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The Broken Promise of Agricultural Progress

An environmental history

Cameron Muir



THE BROKEN PROMISE OF AGRICULTURAL PROGRESS

The question of food and our reliance on the global agricultural system has become one of the defining public concerns of the twenty-first century. Ecological disorder and inequity is at the heart of our food system. This thoughtful and confronting book tells the story of how the development of modern agriculture promised ecological and social stability but instead descended into dysfunction. Contributing to knowledge in environmental, cultural and agricultural histories, it explores how people have tried to live in the aftermath of 'ecological imperialism'.

The Broken Promise of Agricultural Progress: An environmental history journeys to the dry inland plains of Australia where European ideas and agricultural technologies clashed with a volatile and taunting country that resisted attempts to subdue and transform it for the supply of global markets. Its wide-ranging narrative puts gritty local detail in its global context to tell the story of how cultural anxieties about civilisation, population and race, shaped agriculture in the twentieth century. It ranges from isolated experiment farms to nutrition science at the League of Nations, from local landholders to high-profile moral crusaders, including an Australian apricot grower who met Franklin D. Roosevelt and almost fed the world.

This book will be useful to undergraduates and postgraduates on courses examining international comparisons of nineteenth- and twentieth-century agriculture, as well as those studying colonial development and settler societies. It will also appeal to food-concerned general readers.

Cameron Muir is Australian Research Council Postdoctoral Fellow at the Australian National University and the National Museum of Australia. From 2013 to 2014, he was Fellow at the Rachel Carson Center for Environment and Society, Ludwig Maximilian University of Munich, Germany, and a visiting scholar at the University of Wisconsin–Madison's Center for Culture, History, and Environment (CHE), part of the Nelson Institute for Environmental Studies, USA.

‘Cameron Muir has produced a brilliant, far-reaching book that combines environmental and agricultural approaches to urgent questions about food politics and land management. This is a terrific work of historically textured, geographically immersed storytelling that also has a strong conceptual payoff in debunking resilient myths about what it would take to feed the world. Muir’s conclusions will reverberate across disciplines and national borders.’

Rob Nixon, University of Wisconsin, USA

‘In his gripping account of the failures of European agriculture on the western plains of New South Wales, Cameron Muir challenges our assumptions about the social and environmental outcomes of agricultural progress. How can global food security be maintained, given that modern farming technologies can ‘break’ places? Muir’s perceptive and fresh analysis alerts us to why the lessons of the past are so crucial for the future management of our environments.’

Kate Darian-Smith, University of Melbourne, Australia

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The Broken Promise of Agricultural Progress: An environmental history

Cameron Muir

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THE BROKEN PROMISE OF AGRICULTURAL PROGRESS

An environmental history

Cameron Muir

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FOREWORD

Welcome to Routledge's new Environmental Humanities Series. We are honoured to introduce Cameron Muir's exciting, creative and scholarly book, *The Broken Promise of Agricultural Progress*, a book that encapsulates so much of what the series has been established to achieve.

Growing food is fundamental to people everywhere, but it is a peculiar story in each particular place. 'Food studies are on the rise,' Rob Nixon, Rachel Carson Professor of English at University of Wisconsin-Madison notes, and argues that *Broken Promise* is 'an eloquent, ambitious volume in that domain, one that ought to reverberate across disciplines and internationally.'

Cameron Muir's provocative book thrusts us into what the author calls 'the ecological disorder and inequity at the heart of our food system'. The Environmental Humanities has a particular obligation to cross scholarly fields and engage them in international conversations of this sort. In *Broken Promise*, questions of food production build on both environmental and agricultural histories, and they consider present practices, and limits and possibilities for future production.

The country of inland Australia has a harsh and variable climate, distinctive geological and vegetational characteristics and a difficult history of frontier settlement that together conspire to make the story of ecology, culture and food uncommonly rich. *Broken Promise* takes its readers into 'a volatile and taunting country that resisted attempts to transform it for the supply of global markets' but that has been wounded by imperial visions and international scientific approaches to agriculture. It has been, in some ways, damaged irreparably. Nonetheless, Muir writes the story of the country where he grew up with compassion for its people and hope for its future.

This is truly a work of the interdisciplinary humanities. Cameron Muir combines a literary lyricism with meticulous archival scholarship. His book is attentive to the social function of global agriculture and how it plays out in particular places.

It is a gripping account that takes its readers to the heart of global questions about 'feeding the world'. It also grapples with the way nationalist cultural and economic positioning can work against local ecologies. Adapting to environmental challenges has shifted the epicentre of environmental studies away from an exclusively scientific and technological framework to one that depends on the human-focused disciplines and concepts of the humanities and social sciences. Muir's work is part of this new turn in environmental studies, and shows elegantly how the humanities can enhance environmental understandings.

As series editors, we welcome Muir's vivid, accessible style, his artistic structure and presentation, and his deft interweaving of themes in dialogue with one another. Using the forensic scalpel of a humanist, he exposes myths, moral sloganeering and 'the material consequences of the language and metaphors we use to understand the living world'. Sometimes, he considers the infrastructure (bores), sometimes the ecological conditions of place (scrub, reeds, dust) and sometimes the aspirations for the area (wheat, cotton). Always, he is attentive to the ways that wider ideologies of race and nation can become entangled in local food missions. Together the chapters build a powerful holistic narrative that 'opens up a conversation about real long-term reform and vision for our relationships with the non-urban environment that sustains us'.

We encourage other prospective authors to be inspired by *Broken Promise*, and to offer book proposals from all humanities and social sciences disciplines for our inclusive and interdisciplinary series. Our readership comprises scholars and students from the humanities and social sciences, museums and thoughtful readers from all walks of life who are concerned about the human dimensions of environmental change. *Broken Promise* launches this new venture, exploring the role of culture in global food security, agricultural and water crises. We also seek to embrace studies of ocean pollution, resource depletion, global warming, urban sprawl and broad questions of environmental justice.

Iain McCalman and
Libby Robin

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My thanks go to local landholders who welcomed me into their homes and shared their stories with me: Myra and Phillip Tolhurst at Willie Retreat and Neville Simpson at ‘Allambie’ and Bourke. Steve Buster who, despite having a crop in for the first time in years, took time out to show me where to find Pera Bore sites, and gave me permission to go through the old Pera Bore archive that is in his possession. Peter Tyrell spent hours explaining water licensing to me. The Dubbo Field Naturalists Society, and Danielle Flakelar and Damian Lucas of New South Wales National Parks and Wildlife, allowed me to tag along on field trips.

Permission to publish the Bora ceremony photos near the Macquarie Marshes was graciously provided by Wailwan elder Uncle Neville Merritt via Powerhouse Senior curator of Koori History and Society, James-Wilson Miller (with written permission from Gilgandra Land Council). I thank the Norman Rockwell family for permission to publish the iconic ‘Freedom From Want’ poster.

The cover image is based on the artwork of Tamworth artist Marie Larkin.

Hamish, Angus and Lachie were born during the time it took to write this book. Thank you Leanne Muir for your enduring support.

PROLOGUE

‘This place isn’t romantic enough to write a book about,’ a National Parks officer advises me, nudging at some wiry scrub with the toe of his boot.

We’re standing in a clapped-out former sheep paddock at the edge of the Macquarie Marshes. One hundred kilometres north of a town called Warren, in the backblocks of western New South Wales, the marshes aren’t on the way to anywhere. You have to have a reason to come out here. Colonial explorers were drawn here by the prospect of discovering a great transcontinental river, but instead they found ‘an ocean of reeds’.¹ Soon settlers came to feed sheep and cattle. Later a few would visit for its remarkable birdlife, and recently, more people came to grow cotton. The Wailwan, before authorities forced them to move in 1935, had lived here for more than a thousand generations.

The Parks officer raises his head, squints into the last of the winter light, and scans the plains. ‘Books need mountains, ancient forests,’ he explains. ‘This place is . . . too degraded.’

I take it as counsel about what kind of ‘nature’ receives attention and resources. Perhaps his view is drawn from his own experiences working here.

Not far from us a white four-wheel drive kicks up dust on a scald. I try to blink the grit out of my eyes. This place is supposed to be an oasis, a green heart in dry country, a place renowned for attracting wildlife from all around the semi-arid plains, from all over Australia, and even from the northern hemisphere. Today though, fine red clay dries the back of my throat. It tastes salty, metallic.

We start walking down to the campsite. Two dead trees on this side of the fence bear hacked bands typical of ringbarking. There’s nothing on the ground except for a spiny shrub called *Rolypoly*. It rolls along as it is blown by the wind, then settles and finds a new place to spread, offering sparse cover to bare ground. Upstream the river is dammed and harnessed for irrigation and it’s been years since a big renewing flood spilled out across this country. This is a landscape of big ideas

and broken promises. The landholders around here are tired, and so is their land. Maybe the Parks officer is right. Yet somehow I am drawn to this place not so far from where I grew up, even after agriculture has come, and gone away again, leaving the land with its bones showing.

Writing the toad

In his book *The River*, environmental historian Eric Rolls shares a story about introducing his first wife, Joan, to the Namoi River. It was the middle of summer and the river was losing an inch of water a day. Joan wasn't immediately impressed with the sight before her. Rolls said, 'If Joan thought it was a toad, it was no use me trying to argue the warts off it. She had to see it differently for herself.'² Before long Joan must have seen it differently because they made love on the banks of the river. Or perhaps that was Eric's method of persuasion.

Making love is not an option when dealing with the sensibilities of a National Parks officer. How do I get across that 'flat' doesn't mean featureless, that a plain isn't boring? As Australia's climate dried and the Great Dividing Range rose, low energy streams began carrying sediments from the highlands and deposited them inland over millions of years to form a vast alluvial plain. The gradient was so slight and volumes so low that no gorges were cut into the earth. Shallow rivers danced lightly across great expanses in slow geological time. With sediments up to 100 metres deep, the plains are a palimpsest of abandoned riverways. Plains are old and secretive. You need to read them with a deeper sense of time.

American writer Barbara Kingsolver says iconic places such as the Amazon rainforests or the Arctic tundra 'have a power that speaks for itself, that seems to throw its own grandeur as a curse on the defiler'. She wonders who would complain if someone muddied her own Horse Lick Creek in Jackson County, a place that is 'nobody's idea of wilderness'.³ How do you write so that others care about your clay-pan? About the places that aren't usually regarded as beautiful, or romantic, or inspiring? I write the inland plains as they are, I don't try to argue the warts off them, but I hope the writing shows that broken places like these plains are still worthy of attention and care.

Notes

- 1 After hearing Oxley's reports of the Macquarie as 'a noble river of the first magnitude' W.C. Wentworth thought the river might cross the continent. See Ernest Favenc, 'Unfulfilled Dreams of Australia', *Sydney Morning Herald*, 23 November 1901; John Oxley, Letter from Oxley to Governor Advising of His Return from First Expedition. August 30, 1817., (eBooks @ Adelaide, 2003 (1817–18)), <http://ebooks.adelaide.edu.au/o/oxley/john/o95j/appendix1.html> (accessed on 1 February 2014).
- 2 Eric C. Rolls and Marianne Yamaguchi, *The River* (Sydney: Angus & Robertson, 1974), 5.
- 3 Barbara Kingsolver, 'The Memory Place (Horse Lick Creek, Kentucky)', in *Heart of the Land: Essays on Last Great Places*, ed. Joseph Barbato and Lisa Weinerman (New York: Vintage, 1996), 284.

INTRODUCTION

Growing, procuring and eating food, argued American historian Donald Worster, has been humanity's 'most vital, constant and concrete' connection to the natural world. Exploring our relationships between ecology, culture and food production, he urged, 'must be one of the major activities' of the emerging field of environmental history'.¹ More than two decades after the publication of those words, the question of how we feed the world without destroying it is as pressing as ever. The weight of the challenges we face grows each year: peak soil, peak oil, peak water, peak phosphate, obesity, inequality, soil erosion, river degradation, commodity speculation, species extinctions, food riots and a billion people hungry. What does it mean to live at a time when the way we feed ourselves threatens the social and ecological fabric of the planet? This is a conversation in which we must continue to participate, and this book is just one contribution to that ongoing dialogue. It offers a perspective from history in a recently colonised, food surplus-producing nation, a place that possesses a fraught and complex relationship with its ecology.

Three primary ideas weave their way through the seven chapters of this book. The first is that Western agriculture in the twentieth century developed in the wake of 'ecological imperialism' and this shaped its goals, philosophy and professionalisation. The way agriculture evolved was in many ways a response to the environmental consequences of colonising 'new lands'. It held an ambiguous role in this regard. It was, at once, a means of environmental repair, and a cause of environmental degradation. The second is that nineteenth- and early twentieth-century ideas in biology became entangled with cultural ideas about inheritance, race, population and civilisation, and this played an often unacknowledged role in influencing modern agriculture and food production. Agriculture has been valued less for the food it produces than its social and geopolitical purposes. The third idea concerns the nature of our human and environmental relationships. It arose

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unexpectedly during the writing of the book. The stories collected together began to suggest there is a connection between how we treat each other and how we treat the land. Good ecological relationships depend on good social relationships.

This book tells the story of how we've tried to grow food, and conserve the environment, with all the violence and courage that marked this endeavour. It's a tale of small-town tragedy and species extinction, of strange experiments and 'slow violence', of idealists, visionaries and the contradictions of an environmental hero who destroyed Australia's greatest river system. It is set in the western plains of New South Wales, once described as 'a place where every prospect displeases, and all but man is vile'.² It is an environment that shares some characteristics with parts of the Great Plains of the United States and Canada, the steppes of Eurasia, and the pampas and drylands of Argentina. It is flat, semi-arid and often a challenge to farm. It's not known for being the kind of place people go to experience scenic beauty, but it is the place from which I draw gritty local detail to pose local, bioregional and global questions.

The aftermath of 'ecological imperialism'

The British colonisation of Australia unleashed agriculture and industrialisation upon the continent almost simultaneously, in what historian Tom Griffiths described as a 'compressed, double revolution'.³ Early in the nineteenth century great herds of cattle and sheep spilled into the inland plains of the continent. Tens of thousands of years had passed since megafauna last grazed these grasslands. Unlike every other British colonial experiment (except New Zealand), this was a place where no cloven foot had broken the soil.⁴ Landholders sought to remake the continent's interior as a paddock for England. The result was brutality, massacres, corruption, animal cruelty and environmental waste on a scale that threatened to derail the entire settler project. Luxuriant grasses disappeared with a rapidity that astonished landholders, dust storms raged from the plains and shrouded the burgeoning cities along the coast, hard and spiny native vegetation began to 'invade' the ruined grasslands, scores of small mammals were made extinct, introduced rabbits ran wild in 'plagues', the ground hardened, streams incised into the flat earth on which it formerly spread and complex, ephemeral waterways were degraded. Disease and demoralisation weakened Aboriginal populations as they fought to the death with European colonisers for the plains.

This is a narrative which might appear familiar – an account of 'ecological imperialism'. In his influential book, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*, Alfred Crosby drew attention to the temperate zones of the world in which European colonisers displaced the indigenous people, achieved 'demographic takeover' and produced food far exceeding domestic needs. These 'neo-Europes', as he labelled them, were the United States, Canada, Australia, New Zealand, Argentina and Uruguay. Crosby's compelling argument was that the Europeans seized these places, not with technological or cultural superiority, but

with the help of the diseases, plants and animals they brought with them. The raw, young plants of Europe, specialists of disturbed environments, thrived in the newly disrupted ecologies of the New Worlds, and unlike in the colonised tropics, European agriculture worked better in temperate climates.

Crosby might have overplayed a one-way exchange of species and ideas, and perhaps, gave up too much to non-human agency. We cannot deny human responsibility for the bloodshed and injustice that marked the colonisation of the New Worlds.⁵ It is inevitable that such a sweeping book would receive revisionist criticisms and subtle expansions. Can ecological imperialism help explain events in Africa and Asia where colonisation wrought environmental change but demographic takeover did not occur? Is 'temperate' too general a term to describe the diverse ecologies of the New World lands, and is it too restrictive as a climatic category defining where ecological imperialism occurred? Midway through his book Crosby points out that the temperate areas were really only pockets of suitable land in these new colonies.⁶ In Australia, for instance, only 6 per cent of its landmass is arable.⁷ Ecological imperialism spread beyond the temperate zones, to the ice cold of northern Canada, and into the dry and heat of inland Australia.⁸ Producing large food surpluses was not an easy task and required modifying local places as well as the plants brought from Europe.

The purpose of this book is not to interrogate the idea of ecological imperialism, but to retain it, in its broad, evolving sense, as a useful shorthand for the events that took place and a productive concept for locating points of connection between different settler societies. Australia's story is not isolated. The unique experiences here were also part of a global story about scientific agriculture, and the exchange of knowledge, species, commodities, social movements, environmental politics and geopolitical alliances.

If Crosby set the year 1900 for the end of ecological imperialism, what happened after this? We know the 'neo-Europes' went on to become food exporters, but how, and why and at what cost? This story explores the aftermath of that ecological imperialism.

The social purpose of agriculture

Towards the end of the nineteenth century, the settler project was in a dire state. 'The promised land was about to forget its promise', Geoffrey Blainey wrote in *A Land Half Won*.⁹ The pastoral industry had collapsed and economies sank into depression. Inland villages, in the words of one writer at the time, were left 'sun-devoured and sand-swept'.¹⁰ The colonies began losing their populations through emigration. Whenever the coast-hugging settlers turned their gaze towards the great interior plains, they glimpsed broken country, bloodshed and extinction. They saw skulls pierced with blunt lead bullets, ribcages cracked open with heavy spears, red country littered with ringbarked timber and the desiccated carcasses of millions of sheep; they saw clay-pans, silted creeks and sagging slab huts; they saw the material

4 Introduction

remains of initial hopes and land-lust bleached by an unrelenting sun. For governments, the frontier quickly became a liability; for pioneering colonisers, it was a path to ruin.

The idea that agriculture could play a significant role in the development of the colonies had been largely abandoned as settlers focused on mining and pastoral pursuits. Few people thought agriculture could pay in such a dry climate, with such a small population and long carting distances. In 1892, William Wilkins, the Under Secretary for Public Instruction, wrote a fifty-page treatise on agriculture, which began: 'It was a maxim of ancient statecraft that the food supply of the people should be raised within its own boundaries.'¹¹ This was no longer the case, argued Wilkins, because of expanding imperial relationships and international trade. New South Wales, following Britain, could import its food. Wilkins cautioned that necessary economic conditions must exist before agriculture could succeed in Australia.

Governments needed to redeem the settler project, and agriculture based on scientific principles emerged as an unexpected solution. At the same time as Wilkins was writing, there were others for whom the social function of agriculture was more important than any economic constraints it might face. The New South Wales Colonial Government established a Department of Agriculture in 1890 and, sixteen months later, it reported on its operations. Prizes were offered to farmers, judged not simply on yield or quality of produce, but on the 'cleanliness' of the land, and the general 'neatness and suitability of their house and farm buildings'.¹² The Department saw in this work the opportunity to foster a moral sensibility for tidy places. Its goal was to 'raise Agriculture in New South Wales to the proud eminence as an honourable calling and an exact science which it has long enjoyed in the most highly civilised countries of the Old World'.¹³ The developing field of scientific agriculture could deliver a new class of technically educated, semi-professional workers and small landholders for the new century. It would be a mode of production more suited to a modern state than squatting or mining. Agriculture promised to bring civilisation even to the frontier.

Agricultural history often emphasises the influence of changing economic policies and structures, as well as industrial technologies, scientific discoveries and solutions, and problems overcome. Histories of agriculture may tell a story of political battles and class warfare – between large landholders and small farmers, between conservative and powerful interest groups and egalitarians. These are important areas of scholarship, but less common is an examination of the sort of societies that agriculture aspired to create, and the influence of the environmental concerns and biological anxieties that pervaded nineteenth- and early twentieth-century society. In 1898, for example, Sir William Crookes, the president of the British Association for the Advancement of Science, said the civilised nations needed to find ways of increasing their wheat production because wheat was the plant that gave white people superior brains. The non-white races were increasing their populations and the white races needed to secure their food supplies. Nineteenth- and early twentieth-century societies were obsessed with understanding inheritance, race and