Cultivating Community

How discourse shapes the philosophy, practice and policy of water management in the Murray–Darling Basin

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We acknowledge the traditional owners of the lands on which Sydney University Press is located, the Gadigal people of the Eora Nation, and we pay our respects to the knowledge embedded forever within the Aboriginal Custodianship of Country.

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Prologue

Communities in crisis

In July 2016, I arrived in Sydney. Two days later, I rented a car and was driving to Wagga Wagga, a small city located in the heart of New South Wales. I was alone in a land wholly unfamiliar to me. My satellite navigation system indicated I was an hour away from Wagga, but I had not seen another car on the road for more than an hour. I worried I had taken the wrong road. It seemed impossible that a populated city was close by. The empty landscape was dotted with sheep happily grazing the pastures. Aside from the vast distances and the absence of people, this was a familiar scene. The eucalyptus trees that sporadically appeared were the only reminders of a forgotten era before the arrival of the settlers who radically transformed the landscape, clearing the land for pasture so that it might resemble the English countryside.

A drive towards progress, individual freedom and dominion over nature is illustrated by the modernisation projects of the 20th century that have changed the face of the Earth. The Three Gorges Dam in China, for example, is one of the few projects so enormous that it can be seen by the naked eye from space. Massive hydrological projects that began in the 20th century helped to develop some of the most productive agricultural lands in the world. Such projects include the Hoover in the United States of America, the Kariba in Zambia, the Bhakra in India, the Aswan in Egypt, the W.A.C. Bennett in Canada and the Burrinjuck in Australia, to name a few.[1] These projects radically

transformed ecological landscapes, damaging and destroying wetlands, and displacing people and communities to make farming possible. In time, productive and vibrant farming communities grew up around these dams and their contiguous irrigation and drainage systems.

Today, climate change, characterised by the increasing frequency of floods and droughts, threatens these communities. The effects of climate change also highlight the need to restore wetlands that act as vital carbon sinks. Retaining ecological sites like wetlands while ensuring the long-term sustainability of farm communities and their contributions to local and regional food security are significant challenges. These complex dynamics are exemplified within the Murray–Darling Basin, threatening its viability as an ecosystem and productive space. The Millennium Drought, which began in 1997 and lasted until 2009, decimated farming communities and highlighted the vulnerability of marshlands in the face of climate change.

The modernisation projects of the 20th century radically redefined natural landscapes. These projects were led by the state and relied on expert knowledge and bureaucratic planning. In Australia, with nearly all states having a history of starting as convict settlements run by colonial Britain, the state had a long history of leading development projects. These projects intensified dramatically in the 20th century as the state hoped to transform the landscape in ways that could make European-style agriculture possible.

Having never set foot in Australia, I developed an interest in bureaucratic planning and the role of the state in development during my time working at the Canadian Department of Agriculture. There, I witnessed how the knowledge of experts, scientists and bureaucrats was prioritised over farmers' knowledge. Further, some farmers' voices were given more consideration than others. For instance, some farmer organisations were removed from consultation lists because they were not considered "cooperative" enough. I was concerned that the apparent silencing of dissenting opinions would invariably negatively affect policy development. In this project, I hoped to conduct research that spoke to the needs of farming communities and develop a bottom-up engagement process. The Murray–Darling Basin offered an ideal

1 See Hiltzik 2010; Matanzima 2022; Prentice 1998; Rangachari 2006.

case study of a state-led development project that had received significant pushback from local farming communities.

Through my research, I came to recognise how discourses shape the ways we understand the natural world, how they empower and disempower different voices, and how they impact responses to environmental problems. Government officials, Indigenous communities, farmers and environmental advocates have distinct ways of understanding the world, as evidenced through discursive practices like the language and symbols each group uses. Discourses also define the parameters of what is considered acceptable and desirable. Uncovering the assumptions embedded in discourse is essential for understanding how interests are defined and how they can be redefined. For example, according to many Indigenous groups around the world, the Earth is conceived of as a mother who gives life and provides. On the other hand, government officials may generally understand the Earth as a resource that requires management. Such diverse conceptualisations frame definitions of problems and the policy choices that follow. Uncovering assumptions embedded in discourses can reveal alternative solutions to the problems associated with retaining vital ecological sites like wetlands while sustaining farm communities. A central precondition for reciprocal dialogue between communities and expert planners is the openness to alternative ideas, perspectives and knowledge.[2] Through open dialogue, discourses evolve, and new ideas can emerge. Overcoming hierarchal governance structures and top-down decision-making requires understanding how discourses shape assumptions about the world and the possibilities for change.

The dominant environmental discourses in Australia were moulded by the country's colonial past. Settlers had a sense of superiority and a drive to "improve" the land. This sense of superiority is rooted in monotheistic traditions, which teach believers that they are moulded in God's image, separate from, and holding dominion over, animals and nature. All civilisations are grounded in different ontological symbols that provide a collective identity or a "cosmion". Our symbols of the cosmion provide the internal structure – the symbol of Christ is an

2 Dryzek 2013; Hajer and Versteeg 2005; Litfin 1994.

example of this.[3] With Copernicus and the discovery that the Earth revolves around the Sun, Europeans recognised they were not at the centre of the universe. However, as technology and science challenged notions of God, the human-centred view of the world did not fade. Instead, people began to see science and technology as the primary means to control and direct the course of the natural world; this helped fuel the human desire for progress.

Rooted in liberal traditions, as exemplified in the writings of Enlightenment thinkers like Locke and Smith, is the idea that the value of nature is conferred only through the application of human labour, and unimproved nature is without value.[4] Emphasis on "progress" and individual land rights as central to a liberal economy has supported the commonly held view of land as a commodity that can be separated into parcels and partitioned from the surrounding environments. As cited in McCarty and Prudham, modern liberal thinking has dramatically restructured our relationship with nature through what Polanyi called "fictitious commodities".[5]

Enlightenment conceptions of individual freedom are also critical to our notions of "progress" and development. The Canadian philosopher George Grant argued that the most significant myth in our society is the myth of progress, because it depends on the assertion of absolute human sovereignty. He argued that people believe in the myth of progress to give meaning to their lives. Further, people believe in freedom as the absolute assertion of the self. However, when we experience personal freedom absolutely, we are no longer able to connect with the world around us. Grant asserted that the separation of myth (systems of meaning) from freedom (as realised only through the act of asserting oneself) can lead to what he describes as a type of schizophrenia. He calls this solipsism: the inability to conceive of others as truly human – they are instead objects. The language of the self makes us think we are absolute and responsible for our destinies. We come to believe that all our successes are determined by us alone, cutting the role of the community out of the picture.[6]

3 Voegelin 1952.
4 Voegelin 1952.
5 McCarty and Prudham 2004, 277, 281.
6 Grant 1998, 391–2.

It follows that in a world of automation, large cities and an unquestioned belief in progress and individual freedom, communities are disappearing. Like the city people, the farmers have become professionals, depending on technology, automation and growing their businesses.[7] Economic expansion through control of nature by science has become a common driving force of modern societies. The cost of such an approach has been, among other things, the disintegration of farm communities. The success of farmers is considered to rest squarely on the backs of individual farmers.

The environmental crisis is rooted in a crisis of human culture characterised by Western notions of progress and individual freedom. There is a common belief that progress is inevitable, that nature can be controlled and shaped to our individual desires and that there is little to learn from the past. These views have helped shape the nature of environmental discourse and governance. But some have challenged these views of the world and asked people to value nature as an end in itself and not just a means to satisfy human desires. As Hinchman and Hinchman explained, "what 'justifies' each individual being is not its potential serviceability for human schemes, but its irreplaceable contribution to the flourishing of the whole, a totality that *includes* human life and purposes but is not *defined* by them".[8] Culture itself should be treated as an expression of natural relationships. The ideas, metaphors and institutions we create are rooted in our relationship with the natural world. For example, the monoculture model of agriculture is symptomatic of a broader culture that has been shaped by the homogenising influence of technological modernity. There is a need to conceptualise society in ways that emphasise the interrelations between culture and nature, which are largely ignored in modern liberal regimes.[9]

Australian Indigenous peoples understand the relationship between culture and nature as inseparable. They understand that one element cannot be separated from the whole; the entire community of plants, animals and people must be accounted for. At the beginning

7 Grant 1998, 51.
8 Hinchman and Hinchman 1989, 210 (italics in original).
9 Hinchman and Hinchman 1989, 203, 214.

of colonialist conquests into Australia, early explorers learned about the Indigenous worldviews and their associated practices. But, over a short period, the pervading opinion was that little was to be learned from the Indigenous peoples and land should be fashioned by Western constructions of nature. The colonialist mindset was to work the land in ways that would achieve the desired results in the shortest time. This approach meant the settlers often destroyed the natural systems needed to sustain their production goals. By the mid-20th century, it became evident that there could be no environmental justice without an accounting of whole communities that are affected by changes to the landscape. This worldview is in stark contrast to that of the Western settlers who colonised the landscape and carried with them a vision of the world rooted in individual freedom and dominion over nature.

The 17th-century English philosopher William Hobbes credited government institutions with delivering humanity from the "state of nature". This view has profoundly shaped interactions with the natural world as governments, corporations and institutions tend to see nature as separate from people. A discourse that prioritises people over nature has diminished our capacity to see the extent to which human activity has environmental consequences *and* to which environments exert influence on human affairs. The environmental movement is a healthy reaction to anthropocentrism, but it has often failed to recognise the well-entrenched and fragile ecological relationships between people and the environment resulting from our long historical legacy of interference in natural systems. In *The End of Nature*, Bill McKibbin explained how virtually no part of nature remains pristine. There is an increasing recognition that virtually no space remains untouched by human development. The environmental movement in Australia has historically been characterised by a protectionist ethic that seeks to maintain the "natural" condition of environmental spaces. Environmentalists worked to create spaces that were free from human development and interventions. But Indigenous communities tend to see people as part of natural spaces and focus on their role as caretakers. Today, the environmental movement is evolving in ways that consider the critical role that people can play in caring for the environment in both productive and non-productive spaces.

If we hope to confront the enormous environmental challenges of our time, a dramatic shift in awareness, more closely aligned to the conceptions of nature of Australian Indigenous peoples, is needed: a view that recognises that people are a part of the natural world. Recognising the separation of people from their communities is crucial in understanding the disconnect people experience with the natural world. As Højrup and Swanson wrote: "The domus [house] and its hubris of human control has led us to imagine ourselves as separate from the multi-species relations of the agrios [wild], allowing us to forget our relentless entanglements with the landscapes."[10]

Culture, the sets of practices and beliefs developed through human communities, determines how we interact with the land. Culture provides a set of instructions about how to live on the land. How we treat the land is representative of the health of human cultures. Human culture is a way to metabolise life. Through music, dance, conversation, telling stories and eating together, we create the communities that allow human culture to flourish. Human social relationships are thus a significant determinant of environmental outcomes. Murray Bookchin, a leading historical figure in the environmental movement, argued that the roots of ecological problems are closely tied to human social problems and can be solved by reorganising society along more ethical lines. Bookchin's approach acknowledged the co-dependent relationships between human communities and natural systems. Bookchin wrote: "ecological degradation, is in large part, a product of the degradation of human beings by hunger, material insecurity, class rule, hierarchal domination, patriarchy, ethnic discrimination, and competition".[11] Environmental health depends on the health of human cultures and communities. Low-income, minority and rural populations are disproportionately vulnerable to the effects of environmental destruction. Further, adaptation and mitigation in these communities are affected by financial, social and systemic constraints.

While seeking to gain a livelihood from the land, many farmers also see themselves as caretakers. They work to maintain natural spaces on their farms, reduce the use of fertilisers and pesticides, protect

10 Højrup and Swanson 2018, 153.
11 Bookchin 1994.

endangered species of insects, birds and amphibians, and farm in ways that account for the natural ecology of their land. This is the case with many of the farmers living in the Murray–Darling Basin. Without a broader conception of ecological communities, which includes humans, plants and animals, we narrow the framing of environmental problems and limit potential solutions. This book draws attention to the vital role of community in achieving environmental outcomes. A shift in the discourse will require a recognition of the deep connections between nature and human communities.

From the outset, this research sought to explore what a bottom-up approach to addressing environmental problems might look like. My research focused on the role of farmers and the communities that support them, challenging a historically top-down approach by government. Discourse analysis was a fitting approach as it requires a high level of immersion in communities to uncover how respondents understand their circumstances and how they might affect change. During my five months of research in Australia, I drove more than 20,000 kilometres. The distance between farms made it nearly impossible to do more than one interview per day. My trips began at dawn, so I could arrive at my destination before nine in the morning and complete the interview before noon. Then I would have to drive an average of two to three hours to sleep at my house in Wagga Wagga or a hostel in one of the surrounding towns, often Griffith. Driving after dark was simply not possible as there were animals on the road, and a breakdown in the country could be dangerous. Even in a developed country like Australia, researchers face numerous hazards they cannot predict. Further, there can be a strong sense of isolation and even fear, fear I felt acutely when forced to sleep in my car one night. But visiting people in the spaces they are familiar with and meeting with them individually are essential for generating trust and creating an environment where people can speak freely about their experiences and opinions. Farmers appreciated that I made an effort to see them in such remote areas and that I had the proper footwear to get in the tractor or truck with them and continue the interview in the field.

For most farmers, this was the first time anyone had visited their farm to interview them, and they were happy to spend time with me and tell their stories. In many ways, there is an emotional aspect to

this type of research because the researcher becomes invested in the outcome. One farmer, for example, lost her home and much of her land in flooding along the river shortly after my interview. As an outsider, it is difficult to comprehend how precarious the situation can be for farmers. When people talked about bankruptcy, divorce, drug addiction and even suicide in their communities in the wake of the drought, I could sense the despair. These experiences led me to want to contribute to a research project sensitive to the human costs of drought and government policy. For almost a year after the research, while I transcribed the interviews and worked in my teaching jobs, I felt a strong sense of despondency about my potential contribution. I experienced the fear that comes from understanding that a researcher's words and choices can genuinely affect the communities they undertake research in. The close relationships I developed with farmers meant that I heard strong and detailed arguments from them, which invariably affected my understanding of the situation. These relationships meant that I was committed to this group's wellbeing. This has resulted in a book that speaks more to the farmers' side of the story than other points of view. In hopes of presenting both sides of the issue, I have also seriously considered the perspectives of academic experts and policy analysts. In doing so, I hope that policymakers, particularly those at the Murray–Darling Basin Authority, will consider this account of events as a unique and critical perspective based on the observations of someone largely outside the problem. Even though researchers are expected to remain objective, I do not believe this is possible when you work closely with a population. Researchers are not unsympathetic observers; I had become emotionally invested in the outcome and hoped that my research would make a difference.

Introduction

In the language of the Wiradjuri people of central New South Wales, "Murrumbidgee" means "big boss". The Murrumbidgee River in the Murray–Darling Basin is so named because it dictates the way of life for those who live along it and depend on it. People here must learn to follow the uneasy ebb and flow of an ever-changing and largely unpredictable system. Living along the Murrumbidgee, Darling (Baaka) and Murray rivers of south-eastern Australia sustainably depends not only on how well one can predict the weather and ensuing conditions of the river *but* also on anticipating that some things are unpredictable. Life depends, to some degree, on the dictates of the river. This condition means that adaptation is an essential characteristic of survival. For the farmers, like for the Wiradjuri people, this is the reality that dictates the possibility of a future.

Currently, nearly 80 per cent of the world's population is threatened by an insecure water supply, and the vast majority of fresh water is dramatically affected by human activity. There is a political, social and environmental imperative to manage water sustainably. Australia, the driest inhabited continent, subject to extreme temporal and spatial variation in rainfall, faces significant challenges to its freshwater

systems.[1] Maintaining the Murray–Darling Basin, Australia's most extensive freshwater system, is critical.

The Murray–Darling Basin is more than a million square kilometres in area and crosses four states and one territory. It includes some 77,000 kilometres of rivers and creeks and 30,000 wetlands. Despite its immense size, the river system has a modest average inflow.[2] The basin is essential to Australian agricultural interests and the rural communities supported by agriculture since colonisation. From 2011–12, the gross agricultural production in the Murray–Darling Basin was $19 billion, or around 40 per cent of the total Australian value of agricultural commodities. The catchment also provides water to some 2 million people.[3] Despite measures to conserve water, the Murray–Darling Basin is drying up, and so are the farm businesses that depend on it. Though there have been significant measures to conserve water, nearly half of the farmers in some parts of the Murray–Darling Basin have sold their water allocations back to the government, abandoning their cultivation of irrigation-dependent crops like table grapes and rice.

Farmers are integral to water conservation efforts in the basin, contributing a unique perspective rooted in their long history of adaptation efforts. But, a review of the history suggests that farmers have had difficulty influencing discussions around water management. By treating them primarily as a cause of water scarcity, governments often fail to recognise the potential contributions of farmers to addressing the crisis. Over their long history, negotiations concerning the management of the Murray–Darling Basin have frequently been top-down and have not produced the results desired by any of the actors involved. In some instances, initiatives also created distrust within communities and contributed to the crisis that actors were trying to mitigate.[4] For example, farmers were deeply concerned that the Commonwealth government would forcibly strip their water entitlements after they introduced plans in the *Water Act* of 2007 to

1 Swirepik, Burns et al. 2015.
2 Swirepik, Burns et al. 2015.
3 Chenoweth and Malano 2001.
4 Harley, Metcalf and Irwin 2014.

retrieve millions of litres of water from the system for environmental purposes. Some analysts argued that the causes of water mismanagement were found in federal interventions, while others said that mismanagement had happened primarily at the state level.[5] Either way, a hurried water reform process meant to divert water from production for environmental purposes occurred with limited input from farmers, and the ecological benefits remain questionable.[6] One clear result is that the process devastated farmers and communities implicated in these reforms.

Farmers have a wealth of local knowledge regarding water management on their farms and can make significant contributions in terms of solutions. But how is that knowledge considered by policy experts, and to what effect? The Murray–Darling Basin case reveals how farmers are included in policymaking and implementation processes meant to respond to challenging environmental circumstances. This book explores the impact of farmer knowledge and perspectives on water management discourse in the Murray–Darling Basin. I approach this inquiry by situating the knowledge and views of farmers within the broader policy discourse of water management in the basin.

This book addresses how environmental discourses shape the parameters of acceptable policy choices in the Murray–Darling Basin and subsequent outcomes. This is done by examining a series of questions: What are the defining discourses of water management in the Murray–Darling Basin, and how have some discourses gained authority over others? What forms of knowledge do these discourses legitimise? How have these discourses defined public policy historically and today? What difference do these discourses make to how land and water are managed? What alternative perspectives, knowledge and policy options are excluded, *and* what would be the policy implications of these alternative perspectives?

In response to these questions, this work identifies five environmental discourses in the farming and policy communities in the Murray–Darling Basin: administrative rationalism, economic rationalism, democratic pragmatism, green environmentalism and

5 Doyle and Kellow 1995.
6 Doyle and Kellow 1995; Lee and Ancev 2009.

community-centrism. It examines the origins of and assumptions embedded within these discourses. Further, it looks at how farmers influence these discourses and how the discourses affect farmers. Australian academic and environmental writer John Dryzek has previously discussed the first three discourses.[7] The fourth, green environmentalism, was a discourse I identified through my research. Green environmentalism is a dominant alternative discourse of environmental problem-solving in Australia. This often biocentric discourse is needed to understand environmental management decisions in the Murray–Darling Basin. I argue that the first four discourses played critical roles in shaping the parameters of acceptable policy choices in the Murray–Darling Basin from the 1950s to 2017, the period covered in this study. The final discourse, community-centrism, is one of resistance that has had a less direct effect on policy to date but has much to offer in terms of defining an alternative future for water management. This discourse was constructed through my observations of farmers' environmental management experiences in the Murray–Darling Basin, what they shared with me in interviews and a careful review of alternative environmental discourses.

John Dryzek identified three dominant discourses that Western societies have tended to work within when responding to environmental problems. He called these the "discourses of environmental problem solving": administrative rationalism, economic rationalism, and democratic pragmatism. Each of these discourses appears to be highly relevant in the case of the Murray–Darling Basin. Elements of each have played roles in defining policy choices in the basin in recent decades. The history of water management within the Murray–Darling Basin can be characterised mainly by administrative rationalism as policy design and implementation have largely been top-down, emphasising the expertise of scientists and bureaucratic control. Administrative rationalism is associated with professional resource management bureaucracies, central agencies, regulatory policy instruments, expert advisory commissions and rationalist policy-analysis techniques.[8] Administrative rationalism emphasises the

7 Dryzek 2013.
8 Dryzek 2013, 73, 75–98.

expert's role while downplaying the citizen participation role in building capacity for problem-solving. It has the goal of rapid modernisation under the guidance of those deemed expert authorities by the state, and it frequently assumes that nature is subordinate to human problem-solving. One fundamental problem with administrative rationalism is that it presents a false image of specific knowledge and benign power.[9] Further, powerful interests often interfere with decision-making. Decisions are guided by the interests or policy objectives of specific actors at the expense of satisfying the interests and goals of others.

Like administrative rationalism, economic rationalism also led to a myopic view of specific problems in the basin. In contrast to the centralising tendencies of administrative rationalism, economic rationalism is grounded in the notion that decision-making should happen at the individual level. Central to this discourse is the idea that individualism promotes competition, allocates resources more efficiently and thus contributes to positive economic growth.[10] Economic rationalism assumes that free markets are the best method of decentralising environmental planning and is often touted as the most reliable mechanism for dividing common resources. In the Murray–Darling Basin, adopting economic rationalism led to an emphasis on economic instruments to resolve water over-allocation problems, meaning that other solutions were often overlooked.

Economic rationalists argue that free markets and the protection of individual property rights are best for preventing what they view as the disasters associated with state-centric environmental planning. A consequence of this approach in the Murray–Darling Basin is that private rights regimes necessitated increased government intervention to address negative externalities. Proponents have argued that economic rationalism avoids the tragedy of the commons because property owners are more likely to care for private than public (or common) property.[11] But managing collective resources under private rights regimes is quite challenging, mainly because the level of

9 Torgerson and Paehlke 2005.
10 Dryzek 2013, 122–34.
11 Hardin 1968.

management intervention often elevates the need for government involvement.[12] As will be argued, this situation has often occurred in the Murray–Darling Basin. Economic rationalism also undervalues the multifunctionality of ecosystems by focusing only on economic outcomes in the short term.[13]

Dryzek's third primary environmental problem-solving discourse, democratic pragmatism, emphasises the practical application of ideas through democratic processes, such as environmental consultations and involving members of the broader public in consensus-building initiatives, rather than through the imposition of ideological force. Democratic pragmatism assumes that participants are informed and that special interests will not dominate. But, as we will see, in practice, the discourse of democratic pragmatism can reinforce the status quo and ignore the wider-scale social processes in which specific environmental issues are embedded.[14] Though the Commonwealth government was committed to consultation in the Murray–Darling Basin, farmers felt excluded for many reasons. For instance, they often thought that the government only initiated consultations after making decisions, that government representatives were unwilling to meet with farmers in the spaces they were accustomed to and that information was often inaccessible or incomprehensible. This research shows that attempts to democratise processes for managing the Murray–Darling Basin often failed and therefore had limited problem-solving potential. I argue that efforts towards democratic pragmatism were constrained by the overarching discourse of administrative rationalism and its impact on decision-making.

Each of the three discourses presents a different story of environmental water management. Together, they help unpack what happened in the Murray–Darling Basin. First, a legacy of administrative rationalism has shaped policy developments in the region and continues to do so. The increased influence of economic

12 Robertson 2007.

13 In agriculture, multifunctionality refers to the numerous benefits that agricultural may provide, generally to the non-trade benefits of agriculture (OECD 2001); Hollander 2007.

14 Dryzek 2013.

rationalism has complicated that story since the 1980s. Economic rationalism was manifest to the extent that it fits within the overall structure of administrative rationalism. Democratic pragmatism also informed problem-solving in the Murray–Darling Basin but primarily to support the status quo that was already well entrenched through the discourses of administrative rationalism and economic rationalism.

I argue that a fourth discourse characterised by biocentric views, which I term "green environmentalism", also profoundly affected the politics of water management in the Murray–Darling Basin. This discourse became prominent during the extended drought of the early 2000s, when efforts to protect environmental water grew more important and the green environmental movement gained influence on the basin's politics. This fourth discourse is needed to explain the policy turn that occurred during the period.

Green environmentalism elucidated how "environmental water" could be separated from "productive water", at least theoretically. Despite attempts to rectify historical wrongs by "protecting" nature, green environmentalism was grounded in problematic assumptions and came to have harmful effects. As Kay and Simmons have argued, people are a part of nature. Evidence suggests that a natural state of (pre-human) nature, as conceived by romantic assumptions embedded in green environmentalism, is impossible to identify historically, let alone restore through contemporary environmental management strategies.[15] Identifying a perfect state of nature is a subjective exercise, and aesthetic or romantic conceptions of nature do not necessarily reflect an ideal situation, in a practical sense, for animals or people.

These four discourses collectively help us understand what occurred in the Murray–Darling Basin, but none of them effectively achieved its intended goals. Instead, we saw a worsening of the crisis. Based on this research, I argue that environmental resource management should centre on the role that human societies – productive and unproductive – have in positively affecting their environments. This type of management can be achieved through knowledge of locally specific contexts and acting according to

15 Kay and Simmons 2002.

principles that meet the needs of local communities.[16] The most effective solutions to environmental management arise from policies that allow land managers like farmers to become empowered and to self-manage their resources. Focusing on farmers and the communities built up around them gives a fuller characterisation of a more integrated and holistic way of seeing human–environment relationships. To demonstrate the potential for bottom-up problem-solving in the Murray–Darling Basin, I piece together an emerging alternative discourse, which I term "community-centrism". By foregrounding the voices of farmers, I argue that community-centrism can help policymakers understand environmental concerns in a way that benefits human societies, nature and the long-term economic stability of communities.

Community-centrism is a response to the failings of the other four environmental discourses. In Chapters 3 and 4, I explore how these other discourses limited policy choices in response to the problems in the basin. While some farmers have learned to work within established discourses to advance their interests, these discourses still limit the bounds of acceptable discussion. My central argument in Chapter 5 is that community-centrism offers a path forward focused on social values. Building on the insights of Murray Bookchin, Elinor Ostrom and others – but grounded in the voices of the farmers I interviewed in this case – community-centrism focuses on the crucial role of community-based cooperation and engagement. This alternative discourse – focused on social outcomes – has the potential to produce complementary environmental and economic effects.

Overview

In Chapter 1, I provide a demographic and historical overview of water management in farming communities in the Murray–Darling Basin. The chapter discusses developments in the basin since colonisation and how those changes affected modern views towards water management. I describe the climate and related disasters that culminated in the crisis

16 Ostrom 2012.

of the Millennium Drought. Further, I explain the role of the Ramsar Convention in justifying certain political decisions in the basin in the context of an overarching administratively rational approach. The chapter also explores the challenges of creating a unified and coordinated response to water management problems. In addition, an overview of Australia's political landscape and the role of the political party the Australian Greens in defining environmental issues since the 1990s gives essential context to this discussion.

In the second chapter, I present my theoretical framework. I employ a constructivist approach to unpack the central role of ideas in discourse. While there are numerous ways to examine a discourse, this work focuses on ideas using the framework developed by Mehta.[17] Mehta identified three levels of ideas – public philosophies, problem definitions and policy choices – that interact to inform policy. I focus primarily on problem definitions and policy choices to explore how they inform each other in the context of specific discourses. Chapter 2 lays out the broad contours of the five main discourses in my case study using Mehta's classification of ideas.

Chapter 3 provides an outline of the impact of the three dominant discourses in the Murray–Darling Basin: administrative rationalism, economic rationalism and democratic pragmatism. During the period of centralised and rapid modernisation, particularly during the 1950s and 1960s, little regard was shown for the social, historical and geographical context in which large environmental projects were developed. Governments dramatically altered the landscape through major irrigation projects led by the state. In this chapter, I argue that administrative rationalism has heavily affected problem definitions and policy decisions in the basin and continues to do so. Next, I examine the role of economic rationalism, which was predominant from the 1980s onwards. Governments developed market-based instruments, suggesting a more open, free-market approach to deciding where water would go. These changes sought to limit the role of government in development and trade. But adopting neoliberal policy tools fuelled a drive towards more, rather than less, government intervention. Policies related to economic rationalism had clear negative impacts on the

17 Mehta 2013.

community and the environment. Finally, I examine the role of democratic pragmatism in the Murray–Darling Basin. The evidence shows that these democratising processes failed to incorporate local knowledge. As a result, government interactions often reinforced centralised decision-making and increased divisive tensions. Individualism, present in farming communities and government organisations, defined the shape (and limits) of the democratic pragmatist discourse in the Murray–Darling Basin. Consequently, the discourse of democratic pragmatism is limited by the assumptions embedded within the other two central discourses discussed in this chapter.

In Chapter 4, I examine the productive effects of green environmentalism. The green movement has made significant contributions to environmentalism in Australia, but the central problem with green environmentalism is a tendency to view human societies as inherently in competition with non-human species and spaces. Government policies that separate natural environments from human environments have negatively affected the capacity of farmers to manage their environments and undermined the ability of governments to develop policies that benefit the larger ecosystems they seek to protect.

Chapter 5 presents an alternative approach to water management in the Murray–Darling Basin. I present a different view of the basin's challenges, grounded in interviews with farmers, uncovering their understanding of the issues they live with. Farmers offer a unique understanding of water management that places community interests at the top of the political agenda. Throughout this chapter, I explain how focusing on community outcomes has many positive environmental and economic consequences. Sustainable water management in the basin will depend on the government's ability to mobilise one of its most important resources: farmers. I argue that a community-centrist approach to managing water resources could lead to a greater capacity of farmers to self-manage water resources and make valuable contributions to environmental planning.

Chapter 6, titled "Policy alternatives", underscores the need for alternative perspectives, particularly those of farmers, and advocates for a more inclusive and deliberative policymaking approach. I conclude

by calling for an authentic and inclusive deliberative process to redefine regional policy development and ensure the success of farmers.

The Murray–Darling Basin offers an example of how environmental problem-solving discourses inform the development of policies in ways that have consequences for both people and nature. Specifically, this case shows how dominant discourses can silence those who might offer meaningful perspectives and alternative solutions to complex and weighty environmental crises, such as drought. This conclusion has important implications as we consider policy responses to future weather extremes resulting from a changing climate. Employing Dryzek's categories of environmental problem-solving discourses and examining their interrelationships, the research shows how discourses inform the parameters of acceptable policy choices in the Murray–Darling Basin.

The analysis in the following chapters gradually reveals how policy was produced in relation to these discourses and how these discourses influence policy choices. Through a critical reflection of these discourses, we can begin to envisage an alternative future that can provide for the needs of the economy, society and environment. This work presents such an alternative view in the final chapter. I show how community-centrism offers a new way to see the synergies among the interests of nature, the economy and human communities in the Murray–Darling Basin.