmental Protection Act 1986*, PVI, s. 41A(1), any proponent who commenced work before the EPA have made a decision is deemed to be committing an offence.

The Yannarie Solar Salt proposal was first referred to the EPA in 2003. As a result, the EPA required the plan to undertake an ERMP (Environmental Review and Management Plan), which I described in detail in Chapter 1. Although the developers discussed their proposal with a number of stakeholders during the process of undertaking scientific research, they did not commence the required community consultation (in the form of Stakeholder Reference Group meetings and one community-wide information meeting), until the ERMP report was released for public comment.

The ERMP was released for a 12 week public review in early December 2006, after which time the public responses were addressed and the final report was submitted to the EPA in mid 2007. Yet it was not until early 2008 that the EPA released its recommendations. During this period, community concerns over the degradation of environment and local communities as a result of the mining boom were dramatically increasing. Within the EPA's 2006-2007 Annual Report, it is clear that these local issues, combined with the global rise in public concern had significantly impacted upon the EPA's operations. Each annual report includes an environmental 'report card', which states the key issues facing the environment in the state, and the probable future trajectory of these problems. Of primary concern in the 2007 report was the overuse of the environment in general, stating that 'increasing pressures on the environment from WA's economic boom, consumption of natural resources, and climate change require new approaches to environmental management' (EPA 2007:9). Other key impacts within this framework included a lack of knowledge about the state's biodiversity and ecosystems, increased demand for land use, unsustainable growth of towns and developments in areas that cannot support them (usually to support mining nearby), and the degradation of social and environmental heritage (EPA 2007:9). Each of these key indicators was listed as very high priority in planning decisions, and they were projected to become worse in the near future (EPA 2007:9).[9] These concerns were therefore

[9] These issues were the key factors driving significant changes that were written into the EPA guidelines directing the decision-making process. These changes were finalised and implemented in 2009

designated priority for EPA staff while assessing the Exmouth Salts proposal. The scale of the Straits proposal meant that it was deemed a high potential risk to both community and environment, and was therefore required to undergo a full assessment by the EPA.[10] This involved a mandatory environmental review and publication of the ERMP, which required regular community consultation (as per the EPA guidelines that I will discuss further in this chapter) to occur so as to address and mitigate any community concerns in combination with environmental concerns.

While the EPA is publicly charged with the responsibility of acting as an objective arbiter of truth in decision-making, those who work for the EPA have a difficult role of balancing supposedly objective science with the beliefs and values of the local residents who may be affected by any changes. Frank (15 August 2007), an EPA staff member, confirmed during a telephone interview that the Agency now had to incorporate 'community concerns' and 'social values' into their deliberation of the scientific evidence. In his view, this was particularly challenging when proposals turned into outright disputes. In particular, he stated that any side could produce scientific research to back up their case, and it was essentially a dispute over 'moral value rather than truth'. Frank stated that 'community concerns' were a priority within the decision-making process regardless of the level of public opposition. He also emphasised that it was therefore important for proponents to factor in community values when designing a project or the proposal may attract more negative attention than it may initially warrant. Ultimately, he believed that 'solid science' as a way of 'getting at the truth' was generally the primary objective in his work. Unless there was significant and 'unstoppable' social pressure on the government, he thought that good science would 'win over' most reasonable points of view, although he stressed the need to understand that there would always be 'the extremes of either end' who never agreed with any decision.

As Frank's statement here illustrates, the EPA (as an agency) recognised that any significant development requires 'a social license to operate' (Bridge 2004:245-7).

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so as to streamline the dramatic increase in pressure from development proposals of significantly high risk as to require an environmental reviews process (EPA 2009).

[10] The EPA receives hundreds of referrals each year for new development proposals. As it cannot assess every single one, it requests all proposals be submitted to the EPA, and the EPA decides which provide sufficient risk as to require a full assessment, and which level of assessment is required. At the 2006-2007 EPA guidelines, the ERMP document required to be undertaken by Straits was the second highest level of environmental risk assessment.

Without this, public pressure against a proposal may prevent 'good' development from proceeding (Bridge 2004). This was a factor that the EPA often promotes to development agencies submitting a proposal to the EPA (EPA 2007), yet it rarely provides detailed advice as to exactly how to implement the social concerns into the management plan. Increasing demand for Corporate Social Responsibility from private corporations has been mirrored by increasing demands upon governments to regulate the supposedly unfettered access to the landscape that has been previously enjoyed by industry in Australia. Within this process, there is also significant demand from the public to be given an arena in which they might have some influence, and have their concerns heard and incorporated into the final decision. The role of the EPA is thereforeto bring legitimacy and accountability to the process of environmental decision-making (Roberge et al. 2011:656), and to provide a supposedly value-free and unbiased forum of arbitration through the imposition of objective external legal constraints (Miller 2006:381). As Miller (2006:381) argues, governments have become 'essential players in helping to ensure that knowledge is produced in such a way that citizens can trust it as a reliable foundation for making collective choices and can therefore trust the policies built upon it.' In theory, this is the same ideal upon which the EPA creates its policies and recommendations to government. This remains a myth, though, for as long as there is a lack of trust in the EPA and the government decision-makers (Miller 2006:382). In the following section, I will illustrate the ways in which the structure of the decision-making process positions each group by specifically outlining their role in the process. This analysis shows how each group was given a defined position from which they could exert varying levels of power and agency at different times within the dispute. The agency that each group was able to assert through these avenues led to a distinct lack of trust both in their opposition, and in the EPA for 'allowing' these practices to occur. As a direct result, neither the conservationists nor the developers trusted the process set out by the EPA any more than they trusted each other as appropriate arbiters of objective truth. In turn, any knowledge that was created through the process was similarly seen as untrustworthy.

Neither the government agencies nor the EPA, then, played a directive role in the actual face-to-face aspect of governance as the Exmouth Salts dispute played out. As a result, much of the dispute was fought through direct and indirect communications such as meetings, mail, telephone conversations, and media. Instead, the power of government

and the EPA lay in their assessment of the scientific reports submitted to them by the developers, as well as in the final ERMP document that was submitted for public approval. As I will show through the remainder of this chapter, the practice of governance in Western Australian environmental decision-making highlights the constantly shifting power dynamics between stakeholders at the different stages of the process.

Knowledge and power in dispute

Governments are often critiqued for their unwillingness to relinquish control to stakeholders or other organisations (see for example Charnley and Poe 2007:301). However, as I have described above, governments in Australia often appear to readily hand over at least some of the obligations of governance to mining companies, which are seen to have more financial capacity to be able to implement them (see also Shore 2011:126-7, Wapner 2005:346). Due to their stake in the development process, these companies are expected to play a leading role in financing, designing and implementing policies for local communities and environments that will be impacted by the activities of the company, usually with minimal amounts of government involvement (Cheshire et al 2011:124-5).

Under the *Environmental Protection Act 1986*, the developers were obliged to take on similar responsibilities. As the proponents of a mine that could cause potential damage to the environment, they took on the 'burden of proof' (Lofstedt 2003:36). That is, they had the responsibility to identify potential problems caused by the mine, and then to commission (and fund) sufficient scientific research and conduct community consultation in order to illustrate the reasons why they would not cause significant environmental change (EPA 2010:5986). This responsibility is based on the 'precautionary principle', which is generally accepted in this context to mean that the burden of proof is to be placed on those who wish to alter the environment, rather than those who may suffer from such changes. The developers in Exmouth could not proceed within this policy-driven framework until they had provided adequate proof that they would be able to mitigate any significant change or harm to the satisfaction of the EPA (see Lofstedt 2003:37).

This process sets up a complex power dynamic between the stakeholder groups. The legislation was written to protect the local community, so as to save the public from

utilising their own financial and economic resources. Although the developers often referred to the process as a burden on their company, this also granted them a significant amount of power, which they readily assumed. In doing so, this led to many misunderstandings between themselves, the EPA, and the conservationists, over the extent of their power to shape the decision-making process. What made the struggle for power so 'tricky' was there were no officially stated standards to which the environmental or social audit should apply. Nor were there any specific directives as to exactly why and how these consultation programs should be incorporated into policy. As a result, despite having the power to direct scientific research and community consultation, the developers were consistently faced with inconsistent and changing standards over the duration of the process laid out by the EPA, and were forced to repeat or extend scientific projects on many occasions. I will now examine how these uncertainties and misinterpretations led to considerable difficulties while conducting SRG meetings, both because there was little direction regarding the scale or type of knowledge or concern that they should be incorporating into their planning, and because they were then uncertain as to their extent and limits of their own decision-making power in the dispute.

For most of the participants involved in the Exmouth Salts dispute, acknowledgement of public opinion and knowledge was seen as an important part of the environmental approvals process. The ways in which knowledge should be incorporated into decision making was understood in very different ways. The developers did not see themselves as 'consulting' or 'working with' the community at all. From their perspective, their role was to present information to the public while they undertook the research and report writing that was necessary to have their ERMP approved by the EPA. Ian exemplified this when he explained to me on the first night I met the developers, saying 'we don't work with communities, we just fulfil the requirements laid out in the environmental protection acts... *the law*... and we only do that, we do what we're told to.' On the contrary, the conservationists saw the Stakeholder Reference Group as an important avenue for learning the research being undertaken by the developers, ensuring that this research was being used and interpreted in a fair and appropriate manner by the developers, and for also asserting their own interpretations, knowledge, and values that might have an impact on the final decision.

Although the developers initially contacted any potentially impacted stakeholder at the commencement of the project, it was not until 2006 that their public relations program and Stakeholder Reference Group meetings began. These meetings, which I will outline in the second half of this chapter, were organised based on the requirements of the EPA, and designed in a similar fashion to all SRG meetings in Australia and in many parts of the world (see Boholm [2008]). The developers were encouraged to provide an arena in their SRG and community meetings that would provide for a collaborative sharing of knowledge and information (EPA 2007). As was generally the case (similar to that of Boholm's (2008) research), the developers first publicly introduced themselves to the local Exmouth residents by holding an open community meeting. They understood the purpose of this as being to introduce their ongoing future presence in the community, which had already commenced with the gifting of funds to several local community groups. Following the general meeting, they held regular quarterly meetings with a smaller stakeholder reference group, comprised of representatives of each group who committed themselves to attend regularly. These meetings were designed to accommodate the requirements of the EPA, and provided an arena in which the developers, and then SRG members were able to have the time to express concerns or ask questions. The developers held the responsibility for providing SRG members with regular updates on the findings of their research. This included topics as broad-ranging as an expert who had studied the movements of whale migration and other megafauna in the Gulf, to presentations by the proponents themselves on the technical aspects of constructing the mine. The knowledge presented in this forum was designed to be objective, and primarily scientific. The developers were also obliged to answer any questions raised by the community, and whenever possible, to organise for these concerns to be addressed by other specialists who had conducted related research in these areas in the following meeting.

The expectations of the role of the community were similarly laid out in EPA administrative guidelines for the assessment of proposals, in which all stakeholders were obliged to engage in the process in a reciprocal manner (EPA 2010:5985). Firstly, local residents' regular participation in SRG meetings was encouraged so they would be sufficiently informed by the time the ERMP was eventually released for public comment (usually for a period of up to 12 weeks) (EPA 2010:5985-6). Local residents who did become members of the Stakeholder Reference Groups were also invited to

provide appropriate local knowledge or to raise concerns that may have been pertinent to the decision-making process. In return, they were also expected to learn and incorporate the 'objective' knowledges involved in deciding upon appropriate levels and types of development that could be allowed in the region (EPA 2010:5985). Importantly, the EPA guidelines specifically request that the local residents involved in the process 'take a *responsible* approach to opportunities of engagement' (EPA 2010:5985, my emphasis). No further direction is given as to exactly what a responsible approach might be, or what form it might take.

Although the developers were obliged by law to consult with local communities, it was not always clear how the developers should incorporate these opinions, beliefs, and values should be addressed in what was otherwise a highly technical and rationalised report. For example, all the developers realised that they were obliged by law to consult with the community, yet each developer held widely varying opinions as to how this should be undertaken. The wording of the legislation did not help rectify this problem. While the developers were legally obliged to consult with the community, the term 'consult' was not specifically defined. Thus, the policy only obliged the developers to undertake community consultation. It did not specifically state that the developers had to actually resolve any issues in this process. As a result, a number of developers believed that their role was simply to 'inform' the community of their intentions, while others believed that consultation could provide a good avenue for addressing community concerns directly. This lack of direction from government and the EPA enabled the developers to selectively address public concerns, and to dispute them rather than engage with them directly.

This framework therefore posited the developers as producers of knowledge, upon which the decision-making process relied. That is, they were given the power to identify the environmental risks to be addressed in the ERMP, to choose which scientific studies to commission in order to address this (although they did run the risk of having the EPA request further research if the studies they commissioned were deemed inadequate). Although this process of scientific data gathering is ideally meant to be an objective and apolitical assessment of the problem at hand, as described by Li (2007:7), this process was far from value-free. Instead, the public production of science is an extremely political process, with the varying motivations of each party playing a significant role in the creation of knowledge upon which decisions are ultimately based (Fischer 2000: 92-

4). Through their involvement in other projects, the developers had learned which contractors would be more likely to provide more favourable results. If the research did overtly disprove the developers' arguments, they also had the power to hide the research, and simply hire alternative consultants until they found one who produced supportive results.[11] As the primary responsibility for coordinating the research was theirs, the developers themselves were also able to set the timeline for the research to balance both their own financial constraints with the requirements to undertake sufficient research. It was ultimately up to them to decide the 'responsible corporate environmental policies, strategies and management practices' to implement within the design of the research (EPA 2010:5985).

Conversely, the conservationists were positioned as 'lay' receivers of objective and legitimate knowledge. This was a position that they frequently resented in their attempts to prove the legitimacy of their own local knowledges and individual professional expertise as scientists or as people who work within the environment. As Berglund (1998:116) argues, the experience of learning about one's environment through this process might be acceptable to many. The experience of being told what will happen to one's environment through descriptions of the impending changes or potential destruction, though, is usually not (Berglund 1998:116). This was particularly unpalatable for many local residents and conservationists in Exmouth who, as they had experienced in previous failed disputes, did not trust the 'facts' being presented by the developers, or the EPA's decision to hold sufficient impact on the government decision.

The main avenue through which they could provide alternative knowledges that would have an impact upon the final decision, was through their involvement in regular SRG meetings. It was through these meetings that they creatively asserted their values and concerns while also providing the developers with their local experiential knowledge (which will be the subject of the remainder of this thesis). While these meetings were important in shaping their knowledge, beliefs, and values, their main opportunity to directly influence the decision-makers (the EPA and government) was by submitting these concerns in writing through their response to the ERMP. In this situation, the developers were able to significantly influence the process by determining when they would release the document, and the length of time given before the public submission

[11] This is a commonly understood occurrence within the industry, yet is seldom discussed openly in public (Graham, contracted scientist, 20 September 2007)

period closed. Similarly to the positions in which many opponents of a development find themselves (Milton 2002:135), the conservationists had only 12 weeks to read the full document, which was virtually impossible to have read in full – let alone to have understood all the scientific reports that went into it – and to write a full report outlining their concerns regarding both ecological changes and the social and economic impacts on the local community. Within this time period, they were also obliged to produce evidence in the form of original and literature-based research in order to legitimate these concerns, and then to submit it by the due date. Following this, the proponents were then required to respond to these public submissions, and to incorporate mitigation plans for each main issue raised (EPA 2010:5985). They were also allowed to take as long as they required before submitting their response to the EPA for the final decision.

Within the ideals of environmental governance, all stakeholders should be given the opportunity to voice their concerns, and have at least some aspects of their shared values be incorporated into the decision-making process (Bridge 2004:239). The means through which different stakeholders may influence the process vary greatly, resulting in process that incorporates only minimal provisions for the public to influence any decision. Milton (2002:135) argues that the design and implementation of the production of environmental reports is heavily weighted towards the companies because of the pervasiveness of the market in influencing the decisions. Milton (2002:135) uses the example of the public approvals period in the environmental approvals process in Britain. Like Australia, the time period allowed for public comment was kept minimal (usually between 8 and 12 weeks), while the development agencies were given an unlimited time period. Her view was that this was designed to allow companies to commence operations as soon as possible to avoid financial losses, despite the fact that the time was not sufficient for the public to assess and respond to the knowledge claims made in the reports. Due to the prevailing dominance of development ideologies in the structures of government in Western Australia (and around the world), the pressures of time and finance were evident in the design of the approvals process. Yet due to increased pressure to include the public in decision making, the ERMP process had been designed deliberately to incorporate local knowledge and public concern. It had also been structured in this way so as to allow the public to have at least some impact on the assessment process. Although this was minimal, the conservationists in the Exmouth

Salts dispute were able to use these avenues to gain knowledge and support for their cause.

In the context of the SRG meetings, the developers assumed this power without question. It therefore came as a shock to them when they were obliged to assess and incorporate the strong public backlash against the proposal (despite not having a clear understanding of exactly how to do this). The conservation group did not plan to remain the meek 'lay' observers of the approvals process. As a result, while the EPA may not have placed significant import on public values and knowledges, the conservationists made sure that both the EPA, and more particularly the government, heard their concerns and were made aware of the possible political impacts that the approval of the project may have had upon the future of the government unless their alternative ways of knowing the environment (through local and scientific knowledge) was addressed. The conservationists used the SRG meeting as a site in which to assert their agency in the dispute, and from which to create a platform upon which to base their own public relations campaign.

The Stakeholder Reference Group Meeting and the problem of scale

One of the primary forms through which stakeholders (most particularly conservationists) were given the opportunity to exert their own agency within the dispute was through the public and Stakeholder Reference Group meetings. Although community and stakeholder meetings are a very common site in which disputes take place and knowledges are contested and re-imagined, they remain under-researched as an arena of study in their own right (Boholm 2008). For the conservationists and developers in the Exmouth Salts dispute, this face-to-face arena of social interaction had an important role in the dispute. It was in these meetings that the uncertainties and misunderstandings of the roles, responsibilities, and power held by each group became clear. Although both groups had entered into the dispute in order to impact on the ultimate decision made by parliament, they also realised the power that their opposition held could mean that they might ultimately lose. These meetings therefore became integral sites in which both groups were fighting for legitimacy in the eyes of both the decision-makers, the public, and amongst themselves.

The meeting is an administrative requirement, defined through EPA legislation, which controls the nature of participation by providing guidelines for the actual type (e.g. a

meeting) and purpose (e.g. for the purposes of providing information or consulting community values) of interaction between the proponents and other groups. Such meetings are thought of as a cornerstone in the practice of environmental governance as an ideal avenue for stakeholders to voice and debate their beliefs and knowledges, thereby providing an avenue through which problems might be solved outside of government arbitration (Boholm 2008). Yet, due to issues such as lack of guidance on the meaning of local knowledge or community concern, and the many differing knowledges and ideological positions of different stakeholder groups (Bridge 2004:238), the meeting only served to enhance the schismogenic process through which local, national, and global concerns and knowledges were contested. Before I examine this, I will first provide a brief overview of the overall structure and purpose of the stakeholder reference group meeting.

Structuring an SRG meeting

The developers initially introduced themselves to the community through the donation of funding to local community groups, and by providing general information leaflets. This was common practice in the public relations campaigns in the mining industry, which was demonstrated everywhere in Exmouth by the many company sponsorship signs that each sporting or community club displayed in their clubrooms. They also met with various groups who might be impacted by the development, including local businesses, the local conservation group, local council and chamber of commerce, as well as Perth-based government agencies including the Department of Fisheries and the Department of Environment and Conservation (DEC). In October 2006, the developers then held a general community-wide meeting in the town hall, in which they experienced their first direct interaction with the local community. It was not until the ERMP document was released in October 2006 that they commenced regular Exmouth-based SRG meetings.

Each SRG meeting was almost identical in structure, with the exception of the final meeting held before the government decision was handed down. The representatives of each stakeholder group would gather before the meeting, finding places to sit together, and discussing various arguments they could pursue in response to rumours that had circulated in the previous months. They would sign the attendance sheet that was sent around the room, and the developers would then commence the meeting by re-

introducing themselves, and outlining any new developments in the project. This was their opportunity to reaffirm the relevance and importance of the proposal (in their eyes) to the local economy and community. These introductions were not open to comment or dispute. Instead, they were immediately followed by a presentation delivered by an expert who was involved in the proposal. Although this was usually a scientist who had been contracted to work for the company, on two occasions, the developers themselves presented technical details of their planning, incorporating a discussion of major changes being implemented to accommodate local concerns or values. These presentations always focused on the dissemination of knowledge through technical and scientific facts and data, and remained specifically relevant to the areas of ecology, geography, or hydrogeology that would be impacted upon by this specific development.

Once the expert presentation had finished, the meeting would generally take a 'tea break', giving participants the opportunity to talk amongst themselves. Although this break was designed to allow for informal discussion amongst participants, and to encourage them to 'bond' through the act of eating together and enjoying the hospitality of the host (the developers) (Boholm 2008:129), it inevitably had the opposite role. Although the conservationists and other participants shared the food, they would take the opportunity to either express their personal concerns directly to the presenter, or to discuss the presentation amongst members of their own group or supporting friends. They would compare it to how the developers had represented this knowledge in past meetings or public relations documents, and what had been written in the ERMP document, and formulate particular questions or concerns to present when the meeting reconvened. The informality of this time was particularly important to the conservationists. During the earlier part of their meeting, they would sometimes become uncertain of their position in relation to the knowledge discussed in these presentations, and it would give them time to share their concerns and to bolster their confidence before they publicly questioned the developers in the second half of the meeting.

The final segment of the meeting was allocated to what Boholm (2008:129) calls 'the questioning'. This time was designated for stakeholders to ask questions in order to clarify aspects of the presentation, or for them to raise concerns regarding the proposal as a whole. This was the main opportunity for conservationists and other local stakeholders to assert their agency in entire process. As a result, question time always took on characteristically polarised themes, which, as Boholm (2008:129) illustrates,

tend to be based upon dualisms such as ‘factual evidence versus emotions; risks versus benefits; experts versus locals; scientific versus local experience; economic versus environmental values; and trust versus suspicion’.

While Boholm is describing a case between railway administrators and local residents in Sweden, she could equally be discussing any number of stakeholder meetings in Exmouth. The conservationists and developers would begin by discussing facts presented in the previous case. During this time, either the conservationists or the developers would inevitably counter an argument by providing moralistic or emotional arguments or local knowledge. These arguments would then be countered again with any information that was deemed as legitimate (as I described in Chapter 1), and were often based in local, national and/or global scientific or local knowledge. Within these interactions, the personal and emotional stake of the participants in the project became clear (which I will discuss in the remainder of this thesis, and particularly in Chapter 6). Inevitably, participants would reach a stalemate. At this time, the developers would bring an end to the meeting by asking for requests regarding which experts should present in the following meeting, and inviting participants to remain and enjoy the ‘complementary’ food and alcoholic beverages. Particularly in the first two meetings after the ERMP document was released, a number of stakeholders remained behind in order to argue their point further. After these initial meetings, though, it became obvious that their message was not being heard, and they would leave almost immediately.

Any decision-making process has a multitude of risks to consider, as well as varying standpoints regarding which values or risks are more important than others, and a number of avenues through which concerns regarding these risks may be asserted (Boholm 2008:120, Roelofson et al. 2011). Although different forms of participation have various aims, the main aim of all forms is for participants to learn from each other through discussion and debate. In particular, the SRG meeting is understood in governance theory to be an ideal arena for stakeholders to gain trust amongst each other as it provides them with a space to discuss knowledges, beliefs, and values freely, and to gain further knowledge from the experts hired to conduct scientific research. Generally, it is expected that the groups who hold these varying views will ideally come to find a compromise, or even consensus, and that this should happen within the arena of the stakeholder meeting (Roelofson 2011). This did not occur for the developers and conservationists in Exmouth. From this example, it begs the question of whether the

ideal of ‘compromise’ or ‘consensus’ should be considered realistic, or even desired, in this process (see also Roelofson 2011:342).

Nevertheless, the meeting was therefore organised in such a way as to give all participants an opportunity to voice their beliefs and values. After all, the aim of these meetings was for the developers to ‘provide’ the community with expert knowledge through which they may interpret their concerns, and in turn, for the conservationists to offer ‘reasoned’ and rational feedback to the developers and decision-makers (EPA 2010:5985-6). The form in which this occurred depended upon the actual influence that each group was anticipated to have in the process. For example, experts were given a significant amount of time to present information in a way that suited them, while ‘lay’ participants were usually limited to asking questions or providing additional related local knowledge. In the case of the Exmouth Salts dispute, while the conservationists were able to ask questions of the experts brought in by the developers, there was no provision for the conservationists to have an expert present alternative evidence within the meeting itself. As described above, the developers in this research understood the role of local conservationists as purely receivers of knowledge. Yet the conservationists saw themselves in a much more proactive manner, and took every small opportunity they had to raise their concerns, question the developers’ interpretations of science, and to provide scientific evidence from their own or other supporters’ research.

‘Directing’ schismogenesis

Similarly to case studies of stakeholder meetings in other contexts (Boholm 2008, Griffin 2009), the conservationists and developers in Exmouth came to express highly polarised views on the ways in which the future of the landscape should look, despite sharing a number of beliefs and values regarding the importance of sustainability. In the process of arguing their own viewpoint, while countering those of the opposition, the participants became locked in the schismogenic process of dispute. They found themselves supporting only the knowledge that represented their own group’s claim while necessarily overlooking the more nuanced considerations. If they did acknowledge the validity of their oppositions’ arguments, they would risk losing the legitimacy of their own. The developers were aiming to have the mine approved, while the conservationists were set on preventing it. In this instance, no consensus could be reached. As this is often the case, researchers have questioned whether consensus is

ever achievable in reality, or if it is even desirable (Roelofson et al. 2011:342). Certainly in the case of the Exmouth Salts dispute, it would certainly not be achievable, and to attempt to do so would be naive. Therefore, in the context of the meeting room, the developers, conservationists, and other stakeholders interacted directly in a contest of who could produce the most powerful and legitimate arguments (see also Boholm 2008:121). The resulting environmental narratives were therefore presented with the knowledge that they would be crucial in confirming the legitimacy of their own argument when presenting their case to the EPA, while simultaneously presenting their group's critique of their opposition's knowledge claims.

As discussed in the section above, the official role of local stakeholders was to raise shared concerns, or provide local knowledge, in their capacity as lay citizens. Primarily, they were expected to learn from the expert research, and to ask questions so as to gain further understanding of the supposedly objective knowledges being presented. This was a position that conformed to prevailing structure of the 'lay/expert divide' in decision-making (Epstein 1996:330-331). Yet many of the local Exmouth conservationists were able to engage in much more technical ways, as their professions in the tourism industry and as scientists meant that they were experts in their own right. They also had personal contacts and resources to commence their own 'counter-planning' by commissioning or conducting their own scientific research (Boholm 2008:120). Therefore, as soon as they gained access to the scientific research produced by the developers for the ERMP, they did exactly this. In addition, their environmentalist stance also gave them certain moral values and beliefs that were widely shared outside the local dispute, and were creatively combined with scientific knowledges as a way of gaining wider support for their cause.

As Boholm (2008:12) argues, being consulted for one's knowledge is not the same as actually having power within the process. This is particularly the case when one's knowledge is very obviously considered irrelevant by those who are obliged to do the consulting. Whether implicitly or explicitly, the conservationists recognised this, and through the support and resources of the *Halt the Salt Alliance*, they actively researched, questioned, and debated the science with their own science and local knowledges, and provided moral or emotional arguments when their scientific arguments were countered and/or rejected by the developers. However, whenever the developers framed their counter arguments within broader concepts of sustainability and environmental values,

as is now often the case in development discourse (Bridge 2004: 232-4), the conservationists held a similar low regard for the legitimacy of the developers' stated arguments. The unwillingness of either group to grant each other any sense of legitimacy served to decrease trust between the two groups. As a result, they tended to emphasise their knowledge claims more forcefully, and worked harder to reinforce the divide between themselves and their opposition through providing opposing beliefs, values, or knowledge. Any attempts to highlight common ground therefore had the effect of heightening the schismogenic frame of the dispute. The result was the mutual feeling that the opposition held unfair advantage and power in the eyes of the government, who would ultimately make a decision based on the knowledges that arose throughout these individual disputes.

Within this process, the conservationists often expressed frustration at their lack of ability to have an influence on the developers in meetings. They often complained of always having to fight for access to the ongoing research being conducted by the developers, who had the power to choose which experts to present at the SRG meetings, and which to ignore. They believed the developers were deliberately manipulating 'good' science by presenting only the research that supported their mining proposal, while ignoring or even suppressing other details that could contradict or introduce doubt into their arguments. Ultimately, the conservationists openly questioned the legitimacy of the entire decision-making process, as they felt the developers held vast amounts of power to control the research, timing, and scope of the entire production of the ERMP. For example, the developers exercised their power to choose when, and for how long, they would release their ERMP by releasing the report three weeks before the Christmas holidays. The conservationists were certain that the developers had chosen this timing deliberately, as the activists' time was already strained during this period, and it would be very difficult for them to commission any research that could be done over that period. They also blamed the EPA for allowing the developers to 'walk all over' them, and lodged a formal complaint. They were found to be right by the EPA, who granted them an extra four weeks at the end of the initial consultation period. During interviews, the conservationists regularly told me how powerless they felt in the face of the obvious political and economic power of the developers.

Yet, it soon became clear in this research that the developers felt similarly powerless, and said on a number of occasions after SRG meetings that the strength of the

conservationists' arguments against them had the potential to win the dispute. This particular design of community meeting allowed all parties in the Salts dispute to legitimately raise any issues during a meeting, regardless of scale or type. Conservationists regularly drew upon global environmentalist ideologies of wilderness and sacredness of nature, while providing scientific information that proved the fragility of certain ecological systems, and presenting this information within personal local environmental narratives and experiences. This often resulted in a dispute based upon an often confusing melange of scientific knowledges, local knowledges, beliefs, and values, as well as globally and locally defined concerns regarding environmental protection, climate change, and over-development. The developers were then obliged to acknowledge these beliefs, values, and knowledges that may or may not conform to a scientific world view, or may differ from the science produced through their own contracted scientists. The developers understood the conservationists to be using every argument possible to stop the mine because they simply did not want a mine in their backyard.

The EPA required developers to consult with communities, yet it provided very little guidance in exactly how to do this beyond stating that they were required to conduct meetings, and to address public concern in the production of their ERMP document. Nor did it explain *why* they must consult with communities, and what strategies may be used to incorporate supposedly subjective and moral concerns. For larger companies in Western Australia, this is a problem addressed by hiring trained professionals in public relations, stakeholder consultation and Social Impact Assessment. Smaller companies do not necessarily have this luxury, nor do they necessarily have such training. The developers in Exmouth were therefore frequently drawn into the increasingly polarised dispute that occurred through each meeting, while being unable to understand what lay behind the conservationists' concerns. They therefore exerted their own agency by dismissing the validity of these concerns when they initially heard them, yet then acknowledged them in the following meeting whilst providing a counter argument. This simultaneous acknowledgement and denial generally served only fuel the debate in the following meeting.

During the same time period that these disputes were being waged with conservationists, EPA staff members who were involved in assessing the proposal were making similar queries regarding the scientific work commissioned by the developers,

and of their interpretations of this work, which I will outline further in Chapter 5. As a result, the EPA requested the developers build on certain aspects of research, as the research they had commissioned thus far was deemed inadequate. The resulting similarities between the EPA and the local conservationist concerns led to a general consensus amongst developers that there was some level of collaboration occurring between them. Their frustration that their supposedly objective research was not taken at face value is shown through the following quote from Ian, who said during an interview held soon after a Stakeholder meeting (15 February 2007),

> We got the initial go-ahead to start planning [from the government], but now they [the EPA] keep coming back and saying you need to do more [research], or this isn't adequate. They keep lifting the bar higher each time we submit results, so each time we have to go back. We get new results that reach the new standard, but they've lifted the bar even higher again. And if you look at the timeline of it all, it correlates exactly with when they [conservationists] make a fuss over the same problems. There's got to be a connection there [between the EPA and local conservationists]. The whole system is run by single-minded environmentalism - and I'm not talking environmental protection which we do aim for - I'm talking ideological. [...]. It is not fair on us.

The developers did end up lodging a formal complaint, although it was ultimately dismissed. This example shows the extent to which the developers themselves felt they were being constantly questioned and treated unfairly despite their perceived power. They felt that the ways in which the EPA had forced them to continue research or commission new ones was unfair, and they believed that the conservationists' abilities to exploit the meeting as a forum for presenting forms of knowledge that the developers felt could not be incorporated into a 'proper', 'objective' decision had led to unrealistic depictions of the environment. The lack of definition or guidelines on 'local knowledge', 'community concern', or appropriate 'scale' of knowledge (i.e. global, local, or personal) therefore made it extremely difficult for the developers to incorporate, regardless of whether or not they saw these knowledges as legitimate.

Conclusion

This discussion outlining the legislative procedures governing the approvals process highlights the ways in which participants were positioned within the dispute. Each

position had different levels of access to power, authority, and responsibility, which had a considerable impact upon the ways in which the legitimacy of environmental knowledge was framed and produced. Yet, rather than enhancing stakeholder relationships and strengthening public support of the ultimate decision handed down by the government, the process of governance in the decision-making process actually created and promoted contestation. The design and structure of the ERMP was heavily weighted towards the developers, revealing the political clout that the promise of financial gain through mining development still held in Western Australian politics. While the developers assumed that they had a right to exercise the power inherent in this promise of economic wealth, they found that the issue of sustainability, and the importance of drawing on local knowledge to make decisions, had gained increasing credibility. The conservation group drew on these aspects in their response to the development proposal. For the conservationists, they utilised the Stakeholder Reference Group meeting as an arena for voicing concerns, as well as for gaining information that could direct their own scientific research and public relations campaign.

Although the roles and responsibilities of each group were clearly defined in the legislation, none of the groups took on their roles according to the guidelines laid out in the environmental reviews process. Instead, each group utilised the broad definitions of the legislation in order to stretch and redefine their designated roles in order to have a greater voice. By entering into the dispute as a stakeholder, developer, or government agency representative, each person took on the responsibility to creatively use and adapt what power their group may have in the construction of legitimate knowledges. The assumption of this set of relationships was well established within the local community, and so the conservationists had as much, if not more, experience than the developers in engaging in the approvals process in this way. However, it was the developers who were placed with the burden of responsibility for guiding the process of consultation. Due to the lack of defined boundaries defining the scale or types of knowledge that should be incorporated into the developers' proposal (if at all), the entire consultation process was characterised by misunderstanding and miscommunication of the roles and responsibilities of either group. As a result, the two groups' environmental narratives became further polarised due to the inability of either group to compromise, resulting in the exacerbation of the already acrimonious relationships between the local conservationists and developers. This increasing polarisation between the two groups

therefore laid the foundations for the creation of a schismogenic conflict in which legitimacy of different ways of knowing, and the authority to create this knowledge, became the primary points of contention. The following chapters of this thesis examine the nature of the relationships between the two groups as a result of their positioning within the dispute, and the environmental narratives that were produced as a direct result.

Chapter 4
Performing difference: polarising knowledges in wilderness discourse

One summer evening during fieldwork (15 February 2007), I joined about 40 local residents at the town hall for an SRG meeting. We were there to meet with a group of developers who were proposing to construct a solar salt mine near the town. Two members of the local conservation group called me over to sit with them, directly opposite a group of supporters for the mine. As the meeting went on, Susan, a young conservationist, was getting visibly angrier at Nick, a developer, who was presenting a discussion on the ways in which the proposed mine would fit seamlessly into the existing environment while simultaneously rendering the currently 'wasted' space of the salt pans useful. When the developers invited questions, Susan spoke up first, saying,

> It's all good for you to come here and talk, but, I just don't understand how a mine of this size can be built here. It will ruin this, this unique area. It's pristine wilderness. You know, whales come here for their babies to rest. The mangroves are a nursery for baby fish and stingrays... sharks, and the prawns... everything! It is just so crucial to the biodiversity here.

Nick, who was leading this particular meeting, gave an exaggerated sigh and replied,

> Susan. Okay, it keeps coming back to this. It is *not* a wilderness... it is *not* pristine. This whole area has had human impact for a long time, and will do so for a long time. We can't go making decisions based on this idea of wilderness that just doesn't exist in this instance. Okay?

Susan stared directly up at him, replied in a shaking voice

> To you it's not [wilderness], but to these people here... it *means* something.

The interaction between Susan and Nick is just one articulation of a recurring argument between this group of mining developers and local conservationists in Exmouth. Over the course of the dispute, wilderness became one of the defining concepts through

which conservationists and developers articulated and emphasised the differences between the two groups, and to question each other on their ability to speak and act for the environment. While the conservationists have successfully used wilderness as a tool for questioning the legitimacy of the proposal as well as rallying opposition, developers have used alternative meanings of wilderness to publicly incorporate (and in some cases undermine) the conservationist backlash. The public performances of their opposing beliefs and values surrounding wilderness and mining in Exmouth have resulted in an exaggerated polarisation between the two groups, in which each side has come to stand for very disparate representations of the local natural environment.

As can be seen in the opening example in this chapter, extreme polarization of groups is a common attribute of political dispute, which almost inevitably becomes the sole focus of the public's attention (Binde and Boholm 2004: 176). However, focusing on polarisation itself can result in the conclusion that many of the differences lie in deeply-rooted, morally and ethically challenging differences between people (see Satterfield 2002:160). In the Exmouth Salts dispute, it soon became very clear during fieldwork that many of the conservationists and developers held very similar environmental values. As the conservationists and developers occasionally remarked, they all came from very similar backgrounds, held similar beliefs and values, and even pursued many of the same leisure activities in the environment. The ways in which they described their experiences of the 'wild' during these activities also utilised the same environmental discourses and emotional language. This led to the question that conservationists and developers often asked me through fieldwork; what has occurred to result in a room full of people being so similar, yet so completely unable to understand, empathise, or even effectively communicate with each other? My intention in this thesis is to shift the emphasis away from the oppositional nature of the beliefs, values and knowledges that were expressed through the dispute, which had come to be articulated through eco-centric and utilitarian narratives. Instead, I focus on the process by which the polarisation occurs. This chapter contributes to this by looking at the ways in which disputes over wilderness created highly opposing depictions of human-nature relationships, which had evolved beyond the beliefs and practices of the individual people involved. In doing so, I return to Bateson's (1972) concept of schismogenesis, as employed by Binde and Boholm (2004), to highlight the ways in which public perceptions and knowledge of nature are contested, altered, and reinterpreted through

the process of dispute, and how this, in turn, can impact upon the decision-making process.

The purpose of this chapter is therefore to examine the role of the wilderness concept in the production of knowledge within the dispute. I argue that while wilderness has been highly criticised both in academic literature and in popular non-fiction writing by authors such as Tim Low (2002) and Tim Flannery (1997), it remains integral to the construction of many diverse knowledges and identities in Australia. On this background, one of the most prominent cultural idioms through which the dispute over environmental knowledges was waged. Although the wilderness concept has been made to represent the environmentalist ideal, an examination of environmental narratives within development discourse also shows how these same wilderness narratives have been drawn into development ideologies. Most notably, as a result of the uptake of environmentalism into wider society, it has become acceptable for those who work in the mining industry to express their own sense of sustainable development and wilderness ideals within their interactions with the public (to differing degrees depending upon the company). I then use this analysis to show how, despite the definition of wilderness as the separation of society from nature, the wilderness concept becomes incorporated into the imagined futures of both conservationists and developers in very similar ways. I argue that the polarised environmental knowledge produced through conservationist and development discourses within the dispute surround the environment itself, and whether the ecosystems could cope with the impact of the salt mine. The arguments surrounding this particular way of knowing supported the enduring public image of the conservationists and developers as two groups which held wholly opposing worldviews. As I will show, the schismogenic nature of dispute also produced very similar conceptualisations of what acceptable human-nature interactions should be organised in the future. By focusing on similarities as well as difference, I argue that while the two groups appeared to be largely polarised along the lines of deeply embedded cultural difference (Satterfield 2002:160), much of this difference was based on whether or not this particular development should be allowed in this particular ecosystem, rather than on any deep divides based on identity.

Constructing the wild

One of the primary reasons why both groups so vehemently disputed the concept of wilderness was that it relies on the conceptual separation of human activity from ecological processes, upon which both environmentalist and development discourses rely (Davison 2008). Common to Western conceptualisations of nature and landscape is the assumption that human beings are inherently separate from the non-human world (see Cronon 1996, Davison 2005, 2008, Milton 2002:112, Thomas 1983). Any nature that is perceived to exist outside the realm of human impact, or at the very least is subject to minimal human impact, can therefore be understood to be a wilderness area. As Milton (2002:112) argues, 'the very concept of nature implies wilderness; it is what distinguishes it from the human world'. On the opposite end of the spectrum, any nature that exists within the realms of human impact is therefore assumed to no longer be entirely natural or *truly* wild (Davison 2005). To label a landscape or an entity as wild or non-wild therefore has the affect of placing people and nature on an imagined continuum, with wilderness on one end of the scale, and humans on the other. Indeed, this is also how wilderness areas are identified and labelled in scientific research (Miller et al. 2011). Any landscape or environment is therefore understood to exist at some point along this continuum, depending upon the changes that have occurred due to human impact in the past, and any changes resulting from ongoing impacts into the future. Environmental changes that occur beyond the boundaries of human civilization are thought of as natural, genuine, and usually morally good. Humans are now widely understood to be bringers of large-scale environmental change, expressed in terms of environmental degradation and destruction, and as such, are seen as morally 'bad' (Ingold 2000:67). The construction of non-Indigenous environmental knowledges in public arenas therefore tends to be posited within this broad dualistic notion of good or bad change. As a crude generalisation, an environment in which non-human forces bring about change is understood as wilderness, while an environment that continues to undergo substantial changes at the hands of human industry is no longer wholly 'natural'.

Despite continued importance of the wilderness concept in public discourses, which has played a highly significant role in the development of local, national, and global identities, the distinction between the *natural* world and the *non-natural* human world has been subject to a great deal of theoretical deconstruction in the philosophical and

social sciences since the 1990s (see Cronon 1996, Davison 2005, 2008, O'Neill 2002, Theodossopoulos 2003). In particular, post-modernist critiques of the human-nature dualism argued that cultural constructions have played a much greater role in the separation of people and the environment than any supposed reality. For example, Indigenous people who practised, or continue to practice, hunter-gathering modes of subsistence are often written into wilderness. That is, they have typically been depicted as living in accord with nature, as expressed through cultural, social, and economic practices that are said to maintain, rather than destroy and drastically alter, environmental processes. It is now commonly accepted, in academia at least, that Aboriginal people have altered the landscape over many thousands of years through the use of fire, harvesting and planting (Lease 1995:10). The critique of the human-nature dualism therefore advocates the need for Western societies to move beyond cultural constructions in which people have separated themselves from nature (Davison 2008).

Within the context of environmental conservation and development imperatives, the identification and use of the wilderness concept becomes fraught. In its most general sense, wilderness can be defined as anything that is not human, or made by humans. Only areas that are beyond the bounds of human civilization are seen to be in a genuinely natural condition, to which the label of 'wilderness' can be attached (Ingold 2000:67). Hall (2007:47) outlines the political classification of wilderness in Australia as an essentially undisturbed, primitive 'natural' area, which is visually, aurally, and conceptually remote from any human habitation or interference. While this may seem straightforward, decision-making and planning for the management of human action within wilderness areas becomes fraught, involving complex philosophical questions on which often arbitrary decisions must be made, including: where does a wilderness area end and a modified landscape begin? What human activities alter a landscape to the point at which it is no longer wilderness? If humans have inhabited an area in the past, how long must they have been absent for a wilderness area to be considered no longer altered by human action? In the midst of a dispute between the practical application of wilderness in environmental legislation and decision-making, and what wilderness actually means to individual people in their every-day activities, it is these questions that challenge both conservationist and development ideologies.

In this vein, many academics and popular non-fiction writers such as Tim Flannery (1997) and Tim Low (2003) have advocated the need to cease romanticizing different

kinds of human-environment relationships, as any interaction with nature can induce environmental change, and may have both positive and negative impact. In order to overcome severe environmental problems, they believe we need to reassess the ways in which we comprehend our destructive and constructive impacts in the environment, to find a way to accept some change, while working to overcome other detrimental kinds. Instead of vilifying environmental change caused by human subsistence techniques, or through plants and animals introduced by humans, these authors argue that we should, to an extent, embrace the diversity of the ecosystem that currently exists, which may lead to more accurate ways of understanding and dealing with real environmental problems (Cronon 1996, Flannery 1997, Franklin 2002, Low 2002, McNaughten & Urry 1995). Societies might then be seen as 'nature-cultures', in which the false dichotomies of humanity and nature are no longer separate, and that wilderness no longer exists. Although this is a well accepted theory within academia, conservationists and others vehemently dispute this theory because many peoples' senses of place and identity rely on the creation and maintenance of the human-nature dualism through its performance in day to day lives. Instead, it has been widely incorporated into development discourses in Australia, and is employed in many public relations campaigns (Bridge 2004:232-233) In the following section, I trace a short history of wilderness in Australia, and its relationship to local and national identities within a global context of changes in understandings of wilderness and nature.

Australian wilderness: renegotiating the utilitarian and eco-centric divide

Although wilderness is a widely shared concept in Western knowledges of nature, the meanings of wilderness, and beliefs and values surrounding the ways in which society should act within it, have changed over time and in different contexts, and are often expressed differently across contexts, cultures and localities. Australian identities have, to a great extent, been imagined and reproduced through the imagined and lived realities of human-nature interaction since Australia was first colonised by the British in 1788 (Flannery 1997), although the construction of these identities been far from uniform. Throughout Australia's colonial history, images of men taming wild forests for the betterment of the nation (White 1981, Flannery 1997) have been contrasted with portrayals of conservationists attempting to save those forests for the future of the nation (Henry 1998, Peace 1998). It is largely through these polarised images that contemporary Australians have imagined the place of society in the landscape.

Similarly to other Anglophone settler nations, wilderness was initially seen in colonial Australia as an untamed and unknown entity (Hall 2007, see also Satterfield 2002:20-21). It was a nature to be 'conquered', 'tamed', and 'transformed' into a fertile farming land, which the early colonies depended upon for survival (Bolton 1981). During the period of British colonisation throughout North America, the wild was considered as an evil and immoral space, in which humans had no proper place. Wilderness was seen a power to be struggled against, and vanquished (Borgmann 1995). By the time the British began colonising Australia (from 1888), the concepts of wilderness were changing (Hall 2007:48). Wilderness was no longer simply an evil to be overcome. Romantic images of these wild and rugged landscapes permeated these discourses of often destructive utilitarian images of nature. Knowing and working the wilderness became a moral good through which an individual identity could legitimately be formed. By the late 1880s, the urban elite was consciously creating a national identity through art and literature that portrayed these images of rugged colonial individuals making use of wild landscapes (White 1981). The 'rough and ready' Anglo-Saxon bush-men were portrayed as having come to know, understand, and thrive in an environment that seemed unfathomable to those living in the cities. These utilitarian conquests over nature – through physically altering the environment for human benefit, and coming to understand the environment as a result of this process – are now fundamental to Australia's 'wilderness experience' (Hall 2007:45). It is also a basic premise of contemporary development ideologies in Australia, in which the environment continues to be imagined as a 'timeless', robust entity that is perfectly capable of withstanding the rigours of development (Bolton 1981, Trigger 1997). Anything that stands in the way of development (such as conservationists or wilderness) is therefore seen as an impediment to the prosperity of a young and growing nation (Murray 2009, Trigger 1995).

The results from my research on the Exmouth Salts dispute show that the developers certainly drew upon these utilitarian notions of the environment in their representation of the ideal future of human-nature interaction. As I outlined in the introduction of this thesis, utilitarian understandings of the environment are strongly related to what Scott (1998) calls high modernism; an ideology that promotes the rational reconstruction of the world into ordered components that can be measured and used in order to create stronger and more 'civilized' societies. Within this construction, nature is understood as a wilderness, which must be brought onto a human scale (through agriculture, mining,

or other use) (Trigger 1997:174-5). This utilitarianism therefore forms the background upon which the developers incorporated more eco-centric conceptions of nature through the concept of sustainability. The creative merging of these two predominant discourses also plays a significant role in the ways in which developers shape public representations of the mine, as well as in the construction of their environmental knowledges and narratives.

The more recent recognition of widespread ecological problems across the globe has led to the development of more eco-centric images of the environment (Buijs 2009). In seeming opposition to utilitarian images of nature as simply existing for human use, eco-centric ideologies promote the idea of nature as being important in its own right. Franklin (2002:87) quotes Soper's description of this trend as 'a strong Romantic influence [...] that conceives of proper nature as that which is separate, distant and empty of human influence and of a proper appreciation of nature as that which is solitary, lonely, and privileged.' The 'ideal' nature is therefore a wilderness that has experienced little, or no human impact. Therefore the 'ideal' means of human interaction with this landscape is that it should be appreciated in a way that humbles the human visitor, and should be mediated by little or no technological aids such as motor vehicles. This worldview is epitomised in the popular eco-tourism phrase, 'take only photographs, leave only footprints'.

In environmentalist eco-centric discourses, the role of people within nature is changed from an active destructive force in nature, to that of an observer. At the root of conservationist values is the belief that human interferences in nature are the cause of many ecological problems (Davison 2008:1291, Milton 2002, Peace 1998). Science now identifies humans as a primary cause of problems such as environmental degradation, species extinctions and climate change (Ingold 2000:67). Consequently, the role of nature in human-nature interaction has been transformed from a capable foe of human society, to a passive and fragile entity, which humans must be forever careful of disturbing. Humans are therefore placed in an impossible role in which they must simultaneously be observers of nature, and active participants in protecting nature. In his study of contemporary environmentalism in Australia, Davison (2008:1292) describes this double-bind when describing how environmental activists derive a great deal of their personal attachment to the environment through participation in activities that bring them into contact with wilderness, such as bushwalking or canoeing, or

working in ecotourism or environmental management. Davison (2008) argues that direct interactions such as these help conservationists develop a strong sense of responsibility for nature, in which they come to understand that any action that contributes towards the conservation of the environment is morally good. Most conservationists recognise the inherent irony in this, as they also acknolwedge that simply existing within nature and requiring space to live, as well as some of the activities required to protect nature itself, will cause some level of environmental change or degradation. Like the environmentalists in Davison's study, local Exmouth conservationists were often acutely conscious of this contradiction between their ideals and day-to-day activities, which contributed to a strong sense of ambivalence towards environmental management.

It is not only conservation activists that can claim an affinity with nature. Studies of logging disputes in Australia and Canada have found that spiritual understandings of the environment permeate many loggers' environmental narratives. The loggers, who are local residents of the areas in which they work, can also be considered environmentalists. They have come to know, understand, and appreciate many aspects of the forests' ecological processes, which contribute to a deep sense of belonging to a landscape that they wish to conserve for future use (Mulcock & Trigger 2005, Peace 1996, Satterfield 2002). While they understand that their practical everyday engagements with the landscape may be considered to be destructive, they see their actions in the long-term applications of their activities, in which the forests have been logged, replanted, and have sufficiently grown to be logged again. Trigger's (1997:168-9) study of mining in Australia portrays a similar idea, in which he shows how developers see their mines as bringing progress, and civilization to a wild and endless scrub. They see their mining enterprises as making a wild nature knowable, and usable. While conservation activists see a wild, endless scrub as a value in itself, developers assume that the natural world exists for human use (Trigger 1997:170). Development ideologies therefore rest upon the same conceptual separation of society and the environment as that of the conservationists, yet their understanding of what it means to interact with a wild landscape is significantly different. As a result of their work in resource extraction, developers gain a sense of identity through actively *using* nature and the wilderness to meet the needs of society. For many developers, the landscape in

which they work have already been significantly altered through exploration, and are therefore no longer ‘wilderness’ in their eyes.

Eco-centrism has thus become equally as entrenched within contemporary Australian identities as utilitarian ideologies related to place and belonging. For many, a genuine experience of wilderness is only gained through personal, and often spiritual, contact with the environment while leaving no visible trace of themselves behind, thus removing visible human activity from the landscape (Davison 2008, Hall 2007). As eco-centrism developed in conscious opposition to utilitarian ideologies, public representations of eco-centric discourse and activism tend to portray environmentalism as the direct opposite to the ostensibly more traditional utilitarian ideologies. Conservationists tend to see themselves as attempting to undo many years of western philosophical conventions that have led to the destruction of a large proportion of the environment upon which humanity depends (Davison 2008). On the other side of the debate, those who support development and mining tend to see eco-centrism as the philosophy of a privileged minority who are able to devote their spare time to conservation because it is the developers themselves who create a stable economy that supports them. Therefore, within many disputes, conservationists are identified with eco-centric worldviews, while developers assume a utilitarian stance. It is these assumed worldviews that define the groups, and maintain a distinction between them.

Yet the concept of wilderness is much more arbitrary than is often portrayed in academic literature and the public arena. In many cases, it is understood quite differently in various contexts, depending upon the type of human industry within the region, the apparent state of ecological health, and even the ways in which the human managers of a particular environment actually *care* about whether the ecosystem is healthy or not. In the midst of dispute, utilitarian and eco-centric beliefs, practices and values infused both sides of the Exmouth salts dispute. As a result of the schismogenic process, through which the developers and conservationists actively drew boundaries between each other along the lines of different ways of knowing the environment, these oppositional ideologies came to define the identity of each group. On one hand, the conservationists aligned themselves with the eco-centric discourse in which the environment is fragile and at the mercy of human impact. On the other hand, the developers maintained the representation of nature as rugged, hardwearing, and able to accommodation significant human impact. These representations of nature became

static and bounded in a way that did not allow for any consideration of alternative ways of knowing. Any attempts to overcome these tightly bounded ideologies were rarely taken seriously by members of either group. In the following section, I look at the ways in which the concept of schismogenesis can be used to understand how widely shared concepts of wilderness became the main signifiers of difference between conservationists and developers in the dispute.

Constructing wilderness through conservationist and development ideologies

As Edwards (1998:150) found in her study of landscape and identity in England, people frequently recount the events of their arrival to a place in order to contextualise and bring meaning to their beliefs and values about the environment in the present. When discussions with participants turned towards their beliefs and values regarding the place of people in the landscape, people often began by telling me of their first experiences of the Cape. Interestingly, peoples' first impressions of the landscape tended to reflect their reasons for coming to Exmouth. Generally, those who strongly supported development had come to Exmouth for work, or to retreat from what they saw as a 'busy', 'modern' world. For those who came to Exmouth to work, they often found that the relative isolation, lack of crime in the town, and the aesthetic beauty of the wilderness and lifestyle that it offered provided an added incentive to stay.[12] On the other hand, those who tended to view the world through conservationist ideologies were most often those who came primarily to experience life in close proximity to a wild environment, and the majority of them had arrived after the Americans had vacated. Whether conservationist, pro-developer, or undecided, the participants in this research described their first impressions of the Cape Range region in strikingly similar ways. The language they used to first describe their initial sense of the place focused on the wild, untamed and rugged horizons, the isolation of the town from 'civilization', and their own personal sense of adventure into the relative unknown. These first impressions are particularly revealing of the ways in which local residents, and visitors such as the developers, shared many environmental beliefs and values, and how many aspects in the construction of a sense of place are also shared between different interest groups.

[12] During my research, I met two residents who disliked living in the town. In both cases, these were older women whose husbands were employed in town. Both women cited the lack of opportunities to shop for clothes or go out to movies made everyday life lonelier and more difficult.

One evening while attending a planning meeting with the conservation group (16 November 2006), I met a young conservationist called Laura, who was in her early thirties, and had lived in Exmouth for four years. When I admitted that I was quite overwhelmed with my first experiences of life in Exmouth, she was quick to reassure me. She said she had also found her first few months in Exmouth very difficult, saying 'it seems like it's all hot and dry and endless', but, she insisted, 'you just have to work at it really, and really explore the beaches and gorges and things, and you'll find after a while that you'll see and know so much about it that you didn't see in the beginning, and you'll really love it and not want to leave!' This discourse of overcoming a harsh environment in order to 'get to know and understand' the landscape through exploration is a predominant theme shared by many conservationists and 'urban refugees'. Their narratives almost always overlook the human aspects of the landscape. Instead, the means through which individuals are seen to gain a sense of having truly discovered and explored an area is entirely through finding new and supposedly hidden aspects of the physical environment, whether or not they have been discovered by others previously. They focus on the experiences gained through seeing and discovering what already exists but is invisible to the visitor's eye. To help the new resident, they often offer to take them on a hike, snorkelling trip, or a boating trip, to show them first hand. Although some advice may be given on how to navigate the town and the people who live there, it is assumed that to truly become comfortable with life in Exmouth, it is necessary to gain experience and knowledge of the environment surrounding the town.

One of the most striking aspects of the dispute was not the extremity of the polarisation between conservationists and developers, but the similarities they shared when speaking of human-nature relationships outside the context of mining and development. When conservationists and developers were not directly engaged in conflict during a meeting, they tended to draw upon very similar symbols and discourses to describe the environment and their beliefs regarding 'ideal' human-nature relationships. In particular, their narratives depicting their personal enjoyment or appreciation of the landscape - usually experienced through leisure activities with family or friends, or with colleagues while visiting for work - were remarkably similar. As I have demonstrated earlier in this chapter, wilderness has meant many things to many people throughout the history of colonial Australia, and has been used to construct very different representations of Australians (and Australia) over time and space. Through the

implementation of these various constructions in everyday life, wilderness has become emblematic of both a sense of shared identity and nationhood, and of the divide between pro-development and conservationist ideals pervading the contemporary public imagination. In this section, I present ethnographic data from my research that highlights the similarities between conservationists' and developers' personal experiences of coming to know and appreciate the local environment of the Cape. I argue that, in many ways, conservationists' and developers' individual activities and aesthetic sensibilities are guided by similar commonly held beliefs and values that shape the ways in which they act, form knowledge, and create meaning for themselves in the landscape.

Conservation narratives

For local conservationists in Exmouth, wilderness can mean many things at once. In general, it was used as a term to encompass the entirety of the Cape, the surrounding ocean, and the mainland on the opposite shore of the Gulf. In this particular representation, it was usually employed to encapsulate a sense of the region's distance from regional centres, environmental features such as the ocean, reef, and canyon ranges, the human and non-human animals and plants that form the ecosystems. Included within this depiction are the visual impacts created by human society, such as buildings, roads, fences, and altered landscapes from farming. In short, the local community and industry are accepted as just one aspect of the landscape, and the act of living in the town is seen as living within a much broader wilderness. This manner of describing the landscape was particularly prevalent in descriptions of peoples' first arrival in Exmouth, and when discussing the Cape as an entire region. The landscape as a whole was consistently described as a stark or dry and arid landscape, surrounded by wide horizons, vast distances, and rarely a person in sight. The environment was conceptualised as an intricate ecology that is teeming with life and local human industry. This was particularly evident in conservationists' stories of their first impressions of Exmouth. During an interview with Freya (27 November 2011), a member of the conservation group in her mid thirties, she expressed a common sentiment that illustrates the ways in which many newcomers narrate their first experiences of the desert landscape, particularly if they have never previously experienced desert landscapes and climates. She said,

> You know, when we first drove up here, I was just struck by how raw this place is. I thought "wow, there is nothing here, it's completely empty". But after we'd... lived here for a bit, we found out how much life here is hidden everywhere. The more I learn the more I love it!

Many local conservationists, as well as holiday makers, initially came to Exmouth to experience the coral reef. Upon arrival, many are overwhelmed by the apparent incongruence of a tropical coral reef existing on the shores of a desert. In particular, it was very common for these wilderness narratives to include phrases such as 'It's true Australia isn't it?' (Mike, 22 June 2007), 'this is the heart of the country' (Laura, 22 June 2007), and 'I feel like I finally arrived home' (Stewart, 23 June 2007).

Not all who came to Exmouth felt at home in this environment, usually due to the climate, lack of trees and shelter, and the apparent barrenness of the landscape. Of those who did stay, the meaning of wilderness changed over time through personal experience and through learning local environmental narratives. These narratives move from generic statements about stark desert landscapes, and come to be employed in more nuanced and personal ways that reflect and influence their growing sense of place in the region. The description of the landscape as empty, stark, or barren, appears to be rarely considered beyond these initial experiences. Instead, it serves as more of a background to more immediate experiences of wilderness, and is reserved for depictions of the region as a whole, or when talking to visitors who do not know much of the area, such as myself. Instead, when attempting to describe to me what wilderness really meant to them, their attention would quickly turn from the region as a whole, to smaller areas such as mangrove thickets, canyons, caves, beaches, or particular areas of reef. The language they used to narrate their wilderness stories changed to reflect this. Instead of broader landscape descriptions, they often used stories of a particular incident, or a place in the environment that they go to think. By doing so, they describe not only what the local wilderness *is*, but what that wilderness *means* to them. For example, Karen, a conservationist and scientist in her late fifties, and Exmouth resident for over twenty years, explained her belief in the connection between wilderness and ecology by telling me how she regularly enjoyed paddling her kayak along the mangrove trees. She said 'it's really special, just gliding through watching the baby sharks move around under me, it's magical. You really feel the connections... your place in it all. Yeah, you lose yourself'. For Karen, and many other long-time resident conservationists in Exmouth,

experiencing wilderness was a predominantly personal enterprise. It was at once an appreciation of beauty in the vast landscape, an acknowledgement of her years learning (through professional and leisure activities) the ecological processes that are happening around her, and an understanding of her own small place within it all.

Conservationists' wilderness narratives tended to focus on their own personal experiences of the environment, and on themselves (sometimes with friends) as actors within a broader landscape and ecosystem while overlooking visible human impact. Long-term residents' environmental narratives tended to incorporate their experiences of human impacts in the same landscapes, which were not always positive. For the conservationists who had become active members of the local conservation group, they were also highly aware of the environmental changes that were occurring as a result of human industry over time. They pointed to sand dunes and areas of coastline that were rapidly becoming degraded from constant traffic and use (predominantly by tourists). Each conservationist in this study was also well aware of the local narratives of the role of the prawning industry that had supposedly destroyed this particular region in the 1970s, described in Chapter 2. Lastly, the perceived looming threat of a large-scale spill from the offshore exploration and drilling rigs was a common concern raised during interviews. Often, participants raised these concerns without prompting, as a way to highlight just how special their interaction with the wilderness was to them, and how changes in the economic industry in the region were posing increasing threats to the future existence of the natural environment.

Broader narratives of the region therefore tend to be illustrated by descriptions of personal experiences in very specific areas of the local environment, which are gained through particular activities that occurred at certain moments in time. These experiences might include watching the sunset regularly from a particular hill, going to the beach in summer to watch sea turtles lay eggs, surfing or diving at a beach while becoming familiar with specific animals or corals that live there, or hiking in the canyons. Within these personal narratives of wilderness, the role of people in the environment tends to change. Instead of including the local community, township, and industry within the broader ecology and landscape, the individual becomes an 'active observer' in a much more immediate setting. That is, the individual is actively experiencing the environment through an activity, and may be directly interacting with particular aspects of the environment, such as swimming alongside a turtle or dugong. Yet, they narrate their

stories in such a way as to separate themselves from the immediacy of the interaction. For example, Karen gained a sense of deep connection with a much larger nature 'out there' through regularly paddling with the sharks. Yet, like many similar stories told by conservationists, her story also contains a sense of an inherent disconnect between herself and nature. In the absence of the human contact, the world continues without qualm. A person is simply an observer of the much larger and more significant activities of nature. As a result, physical aspects of human industry or leisure activities, such as boats, roads, or camping grounds, come to represent a point of surveillance, from which to experience the wilderness. Therefore, through direct interaction with wilderness, they depict experiences in which they are concurrently intimately attached to natural things, yet feel completely separate from the natural world in which it is happening.

The apparent irony of living in a wilderness that should ideally be appreciated from afar is not lost on the conservationists. In fact, many conservationists spent a great deal of time pondering such a dilemma. Davison (2008) describes this dilemma as one of the primary forces behind the ambivalence that is often felt by conservationists in Australia more generally, in which they gain a sense of identity through both a separation, as well as direct interaction with, the environment. As Davison (2008:1286) argues, conservationists tend to slip between both dualistic and non-dualistic notions of nature (see also Lines 2006:109, Milton 2002). While the Exmouth conservationists experienced wilderness as inherently separate from human influence, their long-term residence in the area allowed them to integrate their understandings of these broader conservationist beliefs and values with their growing knowledge of local ecological processes as they go through their day-to-day lives. Instead of seeing their actions as a purely destructive force, they believed that activities within the environment may create positive benefits for educating others in the proper ways to interact with wilderness, providing this was carried out so as to minimise long-term impact on the environment. For local conservationists, everyday life is lived in a small town in the midst of the wilderness, and many have witnessed the changes occurring over time as new developments occur or fail. Therefore, society cannot be completely separated from the environment when conceptualised on a broader level. On a more personal and localised level, conservationists develop a sense of belonging through the ongoing accumulation of experiences in everyday life, through which they develop a holistic understanding of their place in both nature and society.

Therefore, when Nick, the engineer, replied to Susan's assertions with 'it is *not* wilderness, it is *not* pristine', she interpreted this as an assault on her experience and knowledge through which she has gained a deep sense of belonging to the area. Susan is just one example of many local conservationists (and local supporters of the group) who attempted to argue this same point with the developers over the years of the dispute. Each time the conservationists raised the concept of wilderness, the developers effectively silenced them by arguing that the local landscape in which the mine would be constructed was not an officially recognised wilderness area. It was from this point that the sense of polarisation between the two groups would escalate, and communications would cease or become increasingly strained. However, it soon became apparent that the developers avoided the term wilderness simply because acknowledging it would translate to conceding defeat in the dispute. Instead, they freely used the term 'wild' to convey a very similar narrative.

Development narratives

Outside of the meeting, many of the developers frequently expressed a strong affinity for the 'wildness' of the region. In response to conservationists' assertions that wilderness means something to the local people, a number of the developers would often openly express their admiration for the local landscape to anyone who would listen, including conservationists. One evening after an SRG meeting (11 January 2011), I discussed the idea of wilderness with Ian, an engineer and project manager in his late forties. He was excited to talk about the 'wildness' of the local environment, telling me how he had spent many years visiting the area with his family on holidays to experience what he calls the heart of Australia. When describing why the landscape was special to him, he said,

> Well, of course it's not wilderness, there have been people here for years- thousands of years. But it's, I guess it's a *wild* place, you know, like that poem- a land of sweeping plains. I always get the sunburned country song stuck in my head when the plane lands. That fits here to a tee.

To back up Ian's statement, Nick, also an engineer, was keen to show me and anyone else who would look, his pictures of their last working trip out to a wilderness tourism camp near the site of the proposed salt mine. Each picture depicted a wide view of the landscape, featuring red dust, bush, and storm clouds on the horizon. When showing us

a picture of the camp, he exclaimed loudly ‘I can tell you, there aren’t too many places in the world you can shower... right out in the open with only you and the horizon line and a few turtles to see you!’ The developers often emphasised their belief that the region should be called *wild* rather than *wilderness* through highlighting the historical presence of human activity in the region. Both photos and narratives of the region included the rusting tin sheds on pastoral stations that had not been used for over 50 years and were now almost indistinguishable from the surrounding bush, or the old wells that had been dug in the attempt to find permanent water sources in the late 1800s. The evidence of these past, and often failed attempts, were woven into the developers’ narratives as evidence of the harshness of the climate and landscape, and to show how insignificant human activity ultimately is in the overall scheme of life and the ultimate power of nature.

These more general impressions of the current state of the local wilderness indicate that despite the social boundaries of class, gender, or politics, the individual conservationists and developers in this research have experienced wilderness in remarkably similar ways to other developers and to their supposed opposition; that is, through generic tropes of the bush and the outback, which are essential elements of a supposedly shared Australian cultural identity (see Hall 2007:45). The above accounts of developers’ and conservationists’ wilderness discourses strongly reflect historical narratives of Australian national identities, which continue to guide wilderness experiences in Australia. For many Australians, the outback signifies the ‘true’ Australia, and it is common for people to use their holidays travelling to these ‘wild’ places in order to seek out experiences that reflect many of the values purported in early Australian mythology (Jones et al. 2007). Popular Australian writing, such as that of Dorothea MacKellar (2011 [1908]), is often drawn on in ways that Ian did above to encapsulate these experiences in the phrases:

> I love a sunburned country,
> a land of sweeping plains,
> of rugged mountain ranges,
> of droughts and flooding rains,
> I love her far horizons,
> I love her jewel-sea,

> Her beauty and her terror -
> The wide brown land for me!

As Davison (2008) argues, these 'fair horizons and jewelled seas' now form an integral basis to localised discourses of global eco-centric and utilitarian ideologies. Similarly to conservationists, developers cite a lack of visible modern – or rather, *civilized* – human activity as an important element in the personal aesthetic and emotional experience of wild landscapes.

In their depictions of the wild, the developers' narratives of *wildness* were strikingly similar to the conservationists' descriptions of their own first experiences of the wilderness in the Cape Range area. Despite their insistence that human beings have changed the landscape over many thousands of years, the developers' nature-talk centres upon nationalistic ideas of vast distances and wild landscapes in which nature is *visually* separate from large-scale human interference, to which some of them feel a strong personal connection. In an interview conducted at the company offices in Perth, Nick and I discussed the concept of nature as he had experienced it in Exmouth during a number of holidays in previous years. He looked out the window of the sterile white office and said, 'there is just something so special about being out there, eating what you've caught, watching the sun go down, it's the very element of life yeah, just life. [long pause] ...Yourself and the world.' Later on he added,

> I probably sound like some pansy, but, when you're out there doing your thing it's like you return to yourself in those times. I don't know how to say it properly. Life's not an office, you know. Like for instance, the only time I ever sleep well is under the stars after a day in the sun and wind on the boat.

Like the conservationists, developers' experiences in the wilderness gave them a similar sense of connection to the environment, and contributed to their sense of identity, albeit expressed in various levels of openness and excitement. As is plainly visible in Nick's narrative of his wilderness experiences, the expression of these experiences is not considered acceptable in the development world. The process of being enculturated into the development worldview is to accept a masculinised vision of human-environment interactions. This then plays a significant role in maintaining a separation between the developers and the conservationists. Within this worldview, publicly articulating a sense

of awe of the environment is acceptable, while contemplating your own individual place in the world and your attachment to it, is not. The developers would rarely, if ever, discuss wilderness, or the impact of their development on the environment, beyond the questions presented to them by the EPA. Instead, they were left to consider the deeper ethical implications in private, which is the subject of Chapter 7.

The wilderness experiences portrayed in both conservationists' and developers' narratives parallel what many studies of environmentalism have described as the eco-centric wilderness 'ideal'; as nature which is separate from visible social influence, and is experienced in an individual, often spiritual way (Franklin 2002, Ingold 2000). Yet, in many instances, it is the broader beliefs, values, and actions of the groups that the person represents that shape their personal interpretations of these experiences. Therefore, in taking on the role of 'conservationist' or 'developer' in this dispute, they also took on the particular ways of seeing, knowing, valuing and speaking for wilderness that were representative of their group. Many participants sometimes contemplated their own ambivalence towards the wilderness concept in private, and a number acknowledged in private that their oppositions' worldviews might have had some validity. Yet to acknowledge the ambiguities of these concepts in public would have meant losing the legitimacy of their own arguments. Ultimately, they also supported their own side's cause much more than their opposition. Each participant made it very clear that they felt a much stronger sense of trust for the knowledges and arguments presented by their own group, far and above those of their opposition. Over the course of the dispute, they therefore came to take on the logic of their own groups' arguments as they evolved, and became confident in expressing these opinions with their group supporting them. The public performances of wilderness narratives through the dispute shaped not just what the participants said, but also what they believed, felt, and know about the environment.

As Susan implied in the excerpt at the beginning of this chapter, wilderness really meant something to many people in the local community, and particularly to her fellow members of the conservation group. Yet as I have illustrated above, wilderness meant something to the developers as well. Any possibilities to work with these shared values and ways of knowing were lost, though, as no similarities could overcome the fact that the two groups were arguing for opposing outcomes through the dispute. After this particular meeting, I stayed late to discuss the events of the meeting with Susan and the

other conservationists. When I asked about them reactions to Nick's refusal to acknowledge wilderness, Susan said 'we're just different, them and us. We see it differently... They're just here for money and we're here to save what little wilderness we have left'. This sense of an unnavigable gulf between conservationists and developers (based on financial and environmental value), permeated conservationists' discussions of these exchanges. As the developers constantly refuted conservationists' claims for wilderness, the concept of wilderness itself had become one of the primary means through which the two groups develop and maintain a boundary between them. To consider their oppositions' views was interpreted among each group as a transgression against the 'correct' worldview held by the group they represented. As a result of this, the meanings, language, and beliefs surrounding the wilderness concept becomes increasingly polarised, despite individuals holding very similar conceptualisations and emotional experiences of the physical environment. In the following section, I elaborate on the ways in which the process of representing a particular group's beliefs and values in order to achieve a goal - that is, to implement or prevent the construction of the mine - can affect the ongoing process of developing knowledges, beliefs, and values regarding human-environment interactions.

Performing wilderness

While many experiences of wilderness are profoundly personal, it is the public performance of these personal wilderness experiences that creates shared meanings, beliefs and practices about the local environment. Like the activists in Satterfield's (2002:63-77) study of environmentalists and loggers in Northern America, conservationists in Exmouth tended to draw upon tropes of belonging, local knowledge, and the moral authority of environmentalism, which they used in an attempt to develop a public identity based on grassroots legitimacy. In order to portray this, the local conservationists relied upon a combination of scientific research, local knowledge, and a sense of a shared moral responsibility towards sustaining nature that has been gained through ongoing work and leisure activities (similarly to most disputes, such as those depicted by Davison 2008, Henry 1998, Satterfield 2002). During the regular conservation meetings, event planning meetings and social gatherings amongst the conservationists, they developed a shared platform of knowledge through the swapping of information, experiences, and knowledge. It was through this knowledge base that conservationists learned how to know, understand, and interpret the experiences, as well

as ‘acceptable’ human-nature interactions in the wilderness on a more local level. They could then draw upon these shared knowledges in public arenas with the confidence of knowing it is shared by those they are representing.

One evening soon after the consultation meeting between the community and the developers, I attended a planning meeting with some members of the conservation group who were writing up their response to the developers’ newly released ERMP (January 30, 2007). The aim of the meeting was to identify potential dangers of the mine, and to agree on which aspects of the environment would be affected by it. Throughout the meeting, conservationists easily slipped between two drastically different environmental narratives. In one, the environment was portrayed as a tough, healthy ecosystem that could survive against the odds. Yet when human development and change were imagined into the narrative, the same ecosystem was simultaneously a fragile entity, unable to withstand the stronger forces of change.

Andrea, a local conservationist with a background in science and environmental management, unofficially began the meeting by telling us of her latest work assignment, in which she flew over the gulf counting the number of visible animals (such as turtles, dugongs, sharks and whales). She expressed amazement at such large numbers of these animals distributed throughout the gulf. Many others in the group confirmed her observation by sharing their own experiences of these animals in the area. It was particularly remarked upon that the shallows of the Exmouth gulf appeared to be a fertile breeding ground and nursery for large numbers of infant fauna such as prawns, sharks and stingrays. Andrea argued that such a thriving eco-system was the result of what is seen as a relative balance of ecological and human activity, which has allowed the environment to remain resilient in the face of change. To illustrate this, she used the example of a cyclone that passed over Exmouth in 1999, which was the biggest cyclone in Australian history. It destroyed the town, and flattened much of the mangrove system. However, as Andrea argued, the mangroves recovered within a few years, and scientific studies of the after-effects showed that the nutrient flows from the cyclonic rains promoted a rapid growth in both flora and fauna. The environment itself had proven its ability to survive the devastation of a cyclone, and she attributed this to the wilderness of the area. To the conservationists at this particular meeting, the smaller-scale of current local industry meant that the environment could be left to function

healthily on its own, and was therefore able to reproduce itself in an extreme event such as a cyclone.

These images of a healthy and robust ecology changed dramatically when the discussion turned towards the potential threats posed by the salt development. A previously hardy environment was transformed into a fragile web of delicate and intricate ecological processes that could be destroyed if disturbed by such a large-scale mining operation. They used scientific language to argue that the size of the mine would separate integral ecological processes between the land and the ocean, which they believed was supporting the reproduction and growth of many species. Most importantly, all these potential hazards were identified because of their potential for immense change to the area. While the existing human industry was seen as dependent upon the vagaries of nature, a mine of the proposed scale was seen to alter the ecological balance to the point that the environment would rely upon human-will to sustain it. Underpinning these conservationist narratives of human-environment relationships is the assumption that nature and large-scale human industry cannot co-exist without major detriment to the quality and independence of nature. When nature remains wild, with a minimum of human impact, it is understood to be resilient. Yet when a large-scale development is imagined within this same landscape, nature becomes a fragile entity that is at the mercy of a human whim.

These examples go some way to explain how it is so easily possible for conservationists to maintain the strength of their support of the wilderness concept (see Davison 2008, Milton 2002). That is, the environment can remain a wilderness, full of the mystery and spirituality inherent in this concept (see for example Trigger & Mulcock 2005), for as long as human industry relies on the environment for survival. Once the environment has evidence of large-scale impact from supposedly modern industry that has no imminent chance or recovery, the environment is seen as somehow sullied. Therefore, contemporary conceptualisations of nature are not necessarily precious about completely erasing the evidence of society from nature. Indeed, reminders of human industry in the past can serve as strong reminders of the force of nature and the insignificance of an individual person over time. Yet, modern industry is associated with the permanent and often complete destruction of the environment in the eyes of conservationists. It represents a change in human-environment relationships, in which industry moves from a dependence upon a healthy ecosystem in nature, to no longer

requiring its existence at all (which I will explain further in Chapter 5). Thus, 'civilizing' the environment means that wilderness is lost. The developers in this research certainly capitalised on this point by emphasising human impact, and the ongoing debate over the long-term impact of fishing, tourism, and other human industry.

The stories that emanated from these meetings were often presented to the developers during the SRG meeting, yet they caused the developers, as well as the conservationists themselves, some confusion. As is evident from the stories above, the meaning of wilderness to the local conservationists was expressed in both personal and technical scientific ways, often interchangeably. At the beginning of each meeting with the developers, the dispute almost always took on the same format. They would initially depict personal connections to place through evocative images of wild, pre-modern landscapes. To counteract these images of, the developers would always draw on relevant scientific research to prove that the conservationists' moral concerns were unfounded (rather than directly addressing them). In doing so, they would often raise the fact that the landscape had been altered over the past hundred years from pastoralism, mining, and fishing. In the Australian decision-making process for development applications, aesthetic beliefs and values of local non-Indigenous communities are rarely taken into account in environmental decisions in any meaningful sense. Therefore, when environmental beliefs and values were publicly interrogated in the dispute, the conservationists were forced to counter the developers' scientific argument with a stronger one. Although this usually took the form of a scientific argument, it was always used to support the moral claims to wilderness and belonging that they had raised in their initial arguments. Thus, the conservationists were forced to renegotiate their expressions of a human-less wilderness into a more rationally based argument.

As Binde and Boholm (2004:175) point out, the only acceptable 'good' arguments within a dispute are those that are widely understood to be 'objective, reasonable, and preferably scientific'. Although scientific research is considered the ultimate in objective and reasonable evidence (Henry 1998: 149-150), the technologies of science in environmental decision-making are widely recognised to be complex and usually imprecise (Fischer 2000:108). The conservationists creatively used this ambiguity to present alternative ways of knowing from those presented by the developers. To do so,

they utilized a complex blend of scientific research, local experiential knowledge, and emotionally driven narratives involving the moral importance of wilderness in order to create a sustainable future for both society and nature.

Countering wilderness

When moving from discussions outside the context of the dispute to discussing wildness in a meeting, the developers switched between the more everyday shared language of wildness, to a way of describing it in terms that complied with prevailing development ideologies. When discussing their leisure activities in the local region, they often emphasised the wild yet diverse and intricate ecology of the reef and the desert, which was very distant from obvious human impact (as I described above). When incorporating the mine into these discussions, though, they would move seamlessly to a depiction of nature as much more rugged, resilient, and capable of existing 'around' the development.

When discussing the environment in meetings with conservationists, developers would regularly fall back on political and scientific definitions of wilderness, which specifically state that wilderness only exists if little or no human activity can have occurred in an area (Hall 2007). Within this definition, the region around Exmouth could not possibly be considered a wilderness area, as it had been subject to large-scale change as a result of thousands of years of indigenous inhabitation, over 100 years of agriculture, fishing, and now tourism. Within their disputes with conservationists, they continued to describe the entire region as a wild landscape, while disputing any official status as 'wilderness'. They were able to do this by completely separating the National Park and Marine Parks of Cape Range from the boundaries of the proposed mine site, which had been set aside in the 1970s for future mineral exploration and exploitation of the existing natural salt pans, as explained in Chapter 2. They would rarely acknowledge any strong ecological connections between the mine site and the surrounding landscape. Over time, scientific research began to suggest that there may have been connections between the salt flats and the gulf, upon which the reproduction of many animal and plant species appeared to depend. As a result, their understandings of human-nature relationships, illustrated through their representations of the meaning of wildness in the presence of the mine, changed significantly to emphasise the

sustainability and environmental enhanced well-being that the proposed mine could offer the region.

While the conservationists became frustrated with the developers' refusal to acknowledge an idea of wilderness based both in emotion and scientific knowledge, the developers became equally frustrated at the conservationists' inability to accept that the region is not a 'true' wilderness. They had come to know and understand the region from the perspective of industry, in which they had researched the historical uses of the landscape in order to ensure their own proposal would be financially viable in this region. They emphasized the fact that it had been significantly altered through agricultural practices and mining developments throughout post-colonial society, and that the environment has evolved to cope with harsh and changing conditions. After nearly every meeting, informal conversation with the developers would inevitably turn to the conservationists' beliefs in the supposedly inherent wilderness of the area. As I have shown above, the developers readily acknowledged the uniqueness of the 'wild' landscape. Yet when imagining the role of the mine within the region, their narratives did not change drastically. The focus often moved towards descriptions of human impact and change in the region's history, while maintaining that the environment – within the context of ongoing human impact – remained unique in its diversity, exuding life and productivity.

In response to conservationists' assertions that a mine of the proposed scale would obstruct important ecological exchanges between the land and the ocean, Roy, a project manager with previous experience of disputes, exclaimed over a beer after this first meeting (11 January 2007),

> It's a desert for goodness sake... it's not about to blow away with the afternoon breeze, not even a category 5 cyclone could make more than a year or twos [sic] impact. Do they really not realise that what they're seeing is not natural nature, it's what nature looks like after 100 years of cattle and farming?

They frequently give examples of other solar salt fields in Western Australia that have recorded no adverse impact upon the environment, showing how the environmental systems in those areas simply 'worked around the mine'. These examples reflect the ways in which both natural forces and supposedly unnatural human forces have equal impact upon the environment, against which nature has the resilience to 'restore' itself

and adapt to change. On this point, Nick was particularly adamant. He and another two developers on the team, Clint and Alan, frequently described the area where the potential mine would be built as a large expanse of salt flats, which serves no current environmental necessity, into which their solar salt fields could easily fit into the current ecosystem without disturbing the wilderness around them. As it is already a naturally occurring salt flat, they saw their mine as actually adding to the quality of the local ecology. As Clint frequently insisted, 'it's technically a dead space already, and the environment just works around it', and 'the water pumped from the ocean isn't sterile you know. In the initial ponds we would actually create a whole new environment that has been shown to attract bird life... and the fishing [in the ponds] is top quality'.

Within this context, the developers regularly attempted to remind conservationists, and others who were listening, that the salt mine was only called a *mine* because of the machinery involved in extracting salt water from the ocean. Instead, they argued, it is essentially a solar salt *farm*, which consisted of a series of ponds from which salt was *harvested*. This imagery is an attempt to emphasize the mine as a more benign entity than the imagery of mining as gargantuan and highly transformative. The region had undergone changes as a result of pastoralism and farming activities for over a century, and to the developers, appeared to fit within what they understood as the Australian imagery of an integral economic basis, and which remains a significant aspect of Australian cultural identities (Hall 2007).[13]

In response to the conservationists' argument that a large-scale mining project did not belong in the area, the developers had constructed a counter-narrative in which humans and the environment could co-exist in an idyllic, mutually symbiotic state; humans make use of the environment while the environment makes equal use of human impact. As a result, they have re-formed the negative conservationist portrayals of mining as an exploitative and destructive force into an activity that is sustainable and supportive of life. In such a scenario, the mine was portrayed as having a similar dependence upon nature as the existing local human industries of fishing and tourism. The developers had significantly tempered their initial 'traditional' high modernist depiction of their mine as a large-scale force for the good of society. Instead, they had made use of

[13] The developers' appeals to be understood within the same realm as the supposedly more benign agricultural industry failed, as the conservationists were equally involved in abolishing pastoral practices such as sheep and cattle ownership due to the environmental degradation that the region had experienced in the past.

conservationists' argument that only small-scale industries such as fishing and tourism should be allowed in the region. They did so by portraying their mine as supportive of the environment and social stability, in which people and the environment could co-exist without complete destruction of either. They also supported these arguments with scientific research that had been conducted for the proposal, as well as from examples of other mines in the state. Such an argument was almost impossible for conservationists to counter in any way other than to return full circle to their initial moral and aesthetic narratives of the environment (which was supported by further scientific evidence), in which the unique quality of the environment lay in its apparent absence of modernity, upon which the tourism industry depended.

This debate over what exactly constituted wilderness, and how human action should be understood and managed in order to maintain this 'wildness' maintained a high profile in the dispute over the year and a half that I followed it. At each meeting, the developers and conservationists would raise an argument aligned with their group's environmental discourses, and present it to the opposition. The opposition would then counter it using their own group's interpretation of this knowledge, and so on. As can be seen in the example at the beginning of this thesis, no group would concede that there may be truth (or any point worth considering) in their oppositions' arguments in the context of the dispute. Instead, they would continue disputing each others' arguments throughout the meeting. It was at this point in each reiteration of the argument that the schismogenic pattern reached a stalemate. By this stage, no matter what kinds of conciliatory gestures were made, whether it was the developers expressing their appreciation of the wild, or the conservationists' acknowledging the importance of a stable local industry, there was little chance of consensus. Yet, as many of the conservationists and developers often lamented, members of both groups often felt unsatisfied by this outcome. They would leave the meetings feeling that the pattern of argument led them away from what they originally intended to discuss, which left them no opportunity to adequately articulate the full extent of their concerns and beliefs about the positives and negatives of the mining proposal itself.

Conclusion

The environmental knowledges performed through these wilderness narratives were the result of the constantly changing web of social, cultural, political, economic and environmental changes that were experienced in daily life. Both the conservationists and developers understood wilderness as nature that exists separately from human activity. When discussing wilderness outside the context of dispute, they tended to express very similar narratives depicting ideal human interactions with this wilderness. Within these narratives, they position themselves as a small aspect of a wide and wild landscape, experiencing nature in a way that requires a sense of adventure and courage. Wilderness also appeared strongly in the narratives of both conservationists and developers' depictions of certain acceptable economic activities of the region, although their understandings of 'acceptable economic activity' differed. These knowledges became the primary means for participants to argue their cause in a legitimate manner, in which accounting for nature in a sustainable future was the primary aim of the dispute.

In this context, concepts of wilderness are at once shared and disputed. By focusing on the similarities between both conservationists' and developers' wilderness (or 'wildness') narratives, it is possible to see how commonly shared values were put to the side while they are engaged in dispute, as any acknowledgement of similarities may cause reason for questioning the basis of either side's argument for or against the mine. Instead, the concept of wilderness, which formed the basis of the conservationists' attachments and acquisition of local experiential knowledge and the developers' more general appreciation of the wild landscapes, also formed the basis of much of the ambivalence that both conservationists and developers tended to express. Although this kind of ambivalence has been used to describe conservationists' attachment to environmentalist ideologies (Davison 2008, Milton 2002), the developers appeared to experience similar ambivalence. However, for them, their ambivalence was used as a way of portraying their own mining project as simply continuing on with the progression of human use in the region. While they saw the region as 'wild', they did not see it as a 'true' wilderness. Despite the necessary destruction of some smaller areas of the environment, they saw that this was simply a small price to pay for what was otherwise one of the most sustainable mining practices possible. The resulting arguments over the proper meaning of wilderness, and the ways in which knowledge should be used to support wilderness (or otherwise) served only to enhance the

schismogenic nature of the dispute. While an analysis of the similarities between the groups shows many shared acceptable variations on the meanings and uses of wilderness in different contexts, these variations and nuances were no longer acceptable when disputing the legitimacy of these knowledges in the development of the Exmouth Salts proposal.

The aim of this chapter has been to show how the environmental narratives were performed and recreated in everyday action, and how the dispute caused a heightened awareness of the development of these knowledges. My focus on the performance of schismogenesis was used as a way of focusing on the ways in which knowledge is produced and embodied, rather than on the actual knowledge itself. In the arena of environmental dispute, environmental knowledge – that are gained through myriad personal experiences, scientific studies, and the sharing of stories – was performed, contested, re-performed, and reinforced on the public stage. Instead of being able to openly discuss the relative merits of the salt mining proposal, conservationists and developers continuously disputed their oppositions' knowledge of the area from increasingly polarised positions. Both groups' performances generated representations of local environmental knowledges, which altered over time in reaction to competing environmental narratives.[14] The changing narratives became increasingly polarised – amplifying difference and overlooking ambiguities and similarities in worldview – resulting in the performance of environmental knowledges that often differed substantially from individuals' values, practices, and philosophical concerns over future human-nature relationships in the area.

It was precisely this disconnect that both conservationists and developers often could not understand. After all, the law required developers with higher risk proposals to interact with communities so that all stakeholders were well-informed and had had a role in assessing the potential risks. Despite this, the subsequent polarising dispute ensured that the important issues, concerns, or knowledge involved with the proposal were never adequately discussed. Once the stakeholder groups became entangled in the schismogenic process, there was no room for the consideration or incorporation of an opponent's point of view. Each side of the debate was therefore obliged to advocate particular views that will attract supporters for their cause while opposing that of their

[14] This is a key point that I will build on further in Chapter 6 and Chapter 7.

opposition, without directly addressing the concerns or knowledge raised. Any financial support could also be used to commission further scientific research to investigate and validate the knowledge claims of either group. They then used this support and knowledge to petition government decision-makers by using arguments and counter-arguments that they have formulated throughout the course of the dispute. If any group commissioned scientific research that had the potential to prove the opposition correct, it was never made public. Consequently, the practice of governance allowed both the conservationists and developers to selectively use, interpret and represent scientific and local knowledge in a way that supported their cause. Because the participants had been positioned in certain ways through the legislation implemented by the EPA, objectivity was not their primary aim. Instead, 'winning' their arguments and proving their opposition wrong became their main objective. As a result, the scientific knowledge presented through both the ERMP, and in the public responses submitted during the public approvals stage, was far from the EPA's aim for an 'objective' and 'value-free' scientific decision. Instead, the EPA, who had no resources or scope for conducting their own scientific assessments, was forced to rely on the knowledge produced by the developers (which I will discuss further in Chapter 5).

As I have outlined throughout the chapter, public communication of the risks of development through community meetings was an integral aspect of the decision-making process in the environmental reviews process. This included debate over the role of wilderness values and knowledge in the assessment of whether the local ecosystems could cope with the clearing of land and mangroves, and with the potential pollution. Incorporated into these wilderness values were concerns regarding the economic future of current industries if the mine eventually had an adverse impact. The face-to-face communication between the two groups is often neglected both in anthropological literature of environmental dispute, as well as in the public decision-making arena (Boholm 2008:121). Yet, a study of these interactions highlights just how important they are to the ways in which opposing groups develop their arguments, and come to draw distinct boundaries between themselves and their opposition along the lines of wilderness beliefs, values, and knowledge. An analysis of the performance of schismogenesis is vital to our understanding of why and how groups become so extremely polarised even when they share many beliefs and values. Just as importantly, it also illuminates the ways in which opposing environmental narratives and knowledge

are generated in accordance with these oppositional worldviews; knowledge that is relied upon to make decisions and affect change in development and environmental conservation policy and practice.

Chapter 5
Expert science and local knowledge: localising a universal discourse

In the previous chapter, I began with an account of an altercation between Nick and Susan, the engineer and conservationist disputing the validity of wilderness on the North West Cape. This particular argument arose out of the presentation of a scientific research project that had been presented earlier in that same meeting, which I now describe. Following the format of most SRG (Stakeholder Reference Group) meetings (Boholm 2008), the first half of the meeting was reserved for the discussion of scientific and technical advancements of the project that had occurred since the previous meeting. Many of the conservationists had come to the meeting specifically to hear that night's presentation, which was to be given by a scientist called William (known as Will). Will was an environmental research consultant, and had been offered a contract by the developers to conduct research on whale migration patterns in the region. Will was well-known and respected amongst the local conservationists, and many were there to hear and question him in person in order to verify the claims that the developers had been making based on his research; that is, that the anticipated shipping lanes and movements would have no discernable impact at all on migrating whales, which were believed to be dependent on the sheltered waters of the Exmouth Gulf for their survival. Therefore, once the initial introductions had concluded and the agenda was confirmed, the sense of anticipation in the room had noticeably increased.

Will presented his research in detail, explaining to the group how he had tracked the movements of a number of whales over several months. Through this research, he had also conducted a number of aerial surveys to estimate the number of larger ocean fauna inhabiting particular zones within the Gulf, including sharks, turtles, dugongs, whales, and dolphins. He showed how the animals he had followed via GPS tracking devices had congregated in particular sections of the gulf. In particular, he illustrated the proposed shipping lanes on a map, including the area that would have required regular dredging of the ocean floor to maintain it, was not used by the whales as regularly as other areas. Although the whales were not seen to use this area, he did observe large numbers of other animals inhabiting the proposed shipping lane. Will then explained

that while shipping would certainly have an impact, the extent was unlikely to prevent their habitation of the Gulf altogether. He then supported this claim with research from other regions in which whales had been shown to live in close proximity to heavy shipping traffic. He explained that although the shipping did disturb some of the cetaceans' communication and behaviour, they were able to continue their normal migration and reproduction patterns.

When Will invited the audience to ask questions about his research, the conservationists made a point of querying the specific problems that the cetaceans may face in the event of significant changes in shipping patterns or nutrient levels, such as the interaction of whale pods and their ability to feed or care for their young. In doing so, their aim was to highlight and emphasise Will's argument that shipping would undoubtedly impact upon the general habitat of the species he had studied. Although he responded to each question in detail, he did frequently remind the conservationists that whales, dolphins and other marine mammals had been shown to be capable of living in proximity to human industry, and that the majority of their questions could not be assessed until the shipping had actually commenced. His attempt to stay relatively neutral between the conservationists and the developers, though, became much more difficult when the developers joined him in responding to the conservationists' questions. Hal, a project manager who had recently joined the team of developers, had been facilitating the question time. When a conservationist, Ruth (a long-term resident of Exmouth aged between 50 and 55), made the argument that the precautionary principle should be implemented due to the lack of long-term scientific baseline from which to confidently base a decision, (a term used in environmental management in which no action should be taken until the outcome could be scientifically assessed with a reasonable degree of confidence to have no impact [Lofstedt 2003]), Hal interjected to say 'but, in this case, you saw in Will's excellent presentation that we expect to have absolutely no impact on the whales.' Many people in the audience spoke simultaneously until Will quietened them down, and spoke directly to Hal. He argued 'well, what I did actually say was that there is an impact, whales have been shown elsewhere to live alongside people but I can't say for certain exactly to what extent they will be impacted.' Ian stood up at this point to support Hal to say 'so you see, in other areas they live perfectly well alongside people, no harm done!' Will interjected with:

> Well no, actually the populations of whales living with heavy industry activities is not anywhere near as high as it once was, or what we believe it should be. So in effect we see whales living alongside, but we don't know to what extent that it's having a negative or positive or neutral impact on their populations and activities.

Susan interrupted Will's speech to say 'so this is why the precautionary principle is so important.[15] It's not just whales, it's their whole habitat and ecosystem that supports them and lives around them.' Will, who I later discovered was a good friend of Susan, replied by saying 'well we can't completely stop industry either, we have to find a way of making the two work together, and they *can* work together.'

The production of science in the public arena

While the moral arguments surrounding wilderness values and aesthetics certainly provided a strong platform through which to enter into the dispute, it was science that played a pivotal role in shaping and arbitrating the ways in which this wilderness knowledge was asserted. Scientific knowledge is widely acknowledged in public discourse as the ideal arbiter of truth (Berglund 1998:160), and the environmental approvals process in Exmouth was based primarily on decisions made through the interpretation and application of scientific knowledge and research. Yet like wilderness, the supposedly objective scientific knowledge that the contracted scientists for the Exmouth Salts proposal produced, was never accepted as fact by any participants. When new information was released, each group would interpret the results and represent them in ways that ultimately supported and legitimised their cause. To do so, both conservationists and developers directed their research questions in ways that were designed to affirm what they believed was already known. While disputing scientific knowledge in direct confrontations with developers, they would regularly argue that the scientific knowledge being utilised by their opposition was incomplete, or badly misinterpreted. When putting forward their own arguments, they would also occasionally dismiss certain pieces of information that could have thrown some of their arguments into question (which is common in adversarial disputes [see Pedynowski

[15] The precautionary principle refers to a principle of conservation science and planning, which refers very generally to the idea that in the event of uncertain risk to the environment or people, action should be taken to prevent such risk occurring until further scientific research can be produced that would prove or disprove the level of risk (Lofstedt 2003:36-7).

2003:818-819]). Consequently, the results from each research project became subsumed into the two opposing environmental narratives that arose through the dispute, rather than acting as an arbiter of truth (see Berglund 1998:160).

From the example above, there is a very clear connection between the production of scientific knowledge – even 'good' science – and the local knowledge, political motivations and the assertion of moral values that represented the two opposing groups. My focus in this chapter lies primarily in Jimenez's (2007:39) proclamation that science is 'going social'. That is, scientific knowledge is no longer the sole property of a privileged elite. Changes to decision-making structures through the implementation of governance have meant that the public is allowed greater access to the production of knowledge. Public dispute therefore plays a significant role in deciding on the validity of different types of knowledge (Jimenez 2007:39-40). As can be seen above, dispute goes hand-in-hand with political re-interpretations and manipulations of knowledge in ways that suited the participants' political (Berglund 1998), and moral beliefs and practices and embodied knowledges (Satterfield 2002:83). My aim in this chapter is not to examine the ways in which the science was produced, or the role of the scientists themselves in this process. Instead, I examine the ways in which science was communicated, conceptualised, disputed, and utilised, and the ways in which these factors contributed to the development of local environmental narratives.

I argue that both conservationists and developers tended to conceptualise science in two key ways through which they rationalised and justified their political uses and manipulations of scientific knowledge. On one hand, they saw science as an epistemology, or way of knowing. On the other, they saw science as practice. That is, the real research projects carried out in real life contexts were understood to be shaped and manipulated by politics. In this chapter, I show how a number of competing, and often outright conflicting scientific truths were produced through this process, and how they were re-interpreted and publicised in drastically different ways so as to validate, support, and promote the world views underpinning the oppositional stance of the two groups. Within this framework, I argue that while the legitimacy of science in public discourse is based on its supposed universal applicability (Fischer 2000:196), this research of the Exmouth Salts dispute suggests that the legitimacy of scientific knowledge relied strongly on its relevance to either local environmental narratives, or the place-based technical designs and knowledge of the developers.

Science in anthropology: Epistemology and Practice

> If the ecological dilemmas of rational, industrial society are to be addressed successfully, they must first be addressed at the level of our fundamental conception of knowledge, the conception of objective nature and scientific observations (Wright 1992:6).

Science, and the production of scientific knowledge, has become a cornerstone of western beliefs, values, and knowledge of the world over the past two hundred years (Epstein 1996). In public discourse, science is generally understood as 'a body of knowledge generated through systematic observation, knowledge which is seen as authoritative because of the controlled manner in which it is generated' (Milton 2002:9). In this way, the authority of science has come to be based on a separation between knowledge (science) and belief (which is then associated with emotion). Science therefore exists in the public imagination as the direct opposite to supposedly irrational, moral, and emotional understandings of the environment (Berglund 1998:193). As science has evolved into a highly technical pursuit over the past fifty years (Epstein 1996), the primary aim in the pursuit of scientific knowledge is to understand and order the natural world according to rational laws, which become truths over time, and the practical methods for studying them are said to be universally applicable (Lockie 2004:34-5). The ideal of scientific research is that it is conducted in a formal and transparent manner, which can be reproduced and certified by anyone with the means and technology to do so (Epstein 1996:7, Scarce 2000:132). Within this ideal, it is gathered, assessed, validated (or invalidated), and passed on by written text, which can only be legitimately challenged with similarly rigorous and tested counter-claims (Fischer 2000:195).

It is this ideal of science as correct and trustworthy that decision-making is now based (Barnes et al 1996:140, Henry 1998:149-150). Consequently, it is relied upon to make decisions in almost all areas of western knowledge, often with 'power-enhancing' aims. Such areas include biomedicine (Epstein 1996), planning, infrastructure and technology (Latour 1996, Scott 1998), warfare (Gusterson 1996), and environmental knowledge (Milton 2002:10). Science, then, has come to inform their everyday senses of reality in western societies (Milton 2002:9-10). Yet, it also widely acknowledged in anthropology that the production of scientific knowledge is inherently cultural, and therefore fertile

ground for studying diverse and competing cultural beliefs and practices (Satterfield 2002:81). However, exactly what constitutes *the cultural* in the production of supposedly objective and value-free scientific knowledge remains a significant point of contention at the heart of social studies of science.

In this chapter, I therefore focus two distinct, though interconnecting themes that occurred in the social production of scientific knowledge in the Exmouth Salts dispute. First is the divide between 'expert' and 'lay'. An expert is the representative of a profession through which they have gained authority through 'mastery over a body of knowledge and its relevant techniques', and may therefore present an objective standpoint (Fischer 2000:29). On the other hand, lay people (usually assumed to lack a mastery of the same body of knowledge) are placed in the role of 'receiving' knowledge from the experts (Berglund 1998:116). Perhaps because of the public's traditional role as 'receivers' of knowledge, the second predominant theme in science studies is the public perception of scientific knowledge, which explores the ways in which lay people interpret, use, and dispute the scientific knowledge 'bestowed' upon them (Satterfield 2002:81). As can be seen in the dispute between the conservationists and developers in Exmouth, exactly what constitutes expertise, and who holds expert knowledge, is changing rapidly. This ongoing change means that the role of the public within the expert-lay divide is often not as clear as it first appears (Berglund 1998: 161, Yearley 1995).

Barnes et al. (1996:140) argue that scientists continue to maintain a 'cognitive authority' as 'expert' in mainstream public discourse through such performances. While I do not dispute this per se, this assumption of authority played out in a far more complex manner through the Exmouth Salts dispute. While the scientists' work held a certain amount of authority as the subject of the ERMP, they were not able to direct the ways in which other non-scientists interpreted and used their work. To a greater or lesser extent, this lay in the hands of the government, the EPA decision-makers, the developers and the conservationists who were disputing the meanings and relevance of the scientists' work. Consequently, those in the powerful position to make decisions over the future of the environment continue to rely on the dogma that science remains the only objective, publicly accountable, and reliable means of predicting the future effects of development and conservation methods (Berglund 1998:166). Nevertheless, discourses depicting science as an egalitarian and objective form of knowledge

production are waning in the face of conflicting power relationships within decision-making arenas (Argyrou 2005:83-4). The increasing privatisation of science, in which significant amounts of financial and technical resources fund only particular scientific projects, and is predominantly commissioned by private companies wishing to make financial gains based on the outcomes of that research (Berglund 1998:161, Epstein 1996:330-1). The results of this research are then placed in the impossible position of predicting the future, and are used by developers, managers and conservationists alike to argue their political positions with an aura of certainty and legitimacy. Public trust in the scientific enterprise therefore fails in the face of suspicion of lack of objectivity in the methodology and choice of research, the lack of public access to scientific results, and political spin on the knowledge that is made public (Berglund 1998:161, Epstein 1996:330, Jimenez 2007:39, Pedynowski 2003:808). Activists involved in environmental dispute therefore played a crucial role in breaking down the boundaries between expert and lay.

Science and the production of knowledge, therefore, are 'going social' (Jimenez 2007:39). As a result of the push towards corporate social responsibility and the mainstreaming of environmentalism, the environmental decision-making process now occurs under much public scrutiny (some projects more so than others). Consequently, the assessment of the validity and legitimacy of the scientific knowledge that guides these processes also lies in the public domain. As Jimenez (2007:38) shows, 'society decides what makes good science'. As was the case in Exmouth, many supposedly 'lay' conservation activists were trained scientists themselves. This expertise meant that they could draw on their own personal environmental knowledge (gained through personal experience and from their professional work) to assess the developers' interpretations of the published research. They were also able to conduct their own research, and work with other scientists to develop sufficient knowledge that could help them understand and counter the claims made by their opposition, and to support their arguments (see Epstein 1996:330). As I outlined in Chapter 3, while the developers held the powerful position of 'knowledge communicator', they did not necessarily have expertise in much of the science they were communicating. Nevertheless, their role required them to consult with the local community regarding the science and technical knowledge. They also held the technical knowledge associated with the actual construction and risk assessment of the mine, which they drew on when disputing the biological or technical

sciences that were raised by the conservationists. As a result, scientific knowledge was relied upon to support and legitimise the arguments of both sides of the dispute (see also Toussaint 2005:387-9).

Being successful within the dispute therefore relied on the assertion of a universally applicable scientific research, while simultaneously relating them to the distinctly local environmental narratives and values regarding the future of human-nature relationships (see Choy 2005:6). Whether consciously or unconsciously, conservationists and developers routinely de-contextualised the scientific knowledge being disputed, and used it instead to promote beliefs, values and ideals in an apparently authoritative and scientific manner (see Pedynowski 2003:818). The result is not so much a misunderstanding or miscommunication of scientific knowledge as a strategic use of it in the social production of shared knowledge. In this way, both groups became 'enmeshed in a game of truth which required them to legitimise their positions ...[through] the "language game of science"' (Henry 1998:149). In this way, public debate about science is often seen in the public eye, and was often used by developers and conservationists in this study, as a process of boundary-making, asserted through the performance of perceived distinctions between universally applicable science and place-based non-science (Berglund 1998:194).

Science as epistemology

It is clear through the above discussion that scientific knowledge continues to be a cornerstone upon which western epistemologies of nature have grown (Franklin 1995:165). The perceived importance of science in the creation and development of local knowledge, and in guiding appropriate human-nature interaction, is very high amongst members of both sides of the dispute. In this section, I compare the ways in which conservationists and developers understood the role of science in the contestation, and its relationship to the supposedly more emotional, morally-laden local knowledge. I argue that although both groups contested science, their grievances were almost always related to their opposition's interpretation of it, or their oppositions' manipulation of research questions in order to arrive at a preconceived answer, rather than the science itself. Thus, science was seen as a way of using objective, technical knowledge in order to uncover the mysteries of the world, and to help develop new ways for human society to exist sustainably in the world. As I will show, due to the

differences in the ways they came to know and understand nature through opposing wilderness and technical narratives, as well as opposing motivations within the dispute, the developers and conservationists understood and represented the role of 'science as a way of knowing' in very different ways. For conservationists, science was seen as a way of testing or confirming their local environmental knowledge, which could then be used to legitimately show how the science proved their reasoning that the proposed mine would have an unacceptable adverse impact on the state of the environment. For developers, the promise of science lay in its ability to help them construct a mine that would exist in a sustainable, almost symbiotic relationship with the environment.

Conservationists - Science, local knowledge and the mysteries of nature

Away from the polarised and often heated discussions of the stakeholder reference group meetings, conservationists' more nuanced reflections on science show just how important scientific knowledges were to their development of local wilderness narratives, through which they developed shared senses of place. Overwhelmingly, and despite their obvious political manipulations of scientific research within the context of the dispute, conservationists regularly articulated a strong belief that the pursuit of scientific knowledge was an integral aspect in being able to organise human-nature relationships into the future. In this more generalised form, science was seen on a number of levels. Firstly, science was promoted as a kind of moral value. That is, the objective knowledge provided by science was the most correct, trustworthy and appropriate means of knowing the world. They saw science as a way of interpreting and articulating their often intangible senses of belonging and responsibility for the natural environment. Secondly, a number of conservationists had a professional scientific background, or an avid interest in environmental science. This shared basis of professional and 'lay' expertise provided both a growing body of knowledge to contribute to their knowledge base of the local environment, and a systematic method for observing and interpreting the environment in their day to day leisure or work activities. They therefore saw that many of their experiences and knowledge gained over time *were* a form of scientific observation, and they often articulated these experiences through scientific language. As a result, the conservationists tended to blend scientific and experiential narratives at certain times, and separate them entirely at others. I argue, therefore, that science played a very important role in the creation and legitimisation of local knowledge and environmental narratives by helping create new

and ever more complex environmental narratives through which they can develop a deeper sense of belonging in, and responsibility for, the local landscape.

When responding to the question of how science was important in the dispute, the conservationists' language and narratives generally depicted science as a very broad, abstract entity; an external body of knowledge, generated by many different projects, that grew and changed as it slowly developed into an ever-increasingly accurate picture of the environment and all that lived within it. Of the twelve members of the local conservation group that I formally interviewed, the topic of science was always raised by the interviewee, and often near the very beginning of an interview. The first time it was raised in each interview was almost always used to point out one of two things. They either referred to the ways in which they believed the developers had misrepresented particular scientific research results or scientific principles, or they did so in order to support their own observations or experiences in the environment. In both these instances, science was referred to simply as specific research projects with limited parameters and outcomes, and which could never ultimately describe the natural environment as a whole. Within these interviews, all twelve stated that science should be one of the most important sources of evidence upon which decisions about the future of the environment should be made. Yet of these twelve, four stated specifically, and without prompting, that they were concerned that much of the science in the Gulf raised more questions than it answered, and that it would require a lot more research to be done over many years to ascertain the importance (or otherwise) of certain ecological connections and processes. Despite the broader questioning of the ability of science to describe the world, they believed that it remained the only reliable way to arbitrate the dispute.

When speaking of science as a way of knowing, they tended to emphasize their own regular observations of the environment over a period of time, and drew on these when interpreting and deciding upon the legitimacy of scientific research as it arose through the dispute. Both their personal experiences and shared environmental narratives have led the conservationists, like many around the world (Satterfield 2002:83), to remain highly confident that scientific research would ultimately support their knowledges. Or, if scientific knowledges already existed for particular ecosystems or animal behaviours, they drew on the official science as a way of legitimating the often strongly emotional experiences through which they had witnessed these phenomena. They tended to label

any science that did not reflect what they knew already through their personal experiences as 'incomplete', or of insufficient scale to be trustworthy.

An example of this occurred during a formal interview with Frances, a young conservationist who had lived and worked as a tour guide in Exmouth for two years. During our interview, she expressed a strong disregard towards the ways in which the developers had interpreted the scientific results that illustrated the migration patterns of the whale populations in the previous week's Stakeholder Reference Group (SRG) meeting. Instead, she talked about the whales through local wilderness narratives, explaining how she and the other local residents *knew* the whales rested in the gulf during their migration for a much longer period than was studied at the request of the developers, and that shipping patterns would disrupt their natural movements, even if they did not always swim directly in the path of the shipping lane. When I asked her how this affected her trust in the science being conducted, she said

> ...of course it does, but I don't want to give science a bad name 'cause of what others have used it for. Science is just so important, we know so much about this area [the Exmouth Gulf] but because it's not *sexy* like a coral reef [referring to the adjacent Ningaloo Reef] no one's done much independently. We don't know anything really without science, even though we *know* there are connections and a whole ecology dependent on the area. It's not like there's a great big wall between ecosystems in the gulf and those of the reef!

I then asked if she could describe what she meant by ecosystem connections. At this, Frances became very animated, and brought out a video of a number of infant stingrays from her last dive and fishing trip in the Gulf. She said

> See you just don't get this [baby stingrays] on the reef, but you do get plenty of adult rays. Adult everything. But the gulf, I know we've talked about this before, but it's just so bloody obvious. Like when a cyclone or dumping rain hits us and we get a nutrient run-off event from the mainland into the Gulf. I've seen photos and Laurie [her husband who had lived in Exmouth for over 10 years] told me all about the last one he saw on a scenic flight once... and the research done by Kailis [the commercial prawning company] shows big increases in the reproduction of prawn numbers when these [nutrient] dumps happen.

Then, referring to a walk we had been on the evening before, exploring the reef that had been exposed at low tide:

> Aw, come on, you know what I mean, we can see with our own eyes what's going on. Nights like last night, say, you can almost see all the little connections and ecosystems, but what they make when you put [it] all together is real magic. In that sense it's just so sad sometimes that we need the science to prove it. Like, I mean I guess you could say 'why can't we just preserve something because it is just beautiful and wild', but our world doesn't work that way does it? You have to prove it and other people haven't seen it for their own eyes so how can they know? But what I mean also is, yeah, we wouldn't have that tracking data covering the whale movements over the months that they did the study and that's pretty damned special. They're the same whales we watched from the beach jumping.

For Frances, science was integral to building an overall picture of the environment, yet she, like the other conservationists in this research, supported the notion that no way of knowing the world could ever truly explain it all.

Science as epistemology therefore played an important role both in confirming, explaining, and elaborating upon local experiential knowledges by explaining phenomena that cannot be witnessed by the human eye. For many local conservationists, science was important as a way of knowing, and as a way of guiding appropriate ways of behaving in the world. The excerpt above from Frances' interview is highly illustrative of all twelve conservationists interviewed, and of the many casual conversations I had with them during fieldwork. In each case, there was significant overlap between scientific narratives and more localised and personal experiences. This was also particularly evident in conservation group meetings that were organised in order to create strategies for their engagements in stakeholder meetings (such as that discussed in Chapter 4). When the conservationists discussed reasons why the salt mine should not go ahead, their wilderness narratives depicting wild and fragile landscapes were seamlessly interwoven and illustrated with scientific language describing ecosystems and measures of resilience. Just as in Frances' narrative above, words and concepts such as 'ecosystem', 'eco-system services', and 'nutrient-flows' were frequently used to describe as-yet under-researched and therefore 'unknown'

connections between the different geographical environments that they had witnessed over their years of living in the area. In this way, the knowledges they asserted within the context of the dispute were based in positivist terms. That is, the conservationists structured their arguments based on what they saw as ultimately provable fact, and searched for scientific fact after the argument had been formed (Henry 1998:15).

In general then, the environmental narratives that were produced through the dispute were based on a complex relationship between experience, shared environmental narrative, and scientific narrative, which linked this way of knowing and understanding the landscape to their personal senses of identity and place. Scientific descriptions, language, and knowledge that arose throughout the years of the dispute were used to build their own personal and shared local narratives, and to emphasise their personal beliefs the beauty and ultimate incomprehensibility of the landscape. Furthermore, the mixing of wilderness and scientific narratives, beliefs and values, did not appear wrong or inappropriate as the developers often insinuated. Similarly, for the conservationists, one of the most logical steps to decide what scientific research was needed would be to begin from their own and other locals' experiences and observations over time. For conservationists, science and wilderness were two separate, yet inextricably linked worldviews that helped them to comprehend a world that they described as inherently 'mysterious', 'beautiful', and ultimately 'incomprehensible'.

This depiction of science as a way of uncovering some of the mystery of nature is common in environmentalist rhetoric around the world (Davison 2008). Satterfield (2002:84-5) found that conservationists in North America often saw the value of science as a way of uncovering mysteries that human beings are incapable of witnessing, such as extreme lengths of time, space, or physical ability. In a way, science also helps to create local narratives, beliefs, and values surrounding such phenomena by providing evidence pointing to different theories. Scarce (2000:127-8) shows how salmon science in North America mythologises the breeding habits of salmon by positing different theories as to how salmon know which rivers they must return to after years of living in the ocean. While no evidence can yet prove these theories in any way, they play a significant role in the development of 'mythical' narratives that make the fish known to the outside world (Scarce 2000:127). Indeed, many basic principles in science, such as the precautionary principle, and the assumption that nature exists in equilibrium in some

way, have emanated from conservationist movements within the science industry itself (Bell et al 2008:281).

In this way, the construction of local knowledge in the Exmouth Gulf region affected by the salts proposal was based in a network of personal experiences that had been shared with others through stories, and 'facts' discovered from scientific research projects. Through the weaving of scientific and wilderness narratives and discourse, the distinction between science and non-science became almost indistinguishable. The conservationists then employed these narratives to speculate on the many more unknown processes occurring in the environment. For example, at the time of research, there was no scientific evidence that the juvenile sharks, stingrays and other fauna living in the Gulf had any connection to those living on the Ningaloo reef or further north. This theory was discussed so commonly, though, that it became widely understood to be an almost certain truth. In this way, these 'myths' transformed what had previously been a relatively unknown body of water that was thought to have been destroyed through past fishing practices, into what is now widely understood (within the town) as an important ecosystem upon which both human industry and the surrounding environment depended. These 'myths' and narratives helped to connect people to the environment through increasingly complex ways of understanding both the observable, and unobservable characteristics of the environment in which they live and work every day. It allowed the conservationists to share their experiences, and shared knowledge, in a way that could make these connections real to those who had not experienced the Gulf before. In this way, local environmental narratives were continuously being reshaped and renewed. Science, therefore, simultaneously provided them with a set of cognitive skills and language that could help them to interpret their personal experiences and to share them in a way that 'outsiders' would understand.

It is often argued that the continued legitimacy of scientific knowledge relies on the assumption of its universality, and therefore its ability to transcend local experiential knowledge (Fischer 2000:196), or what Atran (1990:1-2) calls 'common sense' knowledge. Within the framework of scientific epistemologies, local knowledge is seen as 'tacit knowledge', or knowledge that is gained through place-based practical experiences, which are necessarily embedded within a particular environment (Cruikshank 2005:9). Non-indigenous people who critique or oppose science, and those who have come to believe that there are alternative yet equally legitimate ways of

knowing nature, such as through environmentalist notions of wilderness, or knowledges gained through economic activities such as logging (Satterfield 2002, Peace 1996) are generally accused of ignorance and 'scientific illiteracy' (Satterfield 2002:82). These alternative non-Indigenous ways of knowing are treated as essentially personal beliefs or values, which should be overridden when more correct scientific knowledge comes to light.

In the context of environmental dispute in Exmouth, decisions regarding future risks to the environment were based on the most 'correct' environmental knowledge available, which were preferably based primarily on science, and any relevant local knowledge in the event of scientific uncertainty. Because of the uncertainty resulting from the lack of baseline scientific research done prior to the dispute, the law required the developers to pay the expense of proving their mine would cause no significant risk. This had the effect of placing them in a position of power over others in the dispute, as they 'produced' the scientific knowledge. Additionally, their professions also lent them authority due to their technical knowledges required to design and construct a mine, which I discussed in Chapter 3. Although the developers readily assumed the role of technical expert, a number of the conservationists also had professional and managerial expertise in environmental management. In a number of cases, this expertise extended to the methods and types of scientific research that were being disputed in regards to the ERMP (including the study of ecosystems and nutrient flows). Their ability to research any publications relating to similar mine sites, and their leisure and work experiences in the environment, effectively legitimated their arguments in the dispute. The interwoven local and scientific narrative provided a basis for strong environmental knowledge claims that could be presented to both the public and to decision-makers. In this way, their science-based arguments were greatly strengthened by their connection of scientific research to local experiences, and their use of these narratives to build larger bodies of understanding based on both scientific and personal theories. The conservationists were therefore far from the passive, lay 'receivers' of knowledge that had been outlined for them by the legislation governing the EPA decision-making process. Instead, they became what is sometimes termed 'participatory experts', who had come to know a significant amount of environmental knowledge and technical understanding of the mining process due to their participation in the dispute (see Fischer 2000:167).

Developers: Science and the technologies of sustainable 'human-natures'

Although conservationists are often shown to engage in disputes in positivist terms by manipulating local knowledge with scientific terminology and worldviews (Davison 2008, Henry 1998:150, Pedynowski 2003), the developers in this research conceptualised local knowledge and personal experience in very similar ways. While the conservationists were considered the 'lay' receivers of knowledge, the developers were positioned within the dispute as 'expert' due to their technical expertise in mining development. They therefore did not see themselves as having any relevant 'local knowledge'. Instead, they believed that what they knew about the local environment was entirely based on scientific and technical fact. They did not reflect on the supposed opposition between their own beliefs and values and the technical knowledges required to construct the mine. Instead, they thought of themselves as simply putting belief aside, thereby basing all their decisions on objective, technically verified 'fact'. Often, they became frustrated at the conservationists' use of local knowledge or moral values in the dispute, when the developers believed that the science they had commissioned and subsequently presented to the public through the ERMP was more than adequate. As I show in this chapter, the developers publicly espoused what Fischer (2000:13) calls the 'technocratic ideology', in which information is seen and presented as a 'basic fact', and overlooks the integral aspect that knowledge must be interpreted and made relevant to a particular situation through 'intellectual manipulation' (Fischer 2000:13). Instead, the developers' maintain their authority as technical experts, which, in their view, lent further legitimacy to their interpretations of science, due to their expertise in maths and technical science used in their work. Despite their public insistence on science as fact, I show that their interpretations and manipulations of the scientific research were similarly based in their personal expert knowledge and experience as engineers, as well as their own understanding of nature gained through their professional experiences of planning the mine.

After the SRG meeting in which whales were the topic of dispute (which I discussed above in Felicity's interview) (January 2011), Nick invited me to have a beer and, in his words, 'debrief'. Nick was agitated and angry at the way the conservationists had been so forceful and unwilling to compromise on anything. He argued that the conservationists were making unreasonable judgements based on the science, which he saw as showing purely that the timeframe in which the whales lived in the Gulf would

not coincide with their peak periods of shipping. The whales also did not appear to spend much time in the proposed shipping lanes, and to him, this was adequate proof that their mine would have extremely minimal impact on the lives and migration of the whales. He exclaimed that 'they're making something big out of nothing because that's what they *believe*, not what is *real*!' When I suggested that perhaps his own interpretations of the research could be similarly interpreted, he replied jokingly 'only if you're an environmentalist'. He then continued to justify this off-hand comment by arguing that he and his colleagues did not have the luxury of 'touchy feely' environmentalism. Instead, they had to assess the facts as they arose through the research, and make objective decisions for the technical design based on that. I asked him later in this discussion what kind of decisions he had been referring to, and he replied,

> Well, ok, the mangroves, say. They're [the conservationists] worried about having to lose the mangroves. Yes, we have designated a small section that have to be removed to connect the ponds with the barge loading docks [sic]. But this is really only a small section. We won't be bulldozing the entire system to the ground! We do have to make choices like this. But like we just keep on saying [...] We've designed this. We've worked hard at this and [looking to his colleagues], I think we can all say we are sticklers for detail. We know it will work.

To Nick, his confidence that there was no need to be concerned for their impact upon the environment came from his belief in the technical reliability of their design (which I will examine further in Chapter 6). As a process itself, the developers understood the solar salt facility to be the most sustainable development possible, particularly in comparison to the energy intensive processes of oil and gas, or iron-ore extraction. The developers spent a significant amount of their working lives surrounded by development discourses that promote passionless, objective and factual knowledge in favour of the supposedly unfounded, emotional opinion of the conservationists. Except for Ian, none of the developers had spent significant amounts of time in the local region before commencing on the project. For them, their first explorations of the Exmouth Gulf were made when examining a map, as well as the weather patterns and geographical features that would be suitable for the proposed mine. Their interpretation of the environment therefore centred upon the technical requirements of the mine, including geological

features amenable to the proposed facility, soil and chemical deposits, weather patterns, and nearby human habitation and political designation of land for particular purposes (i.e. could a mine be legally built there?). In this way, the developers gained much of their knowledge of this particular region through the process of working within the boundaries of the environment in order to design the technical processes of the mine to maximise the production (and therefore profit) while simultaneously keeping environmental change to a minimum. The word 'minimum' is key here, as in order for the mine to go ahead, *some* environmental change had to occur.

For the developers, science was therefore vital in two different ways. Firstly, in order to construct the mine, they saw their technical expertise as integral to the process of finding a site, and then planning a development on that site. In the specific context of the ensuing dispute with the conservationists, science then became an important means of 'winning' the dispute by producing sufficient knowledge to have their proposal passed in parliament. As they understood it, no science could predict the future, it could only provide a picture of current ecosystems. The research they had commissioned showed the ecosystem was healthy, and there were no clear links between the salt flats (upon which the majority of the mine would be built), and the Gulf. Any potential impacts (such as on whales that I discussed above) were minimal, and the risk of any significant disaster from a salt mine was extremely slim, due to the way they were planning the design. Therefore, they saw this as proof that the location was ideal for the construction of a salt mine.

In this case, they did not see that local knowledge should play a role at all. Nick and Steve often stated that it was impossible to know how to handle the concerns of the conservationists. Both believed that, as a population, Australians spent the majority of their time in cities, only visiting the 'real' environment on occasion for short periods of time. In their view, most of the conservationists also fit this assumption, as most were from other larger towns or capital cities in Australia (or other countries). During interviews, Ian, Nick, and Steve in particular believed that non-Indigenous Australians' assertions that to a deep sense of belonging to a particular region was 'unreasonable' and 'irrational', and that they should not prevent development in the way that it has done in the past through concerted environmental protests. I discussed this with Steve after one meeting in Exmouth (January 2007). He openly stated science as the only way to understand the environment on a deeper level, and it was therefore the only reliable

means resolve the dispute, build the mine, and prove that mining can co-exist with the environment and local communities in positive ways. I asked him if this applied to someone like him, who had come to know quite a lot about the Exmouth environment through annual holidays and the like. He said ‘of course’, he might get excited about the ‘magnitude of the environment’ and ‘the huge unknown spaces’, but it is only science that can uncover a truer picture of the world. He thought of his experiences as a very informal and subjective way of knowing the environment, and un-representative of what he thought of as ‘reality’.

While we were talking, Ian interrupted at this point, saying ‘God, it really is a beautiful place and if I lived here, I probably wouldn’t want all this mining on my doorstep, but that’s not the way it goes! The science shows consistently we won’t have an impact.’ At this stage, I had heard little of their representations of science, so I asked him to elaborate. He replied that all the science that had been conducted so far showed the ‘ecological integrity’ of the local environment was ‘highly resilient’, able to recover and regenerate from significant disasters such as cyclones, and to flourish in the midst of what had previously been a highly unsustainable and destructive prawn fishing industry, and many years of pastoral activities that had stripped large tracts of bushland before the state government reclaimed the lease and began managing it as a conservation reserve. Sam used Ian’s point to exclaim ‘you see it just goes to show what Nick said before. It might be a beautiful location, but if it can handle over-fishing and other stuff like that then it can handle a bunch of salt fields, and that won’t make it any less nice surely?’

In this way, the developers maintained a distinct separation between their personal beliefs and values regarding the ‘wildness’ of the region, and their professional scientific knowledge produced that would help them plan the mining proposal. In short, they did not see personal knowledge or value as relevant when it appeared certain that the development could produce positive outcomes for the town, the region, and the nation. In their view, any scientific data would override even widely shared and accepted local narratives, or wilderness values. Framed in this way, the environment around the proposed salt mine becomes an object of the design of the overall systems to process the salt, the pumps to be used, the design on the ponds, and the process of containing, moving and shipping the salt. In their professional capacity, they therefore conceptualised the environment within the context of prevailing development ideologies, in which the wild landscapes come to be civilized and made productive

through the technologies brought about by mining (see Trigger 1997:166). Therefore, as the developers' prerogative is to build the mine, they must come to understand the environment in what they perceive to be an objective manner; through separating their personal experiences of the environment and regarding the landscape as a kind of obstacle course, in which some aspects of the environment must be avoided or altered in order to fulfil the planning requirements, while others (in this case, the salt) are the prized object of the mining enterprise. However, the developers simultaneously maintain a significant degree of trust that their plans are sufficiently well designed that the environment, for which they have come to hold some degree of personal respect, will not be significantly altered (which I will examine in Chapter 6).

As I outlined in Chapter 3, the environmental decision-making process, as outlined by the EPA, tends to divide conservationists and developers along the lines of 'lay' receiver of knowledge, and 'expert' producer of knowledge. As the developers were working on the mine in their capacity and experience as an 'expert', they saw that their interpretations of the science produced for the ERMP were based on purely technical, rational decisions based on the mathematical and scientific design of a mine, and which were therefore devoid of emotional or moral motivations. Nevertheless, as can be seen from the examples above, their interpretations of scientific research were still interpretations. They gave meaning to the research by interpreting it within the framework of their experience and expertise in mining development. In their context of their professional lives, emotion had to be put to one side. They therefore discounted the relevance of wilderness values or aesthetic ideals. Instead, they focused on interpreting the science purely through development rationales, and the assumption that the mine *should* go ahead.

For the developers, the conservationists' 'reinterpretations' of scientific research, as well as their calls for further research, were difficult to understand. The developers interpreted this as simply a ploy to halt development altogether. Of course, this would never happen. Over the course of their application, the developers also interpreted the EPA's continuous requests for more scientific information to be produced in a very similar way. Consequently, a crucial difference between conservationists' science epistemologies and the developers' was that they placed a much stronger emphasis on the importance of separating knowledge (i.e. facts) from what they saw as more emotional values and experiences of wilderness, and senses of belonging and place. In

effect, the developers saw the relationship between science and experience as a one-way street; science was an acceptable way of guiding local or development knowledge, which could then inform appropriate development or conservation measures. Within this worldview, values alone were only an acceptable way of guiding or interpreting scientific knowledge, and not an acceptable means of acquiring knowledge upon which decisions will be made, which is evidenced in the following example. The process of planning a mine (work) was seen as entirely separate from appreciating wilderness (leisure). The politics of science therefore played a significant role in shaping knowledge in a way that came to be shared and aligned with different groups, and provided the two groups with strongly defined boundaries and ideals with which to identify themselves as separate from each other. I now discuss this in the final section of this chapter.

'Performing' science

Environmental management reviews are based on the fundamental assumption that 'good science can show us the way' (Fischer 2000:91). Yet, as communities and activist groups become more involved in the process, the politics involved in the production of science are becoming more widely understood (Fischer 2000:102). The practice of inviting a scientist along to each meeting to present their own scientific research, or an engineer to explain the latest development in a mine under operation, is a common model used by companies in many stakeholder reference groups around the world (Boholm 2008). Although it is often done in the name of ensuring that the community is informed by a trained professional, it is simultaneously an important political manoeuvre for the developers. In short, having a scientist or trained professional present at a meeting on behalf of the company tends to lend a project a strong aura of legitimacy in the face of strong opposition (providing that this professional does not overtly disagree with the proposal). They rely on the objectivity of science, and public trust in it, to have their proposal accepted by decision-makers. Yet, in the case of the Exmouth Salts dispute, the various degrees and types of expertise amongst the conservationists and the developers meant that they were equally capable of reinterpreting the assertions made by the developers in the first place. Although the dogma of 'good science' remained, all participants in the dispute were acutely aware that the practice of interpreting science for the purposes of decision appropriate human-nature interaction into the future was an intensely political process.

The political nature of science was particularly well expressed during an interview with Ernie (2 April 2007), a biological scientist and self-identified conservationist who had become involved in the dispute. During the interview, he made a comment regarding the conservationists' use of science, in which he had been involved in a project for the specific purposes of disproving a number of assertions made by the developers. When I expressed surprise that he would openly discuss this, he simply laughed, and said 'the science you hear from the developers is just as biased, you're just used to hearing that kind of thing!' He said,

> You've got a bit to learn about this game. Look, you can make science say whatever you want it to say. It's not bad science, it's just what science *is*. You go into a project to discover whether a particular question is correct or not. That's the hypothesis, yeah? The 'am I right or am I wrong' of the question. Thing is the world isn't made of right and wrong. There are lots of theories floating around out there, and if you go looking for something you will find it. If you change the parameters of the research like timing or ocean depth, ask a slightly different question, use a slightly different methodology, or anything, you find something else. Then you have to interpret the data. This is when you get variation too. We don't believe there's enough evidence to prove the mine is as safe as it possibly can be, and there are great risks of possible bitterns... [toxic by-product of salt production] being pumped into the Gulf, so we study the seagrass communities along the potential dumping sites along the Gulf. The company argue they'll store the bitterns instead of dumping it like every other salt mine does because they know we're onto them, and they know that we know that the pumping of bitterns would be a disaster for the gulf. There is irrefutable evidence to show this in other areas so they say they will store it and try to find a way to use it without releasing it back into the environment. But because they want to store the crap, it means they don't have to do any research at all on those seagrass systems and their function within the ecosystem. The science they've got on seagrasses only focuses on the smaller area they want to bull-doze for jetties and shipping lanes. Same with the whales – they [the developers] reckon they're organising their peak shipping periods outside of the main migration time of the whales. But they've got data on whale movements that was done in

> August or September I think, and we know they're here until November and December even. Etcetera, etcetera. I could go on forever!

Both the conservationists and developers entered into the dispute with this understanding, and therefore with the aim of using the political nature of science production to dispute each others' interpretations of the science. The dispute over scientific knowledge, and the different ways in which it was conceptualised and represented by conservationists and developers certainly supports Jimenez's (2007:39-40) argument that good science has come to be arbitrated in social settings, and by diverse groups of people. The dogma that scientific knowledge is an objective means of developing a true picture of the world remained important to conservationists and developers. From the examples provided in this chapter, the objectivity of science was significantly challenged through the highly politicized and value-laden debates over science and moral beliefs and values. As Yearly (1995:64) argues, 'environmental controversies have moral and political components that cannot be resolved by scientific enquiry'. The members of both groups accepted, although sometimes lamented, that good science is never good enough. It is the ways in which the science is interpreted, promoted, and deployed as a tool against opposing interpretations that supports and legitimates their moral positions.

Conclusion

From the above examples, it can be seen that science as an epistemology and science in practice were conceptualised as two distinct aspects of science. The concept of science as an epistemology – a way of knowing the environment – was important to both groups, particularly as a way of guiding and articulating local experiential knowledge, and in environmental planning. In the context of the dispute, though, science in practice was frequently disputed, manipulated and changed (and which was also an anticipated aspect of the dispute). In this way, the narratives and knowledge that emanated from the dispute, based in intertwined scientific and local wilderness narratives, made a significant contribution to the environmental knowledges upon which the decisions made by the EPA were eventually made.

It was through these processes that the conservationists and developers came to draw on completely opposing bodies of knowledge, despite having drawn on the same scientific research projects. The developers interpreted the science based on what was ultimately

good for the mine, which spurred the conservationists to counter them by illustrating the ways in which the research showed that development activities could have a potentially harmful effect on the environment. It was through these arguments that they simultaneously drew on non-scientific arguments to support their cause, such as economic motivations or moral obligations to the environment or the local community. Because they could not openly acknowledge any legitimacy in their oppositions' claims, they were obliged to continuously reinterpret and present further arguments that created increasingly exaggerated differences in possible interpretations of human-environment interactions if the mine were to go ahead (which I described in-depth in Chapter 4). As a result, the schismogenic nature of conflict actually served to increase the legitimacy of the conservationists' arguments, as it highlighted the political nature of the developers' interpretations and representations of knowledge.

As I described in Chapter 3, the developers were placed with the burden of responsibility for proving that their proposal would not harm the environment. It was they who designed the mine and commissioned the scientific research upon which the decision-making process was based. The power to make these decisions led the developers to believe that they had the right to shape the dispute, and the decision-making process. Yet the conservationists' public outcry, which was supported by a number of scientists, showed that they too had significant power in their own arguments. Not only did they provide an alternative narrative based on the science knowledge commissioned by the developers, but it was deemed sufficiently legitimate that the EPA decision-makers also took notice of these concerns. Based on public objections, and their own expertise, the EPA staff made many requests for further scientific research from the developers over the approvals period. The conservationists' and Halt the Salt Alliance's criticisms were also taken into account when the EPA made their final decision rejecting the mine.

Science is therefore a never-ending dialogue with other science and localised knowledges (Carolan 2008:460), within which the participants in this research were very conscious of participating. In the Exmouth Salts dispute, science was accepted as key to 'winning' the right to speak for the environment and the future of human-nature interactions. Like the planners and local residents in Binde and Boholm's (2004) research of the Swedish railway siting contestation, both the conservationists and developers relied on their own body of scientific knowledge to argue against the

scientific arguments of their opposition. Yet, as they were constantly aware, it was not simply science that would win the dispute, it was their ability to make it relevant to the public and the decision-makers that would make their arguments the most valid. The legitimacy of their scientific knowledge therefore relied on making their ability to apply these narratives to local community concerns and environmental narratives. As is characteristic of symmetrical schismogenesis, members of both groups had become 'locked' into the process of arguing and counter-arguing scientific and local narratives. The result was the reinforcement of ever-increasing opposition between the knowledge and worldviews produced by both groups. As each group countered the arguments of each other over the course of a meeting, they creatively employed a complex mix of science, local knowledge, and moral beliefs and values to render their scientific narratives relevant to those who might be listening. In doing so, moral beliefs and values also gained credence in the dispute through their connection to science. Throughout the schismogenic dispute, therefore, these supposedly separate spheres of scientific knowledge, local knowledge and moral belief became intertwined and interdependent throughout their environmental narratives, which I will examine further in the following chapters. As each group needed to maintain their authority through distinguishing themselves from their opposition, it was their increasingly exaggerated and polarised representations of knowledge that helped to illustrate this difference.

The conservationists and developers alike needed science; not only in the development of the creation of opposing environmental narratives, but also to legitimise their worldview in the context of the dispute. The conservationists relied on the privileged discourse of science as the 'hegemony of a rational, scientific, and modern conservation paradigm' (Bell et al 2008:281). Conversely, the developers relied on their role as the 'distributors' of scientific knowledge, and on the supposed universality of science as the ultimate arbiter of truth as a way of supporting their technical expertise and knowledge (Berglund 1998:160). In order to gain support for their cause, both conservationists and developers relied upon the supposed universality of science. Although their arguments relied on the generalised methods of scientific research, what they were ultimately arguing for was a much more localised, and specified science narrative. Both groups were so sure of their own worldviews that they remained confident that the science would ultimately catch up with their strongly localised environmental narratives. Emotional and moral arguments, which were intimately bound up with wilderness

narratives and localised environmental beliefs and values, therefore played as significant a role in the creation of public scientific knowledges as did the scientific researchers themselves. In the following chapter I further examine the role of emotion in the dispute over opposing worldviews.

Chapter 6
Debating emotion and rationality: gendering knowledge in conflict

Each year in May, the town of Exmouth holds the *Whale Shark Festival*, to celebrate the unique relationship between the local community and the surrounding natural environment – and the Whale Shark in particular. The objective of the festival is twofold; to develop a stronger sense of community among local residents by highlighting their relationship to the flora and fauna that is unique to the region, and for local community groups, businesses, government agencies and industry groups to showcase their role within the community and the environment by setting up stalls to showcase their work in the region (Whale Shark Festival, 2011). I attended my first festival on the 5th of May 2007, after I had been living in Exmouth for about nine months. I was joined by two friends, and we spent much of the morning walking amongst the stalls and chatting to people we knew at each tent. The stalls were divided up into themes. One large tent was dedicated to mining industry stalls, several others for local businesses such as tourism and fishing stalls, another for community groups (including the conservation group) and other not-for-profit groups, and more still for artists and local shop owners selling their wares.

The attempt at separating the groups, however, did not prevent the Salts Developers from visiting the conservationists' booth, or vice versa. At about lunch-time, Laura came up to me looking flustered. She suggested that I may want to come back to the conservation group's tent as Patricia, a new member of the conservation group who had very recently moved to Exmouth, had had a 'run in' with Ian, and was very upset. She emphasised that Patricia was only new, and that he had been 'really hard on her', suggesting that she was not yet a seasoned activist who had had enough experience and took it more personally than the others had learned to do. When we arrived back at the tent, Laura and Susan explained that Ian had approached their stall, which included a display with maps, photographs, information sheets, and banners promoting the Halt the Salt Campaign. He had introduced himself to Patricia as someone who worked on the Salts team, to which Patricia, as she herself described, did not respond well. According to Laura, who had witnessed the scene, Patricia had asked Ian why he was happy to

destroy the mangroves, and to ‘ruin’ a beautiful wilderness. Ian responded in what Laura described as ‘a patronising, holier-than-thou attitude’, repeating the now well-practised company public relations line, which counteracted the concept of wilderness by depicting the mine as a sustainable mine, harvesting renewable resources from currently ‘dead’ salt planes. This sparked an argument between the two, following the familiar schismogenic pattern of dispute.

Once Laura had given me her account of the argument, Patricia felt it was important to describe it to me from her point of view. She was still being comforted by Susan, her face was red, and she was still wiping tears from her eyes. She began telling us all the arguments that she had wanted to say to Ian, but had eventually become too upset to say without, in her words, ‘disgracing ...[her]self in the heat of the moment’. The moment that she thought she had ‘truly lost it’, was when Ian had said (Patricia repeated using a patronizing tone of voice and body language) ‘now let’s just calm down and be a bit more reasonable about things for a moment’. She flung her arms up to show her frustration, saying that she felt hopeless, saying she had ‘blood rushing through her head’, and that she wished she was a child again so that she could just scream at him. She said she was so angry because she felt like she was ‘talking to a brick wall’, referring to the developers’ lack of empathy or understanding in their dispassionate and seemingly calculated arguments. The other conservationists gave her support and calmed her by agreeing that the developers were impossible to deal with because that they would never listen to alternative points of view. Karen said that arguing only made them feel worse, claiming that ‘the only way to wipe those smug little grins off their faces’ would be to halt the development itself.

While Laura drove Patricia home, I walked over to visit the developers in the industry tent on the other side of the oval. Ian was standing just outside their stall, talking animatedly with his colleagues from Straits, and a couple of men from the neighbouring stall representing an Oil and Gas company. When I arrived, Ian was describing his own point of view of the encounter. His face was also red and his body language was significantly more exaggerated than normal. He was describing his frustration at how ‘impossible’ he thought the conservationists were (his words). He said, ‘my god, they just won’t listen, they don’t *want* to listen’, and then ‘why can’t they just be reasonable!’ He pretended to tear his hair out and groaned his frustration. One of the men on the neighbouring stall said ‘mate, just walk away when it gets like that. Just turn

and walk away. It's all you can do if it's unreasonable'. His own colleague, Steve, said to Ian, 'really, you've just got to learn not to take it so personally, it's a waste of your energy, it's not about you'. Then he added jokingly, 'just be cool'. Steve then turned to me and a neighbouring stallholder to say, 'yeah [sighing], he takes it harder than the rest of us sometimes.' John and Steve exchanged what I can only describe as a 'knowing' look, and I believe it was a confirmation between the two of them that this was something they had had to deal with before.[16] John then told Ian to go outside and watch the fishing demonstration near the tent to 'take a break', reminding him the day would soon be over and they could close the stall and move to the beer tent to watch the football.

Emotion and rationality in dispute

As I outlined in the previous chapter, the performances of environmental narratives through the dispute were therefore framed within positivist terms. While both conservationists and developers saw public consultation and the incorporation of local knowledge and values as valuable to the decision-making process, they understood 'rational' and objective scientific knowledge as the more reliable source of information and truth. Members of both groups tended to describe other ways of knowing as subjective and based on emotion, which could not necessarily be trusted. Each participant I interviewed believed that emotion should therefore be put aside while disputing such important issues, relying instead on the 'truth' winning the argument. Despite this belief, emotion was a constantly visible companion to supposed objectivity. Throughout the previous chapters of this thesis, and particularly in the example above, emotion has been an ever-present, yet often unacknowledged feature of the dispute. Emotion permeated every aspect of the dispute. Participants' emotional attachments to the 'wildness' of the environment was obvious as they described how they came to know and feel a strong sense of attachment to the landscape and the community of people they come to know through their experiences in the environment. It was also visible in their expressions of awe at the knowledge produced through science. It was this sense of awe, as well as the strength of their belief in their experiential knowledge that gave them the confidence to trust in their own interpretations of scientific research.

[16] In fact, I was present at the SRG meeting held in the following week at which a similar argument occurred between the developers and the conservationists. Again, Ian remained angry for much longer than the rest (which I will describe later in this chapter).

Emotion was also ever-present in their frustration and sense of powerlessness at their inability to elicit understanding or empathy from the opposing group. Emotion therefore played a role in two mutually reinforcing ways. Firstly, emotions were ever-present in the shaping of their localised knowledges, and secondly, in their interactions with each other. Everywhere, the 'gasps and pulses' (Satterfield 2002:135) of emotion were present; both shaping, and being shaped by, the ways in which people interacted with each other and the landscape. As a result, the knowledges produced through the dispute were also dependent upon these emotional interrelationships.

The aim of this chapter is therefore to highlight the role of emotion in creating connections between the participants, and how these connections reinforced the trust and confidence in the participants' assertions of what the 'right' way of knowing and understanding the world should be. As I will show, a focus on the polarised nature of the dispute served to highlight, and heighten, the perceived divisions between those who *know* (developers), and those who *feel* (conservationists). As I described in the previous chapter, legitimate knowledge gained from universal science held significantly more power in the eyes of the decision-makers and general public than knowing the environment through supposedly emotional beliefs and personal experiences. Indeed, the role of decision-maker in the dispute was to assume the right, and the knowledge, to speak for the environment and the people living within it. Yet, as I show in this chapter, the right to decide the future of human-nature relationships in the region was not passively given to any main stakeholder or decision-maker. Instead, the entire dispute can be seen as a fight to gain the legitimacy to make what each believed to be the right decisions. In order to illustrate this point, I describe how participants creatively reasoned through a raft of emotions and emotional experiences within disputes, such as excitement, confidence, frustration and despair in order to portray their cause (and themselves) as rational, well-reasoned, and right. Through the subsequent polarising dispute, the two groups created alternative conceptions of rationality and emotion, which provided participants with defined ways of theorizing, and being 'emotional' about the environment while representing their group.

By extension, they also provided specific avenues through which knowledge was created, understood, and disputed. These avenues can be understood by building upon a concept that Hochschild (2009:31) calls 'feeling-rules'. As I will show, these 'feeling-rules' were integral to the creation and maintenance of power of one group over the

other within the dispute, which were entangled in classic social differentiations such as gender and age (though interestingly not directly through class, which I will discuss later in this chapter). These emotions not only contributed to personal experiences of emotion in the dispute, but they were also used as methods of maintaining control and power by highlighting the opposition's supposed emotional weaknesses, or lack thereof. I argue that these notions of rationality became strongly associated with very specific 'emotion-rules' that were individual to each group. These rules then came to define the boundaries within which each participant worked if they wished to maintain their credibility within their own group and the public. Emotion and reasoning therefore played a significant role in defining and creating environmental knowledge, and the ways in which the participants in this research came to understand and represent *how* they cared for the environment.

Gendering Emotion

As can be seen in the vignette in the beginning of this chapter, the expression of emotion is strongly shaped by what is considered socially acceptable in particular circumstances at different times, and it is 'policed' both by their friends and by the opposing group. One of the most forceful ways in which emotions were expressed, controlled, and manipulated within the dispute was through gendered divisions of accepted emotions. I have not yet directly discussed the concept of gender in this thesis, as it was important to understand the ways in which environmental knowledges have been produced through polarisations based on other aspects of participants' cosmologies. Yet while the identities that were asserted through the dispute were not directly based on traditional social groups such as class or gender (Satterfield 2002), gender played a clear role in the creation of knowledge within the dispute. As I will show through this chapter, this played out through disputes over the gendered expressions and manipulations of emotion, in which the male developers were often described as 'cold', 'rational' and 'calculating', while the conservationists (who were all women except for one man, Simon, who did not attend the Stakeholder meetings) were depicted as overly 'emotional', 'irrational', and 'impractical' (see Marangudakis 2001, Prokhovnik 1999). It is clear through this division that there existed a series of dualisms based on the imagined divide between thinking and feeling, knowledge and emotion, and rationality and irrationality (Heatheringon 2005:145), which have come to be associated with particular gendered ways of being in, and understanding the world in

Western societies. I take these imagined divides as my point of departure in this chapter. While I discuss how the concept of rationality was very important to the ways in which the participants conceptualise their emotional comportment when entering into the dispute, I take it as given that all human beings are emotional, and that it is important to understand *how* this emotion is incorporated into knowledge, rather than seeing it as entirely separate.

Over the course of the dispute, the groups' performances of their beliefs and knowledges became increasingly acrimonious, which engendered increasing distrust of each other, and this was expressed through antagonistic, and often highly emotional arguments. In the Salts dispute, much of this tended to play out through these emotion-rules, which were supported by widely-held assumptions of typical social categories associated with the opposing groups, in which the conservation group was driven predominantly by women in their early 20s to early 40s and in the earlier stages of their careers (almost all related to either the environment, or teaching), while the developers were in their mid 40s to late 50s, in the upper-levels of their careers, and had had many years of experience in their industry. Interestingly, none of the participants ever directly alluded to this clear divide between gender, age, and occupation. However, it certainly played a role in the ways in which the participants portrayed the beliefs, values, and knowledges of their opposition in the heat of debate. As I will show, these gender-based emotion rules – articulated through appeals to 'be rational' (Steve, 15 February 2007, Ian and Rob 7 June 2007), or to 'care just a little' (Anne, 14 May 2007) - played a significant role in the shaping of environmental knowledges, the ways in which these shared (and reasoned) knowledges engendered a sense of trust in one's own group, as well as in through the ways in which the performance of these knowledges was considered legitimate or otherwise in the eyes of their opposition and the public.

Emotion and rationality in public discourse

Emotions appear to have become much more widely accepted in general society in recent years (Lousley 2009:231). While there remains a propensity to understand emotion as the realm of the individual remains prevalent (Lindner 2009:9, Lousley 2009:231), the idea that emotions are shared in at least some ways, and that these emotions are prevalent in areas of social interaction previously not considered (such as the economy), are entering mainstream discourse. Even the stock market now has a new

indicator called the 'fear index' (Bandelj 2009:348, Berezin 2009:335). Within the environmental context, emotions have long been recognized as an integral factor in the development and assertion of environmental beliefs and values. Emotion is inherent in the ways in which people come to know and feel connected to nature, which often involves expressions of spirituality and overt sentiment (Milton 2002:101-2, Trigger & Mulcock 2005, O'Niel 2002).[17] Yet these emotional connections are thought to interfere with rational decision-making, most particularly in economic arenas (see Scott 1998), and should therefore be 'placed aside' from the dispute, which I described in Chapter 5.

Just as the definitions of knowledge, belonging, wilderness, and science are elusive concepts, the meaning of emotion appears obvious until one tries to define it. In Western public discourse, emotion is used as a conceptual category that refers to a person's lived experience of particular feelings such as fear, love, excitement, sadness and anger (Barbalet 1998). These emotional categories are assumed to be an essential element of humanity. Different experiences are expected to elicit particular emotions, which must be expressed or regulated in socially acceptable ways. As many theorists have argued within the recent proliferation of emotion research over the past twenty years, though, this popular assumption cannot be taken for granted (Barbalet 1998, Bar-Tal et al. 2007, Satterfield 2004, Turner & Stets 2005). Exactly *how* people experience emotion, the extent to which emotions are shared, and what impact emotions have on both individuals and society and vice versa, have become the starting point for analysis in anthropological studies of emotion. To address these questions in my own analysis, I draw on the relationship between emotion and knowledge, and the perceived distinction between emotional 'feeling' and objective 'knowledge' that so prominently runs through wilderness and science discourses as they are disputed by participants. To do so, I draw on contemporary research focusing on the relationships between emotion, the environment, and gender from a number of disciplines in recognition of the biological, psychological, social and cultural components in the experience of emotion.

For the purposes of this chapter, I see the production of emotions as a cyclical process; as an emergent product of both biological predispositions, social and cultural forces, and psychological factors, which then guide a person's private and public experience

[17] Much of the literature on Indigenous local knowledge focuses tends to focus on the emotional and spiritual aspects that embed local cultural beliefs, values, and practices into the landscape (Anderson 1996). However, it is only more recently becoming acceptable to understand non-Indigenous knowledges in a similar fashion.

and expression of them (Barbalet 1998, 2002, Milton 2002 & 2005). Such a definition points us towards an analysis of emotion that involves a focus on the ways in which people regulate their embodied experiences of emotions through social expectation, personal beliefs, values, and knowledge. In the instance of dispute, heightened emotions were regulated through the perceived need to 'be rational', based on the cultural expectation that decision-making should be based entirely on emotion-free rational knowledge. Ironically, while such a dispute is one arena in which emotion is not tolerated, it is also one in which emotional experiences are significantly heightened, and emotion discourses therefore become exaggerated (Peace 1996 & 1999, Satterfield 2002 & 2004). The following section therefore explores the idea of rationality and emotion as connected to the idea of masculine and feminine experiences of nature and environmental knowledge, and examines the idea of "emotional-rules" in relation to shared emotional experience and expression. The following section explores the ways in which gender and emotions have been constructed, particularly the ways in which discourses of nature and capitalist development have come to be associated with particular emotional experiences, which have come to be identified with shared emotion rules involved in representing a particular group in an environmental dispute.

Gendered emotions

Emotions, then, are not simply the realm of the private, or 'individual acts of conformity' (Barbalet 2002:3). They are also fundamental to the process of social interaction, and to collective action in society (Satterfield 2004:234). If we assume that emotions are necessarily influenced by social factors, which guide learning and motivate action, emotions must therefore be vital in the interaction between structure and agency in the shaping of everyday social life (Barbarlet 2002:3, Kemper 1978), and can therefore be seen as important key indicators of identification with particular social groups including class, gender, and ethnicity; as are clothing, language, work, and leisure activities (Satterfield 2004:235). Identification with such social groups demands some aspect of self-regulation (Becker 2009:200, Wouters 2009:169). One's self-regulation is said to conform to what can best be described as "emotion-rules" or "feeling rules", which dominate the performance of group identity, and which are drawn upon when members stray from the accepted behaviours (Barbalet 1998:23, Berezin 2002:48, Hochschild 2009:31, Milton 2002:57, Reddy 1999, Turner & Stets 2005:290). Although there is significant variation (Satterfield 2004:238), general expectations of

acceptable emotions in particular situations tend to guide a person's own interpretation of experience (Jasper 1998:40). Wouters (2009:169) argues that people are confronted with the expectations for self-regulation that accord with the social groups in which they grow up. While I certainly do not deny that emotions are experienced in very individual and personal ways, it has been shown that generalized emotional experiences across groups of people (such as social classes) have both shared emotional and physiological effects (Kemper 1978). Therefore, social structures can play a significant role in shaping personal and shared emotional experiences, while being similarly shaped by the emotional performances of those in that group (Barbalet 2002:3, 62). The result is the continuation of structurally defined differences between groups, which hold varying amounts of social power and control.

None of the participants in the dispute ever mentioned gender differences between the two groups, either in interviews or everyday interactions. Yet the constant references to rational and irrational beliefs, values, and practices were strongly based in gendered stereotypes. Lutz (1990:69-70) argues that gender is of central importance in the structuring of emotion and power relationships. Historically, western societies have come to connect the idea of womanhood with emotion and irrationality, disconnected from market concerns (Satterfield 2004:237). This is exemplified in the gendered division of labour, in which "women's work" remains in the realm of "caring" industries such as nursing and teaching, which require particular types of emotional performances, and demand significantly more emotional labour while earning less power, prestige, and wealth than masculine labour (Barbalet 1998:56, Flam 2002:106, Lutz 1990:73). On the other hand, men have come to be connected to the control of emotion, and connected to market-based values through their work (Lindner 2009, Lousley 2009).

In this way, both environmentalist and development ideologies are strongly associated with particular assertions of gender, as are the people who represent either ideology (Emberson-Bain 1994:47-8, Satterfield 2004:241, Trigger 1997:173-4). The kind of environmentalism promoted by conservationists in Exmouth tended to be viewed as a feminized interpretation of the environment because of their focus on wilderness narratives and emotional responsibility to conserve it (see Clayton-Smith 2001:314-5). On the other hand, the developers presented a strongly masculinised depiction of the environment, based on objectivity and unbiased knowledges and representations of the

environment as sufficiently durable so as to withstand human influence (see Choy 2005:8, Satterfield 2004:141). They represented an industry that continues to have a dubious record of protecting environmental and social justice rights in countries all over the world due to their perceived ability to rationalise profits over anything that cannot be assigned material or monetary value (such as the environment or the health of nearby communities) (Bridge 2004, McEachern 1995). The groups that each individual participant represented were therefore strongly associated with certain ways of knowing and representing the world, of which a significant part was through gender.

It was not only the representations of the group that were gendered. Individuals themselves tended to promote knowledge through emotion/rationality discourses based on their own gender as well. Satterfield (2004:241-2) shows that male environmentalists tend to emphasize rationality and economic importance of wilderness in their emotional accounts of nature, while female environmentalists tended to emphasize the spirituality of wilderness, and the importance of it to identity. As can be seen in the previous chapters, the developers also portrayed the environment and their own knowledge by attempting to portray them in a much more objective and less personalised way. In the context of the dispute, both conservationists and developers were restricted within the expectations of emotional comportment. The conservationists were always conscious of portraying their arguments in as objective a manner as was possible, often having to 'put aside' the significantly emotional connections between community and the local environment. Yet they were also forced to balance these objective knowledges with the emotive and moral discourses that help to gain support for their cause from the wider public (see Bryant 2005). On the other hand, the developers were similarly constrained. They were always careful to ensure that their arguments appeared as purely rational assessments of the state of the environment and any potential impact on it as a result of their development, even when presenting environmental values within their arguments. For Ian and occasionally Steve, these representations were sometimes expressed in far more rationalized terms than they might otherwise be (as can be seen in Chapter 4). This placed them in danger of appearing *too* cold and calculated, and therefore unreasonable and inhuman (Satterfield 2002, 2004).

As I show in this chapter, these gendered discourses of nature knowledge, which were constructed through beliefs about what is rational and what is emotional, played a significant role in the construction of opposing knowledges in the dispute. Despite the

importance of the dualism between emotion and rationality, I argue that it is, to a great extent, imagined. That is, what the developers saw as rational interpretations of scientific and technical knowledges were no less emotional than the conservationists'. Thus, these gendered nature discourses therefore remain "surface models" – constructs in name only (Lutz 1990:70). The idea that women are "emotional" is not the issue. Instead, it is showing how masculine forms of rationality, *are* emotional (Hochschild 2009:30), and how these emotions impact upon the representations of legitimate knowledges.

Combined with notions of the changing beliefs and values over the lifecycle, culturally constructed divisions based on gender and age were vital to the participants' experiences of the dispute. In turn, they were also elicited and manipulated in order to assert power and control over the opposition. As Kemper (1978) argues, anger and power are implicitly related, and a person's position in social hierarchies, as well as the general context, will affect the ways in which people may feel and express their anger. Anger is said to be predominantly the domain of the more powerful in society, who are usually male, and this is particularly reflected within their relationships with women (Flam 2005:27). Flam (2005:37) argues that the experience of powerlessness tends to occur in situations where we feel our agency has been taken away from us by those with more power. Yet, people in lower positions of power are less able express anger. Although my research does not support or refute this claim, the experience and perception of power played a significant role in the ways in which members of both groups engaged in dispute. As I described in Chapter 3, both the conservationists and developers felt constrained or empowered in different situations. While the developers often felt frustrated at the EPA for treating them in an unfair manner by favouring conservationist beliefs and values, the conservationists felt that their concerns were not being recognised by the developers or the government in charge of making the final decision. Yet, in the context of the public dispute, both groups were constrained by social forms that required all parties to remain civil and polite. As a result, all the participants I spoke to felt that they were (to varying extents) restrained in their expression of anger and frustration, while feeling obliged to feign politeness and positive emotion (see Flam 2005:37). Nevertheless, their attempts to exert power over each other were enacted in attempts to 'put down' or ridicule the other so as to shame or chastise them. This also had the impact of reinforcing expected emotion-rules for their

own group (see Flam 2005, Barbalet 1998). Interestingly, both conservationists and developers performed this through discourses of rationality, and entreaties for their opposition to 'see reason'.

Emotions therefore take on a particularly heightened role in social interaction within the 'charged' atmosphere of a dispute (Eyreman 2005:63). 'Emotion rules' frame (and are framed by) emotionally driven beliefs and values into collective political directions. Consequently, emotions come to be entwined in a tension between what a group aims to achieve versus what they must perform in order to get as close as possible to achieving it (Eyreman 2005:67). The notion of caring for the environment is therefore far more complex than the apparently simple and private act of caring. A person's experience of caring also relies on the structural forces mediating their relationships with the environment and with other people who are associated with it, which provide a framework for acceptable beliefs, values, and action within which individuals must work (or not).

Positive emotions: knowledge and confidence

In the midst of arguments between conservationists and developers, or during the aftermath in which members of both groups appeared only upset, angry and confused, it was difficult to see how positive emotions such as excitement, happiness, or joy might be involved. Yet, as I discussed above, emotions are complex, and many emotions may be experienced simultaneously in a way that cannot be easily described. Eyreman (2005:60) shows that simply being a participant in a movement can evoke a strong sense of excitement, providing the ability to act upon more abstract beliefs and values in public arenas. Excitement, joy, humility, and love for the environment are commonly accepted as significant emotional elements of the conservationist ethic. These emotions tend to be overshadowed in public representations of an acrimonious dispute by the fear, frustration, anger and/or despair at the sense of impending loss of the environment. As a result, anger, frustration, and a sense of loss heighten the sense of solidarity between those who share these feelings, and can strengthen the sense of purpose amongst this group (Heatherington 2005:151-4). This may involve the heightening of positive emotions as well as the negative. In the case of the Exmouth Salts dispute, these positive emotions became most obvious when the members of either group interacted together, forming positive bonds, and solidifying the relationships upon

which trust and confidence in their shared knowledge was created. As Barbalet (1998:82) argues, confidence is not often seen as an emotion because of its association with rationality. That is, confidence is understood to be the result of *knowing* the facts, and therefore oneself, to be *right*. Confidence requires expectations for the future, a belief in one's own understanding of the present situation, and the willingness to act in regards to possible future outcomes. I argue that a sense of excitement and hope through the sharing of a common cause and common knowledges developed a sense of solidarity, forming relationships based on common purpose and trust.

Conservationists

Typically, positive emotions such as excitement, hope, humility and love were always present in the conservationists' environmental narratives (Davison 2008, Milton 2002). As discussed in Chapter 2 and Chapter 4, the conservationists' sense of belonging was developed through their own experiences of the environment and through sharing their emotional attachments to nature with other people. As I have shown in Chapter 5, the concept of wilderness was one of the most frequently acknowledged worldviews through which both conservationists and much of the general population come to understand and feel an emotional connection to nature. This is usually described in spiritual terms, or as deep senses of belonging. In this section I focus on the positive and motivating emotions associated with the dispute by looking at the ways in which people formed deeper connections with each other through the sharing of their wilderness experiences and knowledge. I argue that it was these connections that helped to develop and solidify their local environmental knowledge through a conservationist lens, and which played an important role in shaping participants' understandings of the appropriate emotional responses and performances of nature both outside, and within, the dispute.

The conservationists often stated that their motivation for initially signing up to the conservation group was their enjoyment and appreciation of wilderness, as well as the activities that involved caring for nature. Yet, it was the sense of friendship and the solidarity of sharing similar values within a town whose residents tended to support development ideologies, that made them stay. For this reason, the group always placed a social emphasis on the planning activities, meetings, and activities. Meetings almost always included wine and food.

The first time that I joined a conservation group planning meeting (October 15 2006), which had been organised to discuss the salt mining proposal and to decide on the group's course of action, I was immediately struck by the relaxed, intimate, and almost celebrative atmosphere. Most people there already knew each other, and were catching up on news, sharing stories from their recent diving and surfing trips on the reef, pouring each other glasses of wine, and introducing themselves to the three in the group who were new (including myself). There were eleven of us sat around a table on our host's veranda in the early evening. It was over an hour (and three bottles of wine) before the formal part of the meeting had begun, and everyone was eagerly anticipating what we were about to discuss. Our host, Angela, opened her notepad and read out the discussion points for the meeting, outlining how she thought a working group could operate specifically to examine the mining proposal, and to keep the company to account as the proposal was developed. First, she thought, the group should make some preliminary investigations into impacts of salt mining elsewhere, and then figure out how we might pool any related local environmental knowledge together to help find some particular pointers for independent scientific investigations that may be commissioned by the Halt the Salt group. This was a similar strategy to many of their campaigns against other mining, and, as can be seen throughout this thesis, was the structure that most meetings took. On this first meeting, the discussion of local knowledge took an emotional turn.

The others at the table listened intently to Angela, who thought we should commence with a general discussion about peoples' thoughts of the mine in that region. At this, three of the longer-term residents at the table, Susan, Marieke, and Zoe, began animatedly discussing their last diving and fishing trip in the gulf together, as a way of illustrating the importance of the environment, and how there was insufficient scientific knowledge to make decisions at all. They described the amount of wildlife they had seen with wide eyes, arms thrown out, exclaiming about the number of dugongs, dolphins and turtles that inhabited the area, and how they had even seen a whale and her calf playing in a deeper section of the gulf. Another talked about having been diving off the back of the Ningaloo Reef and simply coming upon a whale shark swimming nearby. Each story involved an emphasis on the particular experience of having encountered something particularly special in the wild, often in which the narrator felt they connected in some deeper way with the animal, such as making eye contact, or

swimming together in the same direction without scaring each other off. As the narrator attempted to describe feelings of awe that, in Nathalie's words, were 'impossible to put in words without doing an injustice to the memory', the others at the table made facial expressions and sounds that conveyed their sense of the, excitement, and jealousy, exclaiming they wished they could have seen it. Others then began to add stories of their experiences of close animal encounters near the Gulf. Their excitement and sense of cohesion can best be described from my field diary entry that night.

> [...] At this point of the conversation [swapping narratives], it was Karen who began it with her story of having a mother and baby whale come right to the boat. The point of the story seemed to be how the whale had swum alongside with her eye out of the water so as to look directly at them. Then Felicity (Flic) picked up the silence with a story about how she had shared a wave with a dolphin while out surfing. It became almost like a match of who could provide the most extreme animal encounter story [...].
>
> I was mostly ignored (or forgotten?) during the start of this storytelling until I found a quiet pause in the conversation to add my own stories about the seal who found us while out snorkelling at Little Island and demanded we play with him... Once I had contributed this story, from then on I was drawn into the conversation. The others started making eye contact with me while telling their own stories when they had not been doing so before. By making eye contact at particular points of the story with me and the others in the group, they particularly sought affirmation when trying to convey the intensity ("clarity" as Dan called it) of the emotions in their encounters, particularly when they emphasized their inability to put the intensity of the experience into words. Susan, sitting on my right, kept nudging my arm when someone said something funny. They asked me what leisure activities I do, and made offers to take me out with their trips. I could feel what I can only describe as "warmth" of sharing these stories.

The discussion had ceased to be about the dispute, and had turned into a moment of recollecting and sharing special stories. Yet these story-telling moments, in which I found myself involved on a number of occasions throughout fieldwork on various subjects involving intense emotional experiences in the environment, had a purpose

other than simply wanting to share a special moment. The performance of these narratives also demonstrates the narrator's embodiment of the conservationist ethic. That is, these stories always involve the emphasis on the intense emotional connection between the person and nature, in which the personification of the animal or region is accepted simultaneously with its perceived need for freedom and protection. These stories then show the actor as the kind of person who *can* see and appreciate the experience for the special and rare occasion that it understood to be. In short, they showed not just that they cared, but *how* they cared. Although this was certainly not the only means by which one may gain acceptance into the group, it was certainly a means through which the longer term members were able to continuously re-establish their own belonging to the group and the environment.

In Chapter 4, I described a similar example in which knowledge of wilderness was gathered by pooling together shared stories and information found through research for the specific points that were raised in the ERMP document. These more formal fact-finding meetings became much more technical over the months of planning their responses to the ERMP, which is a common occurrence within environmental dispute (see Choy 2005, Fischer 2000:124-148). The language therefore became much more technical, expressed through scientific terminology, and descriptions of their personal experiences were expressed without specific reference to their emotional responses to it. The importance of these stories, though, was in the creation of local knowledge. They demonstrate that the gaining of knowledge is more than simply a cognitive experience. Neither is a personal experience solely personal. It involves the excitement of discovery, the physical difficulty of many activities involved in experiencing wilderness, the connections made with other experiences, and interpreting these experiences in a way that corresponds to personal and shared beliefs, values, and practices. Importantly, it also involves the sharing of it with like-minded people, many of whom are, or become, friends, who tend to interpret the world in a similar way, and who *care* about that knowledge in a similar way. Through the performance of these relationships of particular ways of knowing and caring for the environment, others were drawn to join and remain in the group. In this way, the purpose of the group was similarly defined. The conservationists therefore acted upon these ways of knowing, and trusted others' judgement that these particular ways of caring were the most appropriate forms of conservation in practice.

The emotional and spiritual side of knowledge is therefore a vital component in the conservationist worldview. Despite their attempts to remain unemotional, when speaking of the environment or community as a whole (as opposed to discussing technical aspects of the development), the conservationists argued for this way of knowing the world in an obviously passionate way. Throughout the dispute, the knowledge produced and performed by conservationists therefore become strongly associated with lay, emotional and 'feminine' *beliefs* and *values* rather than objective knowledge, despite their frequent use of positivist language and scientific knowledge (See Harcourt 1994). Yet, it was precisely these emotional knowledges and ways of knowing and being in the world that gave the conservationists a shared sense of what they were ultimately fighting for. The fact that others shared this knowledge gave them confidence to assert these beliefs, values, and knowledge when debating them with the developers. However, it was also precisely their confidence in this obviously emotional connection to nature that the developers disputed vehemently, labelling them irrational and in need of 'listening to reason'. Before examining the ways in which conservationists and developers conceptualised the rational and the irrational in the formation of knowledges, I will first present the ways in which the developers' similarly experienced positive and motivating emotions that gave them the confidence in the legitimacy of their own knowledges over that of the conservationists.

Developers

For the developers, the experience of excitement, anticipation and confidence in the dispute was based in their work as engineers or project managers, who had developed sufficient technical expertise to have earned them the opportunity to work on what they saw as an innovative project. It is widely assumed that the technical knowledge and the decision-making required to construct develop the physical mine do not have any relationship to emotional choices. To the general public, it is considered a purely technical enterprise through which the technical experts (developers) make decisions based on the requirements for efficiency, safety, and financial viability (Bridge 2004). This intimate relationship between abstract technical knowledge, capitalist forces, and market-based decision-making processes is therefore regarded as purely rational 'fact', which bears no relationship to emotional and irrational beliefs and values (see Barbalet 1998:58, Heatherington 2005:145). As I discuss here, though, the design of the mine, the commissioning of various components, and the challenge of reaching a standard

acceptable to both the Australian legal system, and their own values, required the developers to have significant belief and confidence in their own knowledge, and confidence and trust that their knowledge must be as correct and reliable as could be expected.

Although the developers themselves consistently argued that emotion held no place in the dispute, they were not shy about showing their enthusiasm for their ability to be a part of the project. Steve (15 December 2006) said during a phone conversation that he was particularly proud of being able to be a part of the project right from the very beginning phases, which involved finding the correct geographical location, and designing the mine based on what 'the environment gave [them] to work with'. He said this was an excellent opportunity, both professionally and personally, to increase your experience and knowledge. In a different interview at the company's Perth offices (March 9 2007) Ian said that working on the design of a project

> Gives you a real perspective. [...] On what it will look like. You can [...get] a real feel for it in a way you don't get when you come in to a project later once it's commissioned and operational and you're there to keep things going or fix something or what have you. [He says jokingly] It's basically our brainchild.

Although emotion was not believed to play any role in the making of actual technical decisions, the developers often acknowledged that their work sometimes brought satisfaction and pleasure from what Steve (15 December 2006) called 'a job well done'. This positive reinforcement of one's work also came from the experience of overcoming particular technical problems of design or construction, as in the following example of Ian's role in overcoming a design issue.

One morning, after a community meeting (7 December 2006), I joined the developers for breakfast before they left Exmouth for Perth. Over breakfast, Ian and John were chatting about the difficulties associated with commissioning the manufacture of a particular type of pipe. When Ian realised I was listening, he took up the subject of risk, which we had discussed the evening beforehand. He said that these difficulties were a part of the job that he enjoyed, as it took a significant amount of patience and technical knowledge to sort out the design problems and commission the correct type. He explained how their design of the system was far superior, and therefore both more efficient, and safer than others in similar projects where they had experienced safety or

technical problems. For example, the pipe the supplier had suggested to him was expensive, and was not made of the correct materials for the job. He had therefore insisted on a type of pipe that was less expensive, yet he believed was not likely to fail, even though it was not in the list of suitable materials in the contractor's company's process manuals. For him, solving these kinds of difficulties in his job was a source of great satisfaction, not only because he played a significant role in such a large project, but also because it gave him the opportunity to design it using safer materials, safer processes, and more efficient and environmentally sound technologies of production. It also served as a confirmation to him of his professional expertise and experience. For him, he saw this role as providing 'one of the most sustainable forms of production you could ever have' in a landscape that he had spent many years coming to know and enjoy visiting, with the prospect of making significant economic gains for the company and for society. John confirmed this by turning to me and saying jokingly 'yep, the team know their shit'.

The developers' excitement as expressed through these interactions was palpable. Their confidence in their excitement (as the right emotion to be feeling) was supported both by their colleagues and development discourse as a whole. Yet the ways in which emotion could be expressed in this regard was tempered by expectations about how those in industry should behave. The developers tended to downplay their emotional involvement in their projects. While they admitted their pride in their work, and the excitement of being involved the process of designing particular aspects of the mine, they tend to articulate this in very modest ways. Any emotion that was expressed in a serious or fervent manner was quickly downplayed by a joke. They would often preface emotional statements with 'it's just a job, but if you have to work, it's pretty good' (John, 17 May 2007), or 'there are interesting bits, but it's really all about making money'. As a result, they are downplaying their feelings through re-emphasising the rational purpose of their involvement in the dispute. By doing so, they are also conforming to the expectations of emotional comportment in performance of masculinity in market-based enterprises. This must involve a distancing of oneself from irrational or emotional decision-making, since it emphasizes the importance of rational, logical, and purely knowledge/evidence-based assertions.

Although this is a predominant emotion-rule, there are, of course, many exceptions to the rule (Satterfield 2002:139). This point is exemplified in the developers'

management of their colleague, Ian. Ian's emotional engagement with the conservationists, as well as his openly emotional statements about wilderness and the local environment, often appeared to be the subject of some consternation for his colleagues. During interviews, some of the developers suggested I talk to Ian about emotion, as he tended to be a bit more 'emotional' about things. I also regularly heard them admonish him for becoming too personally involved in the dispute. Compared to Ian's frequent emotional outbursts, usually brought about by frustration and confusion (which I describe in the following section), the other developers put significant amounts of energy into *not* engaging emotionally with conservationists. They were careful to always maintain an expressionless face while speaking with them, they insisted on using only technical knowledge, and they usually answered emotional questions with deliberately rational and technical answers unless they were asserting the importance of development to the economy as a whole. This emphasis on rationality only frustrated Ian more, because in some respects, he could see that the dispute was being waged on an emotional level, and he saw himself as emotionally attached to the local environment in a similar way to the conservationists. However, to admit to these emotional values would be to admit defeat, as the credibility of the developers' position as holders of rational, unbiased and carefully considered technical and environmental knowledge was at stake. While the expression of positive emotions experienced within the context of every-day work was acceptable, and subtly reinforced, the developers were careful not to over-emphasize them, and to maintain a more passive stance in public so as to maintain their professional credibility (based on rationality and technical knowledge). To lose professional credibility was also to lose their powerful position as the producers of the knowledge that would be used in the decision-making process.

Through a general expression of shared emotional attachment to the project, and (a general) conformity to the masculine ideals of emotional and rational expression in the dispute, the developers were able to maintain a sense of trust within the group which they presented as a near united front to the public. Their confidence in their own role and abilities, combined with the cross checks of others' work, gave them the confidence to trust in their team's technical abilities. Yet the way they came across to the public, through ostensibly dispassionate, restrained, and technical discourses made them appear as cold and overly rational, to the extent that the conservationists often accused them of caring about nothing but money.

The sharing of group discourses and narratives in this way had an integral role in the development of confidence and motivation within each group. One important aspect in the definition of emotion to this thesis is the idea that emotions motivate. Solomon (1984:249) defines an emotion, or 'affect', as 'a system of concepts, beliefs, attitudes, and desires, virtually all of which are context-bound, historically developed, and culture specific (which is not to foreclose the possibility that some emotions may be specific to all cultures).'[18] Barbalet (2002:1) offers a similarly broad description of emotion as 'the experience of involvement', or rather, an experience that elicits positive or negative responses, which *matter* to the person. Barbalet's emphasis that something must matter to a person is an important point, as it is emotion that is assumed to underpin motivation (Milton 2002:92-3, Turner & Stets 2005:290). Put simply, for a person to be sufficiently motivated to act, they must *feel* something for it. Therefore, for an emotion to be understood by another, there must be some shared understanding of what matters to the person in that situation. It is this emotional connection through a shared understanding of what matters that is critical in motivating a person to act. Therefore, in the context of the Exmouth Salts dispute, the experience of confidence in one's own knowledge, and sharing this confidence and trust with others, developed strong positive relationships between the members of either group. This tended to be both consciously and unconsciously policed through the regulation of one's emotions based on the emotion-rules that have come to exemplify particular groups (Satterfield 2002:140)

As Barbalet (1998:82-3) argues, confidence is a highly motivating emotion because it provides some form of self-understanding. Without self-understanding, action cannot occur (Barbalet 1998:82). However, a person's confidence in another person is based primarily in belief, or *trust* in the other's ability to interpret, act, or frame particular problems in an appropriate manner (Barbalet 1998:84). As a result of dispute, the beliefs and knowledge of each group were constantly under question, which therefore

[18] The term 'affect' is generally used interchangeably with emotion across disciplines (Fox 2008:346). It is used to encompass the terms emotion (encompassing emotion arising from reaction to the environment), emotional schemas (conscious cognitive appraisal of an experience), feelings and moods (short term experiences of emotion) (Izard 2007). The distinction between these concepts remains disputed, and arbitrary. A discussion of these distinctions is not relevant to this research, and so for the purposes of this thesis, I use emotion only.

created a heightened sense of awareness of their attachment to these beliefs and knowledges that they felt confident to defend.

Negative emotions: emotional rationalities and reasoned emotions

While the positive emotions experienced in the dispute were firmly associated with the interactions between members of a single group, the interactions with their opposition engendered only strong distrust. This was expressed through antagonistic, and often highly emotional arguments. In the Salts dispute, much of this tended to play out through these emotion-rules, which were supported by widely-held assumptions about the typical social categories associated with the opposing groups. One of the main discourses of emotion in the dispute was the distinction made between rationality and emotion, which was used and manipulated in the assertion of power to legitimate certain knowledges over others (albeit in a less overt manner that was not always recognised by participants). Often, this was done through implicit references to the age, life experience, and gender of their opposition.

The final SRG meeting that I attended (7 June 2007), was perhaps one of the most revealing. The attendance rate at these meetings had declined steadily, and the only attendees at this meeting were three representatives from the conservation group (Susan, Karen, and Jessica), one Indigenous representative who represented her family in Carnarvon, and one older community member who stated a personal interest. At this much smaller meeting, the developers presented a radical change to their proposal, which would halve the size of the initial phase of the mine. Nick, the current project coordinator who was running the meeting, said that they would only apply to expand the mine to full capacity (and thereby being required to clear the same amount of mangrove and algal systems as in the current proposal) after the community had grown used to the smaller capacity mine. As the conservationists looked at him with undisguised expressions of shock on their faces, Nick finished his proposal by saying,

> this is in accordance with advice we have received from our advisors, as this would be a much more acceptable and appropriate scale of development. Once we are fully operational and prove the absolute safety of the project, and the community is satisfied, we will then commence the process of application for full capacity.

Before Nick had the chance to ask for questions, the conservationists retorted immediately once he had finished this last sentence. Karen said in a sarcastic tone,

> So, really nothing has changed but your PR statement?

Nick replied,

> Well yes, it has actually. What you see as an environmental impact would be significantly less with this, and it gives the community time to come to terms with the development and what it will really be like once we become fully operational.

Karen, whose face had gone red and was breathing heavily, tapped Susan on the leg to tell her to take over the argument. Susan responded with,

> Well I don't see how it does. So you build the first stage now, and you wait for a while to build the final stage, but the first is operational straight away? The result... [she shakes her head as if to find something to say] nothing changes. Maximum operation in 30 years time - it will *still* be the same as if you started the whole thing now.

Karen, who was even more visibly upset now, said

> How *does* this change things then?

Nick replied more slowly, and with a deliberately forced clarity in his articulation that is generally used for speaking to children,

> Look, if you just take a while to think about it and be reasonable. You'll see, this really is the best way to go. We believe that once everyone gets used to us being here, you will see that it won't be the big problem you think it is.

The developers appeared to be satisfied and confident with this argument. Nick looked to Steve, and Steve nodded slightly in acknowledgement. Nick then looked back to Karen and Susan and walked forward towards their table, which meant he looked down on them, his eyebrow raised while waiting to see if they responded. The three women looked straight back at him from their chairs, back straight, eyes narrowed and eyebrows furrowed, except for Jessica who had one eyebrow raised in a sarcastic look.

Although they each expressed a desire to make a retort, none of the conservationists could express their anger or frustration without appearing more irrational.

The accusation of irrationality, or acting on the basis of emotions only, is common in environmental dispute (Milton 2002:4). Over the year in which I was involved in this dispute, this antagonism created such extreme opposition that by the time I completed fieldwork, members of both groups had ceased smiling and/or greeting each other at the beginning or ending of meetings, no small-talk was exchanged between members of either group at any time, and instead of discussing points, every topic raised was immediately countered with an opposing argument before they gave any consideration of its content. As I have shown above, the conservationists saw the developers' consistent approach to promoting the importance of economic and industrial development as narrow-minded, short-sighted, and irrational in itself. The degrading relationship between the two groups was played out largely through accusations of rationality and irrationality, in which both groups consciously and unconsciously used social differences such as gender, age, and work, to discredit the other. In doing so, both groups displayed a complete lack of empathy towards the opinions, values, knowledge, and behaviour of their opposition. The lack of empathy led them to seek support from members of their own group, further generating confidence and trust in their own knowledge and world view.

When I went to join them at the end of the meeting, Susan, Karen, and Jessica appeared shocked. They were anxious that the proposal might appear to be a more rational, and therefore acceptable, way to proceed based on the current environmental knowledge, although they did not believe it to be true. Susan, who was almost in tears, said that she did not know what they could do anymore, saying 'huh, what *was* that? What the hell do they think they're playing at. *Idiots!*' Jessica said 'I just don't know what to do, this is impossible to get back ... its so illogical I can't fathom what...[trailed off with a look off bewilderment and frustration and then gave up by throwing her arms in the air]'. Karen was visibly angry, and she said

> Argh, he [Nick] was standing there like a lord, and all I could... my heart beat like a race horse and I am just fucking so pissed off! I couldn't think!

We nodded sympathetically and she continued;

> I just can't understand how they can be so fucking calm and, [gesturing with her arms out to the side, and then bringing her hands to slap her forehead, physically signal her frustration and emphasise what she was saying] oh god so bloody patronizing about the widespread destruction of a unique habitat. ...they're people, they must feel. It's like, even if nothing fails… there is still 400 something square kilometres of land that will be blocked off and destroyed in order to build this thing. It's like, do they *feel nothing*, those *fucking idiots*?

The conservationists laughed at Karen's highly unusual outburst, yet this did not lift their obvious sense of despair. They left within five minutes of the end of the meeting, and without sharing the food and drinks that the developers put on after each meeting (which they normally did).

In each of these encounters, the conservationists emphasised their feeling of helplessness and ineffectiveness. They described that within these interactions, they felt anger beyond anything they experienced in everyday life. During interviews, and directly after the encounters as I described with respect to Patricia's experience above, conservationists reported that they sometimes felt blood rushing to their heads, saw 'red', or felt an urge to physically lash out or to cry or scream. Often, they saw their only choice was to stay quiet or leave, as any display of strong emotional backlash would cause them to lose their credibility within the eyes of decision-makers and the general public. On several occasions, Lauren strongly resented how the developers managed to make her 'feel like a child' while engaging in a similar argument (10 June 2007). She said in this interview, 'they treat us like imbeciles', with 'less respect [for her opinion] than I pay my own child'. In particular, she said she was particularly frustrated with the developers' constant refrain of 'be reasonable', saying 'he is the one being unreasonable by not listening to a single word we say'. Most revealing was a discussion with Patricia a week after her encounter with the developers at the Whale Shark Festival (14 May 2007). She said 'I was so close to crying right in front of them ...but that would have just given them ammunition.' I asked how, and she replied 'Ammunition as in.... [long pause] you lose credibility. You'd lose respect. It's not fair, but it's what happens'. By crying, she felt she would lose any sense of power and legitimacy in future interactions with the developers, as she would be forever considered 'emotional', rather than in possession of rational or objective fact.

What is clear in the above interaction is the strong sense of divide between emotional and rational ways of knowing and being. In the previous chapter, I focused on the pervading Western ideal of rational knowledge as the only accepted 'truth' in the decision-making process, completely separate from emotional attachment. I argued that, as a result of the Cartesian split between mind and nature, knowledge tends to be understood as a kind of 'mapping' of the physical world as it exists outside of human social constructs. Science, and the supposed value-free nature of scientific research methods, is therefore the only reliable way to arrive at the 'truth' of the world. To represent knowledge as truth, therefore, it must similarly be articulated through scientific terminologies (Choy 2005). The result is the widespread belief in the separation of knowledge and emotion. This stands in direct opposition to my discussion above of emotion, in which emotion is commonly understood in academia to act as a primary motivator of action. What role, then, does rationality play in the experience of emotionally driven motivation?

The term rationality is often used in very broad terms to encompass a number of different, although ultimately related meanings (Anderson 1996:105), which can be loosely divided into economic rationality (Diesing 1962:3) and as oppositional to emotion (Anderson 1996:105-6, Milton 2002:130). Economic rationality, in the Weberian sense, is based in the pursuit of efficiency through pursuing the 'optimal means to achieve a goal' (Wallerstein 2004:273) and is the basis of the Scott's (1998) concept of high modernism that formed the basis of development discourses that helped to shape the dispute.

The other related form of rationality is that which is believed to have developed with the growth of the capitalist marketplace and the resulting social changes (Barbalet 1998:58). That is, emotions came to be seen as the 'natural', 'animal' and 'uncontrollable' side of the human condition (De Sousa 1990:4), while the ability to think, learn, and to take responsibility for ones choice of action was seen as the rational ideal (Barbalet 1998:33). The result is a distinct dualism between nature and culture, in which humans experience uncontrollable emotions as a result of the body, which must be 'tamed' by the conscious application of reason and rationality in order to make them acceptable (Weber 1968:25, quoted in Shilling 2002:23). The public representation of knowledge therefore requires the performance of it as rational, transforming 'passionate' knowledge into a cold and dispassionate delivery of 'fact' (Anderson 1996:112, Milton

2002:134). In other words, a person is supposedly stepping away from their personal interests in a matter, and *being reasonable* (De Sousa 1990:5). While rational thought and action is considered appropriate in the realm of the market, it may also have the effect of portraying oneself as 'uninvolved [...or] alienated' (Lutz 1990:56). In particular, some areas of social life are generally believed to remain outside of the market place, such as family, leisure activities, or aesthetic appreciation of beauty (which can include wilderness). In short, anything that is seen as having an intrinsic value (in and of itself) is understood to be incompatible with utilitarian economic valuation (Jacobs 1997:211, Milton 2002:134-5, Mitchell & Carson 1989:60). To be emotional within these domains is not simply acceptable, it is expected. In disputes in which places, beings, or objects are contested on the basis of both intrinsic and economic worth, the imagined divide between market and non-market interests, emotion and rationality, and irrational belief and reasoned knowledge, are significantly challenged.

When the developers appealed to the conservationists to 'be reasonable', or 'think rationally', then, they are making a subtle, yet very powerful, distinction between themselves and the conservationists. The conservationists, predominantly young women, must be tolerated because they have not yet "grown up" to become *productive* members of society. Instead they were seen to be still in an 'idealistic phase of life', which would apparently end once they 'grew up, got a mortgage and realised their kids needed to have jobs too' (Ian 7 June 2007). Ultimately, the developers saw themselves as having the most rational, and therefore correct, way of understanding the importance of economic growth, even if that entails some compromise with wilderness values. Their intelligence is equally being questioned, as emotionality is seen as being oppositional to thought, in particular, rational thought, similarly to the participants in Heatherington's (2005:146) study.

Despite this, the conservationists did not see themselves as being irrational at all. Although they certainly understood their positioning as 'irrational' in the context of the dispute, they maintained that their knowledge was entirely legitimate, and based in both extensive local experience and scientific ways of knowing. They saw themselves as taking a 'reasoned' approach to the question of development. While they knew the economic importance of the mine in the same way as the developers, they also knew that the economy would not collapse if the mine were not built. This left them room to

question mining activities in the region more broadly, and the impact of *all* mining activities. It was not only this one development that could impact negatively upon the environment and the community, but the cumulative impact of all developments. They thus saw themselves as promoting a holistic reasoned approach to human-nature relationships, rather than the technical or economic rationalities that were generating such widespread environmental problems. Fischer (2000:132) identifies this as 'cultural rationality', which 'is geared to – or at least gives equal weight to – personal and familiar experiences rather than depersonalized technical calculations'. The opinions of peer groups and the global environmental movement as a whole therefore provided a framework through which to create a much more localised rationality.

When the conservationists had left, I went over to join the developers, who were now eating the food while discussing the way the meeting had gone. When I walked up to them, Steve asked me to tell them how the conservationists had taken it, noting with a small laugh that they did not look pleased. He added 'there is just no pleasing them [the conservationists], they won't be happy until we're all living in caves'.

> I don't understand their questions. They don't have their facts straight. ...That environment is bloody hardwearing, it's not going to blow away with the afternoon breeze…the idea the mangroves could drown is just stupid. They're just not being rational.

I asked what makes these concerns irrational, and he replied,

> You see, we look at this situation in terms of risk. A basic risk assessment. Like this – in layman's terms [draws an equation on a bar napkin: '*Risk of impact + Risk of occurrence = Risk*', while explaining] Risk of negative impact plus expected outcomes of impact on environment equals overall risk and outcome of something happening. So, even if the impact of a toxic spill might be huge, the actual risk of something happening is so small that we don't calculate it… it's like what do you get when you multiply 5 billion with 0? You get 0!"

I suggested it could be because the conservationists might see the possibility of human error, and Steve retorted, wringing his hands,

> But that's... we design it so that doesn't happen. It is *totally irrational* to think the way they're thinking. The science proves it will be okay! I mean, they eat, drink, live in houses, drive cars and god knows what, someone has to mine this stuff to fuel that lifestyle. One day they might wake up to that, we can't survive without industry. They [pause], we've got a prime foothold in the global economy with our primary industry, and we're a part of making that happen, and what are they doing? worried about some… turtles that will probably be extinct in a few years anyway!

Yet, only a few minutes after making this exclamation, he continued to discuss how much he loved visiting Exmouth and exploring the wild landscapes.

In their own minds, the developers had incorporated highly sustainable and safe design practices in their work, thereby doing what was possible to both save money and protect the environment in a capitalist arena. It is also clear from what I have presented so far in this thesis that, to varying degrees, the developers cared about, and came to know the environment, in similar ways as the conservationists. They had rationalised environmental ethics and the laws that govern the design and production of mining, into a sustainable development. The developers, then, appeared to be making the concept of environmentalism and sustainability into a rational concept, and from their perspectives, they had the technical ability to marry sustainable practices with the economic demands of a capitalist arena. They could not empathise with what they saw as the purely emotional, and therefore not as knowledgeable, worldview of the conservationists.

Conclusion

The ways in which emotion and rationality were imagined and incorporated into the dispute by the opposing groups varies greatly. The conservation group consciously relied on the elicitation of certain forms of emotion, both for attracting activists to join the group, and in attracting supporters for their various activities and causes. They saw themselves as fighting against the 'short-sighted' (Susan), 'calculating' (Karen) nature of rationalised capitalism that was pushing development into remote and wild areas in Australia. They perceived the purveyors of this process (development companies) as being intent on development, disregarding the communities, the environments, and even the future, in the sense of how it may be affected by such development in general. While they supported the pursuit of rational and value-free scientific knowledge, and an

emotion-free arena in which to make important decisions over the future of human-nature interaction in the region, they also believed that a significant value of their environmental knowledge was the intrinsic aspect that they felt defined who they were. On the other hand, the developers did not see any aspect of their work as requiring any emotion at all. Emotion did not have a place in either their work in designing the mine, in the environmental or community assessment, or in its promotion to the local community as a whole. To them, it was clearly about basing their work on pure fact, which would then translate into a working mine site. Ultimately, it was about making money for a company, earning their wages, and trying to do a 'good' job in the process. However, as can be seen in the excerpt at the beginning of this chapter, the developers found themselves doing 'emotion-work' on a regular basis in their interactions with the community, as did the conservationists when interacting with developers. No participant that I worked with in the dispute saw emotion as having a role in knowledge, and while they recognised the heightened emotional reactions in the meetings, none that I interviewed believed that they should play a role in the actual decision-making process. Instead, they saw that emotion should be 'set aside' while debating the scientific and economic facts of the case. Nevertheless, each group *knew* that they were *right* in their beliefs that the mining proposal posed either an acceptable, or unacceptable, risk to the environment. Furthermore, they *knew* that science would ultimately support their cause.

Uggla (2004:53) argues that a successful resolution of dispute requires that participants are willing to reason through the issues. This requires both parties to actually listen, empathise, and adjust one's own thinking to at least acknowledge the views of the opposition. Within a dispute characterised by schismogenic conflict, compromise is only attainable if both parties simultaneously wish to do so at the same time. Otherwise, one party's compromise becomes their opposition's gain. The Exmouth Salts dispute was, as Uggla (2004:53) describes, 'a conflict between two parties with divergent classifications and core ideas; arguments appealing to reason, which are compelling to one party, will not convince or even make sense to the other party'. In this way, while both developers and conservationists may have held many very similar beliefs, values, and knowledge regarding the environment and wilderness, the strength of their confidence and belief in the legitimacy of their own technical knowledge had generated very different ideas about what was an acceptable way to interact with, and conceptualise the environment. The assertion of their specialised and localised

knowledge was generally disputed through the self-regulated emotional-rules that provided a framework for acceptable forms of emotion, rationality, and reasoning in particular situations in the dispute. Further, I argue that the confidence in the legitimacy of these assertions came from shared emotional connections with other members of their group.

What is particularly interesting from this case study is the ways in which the dispute may take on either complementary or symmetrical forms of schismogenesis when different actors engaged in the dispute. In Binde and Boholm's (2004) study of a dispute between planners and local activists in Sweden, complementary schismogenesis occurred when the planners maintained rational, technical arguments against the emotional arguments put forward by their local opponents. Neither group would engage in the arguments of their opposition, which reinforced the ever-increasing gulf between the knowledge and values of the local activists, and the technical knowledge produced by the planners (Binde & Boholm 2004:175). This process certainly occurred on many occasions in the Exmouth Salts dispute, which I have described in the chapter above. Yet it was not always so straightforward. The two developers, Ian and Steve, were more openly emotional than their colleagues about their enthusiasm for wilderness, as well as their involvement in the construction of the mine. When they led the discussion during stakeholder meetings, the dispute tended to be much more heated and obviously emotional. As a result, the strong emotions helped to reinforce the gulf between the supposedly more powerful technical knowledge over the less powerful emotional 'beliefs' of the conservationists. Although they attempted to maintain an 'emotionless' attitude in order to calmly discuss the rational 'facts', they also frequently engaged with the moral and emotional elements of dispute. Rather than always drawing on increasingly technical arguments, they would sometimes provide counter-arguments that depicted the mine as a moral good that would provide jobs and a stable economy that would improve and sustain the community. The conservationists also did this by becoming 'lay' experts in science and mining development, as described in Chapter 5. Learning the technical aspects of the impacts of mining enabled them to engage in a symmetrical form of dispute. When they found that asserting their emotional connections to nature resulted in a loss of legitimacy, they were able to regain a sense of power by learning and disputing the rational knowledge of the developers with alternative rational knowledge. In consequence, their counter-arguments altered the

usual course of the dispute by re-casting it into a symmetrical process of schismogenesis. By re-engaging in the dispute at the same level as their opposition, they were able to re-gain a sense of power and authority by showing they acknowledged their opposition's arguments, yet could provide alternative knowledge that would prove them wrong.

Although the results of this research support the view that complementary and symmetrical schismogenesis cannot exist at the same time, it shows that the shape and form of the schismogenesis may change significantly depending on the actors involved, their willingness to engage in the dispute in different ways, and their creativity in forming new arguments. The following chapter focuses on the ways in which the concept of morality was used and understood by members of both groups to support their cause. I also discuss how both conservationists and developers simultaneously questioned the moral commitments of their group, and the impacts this had on the knowledge produced through the increasingly oppositional conflict.

Chapter 7
Imagining moral futures

One morning in February (20 February 2007), I accompanied Susan to the park to discuss a Straits SRG meeting that had been held the week before. We sat on a bench, drinking coffee and watching her daughter play in the sand pit with another friend. We had just come back from an early morning on the beach monitoring sea turtle nesting activities. She was now preparing to spend the day taking care of her daughter while finding time to work on her part time paid job, as well as on a submission on behalf of the conservation group to oppose a renewed mining application to mine limestone in the region, for which we were also attending a meeting that evening. Susan apologised for being so tired and being unable to think straight while answering some of my questions. I asked her how she found the energy to continue her work and family life while also being a very active member of the conservation group. She replied that she did it for her daughter. When I asked her to explain, she said,

> I never really got it like that until we had a baby. She's totally dependent on us and it... if I really stop to actually think about it... it breaks my heart to think she might not get a chance to experience the world like it should be. I know people who say we shouldn't have kids because more people just adds to the overpopulation problems we have already, but I see it more as – if we bring our kids up to *care* about the world, then the world will be left in good hands. When you look at it like that you just have to think, well this makes me tired now, but it must be worth it if we can set a good example to the rest of the world in how to manage a world-class reserve. I guess I want to be a good example of what that means for Lotty [her daughter].

Susan had been a very active participant in conservation activities both in Exmouth and in other towns and cities in which she had lived and worked. For her, having a daughter made her feel like all of these activities were 'just a bit more precious.' As she put it, 'I feel like I have to do what's right for her now.'

Two months later (6 May 2007), I was conducting an informal interview with Ian and Steve while they were in Exmouth to attend the Whaleshark Festival. They began

discussing the topic of protecting the environment for future generations, which Steve had raised himself in response to an environmental campaign leaflet he had seen in town that morning. Steve, who was usually reluctant to make any judgement against anyone who was involved in the dispute, said [describing the leaflet]

Steve: That really yanks my chain![makes me mad]

Erin: How?

Steve: How do they know what will save future generations? Not wanting to offend anyone but they really don't know what they're talking about. It's all well and good to go bandying about saying we should preserve the environment for our kids so stop the mining. I've got kids too and I can tell you I want them to have every chance to lead fulfilling lives as well as the next person.

Erin: Why don't they know what they're talking about?

Steve: There's no purpose to it. No outcome.

Erin: What do you mean?

Steve: Okay, of course the environment is important, but *really*. Are we to eat grains and live in grass huts all their lives? Kids need to grow up and have education and find a job they can be proud of. Because... they're saying "let's save the environment" *by* putting a stop to this or that development. I've never seen a "let's develop this so we can save the environment". These groups all say that they support *some* development, but I'm yet to see them *actually* come out and support something. God, if we did what the environmentalists wanted we'd be a country with sky-rocketing debt and unemployment. They're probably too young to remember the '90s crash[19], but it wasn't pretty. No one should have to live through that if we don't have to. If we stop development altogether, well that's just impossible and a totally insufficient argument against development [long pause]... When you've lived long enough to see

[19] Referring to the economic downturn of the 1990s.

> things like that, you realise that it's a bit more complicated than chaining yourself to a tree.

For both the conservationists and developers, looking to the future was an important aspect of the ways they understood their role in the dispute, as well as the ways they conceptualised the importance of certain human-nature relationships. The conservationists saw themselves as fighting for a future in which human society had developed a sustainable economy based on nature preservation. Conversely, the developers saw the world in a more pragmatic way, in which economic development continued much as is was doing then, reliant on economic growth for maintaining the quality of life of a society. They saw their job as capitalising on natural resources in a way that sustained economic development until new resources were discovered.

Environmentalism as moral good?

Intimately linked to the concept of emotion, issues of morality consistently arose throughout this thesis as it played a highly significant role in the dispute. After all, the dispute took place because of divergent beliefs, values, and knowledges regarding what was the right way to organise human-nature relationships in the area in regards to mining development. Particularly prevalent was the idea of a moral future; the need to decide what is the right choice to make, and what a good future would look like. One of the most prominent aspects of environmentalist discourse is the focus on future generations, and what we, as a society, want human-nature relationships to look like into the years to come. Popular quotes such as 'we do not inherit the earth from our ancestors, we borrow it from our children', and 'our planet, our choice' evoke images of an environment that is completely reliant upon humanity for its survival (European Commission 2001). The elicitation of strong emotions is designed to motivate people into action against the construction of potentially destructive economic practices. Yet, as I have described in Chapter 6, this same focus on the future also pervades discourses of development. In this discourse, mining and development is integral to securing the future of society. Both the economy *and* society in Australia are often depicted as utterly dependent upon the continued growth of the mining industry. This is often promulgated within media and public relations material (such as Australian Mining n/d). For example, in his study of mining ideologies in Australia, Trigger (1997:164) quotes the premier of the State of Queensland, who announced in a speech heralding the

development of a new mine, ‘it is really a question of how we as Australians really want to see ourselves, how we want others to see us, how we want to be remembered’. Within both environmentalism and development discourses, securing a sustainable future is a priority. However, there remains no definition of exactly what a ‘good’ sustainable future might look like. As a result, the participants in Exmouth Salts dispute had to negotiate the global and local structures that defined the moral positions of the groups to which they belonged. They therefore created unique localised discourses of moral values, which became increasingly polarised through the schismogenic process of the dispute, through which distinct boundaries between the two groups were drawn along the lines of moral and scientific ways of knowing the world.

In this chapter, I focus on the concept of morality as it was presented and re-presented through the dispute, and how particular ways of organising society within the environment were seen to promote particular kinds of moral or immoral societies. Over the previous chapters, much of my analysis has focused on how peoples’ experiences, beliefs and values regarding *nature* have shaped the production of knowledge in the dispute. In this chapter, I take up Fischer’s (2010:123-4) appeal for anthropologists to incorporate a more specific analysis of how peoples’ attitudes towards *other people* may play a role in their beliefs and values regarding environmental management decisions. Consequently, I pay particular attention to the ways in which participants conceptualised the idea of what a morally good society should look like in the future, and how they chose to espouse these values through promoting their own group’s beliefs, values, and knowledges of how such a good and sustainable future might be attained.

The first section of this chapter examines theories of morality that have been utilized in anthropological literature, and of how environmentalist and capitalist ideologies have been moralised. I use this as a background upon which to the present ethnographic examples of how the conservationists and developers applied their localised and technical knowledges to illustrate what would happen to human-nature relationships if the development were allowed to go ahead. I first focus on the idea of human society itself, and argue that conceptions of ‘good’ and ‘bad’ human moralities are intimately tied to notions of healthy and unhealthy environments. I then examine how these moralised human-nature interactions were incorporated into their counter-arguments within the dispute, and are used to define very clear boundaries between the two groups

based on moral values. Finally, I shift the focus towards the more private and personal reflections of a number of participants as they questioned these moral boundaries. Through these rare moments of questioning the discourses they had spent years representing, I show how they imagine alternative interpretations of the outcomes of particular practices (such as 'would the mine really destroy the environment?' Or 'what would happen if human error did occur, and there was an environmental disaster as a result of the mine?'). Since these examples of personal reflections were often 'rationalised' just as quickly as they arose, they serve to provide graphic illustrations of just how strongly the defining moralities of each group were interconnected with the production of environmental knowledge and narrative.

Overall, I ask, what role does the concept of a 'moral good' play in the development of both the conservationist and development ideologies? How did this impact upon the environmental knowledges that were produced in the local example of the Exmouth Salts dispute? I argue that notions of moral futures became just as simplified and polarised through the process of schismogenesis as did each groups' beliefs, values, and knowledges of nature. As I show, the creation of divergent knowledges through the dispute came to be represented both as differences of technical knowledge, and differences of moral integrity. These moralities became defining indicators of a person's affiliation with either group in the dispute, which participants then used to justify their ongoing support for their particular group. Last, I will argue that the ways in which the participants came to know nature (as 'universal fact' and as personal experience) was significantly influenced by their moral beliefs and values about how they understood, and had developed connections with, their fellow human beings.

Moral knowledges: the individual and the collective

The word 'morality' was rarely explicitly raised by participants at any stage of my fieldwork. As can be seen throughout this thesis, the language and discourses that formulate the basis of a popular definition of morality were ever-present in all aspects of the debate. Like all environmental campaigns, this dispute over whether or not the mine should be allowed to proceed was really a contest over the right ways for society to exist within the environment, and over who should have the power to decide the course of human-environment interaction into the future. I use the term morality as it is defined in classical philosophy as the confrontation of the question of how one should live

(Eller 2007:134, Lakoff & Collier 2004: 420, Williams 1985). Within society, morality can be as what Rapport (1997:74) calls 'a sense of righteous indignation' about those who stray outside accepted moral boundaries. Morality was absolutely central to the conservationists' and developers' formulation of their arguments throughout the dispute, both in their representations of knowledge, and in their associated beliefs as to what constituted appropriate management of human-environment interaction. An anthropological inquiry into how morality emerged in this dispute therefore allows a much deeper and richer understanding of both the construction of 'the self', of social process, and of knowledge production, 'enabling us to see the various ways in which new kinds of knowledge become culturally incorporated through debate about things that are seen as "good", or desirable, threatening or dangerous, and about hopes and aspirations of everyday life' (Redclift 2005:16).

The concept of morality in anthropology is as old as the discipline itself. Although morality has been largely overlooked as a discrete area of study, the majority of anthropological work has focused on aspects of the human condition that explicitly and/or inexplicitly encompass moral beliefs and values (Barker 2008:3). The later works of Emile Durkheim, such as his collection of essays entitled *Professional Ethics and Civic Morals* (1992 [1957]), are commonly drawn upon as some of the first anthropological work to directly confront ethics and morality as discreet entities, although still directly related to culture. As a structural functionalist, Durkheim conceptualised morality *as* culture (Eller 2007:140). He saw society as totally reliant on some form of shared values and normative moral codes that maintain a cohesive structure, which guide human actions and values in commonly acceptable ways (Durkheim 1992:1). Within this overall view of morality and culture, Durkheim saw the individual and society as inherently separate. As a result, the moral foundations of the individual were distinct, yet inter-related, to, the over-arching force of societal moral values, or in Durkheim's words, the *conscious collective* (1992:3). The function of shared moral codes was therefore seen to motivate action through the provision of a set of rules that operated as a shared objective standard, creating a structure that social actors are compelled to follow (Durkheim 1992:2-4, see also Hagens 2006:218-19).

Durkheim's views have come under heavy criticism in the past thirty years as anthropological notions of culture have moved away from structuralism towards more relativist critiques of culture. Firstly, the tendency to equate morality with all aspects of

social life has rendered the concept of morality virtually indistinguishable from the concept of culture itself; a pertinent issue that pervades many studies of morality in contemporary work (Robbins 2007:293). Secondly, his separation of individual and society is strongly critiqued, particularly in regards to the objectivity of shared moral codes that guide human behaviour. Strathern (1997:128) argues that the assertion of a person's agency is a 'Euro-Americanism', which, as Jacobson-Widding (1997:49) points out, is based primarily upon a Western 'protestant ethic', based on a concern with 'individual responsibility, conscience and guilt'. Such assumptions underpin the study of morality in non-Western societies, which are often conducted upon the assumption that morality is, at least to some extent, universal (Bryant 2005:15, Hagens 2006:218-9, Howell 1997:7-8, Jacobson-Widding 1997:49, Marshall 1992:51, Redclift 2005:6). For Howell (1997:3) such a view also runs the risk of reifying cultures, producing representations of them as whole and bounded communities of people who share and, importantly, adhere to, the same basic moral codes that prescribe acceptable human actions and beliefs. The above criticisms are certainly valid concerns when analysing morality in a universal sense. Yet the relationship between the moral individual and the moral structures that constitute society is an important element shaping the relationships between the conservationists and developers in this research. For members of both groups, the moralities inherent within environmentalist and development ideologies tended to be represented as polar opposites, to which individuals could choose to adhere or not. Thus, they are also fundamental to the study of morality in this thesis as they underlie the everyday struggles of participants to make 'the right choices' within the highly pressurised and overly-simplified context of the dispute.

Shared moralities

In the anthropological literature, there is significant debate as to the extent that moralities can be understood within a structuralist account of society, in which external moral structures (sometimes called spheres), exist independently from the individuals who live within them, and who must negotiate each moral sphere as they encounter it (see Robbins 2007:298, 2009). This structuralist account relies on a Cartesian separation between the person and society, and is based upon the assumption that the moral actor *is* an individual; a conscious actor who has the autonomy to navigate everyday life through morally comprised societal structures (Jacobson-Widding 1997:49, Marshall 1992:51, Redclift 2005:8). Robbins (2007:294) argues that this 'freedom of choice... [is]

an essential criteria for determining what belongs to the moral domain.' The assertion of freedom of choice is therefore based on the assumption that the structure of moral codes within society, and their relationship to the individual, is of primary importance.

Zigon (2009a:255-6) argues that such highly structural views of the relationship between the individual and society do little to explain actors' individual experiences, or the intricacies, contradictions, and negotiations within or between these supposed spheres. Here, I use the concept of morality as it is produced through three distinct, yet inextricably linked aspects, which are identified Zigon (2009b:258:58) as institution, public discourse, and embodied disposition. Institutions, defined as 'those formal and non-formal social organizations and groups that are a part of all societies and that wield varying amounts of power over individual persons', is a moral institution in itself. Discourse is an integral aspect in the process of moralising subjects, and of interpreting moral issues as right or wrong in different instances. Redclift (2005:7) highlights the exchange of moral discourse as integral to showing how new kinds of knowledge are incorporated into social worlds, and how they generate a shared moral imperative within a group through the creation of moral boundaries. Embodied disposition, or habitus (Bourdieu 1977), is used by many theorists to conceptualise a person's individually, socially, and culturally constructed experiences of everyday moral reasonings, in which they encounter and negotiate the moral imperatives of particular institutions and discourses (Bryant 2005:17, Eller 2007:146, Humphrey 1997:43, Redclift 2005:7, Zigon 2009a:258).[20] Within this more relativist account, theorists have moved away from attempting to understand the rules of society, to understanding the embodied beliefs, values, practices and knowledges that inform individuals' *moral reasoning* (Howell 1997:8, Miller 2006:387, Zigon 2009b:84). In this context, morality is seen as a process that is continuously under renewal, and which is conceptualised and re-conceptualised through its performance in everyday life, situated within a web of often contradictory and ambiguous beliefs and practices, as well as politics, power, and legitimation (Marshall 1992:51). As I will show, people act and reason in a moral way through processing these embodied knowledges, which make the participants' own attempts at

[20] Although Zigon (2009a:260) sees habitus as experienced on a subconscious level, I do not make such a distinction in my research. Instead, I use this concept to understand a participants' personal experiences, which can only be understood 'as meaningful in the context of the particular sociohistoric-cultural world in which it is lived out' (Zigon 2009b:84), without necessitating the distinction between conscious and subconscious motives.

separating factual knowledge from moral value particularly difficult (see Howell 1997:11).

Moral Boundaries in Dispute: imagining moral futures

My research with conservationists and developers in Exmouth showed that the dispute resulted in the heightening of participants' awareness of their own moral values, which then played an important role in their justifications for supporting particular environmental knowledges while disputing others (see also Barker 2008:1). Although both conservationists and developers saw moral beliefs and values as prevalent, they tended to see moralities (like emotion) as a separate concern that should ideally be placed to one side while debating scientific fact. While they believed that their own group was relatively successful in doing so, they inevitably saw their opposition's motivations and arguments as entirely (and therefore improperly) based upon emotional and moral beliefs and values that defined the identity of that group. Here, I describe the ways in which the participants understood that a person's choice to be a conservationist or a developer was exactly that; a choice. Once a person had chosen to actively participate in one group or another, they felt bound to support and emulate particular ways of being, and if this became too hard, they felt obliged to leave (which I describe in the final section of this chapter). A conservationist could choose to support some kinds of development, as long these developments fit within environmentalist ethics of relying on the environment, rather than destroying it. Similarly, a developer could readily acknowledge the importance of environmentalist beliefs and values. Tthis was only acceptable insofar as these values did not interfere with the ultimate goal of creating an economically viable project, or with their superiors' stated aims for the project. As I argue, the dispute heightened participants' awareness of their moral values. In addition, by choosing a specific stance within the dispute, the schismogenic process also obliged participants on both sides to reaffirm their personal moral values that were aligned with the moral values of the group. The result was a distinct movement within each group to draw boundaries between themselves and their opposition along moral lines, and to actively 'conjure into being disparate moral rules and ethical conduct pertinent to human-nature interactions' (Satterfield 2002:149).

Environmentalist moralities

Having arisen in direct opposition to the perception that capitalist economies are the cause of most current environmental destruction (Kalland 2003:168), environmentalism is based on openly moral beliefs and values regarding acceptable and ethical conduct towards nature. Many of these have already been described through this thesis, including the conceptualisation of nature as fragile, yet grand and awe-inspiring, and which should ideally promote a desire to protect nature by leaving no trace of human presence in the landscape. To be a moral person is therefore to have one's own identity dependent upon the natural environment in which one lives and interacts (Davison 2008, Jamieson 2008, Milton 2002, van Wensveen 2000:23-5). Within this moral framework, nature, rather than society, should be understood as the superior force in the universe. Any action that is believed to contribute to this imagined future is understood to be a moral good. To the conservationists, the protection of nature makes rational sense, as in their eyes, it is the only way to avoid totally destroying the earth. Therefore, when developers or other local residents support development that is understood to place unacceptable risk to the health of the local environment, conservationists perceive them to be uncaring and immoral, willing to risk the future of humanity and the earth by destroying it for financial gains in the present.

One of the primary objections that the conservation group raised upon their discovery of the mining proposal was the sheer size and scale of the mine. The mine was seen to require enormous amounts of shipping traffic in the Gulf, enormous tracts of land and water from the ocean, and large jetties and facilities to cope with the scale of production. The developers initially advertised their project as the 'largest solar salt production facility in the world to date' (Ian, in discussion about SRG meeting, 11 November 2006). What developers saw as a marvel of engineering, the conservationists understood as the largest proposed scar on a landscape that is already under significant pressure from surrounding industry. Through the conservationists' informal discussions of the proposal, it becomes clear that this 'scar' meant far more than a visual blight upon their backyard landscape. Instead, they saw the gargantuan size of the mine as symbolic of the extent to which capitalist industry is willing to destroy the moral foundations of local communities and mine workers in order to produce wealth; the exact moral value that they were committed to fighting against. The extensive clearing required for the mine, and the anticipated environmental devastation would represent

both the physical degradation of wilderness around Australia and the world at the hands of greed, but also the moral degradation of those who perpetrated such violence. When talking specifically about the vast scale of the mine, it was almost always posited in terms of loss. It was variously described as 'unnecessary and disgusting waste' (Susan, 22 July 2007), 'pure, material greed' (Kieran, 15 February 2007), and 'soul-destroying' (Karen, 1 January 2007).

During a meeting held by the conservationists in order to address how the group could research and submit their response to the mining company's Environmental Review and Management Plan, which I outlined in Chapter 5, Katrina announced that she had sought advice as to what concerns they should submit. She said that while the environmental aspects were important, their main focus should be on their concerns about the social changes that would occur with mining in the immediate vicinity. She argued that mining would place dramatically increasing pressures on the already struggling public facilities such as school and hospital. The cost of living would rise even further with the mine workers' 'ginormous [gigantic-enormous] pay-packets' able to buy what local residents could not afford. In her depiction of this future township, the risk posed by mining was not simply economic. She argued that 'the cost to our community would be even greater' as a result of a significant shift in the 'culture' as a result of a rise 'anti-social' behaviour such as drug-taking, violence, prostitution, and petty theft.

After the meeting, I talked about this aspect of their opposition to the mine with a conservationist called Shelley, who had lived in Exmouth for four years, having moved there from Karratha a larger mining town in the north of Western Australia. She said:

> Well yes, I am scared for if things go wrong [to the environment], but what I'm also worried about is what I *know* will go wrong. These mines – you've seen Karratha up north? – they're just holes where people go to work. They're surrounded by mines that just keep growing. And they grow and the problems like drugs, alcohol, violence, abuse, prostitution and [pause] you name it, it's there, and it's there because these young men – and they *are* mostly all men – come with loads of money and you can guess what's on their minds when they come off their shifts. We just don't have that here now, and I want to be able to

> go out to the pub without worrying about whose leering at me, or if I can walk home safely.

This imagery is echoed frequently in disputes over mining. Bridge (2004:243) argues that in situations in which the wilderness is at risk from technologies such as mining, mining is almost always depicted as an evil and 'epochal shift' in the natural cycle of life. Bridge argues (2004:243), then, that 'the technologies and rationalities of mining intrude to produce a "dis-spirit of place," a set of physical and mental changes that are interpreted as a fall from grace'. However, it is not only the technology itself that is moralised in such a way. As part of the process of rationalising their own moralities, conservationists portray the people who work in the mining industry as the promoters and producers of monumental and immoral changes to both landscape and surrounding communities.

Bob (2 March 2007), who was not a member of the conservation group because he did not see himself as belonging to a group, but who identified as one of their supporters, said in response to a question about the proposal,

> You've heard of the saying the company as an entity works like a psychopath? Well, perhaps that's because it's full of them! Okay, joking! Joking! But really, there's something in the culture of industry – you're into culture right? You'll like this – um, the culture of industry just celebrates money, and promotes the uncaring and unprincipled bastard in all who enter it. Blokes running around in mine sites, cashed-up to the eyeballs and not knowing what's good for them, and companies paying them too much to spend their lives destroying things and themselves in the process.

I asked, 'isn't that a little dramatic?' and he replied,

> Dramatic? Bulldozing mangroves for a few dollars is dramatic. Saying something [nature] that has no economic value is not valuable... that's dramatic. And I resent that they'll say I'm just being 'airy-fairy' when you put this in your PhD, but I'll say it anyhow. Deliberately going out there and destroying the planet is destroying to our soul. It's creating a society that [pause], well, is born into greed and unprecedented wealth. If you want to put it *dramatically*, then yes

> I would say humanity is losing its humanity. But it will continue to rip it all out until humanity is worth a dollar to them.

Bob's sentiments, which also strongly echoed Glen and Patricia's comments in the beginning of this chapter, show the extent to which he perceived himself and his fellow conservationists as so utterly different from those who promote and work in the mining industry (particularly the trades and engineers). These differences, to a large extent, are drawn upon moral lines. In their depictions, which were repeated regularly throughout the dispute, they represented the labourers, tradesmen, and others who worked on the mine itself as large groups of young men who lacked morals and the ability to regulate their own actions in society. Interestingly, like the loggers in Satterfield's (2002:67) research, the conservationists did not appear to blame the mine workers for these perceived social problems when considering them in this general context. They were depicted as the unwitting (albeit immoral) pawn of the circulation of vast sums of money within a part of society that lacks moral guidance. Instead, the blame was laid squarely on the developers; the engineers, the project managers, and other employees of the companies whose job it was to imagine and design the mines, and who then chose which environments or communities would be destroyed in the process of choosing a mine site. Their role as designers of the mines, and as those who worked directly with the communities in the process of the environmental and social reviews process, led the conservationists to depict them as cool and calculating actors who were consciously destroying the landscape, and the morality of the local community along with it. Thus, the developers were often assumed to be simply *not* good people; people who did not care enough about the future of society. They were seen to have full knowledge of what a mining town would look like, yet were happy to let it destroy the local Exmouth community anyway. They were seen as slaves to capitalist materialism, in which 'greed is good and money is the only language your boss wants to hear' (Kieran 12 October 2006). The developers were depicted as untrustworthy, and even a-moral (a depiction that developers did not like, although, as I will show in the following section, was an extreme form of rationalization – a characteristic that developers were proud of pursuing).

As Sponsel (2001:185-6) argues, the ecocentric ethic focuses on restraint. Restraint and caution in environmental management has therefore become a primary moral virtue of environmentalism, which applies to both the individual, and society (see also van

Wensveen 2000:90). It has also become an important scientific principle in the form of 'the precautionary principle'. As I described in Chapter 4, the current environmental movement in Australia sees its most significant challenge as that of overcoming 'old' mentalities in which utilitarian uses of the environment through exploitative practices such as resource extraction have caused often irreparable damage to local ecosystems. The people who carried out this destruction tended to be understood by conservationists as not knowing any better at the time. However, with current scientific study identifying these activities as the primary cause of destruction, the conservationists believe that there is no excuse for ignorance, and people *should* know better. It has also become a primary ethical 'rule' in the biological sciences (articulated as the precautionary principle) as discussed in Chapter 5.

Therefore, when the developers were promoting a mine that would be the largest in the world, when there were already many other operational solar salt mines in the region, they were perceived as the absolute opposite of restraint. They, and anyone who worked on them, were seen as unrestrained. Within the local context of the mining boom in Western Australia, environmentalists have often accused both companies and governments of enjoying an unrestrained access to raw materials, resulting in a future crash that would ultimately bring down the economy in the long term (see for example CCWA 2011, Nuic 2007). This is in line with Browne's (2009:12) assertion that within western societies, there is a prevailing belief that communities that have been built on capitalism have suffered a large-scale collapse of social bonds as a result. In fact, the participants in the Exmouth Salts dispute commonly assumed that morality did not exist in the economy at all. According to this view, financial profit is understood to drive decision-making, not what is 'best' for nature or society (see Browne 2009:1). Therefore, the ethic of restraint and caution towards the environment directly reflected the perceived moralities of those who either promoted restraint, or those who ostensibly did not. As a result, any person who took the developers' arguments too seriously was seen as supporting the moral degradation of the local community.

Development moralities: creating mining communities

In areas such as mining, technoscientific advances have provided opportunities to access previously inaccessible materials in remote places, often for uses that are themselves ethically challenging (such as uranium production, crude oil, or coal seam mining). We may be able to access these materials, but should we? If so, how do we justify it? Who has the right to judge? As Bridge (2004:241) shows, mining has significant cultural power, and is unavoidably situated in its own moral landscape (see also Williams 1990). Although the pursuit of wealth, for both the company and for a materialist society, was the predominant theme, it soon became clear through my research that the developers continued to return to a number of common moral values in their discussions of development and the environment. In his study of mining in Australia, Trigger (1997:166) writes of the 'moral conviction' and 'commonsense certainty' experienced by mining professionals that their work is inherently valuable. Trigger (1997:166) argues that, unlike those who contest development ideologies, 'it appears that industry professionals experience little, if any, cognitive discomfort from the mining process'. This lack of discomfort, Trigger (1997:166-8) argues, arises from the prevailing development ideologies that promote the landscape as being civilized and domesticated through development, in which the process of coming to know the landscape is a process of 'recovering' valuable materials from waste in order to make the landscape productive. As I have outlined in Chapter 3, this was certainly the case for developers in Exmouth. The developers depicted this particular development as the ultimate in environmental, social, and economic sustainability, thereby creating a localised narrative within a globalised discourse that is often articulated as 'mining for "the greater good"' (Stoffle et al. 2004:132).

Ethnographic research on mega-projects (for example, Boholm 2008, Flyvbjerg et al 2003, Latour 1996, Scott 1998) tends to be focused on public, government-funded plans. However, a significant focus of mining discourse rests upon the presumption that the security of Australia's future lies in the mining industry, both on a broader scale and in local contexts. With the rise in corporate environmental and social responsibility, whole departments are dedicated to conducting work with local communities that are

affected by current and future mining activities.[21] The responsibility of promoting the mine to the local community goes beyond the simple offer of jobs to the local community (Werner 2008:159), those who work with local communities are involved in the activity of providing both information, and significant amounts of money (in the form of grants for community groups and projects) to help to develop the local communities. The the mine will also bring workers and their families into the local area, for whom the company must create new infrastructure and services, which therefore further bolster the community infrastructure. Within this industry discourse, the perception of their importance within the community for the stability of their future can take on an almost paternalistic sense of duty of care (Rajak 2008:228).

When the developers first made the plans for their proposal public, they emphasised the size of the project, and that it would be the largest facility of its kind in the world. While this imagery caused the local conservationists to react in fear and trepidation, it was, for the developers, a source of significant pride. As Ian said when we first met and discussed the proposal after a community meeting, 'you don't often get a chance to work on projects like this – it's a once in a lifetime thing, and something you can get your teeth stuck into'. When I asked him to elaborate, he described the project as one that has been done many times before, but not on this scale, and that it was a 'first' for him. He emphasized the significantly large size of the salt fields, how the sea water was pumped from one to another, the 'dunes' of salt piled up at the end of the process, and the size of the revenue that would come from shipping it out in the bulk container ships. In this particular case, he said, the company he worked for was a 'relatively small player' in Australian mining, known as a 'junior' in the industry jargon, although it was growing fast. The large scale of the mine was necessary to make it financially viable, and to therefore make it a significant asset in the company's expansion. On a personal level, it would also be a significant highlight in their careers, in Steve's words, 'another notch in...[their] belts to be bloody proud of'. I asked, 'and what if the conservationists are successful at stopping you?', and he replied 'we'd move on of course, we lose

[21] In Australia, a significant proportion of this work with local communities is dedicated to assessing Indigenous heritage, and supporting Aboriginal communities who either live adjacent to mining developments, and/or who claim ownership of the land through Native Title. However, there are also similar obligations on companies to work with non-Indigenous groups through the environmental approvals process, many of which involve the necessity to undertake social impact assessments of both Indigenous and non-Indigenous communities.

nothing but a bit of pride. We'd lick out wounds and move on to the next project. There's plenty else going on. But yeah, it would be a shame' (15 March 2007).

Gargantuan imagery in mining discourse is understood as a key indication of success in the industry. The physical scale of the mines acts a symbol of the profits that stand to be won or lost, as well as the achievement of technological advancement. Within this moral-economic discourse of scale is a fascinating discourse that celebrates the very small-scale efforts of individuals (mostly men) who work together. Implicit within it is a sense of awe that a human mind and (ultimately) human hands, developed the intricate machinery, solved many complicated technical and engineering problems, and laboured hard in often remote and extreme environments in order to identify deposits of unseen minerals, and imagined and created the technologies to extract them out of the ground. Therefore, the success of the industry is promoted as reliant upon the imagination and labour of hundreds, or in many cases thousands, of individual people.

After one particularly difficult SRG meeting (7 November 2006), I sat with the developers over drinks as they discussed the meeting. Nick proclaimed that the conservationists:

> Just don't get it... most of them are too young to realise [the conservationists], we used to struggle you know. As a graduate engineer when I was young I earned the equivalent of about $35,000 – I could barely afford to feed the family. But I was lucky to have a job! So we might all be earning big dollars now, but we bloody deserve it after all those years when we didn't count for much and engineering was basically just another low-paid job for the over-educated.[22]

Nick then told us about some of his experiences of working in mining overseas, or what he called his 'early adventures'. He had worked in Africa, and took great delight in telling us how he was nearly killed in a rebellion that took over the mine site (he said he had vacated an hour before the rebels arrived). He said 'it was mad, totally mad. You couldn't get that past OH&S [Occupational Health and Safety] these days'. While the others had not worked overseas, they told me their own stories of working in outback Australia. John, a project engineer who left the company soon after I arrived in

[22] Although this was not recorded, this quote was recorded in note-form during the discussion, and written in full later on that evening based on the notes and my memory of this very memorable conversation.

Exmouth, said that before he studied engineering, he had found work in a mine site near Karratha in the early 1970s as a general labourer. He said 'you had to be tough as boots in those days. Food was trucked in, we had no phones or communication, it was real physical labour, and you couldn't just fly back to your families. It really was a sacrifice in those days. You really had to be young and single, or have a *very* forgiving wife!' Steve agreed with John, emphasising to me that 'mining and exploration life in the field was hard, and you had to be hard too'. Although the developers prefaced these discussions by emphasising that their work was 'simply work' that earned them money to support their families, their pride in what they perceived as successful careers was very clear.

These depictions of a tough and rugged lifestyle in the remote and sometimes hostile conditions while exploring difficult terrain were also prevalent in Public Relations material explaining the history of mining. The history of mining was seen as 'tough work for tough blokes' with a strong sense of adventure who could thrive in isolated and very basic conditions and still work hard and complete work (*Exmouth Expressions*, August 2005:1,3,13). In this way, early minerals exploration was portrayed as akin to pastoral explorations by early settler Australians (as I described in Chapter 2), in which they endured difficult conditions for the sake of earning money for their families and for the glory of discovery. This historical legacy is portrayed as continuing into the present day. As technology has increased, the discourse centres more on the rapid technological advances, created by 'brilliant minds'. These discourses tend to emphasize the extreme technical difficulties associated with projects as they become increasingly larger. Ultimately, the resulting 'mega-projects' are described as feats of technical genius.

A sustainable mine therefore similarly translates within localised development discourse as having the potential to support and 'revitalise' communities. In the past, policies of constructing towns tended to centre on the construction of local 'closed' communities, which house only people who work specifically for the mine (Cheshire et al. 2011, Pattenden 2005). This policy is now moving towards housing employees in existing towns, and supporting the workforce by supporting and building upon the existing township and facilities, and this forms a basis of current Corporate Social Responsibility policies in many companies. The developers, who were promoting the Exmouth Salts mine based on this policy, described mining as having the potential to save the town.

> They [the conservationists] act like we're evil incarnate. I don't really understand where they're coming from in that though except that I know they really just don't want to deal with a mine in their backyard. I see it as that they don't want their house prices to go up [referring to other mining communities that have seen the cost of housing rise from an average of $250,000 15 years ago, to over $2 million now]. I don't know. But they're really struggling here, you can see it. The hospital is under strain, the school isn't really a proper education for any kid who wants a career, no university, no opportunity for them when they grow up unless they take over their parents failing business. If they move to mining, they might actually have a chance. We'd *provide* them with funding to extend the school and the hospital. Plus you get more families coming up, so more families mean that all these facilities necessitate improvement – whether it's industry funded or government funded who cares. You get more family-oriented infrastructure too – for sporting facilities and movie theatres, which they don't even have one. It would transform the town.

The developers saw mining as bringing wealth to the local community in ways that other economic ventures, such as fishing and tourism, never could.

All of these discourses combined to present mining as a celebration of achievement in technical expertise and individual perseverance. They present a story in which initial difficulties have been overcome to create a booming industry that is widely understood to be supporting the entire country, and maintaining a standard of living above that experienced in other countries (Richardson & Denniss 2011). Within this specific discourse, the developers expressed a very clear sense of pride in their role in designing and implementing this significant project for the company, and in their own technical expertise that could help to create a mine with such a large potential production capacity. They also saw that their role in the process was as a potential key to creating a sustainable and stable future for the township through the provision of both work and funding grants. This discourse appeared to be accepted within the industry to such an extent that the developers still expressed significant shock at the strength of the conservationists' opposition to their proposal.

As some of the developers themselves argued, though, they might have felt differently if the proposal was situated in their own community, impacting their own economic and

emotional investment in landscape and home. After all, they held similar values about the importance of a sense of place (Chapter 2), and they shared very similar wilderness values as the conservationists (Chapter 4). Notwithstanding this, they also embraced the power inherent in their role in the development of knowledge through science, and used it to manipulate the politicised discourses that surrounded the debate. This brings us back to the question posed through each of these chapters; how could the developers hold such strikingly similar environmental knowledges and values as the conservationists, yet support such different values within the context of dispute, without any apparent sense of moral reservation? While I have gone some way to answering this question in earlier chapters by looking at the differing discourses of the dispute, I build on this by looking at how people themselves were moralised within different landscapes (and landscape uses) within development and conservationist discourse. As the developers often argued, good projects often do not get parliamentary approval because of 'misconceptions' over the risks to the environment and local communities. In their view, the needs of people and society were equally as important as the environment, and therefore development must continue in some form. In this following section, I look at how discourses of sustainability were brought into 'traditional' development ideologies, and how they shaped the particular environmental narratives produced by the developers throughout the dispute.

Maintaining moral boundaries

In the previous section, I have described the web of moral beliefs and practices within which participants worked when justifying their position in the dispute, evidenced through the repetition of public discourse that they felt presented the most accurate picture of their beliefs and values. Of particular interest within these moral discourses was the intimate connection with the health of the environment with the health of the local community, which they saw as defining the future of the community. For conservationists, the ruin of the landscape signalled the ruin of the community structure and morality. For developers, their conception of a sustainable development, which translated into an economically profitable venture, would build on and enhance the foundations of a 'good' community. These primary moral values were often raised during technical and scientific discussions of the environment, and used by participants to support their public arguments in the context of the public meetings, as well as in private conversations. This points to the importance of moral beliefs and values in

confirming participants' own environmental knowledges, and in undermining their trust in those of their opposition.

Members of each group knew that they were *right* in their beliefs that the mining proposal was either an acceptable, or unacceptable, risk to the environment. Furthermore, they *knew* that science would ultimately support their cause. Members of both groups also commonly believed that their opposition deliberately manipulated scientific research in order to present the results in a way that would support their cause, while overlooking the fact that they did so occasionally themselves. Their reasoning for this was based on their confidence that their view was ultimately the moral good, and it was the opposition who were deliberately (and immorally) manipulating the truth to suit their purposes. Therefore, members of the opposing group were understood to be wilfully engaging in misconduct, or simply 'being difficult' (Garsten & Hernes 2009). In this way, the boundaries drawn between groups, along the lines of who was ultimately 'right', and who was 'wrong' remained strongly defined. These boundaries were so strong as to be taken for granted much of the time by the participants throughout the dispute. It was not until the more private moments, in which participants reflected on their ideological positioning or questioned the basis of their beliefs, values, and knowledge, that the strength of the boundaries became apparent.

Questioning boundaries of moral discourse

In his ethnographic research with nuclear weapons scientists, Gusterson (1996:41) found that while certain beliefs, values, and morals were widely shared between employees, any beliefs that could potentially destabilise the social foundations of the workplace were almost never discussed. Gusterson (1996:41) illustrates how the laboratories constructed themselves as places that were open to those with many diverse political beliefs. It is always assumed by those within the lab that, once employed, each employee supported weapons science in their own way, and it is therefore never discussed amongst them. Therefore, those who worked there had very little idea about the moral beliefs and values of those they worked with every day (Gusterson 1996:53). While the nuclear weapons laboratory is a much more extreme example of the manipulation and justification of ethical standpoints, the results of this research show that this process was analogous to that which occurred within each group of conservationists and developers.

It was subtly assumed by both the conservationists and developers that a person's membership (whether by joining the group of conservationists, or gaining employment with a mining company) meant that they implicitly, in some way, share the same beliefs and values and ways of knowing. In their view, they had entered into the group by choice, whether it was an engineer seeking out work in the mining industry, or a conservationist seeking out friendship and shared leisure activities based on conservationist ideals. Unlike the weapons scientists of Gusteron's (1996) critique, the conservationists and developers in the Exmouth Salts dispute both occasionally questioned openly the beliefs and values that might have contradicted the defining moralities of their group. These occasions happened very rarely, and they were always raised outside of the context of the dispute, and when participants were with those who they trusted. When they did occur, they were very revealing of the strength of boundaries that had been drawn between groups along ideological lines. Stepping too far over the line of these boundaries could mean the loss of a common friendship for the conservationists, or potentially the loss of a job or respect from colleagues in the case of the developers.

Conservationists – questioning inevitable destruction

In mid June of 2007, near the end of my fieldwork, I joined a group of conservationists on an excursion into the Cape Range National Park to conduct a fauna survey. It had been a successful yet very tiring day, and by that evening, only the core group of four conservationists (Susan, Anne, Karen, and Laura) and I were left to spend the evening together for dinner before recommencing the survey the following day. As we sat down to dinner and a number of bottles of wine, there was a particularly convivial atmosphere that rarely occurred in the regular formal meetings in which this group met. This group of four had been friends for a number of years; a friendship that largely played out through planning conservation activities and meetings to address local conservation issues. In this more relaxed atmosphere, our discussion revolved around general conservation issues in the Cape and the problems of trying to manage them, interspersed with personal anecdotes about relationships and the difficulties of making friends in Exmouth when they were known within the town for advocating conservationist beliefs and values, and arguing against a significant proportion of mining developments within the town (which many long-term residents supported).

Anne interrupted at this point to raise her glass and proclaim ‘so we should just end all tourism, or just everyone actually, and we’d be right!’ Susan raised her glass with Laura and replied jokingly ‘Cheers! To the end of humanity!’ Karen laughed along, yet refused to raise her glass with the group, jokingly arguing ‘but someone would have to hang around to deal with the goats.’[23] Amid the general laughter, Anne became more serious again, arguing that even if it is managed well, tourism could significantly damage the Cape and the coastline. She raised an example from a recent workshop given by a group of researchers studying tourism and growth in the region. She argued that there was a vast amount of pressure on the region from Western Australian travellers, whose desire for wilderness brought them to seek out supposed wilderness areas like the Ningaloo Reef, ideally without visible infrastructure or development. By doing so, they end up utilising large areas of what is thought to be a highly sensitive ecosystem, and doing greater damage than well-planned development was thought. The lack of infrastructure to support human activities, such as rubbish collections and sewerage disposal, were already causing significant problems in areas further down the coastline along the pastoral stations, which were not yet managed by DEC.

At this, Susan said ‘you know I’ve been thinking. Tourism really is the big problem here. Perhaps mining might actually be a better way of conserving the Cape than tourism? I mean of course not Straits [the salt mine], that’s just a disaster in the making, but oil and gas might not be the worst way to go’. She went on to argue that if tourism was hindered because the proliferation of oil and gas rigs ruined the sense of isolation and wilderness, they may stand a better chance of conserving the region. Endangered species such as the wallaby would also therefore stand a better chance of survival as they would maintain their habitat free of immediate disturbance. Anne, Karen and Laura had become very quiet, looking at Susan with furrowed brows, and Susan trailed off as she saw she was not getting an immediate reaction. Anne, who had a particularly puzzled smile, said very slowly and in a considered way, ‘well, I guess you *could* say that.’ Karen added, ‘well [long pause] yes I think you could be right in a way, but [pause] how awful would that be too?’ Everyone was silent, and Anne made a joke about not being sure what to say, and finally Susan relieved their contemplation by

[23] This exchange was not recorded on a digital recorder. However, I recorded it in my notebook later that evening, and although the exact wording may differ slightly, it is a close representation of the conversation that took place.

saying, ‘oh, I was just putting it out there, I’m not advocating we turn this place into a mine site or anything!’

Susan’s musings, which directly questioned the assumed environmentalist ethic upon which the local conservation group was based, made the others visibly uncomfortable. They did not know how to respond to such an assertion, even after they took time to consider it as an option for future human-environment interaction. As I described above, one of the basic assumptions of the conservationist ethic is to move away from immoral capitalist ventures (Browne 2009), and move towards a society that depend upon the environment. In the past, tourism has continuously been presented as an ideal economic solution for local areas of perceived high ecological fragility. In theory, as I described in Chapter 2 and 4, tourism provides at least some form of economic basis for a community. In addition, the wilderness tourism ethic of ‘take only photos, leave only footprints’ illustrates the ideal in which there is no visible human impact on the environment, and the environmentalist ethic may be passed on to tourists themselves, as it is understood that interaction with, and developing knowledges of wild landscapes will promote the desire to protect the environment as well. Environmental health, as I described in Chapter 5, was therefore connected to the apparent physical – and visible – separation of society from the environment. The risk of large-scale developments if something goes wrong, combined with their symbolism within the utilitarian capitalist ethic (Bridge 2004), have therefore caused them to be conceptualised as not only a significant ‘objective risk’, but a moral risk as well. Susan’s overt questioning of the risk of development, and comparing it with the risk of tourism (a morally acceptable economic activity), would have required a complete overhaul of the environmentalist conceptions of what makes a good society, and what makes a healthy environment if they no longer appear to embody notions of wilderness, or indeed, what future human-nature relationships should *look* like.

Developers – questioning economic rationalities

Half-way through my fieldwork in Exmouth, I received a call from an engineer named Flynn, who had worked on a gas exploration project off the coast of Exmouth.[24] I had met him during a community meeting in Exmouth for an entirely different project, and

[24] He worked for a company that was not affiliated with Straits Resources in any way. I do not describe his professional position so as to protect his identity.

at that time, he reproduced the same discourses of pride, excitement, and confidence in the mining projects as the developers who worked for Straits. Like the mining engineers and planners in Trigger's (1997:175-6) research, he expressed an unswerving confidence in the Australian mining industry as a whole. However, during this call, he asked to meet with me as he wanted to add to his past interviews.

The following day, I met Flynn at the pub to conduct the interview. He began immediately by saying

> Flynn: I wanted to say [I] resigned, I quit
>
> Erin: Really? why?
>
> Flynn: That's just it. I quit because of the cutbacks and shortcuts. The FPSO, that's the Floating Production facility that you see off-shore yeah? Well it was a floating time-bomb. I don't want to be there and actually be responsible for it when it all goes to hell. Each project they keep telling you it's going to be okay, old problems have been fixed, there's this new technology that makes it safer. Turns out it's all PR bullshit in the end, even to us.

Flynn went on to describe how his employer was taking short-cuts, and how he believed that if the government sent out auditors to actually check that the company was maintaining legal safety and environmental standards, they would almost certainly fail. He said 'the fucking Greenies are probably right in the end'. While he explained this to me, he expressed mostly anger. However, when talking of his own involvement, he said he felt embarrassed to think of what he had said in our past interviews. In particular, he said he was most embarrassed about how he had been 'duped' (in his words) to believe his managers' line regarding environmental safety.

In the time since I have finished my fieldwork, I have met with one other engineer who had worked on various projects in the North West of Western Australia, and who had resigned from his job.[25] Although he did not overtly protest in the same way as Flynn, he expressed similar concerns regarding the quality controls of projects, as well as the reluctance of mining companies to follow through with environmental regulations

[25] I do not specify which projects so as to maintain the anonymity of the informants.

regarding dumping of pollutants. Very similar issues have been raised in a 2011 report into the mining industry by the Auditor General of Western Australia (Office of the Auditor General Western Australia 2011), which confirms the very low compliance rate of many companies that were audited.

In 2006, when I was conducting my fieldwork in the height of the mining boom, the developers working on the Exmouth Salts proposal tended to maintain the development discourses in both public and interviews, and in many other private conversations. Through these discussions, they expressed a sense of unquestioning certainty in the safety of their work (most likely for political reasons). While they acknowledged that incidents occasionally occurred in the mining industry, they saw them as being extremely minor (sometimes referred to as 'routine') in Australia compared to some overseas operators.[26] They often emphasized that they were forced to comply with government regulations, which were 'well and truly above necessary standards' (Ian, 20 September 2007).

Despite this certainty, the developers did tend to emphasise the point that they played only a small role in a much bigger process in the development of a mine. Instead, they often talked of their jobs as having to comply with the will and direction of the company board and shareholders. They did not see themselves as having a great deal of freedom to choose. While they never made any definitive statements of alternative designs or plans for their project, they did occasionally defend themselves by saying 'I wouldn't want a mine in my backyard either'. By understanding the conservationists simply as people who do not want to live near a mine, they were attempting to align themselves and their sympathies with the conservationists. Often, these statements were made when discussing the ways in which the conservationists accused them of being immoral or cold-hearted people. In this, they wanted to show that they sympathised with the conservationists, but that it was not ultimately their responsibility for halting a project. By portraying their understanding of the conservationists in this way, they also denied that the conservationists had a deeper emotional commitment than that they would dislike the inconvenience of living near a mine. In fact, they often followed these discussions by re-stating that pure aesthetics was not an adequate reason to cease

[26] Interestingly, their company had a large number of overseas interests in Papua New Guinea and elsewhere in Southeast Asia. However, no developer ever made mention of their overseas operations other than to use it as an example of how important CSR was to maintaining good operations.

mining, or to spend great amounts of money to redesign or halt a particular project. In these depictions of themselves, they placed their work simply as serving the economic goals of those who employed them; if they did not carry out the work, someone else would. They depicted themselves, then, as pawns of much larger economic imperatives. In their eyes, if they did the work, they were able to capitalise on the money being made, as well as ensuring that they carried out a well-designed and managed project.

Within broader society, many people doubt the existence of morality in the economy (Browne 2009:1), including the developers themselves. For example, the first time that I talked about morality in industry to the developers (7 December 2006), they assumed I was joking and simply laughed before realising I had been serious.

> Nick: What, you mean the Greenies' morality?
>
> Erin: Well yes, but also what you guys think of it too.
>
> Ian: Morality has nothing to do with it, industry [in general] is about money, that's all. No more, no less. ...You've got a bit to learn about the world if that's how you think.

When speaking of morality with Ian in an interview at the company offices (15 March 2007), he laughed and said 'we don't do morality, we do money'. This was a refrain that was repeated to me constantly over the year of my fieldwork by conservationists and developers alike.[27] Over the course of fieldwork with the developers, it became clear that this phrase was part of a prevailing discourse that propagates the idea that the economy is a faceless entity consisting of impersonal exchanges between faceless human beings, who act on a purely rational basis in order to make money for the company (Browne 2009:16, Carrier 1997). This is usually promoted by company mandates, in which the sole stated purpose of the company is to make money for the shareholder. This discourse dehumanises actors within the economy, providing a mandate that they put aside any human emotion in order to act rationally (Griffith 2009). Within this discourse, the developers, and also the conservationists, often depicted the economic world as a realm that was free of moral value.

[27] This has also been repeated consistently by others with whom I have discussed my work, including other developers, people who work in conservation, and by other anthropologists and sociologists.

Despite their insistence on it, the developers tended to be ambivalent about their position in carrying out the mandate to produce wealth for the company. While they unswervingly presented their work in the context of sustainability when entering into direct dispute, they did raise the topic of the constant drive for economic gains in the development industry when I discussed their own beliefs and practices. At first, they often tried to avoid my questions regarding anything that was not fact by resorting to the exclamation of 'it's not about what I think, its profit that counts'. They also did this regularly as a way of jokingly avoiding answering my questions when I was talking to them as a group after meetings. In these situations, it was almost always the most senior colleague who eventually answered any question I had put, and even then, it was to reply with a fact, or what they considered an acceptable moral value or knowledge that did not (in their eyes) directly apply to the Salts proposal. What I learned later was that only certain kinds of moral issues were acceptable to discuss openly, and the requirement to produce profits was a key joke. Just as Gusterson (1996) found in his research in nuclear weapons labs, the developers had very little idea about how their colleagues felt about the moral position of the mine.

As Garsten and Hernes argue (2009:195), CSR (corporate social responsibility) is very difficult to do, and 'companies operate in a world of multiple standards with regard to what is right and wrong'. What made the situation even more difficult for the developers was the lack of company policies and government legislation defining exactly what constituted good and bad community consultation or governance regimes within the constraints of the company. Acceptable ways of conducting oneself within a company is modelled by an employee's co-workers and superiors. The extent to which a company complies with environmental protection measures or a CSR policy, is highly dependent upon a very small number of individuals who have decision-making or influential powers within the company (Annandale & Taplin 2003). The rest is ultimately up to individuals to absorb the public relations material presented by the company, and to justify their own moral beliefs and values in their work. As a result, there is often conflict between the individual and the collective levels of action and accountability (Garsten & Hernes 2009:196-7).

Imagining the future: making decisions within moral frameworks

Throughout the discussions above, and the thesis as a whole, it becomes clear that the conservationists and developers shared values based on the need to protect the environment. However, their beliefs, values, and knowledge regarding how society should be organised in order to achieve a 'good' future that provides for both human society and the environment, is based on completely opposing moral discourses. These moral discourses were interlinked with the identity and knowledge discourses of the groups they represented, and became significantly polarised through the schismogenic process of the dispute. As a result, they came to play a significant role in the formation of boundaries between the two groups who may not ordinarily have drawn such boundaries in other contexts of social life.

The formation and maintenance of social boundaries, defined by Barth (2000:34) as 'a separation that surrounds a social group and divides it from other groups and from its surrounding environment', played an important role in the formation and dispute of knowledge, and is a critical political tool within the dispute. Each participant in this research was acutely aware of the highly political nature of dispute, which was enmeshed within a web of complex beliefs, values, economic motives and moralities that separated the opposing groups. Despite the rational ideal in which science should act as an arbiter of truth, each participant recognised that supposedly 'pure' knowledge and science alone would never 'win' the dispute. Indeed, they were constantly aware that the decision-makers themselves had to make the final decision based on political and moral imperatives; if the potential environmental loss was significant, the economic gains from such a development would not outweigh the loss of what was often called 'the green vote' (Aikman, March 2011). The participants recognised that it was the person or group who most successfully presented that knowledge in a way that appealed to decision-makers' own priorities that would ultimately have a greater impact on the final outcome of the dispute. With this in mind, they worked hard to bolster their own knowledge claims by gaining both public support for their cause, and by proving or disproving economic and environmental gains. The purpose of their moral work was to 'reify' their social group by representing themselves as completely different to each other, separated by supposedly inherent moral differences. In this, they created a sense of 'insider' versus 'outsider', and therefore a clear definition between who was right and who was wrong (see Northcott 2000:73).

Once engaged in the schismogenic process of the dispute, the participants were not only bound to promoting the moral values of their own group through obligation, they also experienced heightened emotional attachments to their own worldview and knowledges. As I have shown, the conscious and intensely political practise of boundary-making is also reflective of many personal beliefs and values; after all, the reason they became vocal for one side of the dispute is because they already held particular moral beliefs, which they came to build on and learn as the dispute progressed. As many participants were all too aware, and frequently come to resent, their 'choice' to support a political side came at considerable social cost (Portmore 2008). To accept multiple knowledges, moralities and possible actions or behaviours within the context of the dispute would have been to acknowledge that there were be compromises to be made. As the groups were ultimately fighting for completely opposing outcomes, albeit through complex moral frameworks, any compromise could result in a loss of the overall argument (i.e. whether to approve the mine or not). While they continued to support one particular side, they were no longer as 'free' to weigh up new knowledges and possibilities of new ways of being within the world, to acknowledge alternative outcomes, or to question shared constructions of moral natures. Instead, they had to work within the boundaries they had created for themselves or risk both the outcome of the decision-making process, and their personal credibility within the social groups to which they belonged.

Knowledge, therefore, is not simply about gaining an objective understanding of the environment, or even about presenting it in the best political light regardless of what each individual believes. Even if scientific objectivity were possible, such knowledge does not actually give any clue as to how it is important to society, what actions should be based upon it, and how human-nature interaction should be governed. As Graham, a scientist who was involved in doing research for the company told me during an interview, 'it isn't the science that says the mine will or will not cause ecosystem degradation. It is *us* that *uses* it to make that claim' (August 01 2007). Even if science (or any other form of decision-making) could definitively show the exact future of the proposed mine, society must still make the choice of whether that future was acceptable or not, which is, in the end, a moral decision. Ultimately, both the dispute and the final decision are guided and shaped by conflicting moral beliefs and values about the ways in which humans *should* act in the environment, and what the *proper* role of the environment is within society and vice versa. Knowledge, therefore, is much more than

simply knowing something. It is about the ways in which knowledge is gained and conceptualised as the ‘right’ knowledge and the ‘wrong’ knowledge, which provide a moral framework for the definition of the ‘right’ and the ‘wrong’ actions that might bring about an imagined ideal future.

Chapter 8
Conclusion: ‘We are all environmentalists now’?

I began this thesis with the question ‘what does it mean to care about the environment in contemporary Australian society?’ At the beginning of my fieldwork in Exmouth, I had planned on addressing this question by working only with the members of the Cape Conservation Group. In particular, I had wanted to understand what it meant to actively fight for the conservation of the wilderness in the face of the encroaching mining industry. Each time I mentioned this to the members of the conservation group, they suggested I attend the next community meeting regarding the proposed salt mine. They thought it would be valuable for me to see for myself how frustrating and upsetting it was for them to try to assert their strong beliefs and values about their attachments to the wilderness only to have developers ‘coldly’ disregard them. Anne in particular wanted to show me how ‘callous’, ‘mean’ and ‘calculating’ they were during the meetings in their bid to ‘keep the community quiet’ (1 December 2006).

I did attend this meeting, yet I did not find what they expected me to see. The developers certainly appeared to assert their dominance over the conservationists, manipulate certain ‘facts’, and studiously avoid particular questions. Yet, on many occasions, so did the conservationists themselves. After getting to know the developers over the sixteen months of fieldwork, they did not appear to be all that much different from the conservationists in their approaches to life and work. Indeed, I frequently had very similar conversations with members of both groups about the wilderness, about the need to protect the environment, and their desire to work towards creating more sustainable human-nature relationships.

Both groups were confused as to why their opposition should appear to hate them, and to argue against them with such force and tenacity. Members of both groups often asked me how such a dispute could have become so personal. Yet at the same time they did not believe that any of the beliefs, values, or knowledges presented by their opposition were genuine. While the conservationists saw the developers as cold, overly rational and uncaring, the developers saw the conservationists simply as NIMBYs who simply did not want to lose the good view and way of life they had so recently moved to Exmouth

to experience. As such, both groups believed the other to be manipulative of the 'truth' so as to support their own ostensibly 'shallow' and financially driven aims. This is often how groups are portrayed in the media and in public discourse. As Milton (2002:147-8) argues, it seemed unfair to label conservationists simply as irrational or emotional, and therefore not holding legitimate concerns or knowledges simply because the official decision-making process was designed to help development rather than hinder it. Yet, it seemed similarly unfair to label the developers simply as unthinking, cold automatons who mindlessly undertook their daily tasks in order to make money for their company (although they may have joked about feeling this way every now and then). Further, as Milton (2002:147) states 'developers and decision makers do not, after all, belong to a different species from nature protectionists; they even share some of their views'. It therefore became my aim in this thesis to question the polarised worldviews and knowledges of *both* the conservationists and the developers in order to understood human-nature relationships, and how this contributed to the creation of utterly opposing environmental narratives. To examine this proposition, I endeavoured to treat both developers and conservationists from an equal starting point; as human beings who were enmeshed in a web of cultural, social, political, environmental, and economic discourses and motivations through which they have organised their daily lives.

Throughout this thesis, then, I have examined the ways in which the conservationists and developers created, disputed, and performed environmental knowledges in relation to each other, and to the expectations of the group they represented. In doing so, I endeavoured to examine both the similarities and differences between the two groups so as to highlight the processes, as well as the product, of this increasingly polarised dispute. Following Satterfield (2002:2), I have argued that it is precisely these relationships that can shed light on the ongoing and often contested process of cultural production. In this way, I aimed to understand how environmental knowledges and environmentalist values were incorporated into the ways in which members of both groups conceptualised and represented ideal human-nature relationships.

Conservationists

As I outlined in Chapter 2, the conservationists developed strong senses of belonging to, and responsibility for, the wild landscapes of the Cape Range region. They had done so primarily by learning about the environment through the combination of their personal

experiences and through shared environmental narratives that taught them to appreciate the intricacies of the local natural environment. These localised narratives were also learned through the framework of global conservation ideals and worldviews, in which nature is understood to be resilient when left to its own 'natural' devices, yet becomes fragile and easily destroyed in the event of human-induced change. These values played an important role when the conservationists came to interpret and represent scientific knowledge.

Within the EPA defined framework of public consultation in the environmental decision-making process, the conservationists' role in the dispute was, therefore, that of lay participant. However, they did not take on this role passively. Instead, they actively researched information from other mines around the world, and joined with other parties who held similar concerns over the proposal. They sought access to academic and publicly accessible scientific materials that could support their cause. Lastly, they commissioned their own scientists to conduct as much research as was possible in the extremely short time-period between the release of the ERMP to the public and the deadline for public responses. Much of this research was, by necessity, guided by the pre-existing local knowledge and research conducted by the prawn fishing companies so as to legitimise (or in theory refute) what they believed they already *knew*; that the development, as well as the potential pollutants that could be released from it, would pose too great a risk to the ecosystem.

In the process of conducting and planning this research and fact-finding tasks, the conservationists appeared to experience a heightened awareness of their emotional connections to the natural environment, and their senses of belonging to it. Through sharing this knowledge, their relationships with other people who had shared these experiences were reinforced. When returning to meetings armed with new information, therefore, these shared emotional attachments to place, environment, and the people within it, gave them the confidence to maintain arguments even under strong objections. Knowing that others in the local community felt the same way, the conservationists remained committed to having these emotional and moral arguments heard within the dispute, while also supporting them with any scientific research to which they had access. Therefore, when the developers deliberately failed to engage in the emotional aspects of the dispute, the conservationists' confidence in the importance of maintaining a strong voice was bolstered further.

The conservationists drew boundaries between themselves and their opposition based on notions of moral beliefs as to how human society *should* know, and act in, the environment. The knowledge produced through the conservationist worldview, through which they had developed strong emotional attachments to the wilderness, make it clear that society as a whole should strive to have as minimal an impact as possible. The regeneration of the environment that had occurred as a result of conservation methods in the region reinforced the conservationists' belief that their promotion of conservationist values was the right thing to do. In turn, they conceptualised mining as having the complete opposite impact on both environment and the community. For them, the immorality of destroying the environment through mining was coupled with the immorality of the people who worked for it. However, there were occasions when they questioned this, such as when Susan wondered whether mining, by virtue of deterring tourism, had the potential to contribute to conservation. The extreme reservations of others about such ideas served to show just how strong the link was between beliefs, practices, values, and knowledges. For the conservationists, it was almost impossible to conceive of how society could be organised, and how they would actually feel about the environment, if such an assertion were to be made possible in real life.

Local conservationists' senses of what they knew and what/who they represented were therefore constantly in question through the schismogenic process of dispute. As I have argued throughout the thesis, their role in the dispute served to heighten their awareness of their beliefs, values and knowledges. Ultimately, it appeared to solidify their commitment to conservation ideals, in which both local and global discourses and knowledges should play a role in promoting conservation and 'sustainable' development. For them, such a future did not involve the salts development.

Developers

On the other hand, the developers' primary relationship with the landscape was through the mining proposal. With the exception of Ian, none of the developers had ever visited Exmouth before. Instead, their first interactions with the environment were through maps, weather charts, and geographical descriptions. Their first impressions of the landscape were thus framed through the assessment of whether the salt flats, mangrove systems, and channels of the Exmouth Gulf could sustain a financially viable salt farm. Once they discovered that a salt mine was deemed possible, only then did they proceed

to the next stages of visiting the region, making further applications to governments, and commencing stakeholder relationship management. They had assessed the landscape in relationship to its past human uses, and the uses it could potentially be put to in the future. So, while they understood the area to be 'wild', they did not accept that it was the 'true wilderness' as depicted in the conservationists' environmental narratives.

They therefore based many of their interpretations of the scientific research on the assumption that the environment had survived over 100 years of human industry, and could therefore retain its current state if they were to construct the mine. They had commissioned millions of dollars worth of scientific research in compliance with the regulations set out by the EPA, and in their eyes, science should have supported what they already *knew*. That is, that the environment was diverse, and resilient, and was capable of accommodating a salt mine. In their eyes, as science could not foretell that the environment *would* experience negative impact, nor could it foretell that it would not. Through the process of dispute, they therefore took on the assumed role of objective expert that their position appeared to entail, and attempted to use this to show what they saw as the 'irrationality' of the conservationists' arguments. The developers saw their role in the process of mining development itself as technical experts who have studied, and then spent their entire careers learning the skills and knowledge they were now putting to use in the design of the mine. Their confidence in their own and their colleagues' skills and experience solidified their belief in their own worldview over that of the conservationists', and that the results of the scientific research would ultimately support their arguments.

In opposition to their own moral representation of development, the developers saw the conservationists as naïve and young, not yet fully aware of the importance of development in the maintenance of their way of life. By positioning the conservationists in this way, they withdrew any of the legitimacy of the conservationists' arguments, and thereby positioned themselves as having the good fortune to learn this through their engagement in the industry. While the technical processes of development were rarely acknowledged as having any relationship to emotion, the developers often expressed excitement or enthusiasm for their role in the planning process, or for having overcome a difficult planning problem that could only have been done through skill and experience. They similarly felt negative emotions, such as anger or frustration, at the

conservationists' inability or unwillingness to acknowledge their confidence in their ability to construct what they thought was a sustainable and well-planned mine. These strong emotions served only to enhance the schismogenic process of dispute, as neither the conservationists nor the developers would even acknowledge the potential for legitimacy in their oppositions' arguments.

In opposition to conservationist moralities, the prevailing moral beliefs and values within development discourses were strongly related to the idea that development was *good* for the economy. Thus, what was good for the economy was ultimately good for society. In their eyes, the financial gains from mining on the failing local economy would be a positive one, with a flow-on effect to environmental protection and improvement to community services. However, not all of those involved in the mining industry held such unswerving confidence in the industry. Some who have worked in mines with failing environmental and safety standards came to see that the rhetoric of environmental protection and safety did not necessarily play out in day-to-day activities of mineral extraction. Understandably, the developers in this research never disclosed any private concerns of their own regarding the proposed development. Instead, they used examples of other existing mines to show how the conservationists' concerns were unfounded. When they did acknowledge any problems that had occurred to other mines in the past, they did so to illustrate how their innovations would solve any problems that had occurred in similar mines elsewhere. Their continued promotion of development moralities, in which the potential good of the mine far outweighed any minor harm it could do, was illustrative in itself of the strength of this normalising discourse. Thus, development moralities and ideologies provided a strong framework through which their environmental narratives could be represented in the public dispute.

Schismogenesis and the nature of knowledge

In this thesis, I have argued that the increasingly polarised and acrimonious relationship between the conservationists and developers can usefully be understood through Bateson's model of schismogenesis (1935, 1958, 1972). Within this model, schismogenic interactions between two opposing parties were characterised by escalating conflict, in which both groups were competing for the same goal using the same means, yet were aiming for opposite outcomes. As the two groups entered into a play for power so as to influence the final outcome in their own party's favour, their

claims and actions usually became increasingly exaggerated and oppositional as they competed to present the most legitimate or powerful belief, value, action or knowledge claim. As a result, the assertion of difference formed the basis of a schism, which often results in increasing hostility and the degeneration of the relationship, and distinct boundaries placed around the two groups (or individuals) who might otherwise have shared many characteristics. In this case study of conflict between conservationists and developers in Exmouth, the foundations of the schismogenic process described above were clearly visible in their increasingly acrimonious relationship, and which had a significant impact on the ways in which environmental knowledge was represented and contested.

Although they obviously shared many similar beliefs, values, and ways of knowing and interacting with the landscape, the conservationists and developers ultimately disagreed on the fundamental question of whether or not the mine should be allowed to proceed. While the conservationists saw the development as a significant threat to health and resilience of the ecosystem as well as the local community, the developers presented the proposal as being the ultimate in sustainability and the long-term viability of the township. From the beginning, therefore, both groups were fighting for opposing outcomes based on their beliefs regarding the appropriate human-nature relationships that would support a sustainable future. It was on this basis that both groups entered into the schismogenic process of dispute, which was played out through the competitive representation of legitimate (yet opposing) environmental narratives. As a result, the relationships between the developers and local conservationists became increasingly acrimonious, to the extent that no information could be shared or discussed in any meaningful or productive way during the final SRG meeting.

A key reason that the participants entered into, and then remained involved in the dispute, was that it was the only main avenue for public stakeholders to have an impact on the decision-making process. For the government to arbitrate the dispute (with strong guidance by the EPA), the two groups were obliged by law to enter into a relationship that was based entirely upon discussing and debating the knowledge, beliefs, and values of both local stakeholders and the mining company. This legislation had arisen as a result of increasing demand to allow all stakeholders to play a more powerful role in decision-making, in which all parties were obliged to take on particular roles and responsibilities in the dispute (some of which had previously been the domain of the

government) while also having the opportunity to have an impact on the final decision. However, as I have shown in this thesis, the reality was very different. For, as long as both parties were working towards an opposing goal, there could be no room for compromise. Instead, they worked hard to shape and represent their environmental narratives and knowledge to reflect their ideal imagined future. As a result, the government was forced to arbitrate over an acrimonious dispute, rather than a fairly and openly discussed process through which a clearer understanding of the environment and local concerns was gained.

Each interaction between the conservationists and the developers was based on their aim to present a more legitimate environmental narrative than their opposition. Rather than directly answering the concerns or questions posed by their opposition through meaningful discussion or analysis of the knowledge at hand, both the conservationists and developers countered each argument or concern with competing arguments or ideas. Members of the two groups would draw on whatever form of knowledge or evidence that they felt would successfully 'win' that debate, whether it included scientific evidence, local experiential knowledge, moral values, or economic needs. In this fashion, members of both groups entered into each dispute by creatively employing the same methods to gain the power of legitimacy so as to have an impact on the government's ultimate decision.

According to Bateson (1935:181), two main types of schismogenic opposition could occur in this instance; complementary and symmetrical schismogenesis. As discussed in Chapter 6, complementary schismogenesis did occasionally arise through the dispute, in which the two groups used fundamentally different forms of knowledge in order to support their own arguments. An example of this could be seen during altercations in which the developers drew on increasingly technical arguments in their attempts to refute the conservationists' moral claims. As a result, the two opposing ways of knowing (technical versus moral) became reinforced through the increasing opposition between them. Binde and Boholm (2004:175) also highlighted this similar example in their study of a railway siting dispute in Sweden. Interestingly, complementary schismogenesis did not occur frequently in the Exmouth case study, and it was highly dependent upon the individual personalities and experience of the actors involved. By the final months of the public consultation process, complementary schismogenesis did not appear at all in my presence. Instead, both the developers and the conservationists

had very quickly become ‘experts’ in reinterpreting and re-presenting their opposition’s arguments using the same forms of knowledge. The conservationists learned to use the technical and scientific knowledge of the developers, while the developers learned to counter the conservationists’ moral claims by raising alternative technical and moral beliefs, values, and knowledge. In this process, the two groups attempted to ‘outdo’ each other by drawing on opposing, yet equally powerful, knowledge and values to counter each others’ arguments. Symmetrical schismogenesis therefore became the primary form through which the conservationists and developers became distinctly polarised.

Within the boundaries of the schismogenic process, neither group could concede that there might be truth in what the opposition had to say, or they would risk ‘losing’ that particular argument. They therefore became locked in a process whereby distinct boundaries were drawn between two different ways of understanding the world. Those who overtly supported one or the other were obliged to promote their own group’s world view, or risk losing credibility in the overall dispute. Ultimately, over the sixteen months I conducted fieldwork, the conservationists and developers came to represent two opposing bodies of knowledge that described the environment in almost completely opposite ways.

The two opposing environmental narratives generated through this dispute therefore highlight the ways in which knowledge is inextricably linked to emotional, moral, scientific and political frameworks for interpreting and understanding the world. These aspects of knowledge were far more complex and indistinguishable than is generally represented in the environmental decision-making arena. Consequently, the environment knowledge and narratives that were gathered in order to decide the future of the mining proposal involved much more than a collation of objective fact. As the conservationists, developers, and decision-makers were aware, simply *knowing* something did not automatically translate into support for ‘the greater good’. Instead, much of the decision-making process revolved around the moral questioning of exactly what constituted a *good* future, and what kinds of human industries were the most appropriate to ensure this future. It was these questions, rather than particular ‘facts’ or figures, that caused the conservationists and developers to become so bitterly divided. However, the ‘facts’ or figures that supported (or could be understood to support) one view or another were important to both groups, and were therefore emphasized to

support their moral worldviews. Ultimately, certain facts and figures came to represent either side of the dispute through their association with either the conservationists' promotion of wilderness discourse, or the developers' conceptualisation of a sustainable future in which human industry and nature co-existed.

Although popular discourse tends to posit environmental activists and developers as inherently opposed, I have argued that the intensity and bitterness of the division is not inevitable. In this thesis, I have therefore posited my analysis from the 'middle' of the dispute so as to focus on both the similarities and differences between the two opposing groups. From this vantage point, Bateson's concept of schismogenesis provided a useful analytical tool to understand the *processes* through which difference was created and imagined, and how certain scientific knowledges, local experiential knowledges, and moral and emotional beliefs and values become inextricably linked in the representation of opposing environmental narratives. This thesis, then, shows that simply attempting to ignore, or put aside, the moral and emotional aspects of knowledge in the decision-making process will only serve to promote the schismogenic process of future disputes. As technologies increase the capability of human interference in the environment, particularly in the case of mining, questions regarding the right ways for humanity to exist within the environment become ever more pertinent. However, for as long as the environmental decision-making framework revolves around single mining proposals, in which two opposing groups must take sides in order to debate the much more broad-ranging anxieties about the sustainability of human-nature relationships, then conflict and increasing opposition in world view will continue to dominate the decision-making process. Consequently, there remains no room for participants to enter into a more open debate of the positives and negatives involved in the many imagined ideal futures that continue to be promoted within opposing conservationist and development narratives.

Epilogue

The decision

In July 2008, after almost six years of planning and ongoing public consultation, over AU$5,000,000 spent on a scientific assessment alone, and in excess of AU$10,000,000 overall (Ian, 1 October 2007), the Environmental Protection Agency publicly released the report to the minister. Their recommendation was to reject the proposal, stating that the proposed mine placed an unacceptable risk on the environment and the proposal not be permitted to proceed (EPA 2008:ii). In particular, the report argued that the size of the 'development footprint', and the associated potential loss of habitat, were of particular concern. Involved in this were concerns for mangroves and algal mats in the event of sea level change and/or future erosion, the potential loss of nutrients from rainfall run-off, the significant risk of storing large quantities of bitterns (11 million cubic metres over 10 years [EPA 2008:1]), and the effect of pollution and disturbance on marine fauna resulting from increased shipping (EPA 2008:1).

The minister followed the EPA's advice, and rejected the proposal in its current format. However, the developers were offered the opportunity to resubmit an application if they were willing to alter the proposal in a way that would reduce the size of the mine significantly, and would utilize alternative bitterns management program. Straits Resources launched an appeal directly after this decision, and then sold the project to a Thai company called PTT Asia Pacific Mining in March 2009. Their appeal was again rejected in September 2009. Although they launched a second appeal, PTT announced that it was withdrawing the proposal in February 2010, saying that they were looking into alternative sites for the proposal where it may not pose such a risk to the environment. While the developers called their withdrawal of the application a 'strategic' decision, the conservationists claimed the victory. They congratulated the government for making a decision based on 'common sense' and 'scientific fact' rather than being 'bought out' by the billions of dollars of revenue that supports the state and Federal government.

During 2011, the developers recommenced designing a new proposal, which is still owned by PTT. This time, they had initiated community consultation in the design stage, before they had referred the application to the EPA for environmental assessment.

In particular, the consultation completed to date has focused on how to make the design more environmentally sustainable, and how to construct a mine that would be accepted by the public and local Exmouth residents. The local conservation group have also become involved, and are monitoring the project as it progresses. At the time of writing, they have no intention to allow a salt mine to be built in this region if it can be prevented.

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