

**'Our land abounds in nature's gifts': Commodity frontiers,
Australian capitalism, and socioecological crisis.**

Matthew DJ Ryan

Discipline of Political Economy
Faculty of Arts and Social Sciences
The University of Sydney

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Statement of originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

Signature:

Name: Matthew Douglas James Ryan

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Abstract

This thesis presents a history of the origins of capitalism on the continent of Australia. It begins from a contemporary conjuncture riven with socioecological crises that demand theoretical and historical explanation – a conjuncture of mass extinction, of collapsing ecosystems, of accelerating climatic change. This is the vantage-point from which we look to theorise and historicise capitalism in Australia. Animating this history is our central research question: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? This question entails bringing the tools of historical materialism – especially in its eco-socialist and world-ecological forms – to bear on the historical origins of Australian capitalism, enabling an understanding of the production of nature and socioecological crisis in Australia. Engaging with this question begins from a definition of capitalism as a historically specific totality of socioecological relations: internally related processes of cheap nature, state formation, racialization, and gendered difference driven forward by the structuring power of the value form. These relations violently displaced extant Indigenous socioecologies, spreading across the landscape of Australia *via* the vehicle of ‘commodity frontiers.’ The thesis traces empirically the process of invasion, and the production of cheap nature through an incorporated comparison of three frontiers – wool, coal, and sugar. In exploring the internal relations of these frontiers through space and time we find them bound within the same totality, defined by dialectics of appropriation and exploitation, of crisis and expansion, of cheapness and of great cost. Through historical incorporated comparison, it can be shown that not only do these frontiers emerge from and constitute an emerging totality of socioecological relations. It also becomes clear these crises are, in fact, manifestations of a singular crisis, a crisis of capital. Put simply, the thesis grapples with the political and analytical challenge of the Capitalocene, and looks to contribute to its undoing through a retelling of the history of the invasion of this continent, and an apprehension of the nature of capitalism.

Introduction

Our old world, the one that we have inhabited for the last 12,000 years, has ended, even if no newspaper has yet printed its scientific obituary.¹

The 'Capitalocene'

We live in a time of socioecological crisis. So great are the mounting impacts of human society on our planet, geologists have begun considering the 'Anthropocene' as a new stratigraphic period.² Over the past two decades, this concept has been widely adopted and contested across the humanities and social sciences, apparently undermining entire disciplinary definitions, presenting fundamental challenge to theories and assumptions.³ The ramifications of this realisation are condensed by Bonneuil and Fressoz, who argue that

The Anthropocene is an event, a point of bifurcation in the history of the Earth, life and humans. It overturns our representations of the world... the Anthropocene idea abolishes the break between nature and culture, between human history and the history of life and Earth.⁴

The concept remains heavily contested, and is yet to achieve full recognition by the scientific community as a geological epoch, but can be summarised as the idea that humanity has, through the emission of greenhouse gases associated with industry and agriculture, begun shaping the very geology of our planet. Debates around the conceptualization of the Anthropocene have generated a great many neologisms that offer to capture this historic process with greater precision: pyrocene, plantationocene, Cthulucene, necrocene,⁵ to name a few. Each brings

¹ M. Davis, *Old Gods, New Enigmas: Marx's lost theory*, London: Verso Books (2018), pp. 202-3.

² P. Crutzen and E. Stoermer, 'The "Anthropocene"', *IGBP Newsletter*, 41 (2000) p. 17; P. Crutzen, 'Geology of Mankind', *Nature*, 415, January (2002) p. 23; S.L. Lewis and M. A. Maslin, 'Defining the Anthropocene,' *Nature*, 519: 171-180 (2015).

³ To take just history, consider: D. Chakrabarty, 'The climate of history: Four theses', *Critical Inquiry*, 35(2): 197-222, (2009); J.A. Thomas, 'The present climate of economics and history', in *Economic Development and Environmental History in the Anthropocene: Perspectives from Africa and Asia*, ed. G. Austin, New York: Bloomsbury, (2017), p. 292.

⁴ C. Bonneuil and J. Fressoz, *The shock of the Anthropocene: The Earth, history and us*, trans. D. Fernbach, Verso: London (2016, orig. 2013), p. 19.

⁵ S.J. Pyne, *The Pyrocene: How we created an age of fire, and what happens next*, Oakland, CA: University of California Press (2021); A.L. Tsing, *The Mushroom at the end of the World: On the possibility of life in capitalist ruins*, Princeton: Princeton University Press (2015); D.J. Haraway, *Staying with the Trouble: Making kin in the Cthulucene*, London: Duke University Press (2016); J. Davis, A.A. Moulton, L. Van Sant,

attention to the limitations of the Anthropocene as an analytic frame. This has been consistently argued by Jason W. Moore; ‘the Anthropocene perspective engages the really big questions of historical change... These are questions that the Anthropocene can pose, but cannot answer.’⁶ This, due to its reinforcement of the philosophical separation of Society and Nature, and its tendency to homogenize all of humanity into the *Anthropos*. This too-broad analytic also leads to vast differences in periodisation, with dramatic political implications. If we are looking to identify historically “when humans began to have a geologically-measurable impact on the planet,” one could periodise the Anthropocene as being 8,000 years old,⁷ or less than one hundred.⁸ What then is the political implication? Are we to simply look to shift from fossil capital to renewable capital? Or are we to advocate an end to sedentary agriculture? Against these framings, the Capitalocene has been proffered as a periodization that is historically, analytically, and politically preferable.⁹ This concept clearly names the socioecological relations of capitalism productive of our current crises. By framing the problem in this way, ‘we move from the consequences of environment-making to its conditions and its causes... [In-so-doing] a new set of connections appears...’¹⁰ We begin to identify the ‘world-ecology’ of capitalism as ‘a relation of capital, power, and nature as an organic whole.’¹¹ As the rest of this thesis will argue, capitalism is now the primary

and B. Williams, ‘Anthropocene, Capitalocene, ... Plantationocene?: A manifesto for ecological justice in an age of global crises’, *Geography Compass*, 13:e12438 (2019); M. Barua, ‘Plantationocene: A vegetal geography,’ *Annals of the American Association of Geographers*, OnlineAccess (2022); D.J. Haraway, ‘Staying with the Trouble: Anthropocene, Capitalocene, Chthulucene,’ in J.W. Moore (ed.) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, Oakland, CA: PM Press (2016); J. McBrien, ‘Accumulating Extinction: Planetary catastrophism in the necrocene,’ in J.W. Moore (ed.) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, Oakland, CA: PM Press (2016).

⁶ J.W. Moore, ‘The rise of Cheap Nature,’ in J.W. Moore (ed.) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, Oakland, CA: PM Press (2016), p. 80.

⁷ W.F. Ruddiman, ‘The Anthropogenic greenhouse era began thousands of years ago’, *Climatic Change*, 61, (2003) pp. 261-293.

⁸ W. Steffen, W. Broadgate, L. Deutsch, O. Gaffney and C. Ludwig, ‘The Trajectory of the Anthropocene: The Great Acceleration,’ *The Anthropocene Review*, 2(1): 81-98 (2015).

⁹ J.W. Moore (ed.) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*; J.W. Moore, ‘The Capitalocene, Part I: on the nature and origins of our ecological crisis,’ *Journal of Peasant Studies*, 44(3): 594-630 (2017); J.W. Moore, ‘The Capitalocene Part II: accumulation by appropriation and the centrality of unpaid work/ energy,’ *Journal of Peasant Studies*, 45(2): 237-279 (2018).

¹⁰ Moore, ‘The rise of Cheap Nature’, p. 78.

¹¹ *Ibid.*, p. 81.

determinant of the production of nature and the resultant socioecological crises. We live in a conjuncture of socioecological crisis; we live in the Capitalocene.

Let us look at those crises more closely. Not merely social, and not merely environmental; old separations between the two have crumbled in the face of the Capitalocene: 'the binary Nature/Society is directly implicated in the colossal violence, inequality, and oppression of the modern world.'¹² "Social" crises, such as inequality, uneven development, or housing crises are always also ecological, shaping land-use, water use, extractivism, and consumption. "Environmental" crises, such as floods, fires, droughts and disease are produced through social relations, and ramify back through them.¹³ Even 'hyperobjects'¹⁴ like climate change – objects so large they cannot be entirely seen – are mere agglomerations of the many, multiple and converging socioecological crises we face, colliding with species extinction, zoonotic disease, ecosystem collapse, floods, fires, droughts, and forced migration. Financial crises, crises of democracy, and other seemingly political crises are also themselves ecological.¹⁵ While not singular, climate change is nevertheless central. In a world that has warmed by 'only' one degree Celsius above preindustrial levels, we have already witnessed the horrors of cyclones Nargis, Idai, Matthew, Isaac, Irma, Dorian and Katrina. In Pakistan, the floods of 2022 killed an estimated 1,700 people, displacing 30 million – and this after the South Asian floods of 2017, impacting 45 million and killing 2,000.¹⁶ These storms will pale in comparison to the beasts unleashed in a world

¹² J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), p. 2.

¹³ On the political-economic disconnect between drought and famine, for example, see M. Davis, *Late Victorian Holocausts: El Nino famines and the making of the Third World*, London: Verso Books (2000), pp. 20-24.

¹⁴ T. Morton, *Hyperobjects: Philosophy and ecology after the end of the world*, Minneapolis: University of Minnesota Press (2013), pp. 1-4.

¹⁵ See, for example, J. Wainwright & G. Mann, *Climate Leviathan: A political history of our planetary future*, London: Verso Books (2018).

¹⁶ National Disaster Management Authority (NDMA), 'Daily SITREP No 118, October 9th 2022' (2022), accessed online, <http://cms.ndma.gov.pk/storage/app/public/situation-reports/October2022/zXFmE5LpVx34knkmZbri.pdf> ; Unicef, '16 million children affected by massive flooding in South Asia, with millions more at risk,' press release, 2nd September (2017), accessed online, <https://www.unicef.org/press-releases/16-million-children-affected-massive-flooding-south-asia-millions-more-risk> .

warmed by two, three, or four degrees; ‘damages from river flooding would grow thirtyfold in Bangladesh, twentyfold in India.’¹⁷ We have all read similar – and longer – lists of the terrors in store, and our eyes glaze over at news headlines of the latest “natural disaster.” Here in Australia, we have our own conceptions of the crisis, shaped by lived experience. In the ‘Black Summer’ bushfire season of 2019-20 around 5.8 million hectares of forests were consumed by fire in Australia, smoke blanketing cities for weeks.¹⁸ While the Australian continent has a long history of fire, this cannot explain the burning of more than 20 percent of Australia’s forest biome in one season – including wet rainforests that have not burnt for tens of thousands of years.¹⁹ In those same fires, estimates suggest that around three billion animals were killed, entrenching Australia’s dubious honour as the global leader of marsupial extinction.²⁰ Beyond fire, socioecological crisis extends from our mangroves to alpine ash forests, from the Great Barrier Reef to Macquarie Island tundra: research has identified at least 19 distinct Australian ecosystems that are currently collapsing.²¹ This thesis was produced within this conjuncture, to which it is addressed. The aim of this thesis is to contribute to an understanding of the origins of these crises, an apprehension of the forces that (re)produce them, and an articulation of a politics that might have a chance of undoing them.

Research Question

The central question this thesis asks is this: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? This question entails bringing the tools of historical

¹⁷ D. Wallace-Wells, *The Uninhabitable Planet: A story of the future*, London: Penguin (2019), p. 13.

¹⁸ L. Damany-Pearce, B. Johnson, A. Wells, M. Osborne, J. Allan, C. Belcher, A. Jones and J. Haywood, ‘Australian wildfires cause the largest stratospheric warming since Pinatubo and extends the lifetime of the Antarctic ozone hole,’ *Scientific Reports*, 12: 12665 (2022).

¹⁹ M.M. Boer, V.R. de Dios, and R.A. Bradstock, ‘Unprecedented burn area of Australian mega forest fires’, *Nature Climate Change*, 10(3):171-172 (2020).

²⁰ World Wildlife Fund, *Australia’s 2019-2020 Bushfires: The wildlife toll*, World Wildlife Fund (2020); International Union for the Conservation of Nature, *IUCN Red List: 2017-2020 Report*, International Union for the Conservation of Nature (2020).

²¹ D.M. Bergstrom and B.C. Wienecke, ‘Combating ecosystem collapse from the tropics to the Antarctic’, *Global Change Biology*, 27(9): 1692-1703 (2021).

materialism – especially in its eco-socialist and world-ecological forms – to bear on the historical origins of Australian capitalism, enabling an understanding of the production of nature and socioecological crisis in Australia. In animating this question, we will unfold a series of key theoretical and conceptual contributions that render this history legible, including Cheap Nature, the structuring power of value, totality, internal relations, and the environment-making state. These theoretical categories will be articulated through the first two chapters of this thesis, before being developed and deployed through the subsequent four historical chapters. In doing so, the thesis will develop an understanding of the nature of capitalism as an emergent socioecological totality, riven through with contradiction and crisis. Within this ontology, the commodity frontier is seen as a key vehicle, historically and theoretically, but also politically.

This raises questions of what is meant by ‘commodity frontier?’ There is an emerging trend across social-scientific disciplines, to focus on specific commodities to explain capitalism in general, while capturing the messiness of place and agency – that is, the study of ‘commodity frontiers,’ and their relation to the world-systemic whole. For Sven Beckert, cotton provided the vehicle to energize the ‘new history of capitalism’ literature.²² Corey Ross surveys several commodities to characterise empire as ecological, spanning cotton, cocoa, rubber, tin, copper, and oil across the tropics.²³ Amitav Ghosh sees broader implications in the story of nutmeg as the story of colonialism and climate crisis.²⁴ This is an intriguing recent development, especially considering Marx’s own use of the general form of the commodity as the departure point for his critique of political economy.²⁵ Contrasting Marx’s abstract beginnings, however, this emerging contemporary literature is grounded in empirical consideration of the commodity frontier,

²² S. Beckert, *Empire of Cotton: A new history of global capitalism*, London: Penguin (2014); E. Hilt, ‘Economic History, Historical Analysis, and the “New History of Capitalism”,’ *The Journal of Economic History*, 77(2): 511-536 (2017).

²³ C. Ross, *Ecology and Power in the Age of Empire: Europe and the transformation of the tropical world*, Oxford: Oxford University Press (2017).

²⁴ A. Ghosh, *The Nutmeg’s Curse: Parables for a planet in crisis*, London: John Murray Publishers (2021).

²⁵ K. Marx, *Capital: Volume 1: A critique of political economy*, London: Penguin (1992), p. 125-138.

following the argument ‘that studying the global history of capitalism through the lens of commodity frontiers and using commodity regimes as an analytical framework is crucial to understanding the origins and nature of capitalism, and thus the modern world.’²⁶

In contextualizing their research agenda, Beckert *et al.* trace similar approaches which focus on the commodity, from neoclassical conceptions of externality leading to over-exploitation of particular commodities,²⁷ through treatments in ecological economics²⁸ and development studies.²⁹ But a central articulation of the commodity frontier concept is attributed to Jason W. Moore, whose formulation is ‘[v]alued by a growing number of scholars from different disciplines as a problem-oriented transdisciplinary approach to historical processes.’³⁰ For Moore, along with co-author Raj Patel, ‘Capitalism not only has frontiers; it exists only through frontiers... Through frontiers, states and empires use violence, culture, and knowledge to mobilize natures at low cost. It’s this cheapening that makes frontiers so central to modern history and that makes possible capitalism’s expansive markets.’³¹ Unacknowledged by Beckert *et al* is the deep well of historical materialist antecedents that inform Moore’s work,³² and thus they truncate the

²⁶ S. Beckert, U. Bosma, M. Schneider and E. Vanhaute, ‘Commodity frontiers and the transformation of the global countryside: a research agenda,’ *Journal of Global History*, 16(3): 435-450 (2021), p. 435.

²⁷ P. Collier, *The Plundered Planet: Why we must – and how we can – manage nature for global prosperity*, Oxford: Oxford University Press (2010).

²⁸ A. Hornborg, ‘Zero-Sum World: Challenges in conceptualizing environmental load displacement and ecologically unequal change in the world-system,’ *International Journal of Comparative Sociology*, 50(3-4): 237-62 (2009).

²⁹ F. van der Ploeg and S. Poelhekke, ‘Natural Resources: Curse or blessing?,’ *Journal of Economic Literature*, 49(2): 366-420 (2011); R.M. Auty, *Resource Abundance and Economic Development*, Oxford: Oxford University Press (2001).

³⁰ Beckert *et al.*, ‘Commodity frontiers and the transformation of the global countryside,’ p. 440.

³¹ R. Patel and J.W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*, Berkely: University of California Press (2017), p. 19.

³² While Moore’s contribution is crucial, it is important to acknowledge the deep waters from which he drew. Examples might include: R. Luxemburg, *The Accumulation of Capital*, vol. 1, Glasgow: Good Press (2019 [1913]); N. Smith, *Uneven Development: Nature, capital and the production of space*, 3rd ed., London: Verso (2010); J. O’Connor, *Natural causes: Essays in ecological Marxism*, New York: The Guilford Press (1998); M. Mies, *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labour*, London: Zed Books (1986); S. Federici, *Caliban and the Witch: Women, the Body and Primitive Accumulation*, Brooklyn: Autonomedia (2004); M. Mellor, *Feminism and Ecology*, Cambridge: Polity Press (1997); A. Salleh, *Ecofeminism as Politics: Nature, Marx, and the postmodern*, second edition, London: Zed Books (2017); M. Mies and V. Shiva, *Ecofeminism*, London: Zed Books (2014/1993); T. Bhattacharya (ed.) *Social Reproduction Theory: Remapping Class, Recentering Oppression*, Cambridge: Pluto Press (2017); L.

possibility of commodity frontiers becoming a more radical epistemological departure. This thesis asks: in what ways might a commodity-frontier history of Australian capitalism contribute to a sufficient politics for the Capitalocene? To arrive at this question, let us consider more-closely the formulation of the commodity-frontier research agenda for global history.

Sven Beckert is a focal point for the 'new histories of capitalism' literature, and emblematic of the tendency of this literature to use the commodity frontier as scope and method. For this reason, it is important to consider Beckert *et al.* at length here. For them, the commodity frontier

helps us understand on an empirical and conceptual level how ongoing incorporations of new reservoirs of labour, land and nature have constituted capitalism's extraordinary dynamics – especially its ability to produce ever more goods. Focusing on the long history of these commodity frontiers allows us to analyse how frontier expansion has generated shifting sets of seemingly localized activities to secure access to labour, land and nature for globalized commodity production, helping us come to terms with the diversity of outcomes at any given moment and their shift over time. Seeing how commodity frontiers have moved for centuries, taking on very different characteristics – transitions marked by booms and busts, inherent ecological and social limits including resistance, and altered by the very contradictions they produced – lets us better understand some of the fundamental dynamics of capitalism and its connection to and subsumption of new spaces, new countrysides and new forms of nature. And, crucially, looking at commodity frontiers makes it strikingly clear that it is impossible to fully understand capitalism without thinking just as much about the countryside as about cities, about agriculture as about industry.

Commodity frontiers are core constituents of the modern world. Understanding how and why they have expanded, moved and adapted over time is thus a key step in a better understanding and analysis of the global history of capitalism. But it includes great challenges: how to account for the enormous variety and specificity of actors and places involved in this history, the dizzying number of changes that have taken place as well as their almost unfathomable scale, without losing sight of the broad movements of global capitalism and its systemic transformations? It is to this fundamental social sciences challenge that global history can contribute crucial insights.³³

In this way, the concept of the commodity frontier animates a contribution to ongoing challenges within global history, usefully bringing our attention to the origin and nature of capitalism, capturing the world-historical process of incorporation, bringing the 'countryside'³⁴ into a

Vogel, *Marxism and the Oppression of Women: Toward a Unitary Theory*, New Brunswick, NJ: Rutgers University Press (1983).

³³ Beckert *et al.*, 'Commodity frontiers and the transformation of the global countryside,' p. 437.

³⁴ J. McIntyre usefully challenges this term in the Australian context, against 'the Bush,' 'and the differences are more than semantic... In [the countryside] human populations flowed from country to city. By contrast in Australia, rather than an existing rural society providing the primary workforce for industrialization, non-Indigenous rural labourers arrived at colonial immigration entrepôts, such as Sydney or Melbourne, and travelled into hinterlands and territories of bushland that was new and strange territory for them.' J.

capitalist totality – though Beckert does not go so far as to use that term. This thesis agrees with this call in that it also sees commodity frontiers as historically significant, and methodologically useful. But there are some key questions that arise in the face of the above formulation. Crucially, it contests the idea that this is the exclusive terrain of global history, looking to make a specifically political-economic contribution to our formulation of the commodity frontier. Indeed, a lack of political-economic thinking would seem to have neglected key contributions to the questions posed above, especially ‘how ongoing incorporations of new reservoirs of labour, land and nature have constituted capitalism’s extraordinary dynamics.’³⁵ Surely this is the same question grappled with by Neil Smith in his seminal *Uneven Development*? As in the first paragraph of the introduction to that work,

Deindustrialisation and regional decline, gentrification and extrametropolitan growth, the industrialization of the Third World and new international division of labour, intensified nationalism and the geopolitics of war – these are not separate developments but symptoms of a much deeper transformation in the geography of capitalism. At the most basic level, the object of this work is to unravel the theoretical logic driving this restructuring of geographical space.³⁶

Smith, and the broader literature on uneven and combined development,³⁷ would seem to be grappling with the same questions as our colleagues within the new history of capitalism, and its focus on the commodity frontier. Indeed, we might interpret the commodity frontier research agenda as an operationalisation of the Smith ‘production of nature’ thesis. This is the approach taken here, but this is an unrealised possibility for much of the commodity frontier literature, due to a reluctance here to operate at a higher level of abstraction. They take issue with

scholars who focus squarely on commodity frontiers [who] have often concentrated on single factors to illuminate their dynamics, insisting, for example, on master explanations like the ‘spatial fix’ (Harvey and Moore) ... and failing to historicize particular responses to particular moments of commodity frontier expansion.³⁸

McIntyre, ‘Nature, Labour and Agriculture: Towards common ground in new histories of capitalism,’ *Labour History*, 121: 73-98 (2021), pp. 75-6.

³⁵ Beckert *et al.*, ‘Commodity frontiers and the transformation of the global countryside,’ p. 437.

³⁶ Smith, *Uneven Development*, pp. 1-2.

³⁷ See A. Anievas and K. Nisancioglu, *How the West Came to Rule: The geopolitical origins of capitalism*, London: Pluto Press (2015), pp. 43-63; A. Bieler and A.D. Morton, ‘Uneven and Combined Development and Unequal Exchange: The Second Wind of Neoliberal ‘Free Trade’?’, *Globalizations*, 11(1): 34-45 (2014); N. Davidson, ‘The Frontiers of Uneven and Combined Development,’ *Historical Materialism*, 26(3): 52-78 (2018).

³⁸ Beckert *et al.*, ‘Commodity frontiers and the transformation of the global countryside,’ pp. 441-442.

The commodity frontier research agenda, articulated this way, allows theory in insofar as it acknowledges the object under consideration – capitalism – does have general, structural tendencies: ‘regular, albeit shifting, combinations of labour systems, property regimes, technologies and state interventions.’³⁹ But it would seem that a search for central, driving forces – value, for instance – is an abstraction too far.

This truncation of theoretical possibilities is not simply epistemological, but deeply political. It is intriguing that Beckert *et al.* acknowledge that Moore’s formulation of the commodity frontier is ‘valued’ as a ‘problem-oriented transdisciplinary approach,’⁴⁰ and yet fail to mention the ‘problem’ in question – the burning need to explicate the nature and origins of contemporary socioecological crisis. Indeed, this failure to prioritise socioecological crisis as vantage point is evident in Beckert’s own work, as ‘*Empire of Cotton: A global history* did not... consider environmental degradation caused by cultivating cotton plants (species *Gossypium*) in monocultures at plantation scale. This is despite plantations for generating capital surplus-value requiring deforestation and stable access to fertile soil, water, and other natural elements.’⁴¹ McIntyre thus sees Beckert as ‘glancing past nature’⁴² – something the commodity frontier must not do. Ghosh’s account of nutmeg, at least, is grounded in this political necessity:

If we put aside the myth-making of modernity, in which humans are triumphantly free of material dependence on the planet, and acknowledge the reality of our ever-increasing servitude to the products of the Earth, then the story of the Bandanese no longer seems so distant from our current predicament. To the contrary, the continuities between the two are so pressing and powerful that it could be said that the fate of the Banda Islands might be read as a template for the present...⁴³

But here, the politics of the commodity are reduced to parable, rather than a general, structural argument about the nature of the forces that produce nature in such contradictory and crisis-prone ways. It is for this reason that this thesis joins with Moore – and his eco-socialist and

³⁹ *Op. Cit.*, p. 442.

⁴⁰ *Ibid.*, p. 440.

⁴¹ McIntyre, ‘Nature, Labour and Agriculture: Towards common ground in new histories of capitalism,’ pp. 74-5.

⁴² *Ibid.*, p. 75.

⁴³ Ghosh, *The Nutmeg’s Curse*, p. 19.

ecofeminist antecedents – in situating the commodity frontier within a broader theoretical critique of capital. The commodity frontier research agenda must be explicitly grounded in the politics of the Capitalocene. It is for these reasons that this thesis is with and against Beckert; the thesis is explicitly organized around the world-historical salience of the commodity frontier, and uses this conceptual vehicle to explore the origins and nature of capitalism in Australia. Indeed, the commodity frontier helps to frame what might otherwise seem as a provincial history as one of incorporation into the global totality of capital. But this task, this history, must never be shorn of its political vitality. It is important to remember, then, the political stakes of the question ‘how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism?’ – stakes that are grounded in the initial articulation of the commodity frontier research agenda by Moore, which was explicitly situated against the context of the Capitalocene and capitalism as world-ecology. We will explore this further, in the broader context of the ecosocialist critique of capitalism, in Chapter 1. The concept of the commodity frontier must not be alienated from the political-theoretical project from which it emerges: the critique of capitalism as a socioecological totality.

Scope

To recapitulate, how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? Before we dive into this question, a demarcation and justification of scope is necessary. First, the selection and use of ‘Australia’ as a frame. There is the danger of reading history backwards, and thereby erasing the contestation and contingency of both the invasion of the continent by British settlers, and also presuming the eventual federation of the colonial states of Australia into a single national entity. The danger here is noted by Frank Bongiorno, who warns

a national history that treats ‘Australia’ as its basic unit of study inevitably misses something of the contingency of such a category. ‘Australia’ is the product not only of a local political settlement but also of global and transnational forces such as imperial conquest and decolonisation, industrialisation, migration, the expansion of capital, the development of trade, and exchanges of information, knowledge, ideas and culture. The best national histories treat the nation-state as

embedded in global networks shaped by these forces. But it remains a valid criticism that most national histories deal inadequately with such challenges.⁴⁴

Drawing on world ecological thinking, taking capitalism seriously as a totality, hopefully puts this work in that 'best' category, embedding national history in global history. Indeed, the category of the 'commodity frontier' does much work toward this end, as outlined above. But Bongiorno is still right to note that such a category is nevertheless an abstraction that will obscure some things. A further justification for this abstraction emerges from the aim of producing politically useful history. Although contentious, we might follow Marx and Engels here, in that 'the proletariat of each country must, of course, first of all settle matters with its own bourgeoisie.'⁴⁵ That is, struggles within, against, and beyond the Australian state demand theoretically and historically informed understandings of the nature and origins of the Capitalocene.

Such a history does not yet exist. There have been welcome recent calls to revive a historical materialist historiography in Australia,⁴⁶ and an emerging appreciation of the urgent need for such histories in the context of the climate crisis.⁴⁷ There is also an appreciation of the role that environmental history might play in 'saving the world.'⁴⁸ But these suggestive openings have not yet carried through to a serious world-ecological consideration of Australian capitalism. This lacuna is identified by Julie McIntyre, who notes 'Australian historians of labour and environment do not participate in international debates about whether or how to consider the historical

⁴⁴ F. Bongiorno, 'Inaugural Professorial Lecture – Is Australian History still possible? Australia and the global eighties,' *ANU Historical Journal* II, 1: 193-208 (2019), p. 194.

⁴⁵ K. Marx and F. Engels, *The Communist Manifesto*, London: Penguin Books (2010 [1848]), p. 18.

⁴⁶ H. Forsythe and S. Loy-Wilson, 'Seeking a New Materialism in Australian History,' *Australian Historical Studies*, 48(2): 169-188 (2017); H. Paternoster, *Reimagining Class in Australia: Marxism, populism, and social science*, London: Palgrave Macmillan (2017); E. Humphrys, 'The Birth of Australia: Non-capitalist social relations in a capitalist mode of production?' *Journal of Australian Political Economy*, 70 (2013).

⁴⁷ Y. Rees and B. Huf, 'Doing History in urgent times: forum introduction,' *History Australia*, 17(2): 225-229 (2020); B. Huf, Y. Rees, M. Beggs, N. Brown, F. Flanagan S. Palmer and S. Ville, 'Capitalism in Australia: New Histories for a Reimagined Future,' *Thesis Eleven*, 160:1 (2020); H. Forsythe and S. Loy-Wilson, 'Introduction: Political implications for the New History of Capitalism,' *Labour History*, 121 (2021).

⁴⁸ S. Brown, S. Dovers, J. Frawley, A. Gaynor, H. Goodall, G. Karskens and S. Mullins, 'Can Environmental History Save the World?' *History Australia*, 5(1): 1-24 (2008).

intersection of nature and labour, or, indeed, nature, labour, and capitalism.’⁴⁹ Encouragingly, McIntyre goes on to note that world-ecology and the Capitalocene offer ‘potential common ground for activist historians.’⁵⁰ It is on this ‘common ground’ that this thesis situates itself, making a novel and significant contribution to the aforementioned lacuna. But the intent here is to go beyond simply addressing a national historiography, but also to contribute to achieving the necessarily international project that is world-ecology. That the world-ecology literature is yet to incorporate the colonisation of Australia into its world history – especially when in some ways we might see the Australian colonies as the ideal-typical settler colonial project of British empire and capital for the period – is a serious limitation. Global conversations around world-ecology and the Capitalocene might find Australian history an important piece in the world-historical puzzle that is the uneven development of the capitalist totality, globally.

So, there is a need for a world-ecological history of Australian capitalism, and this is a justification of the scope for this thesis. But going further, this selection of scope draws on feminist theories of ‘situated knowledge,’⁵¹ and from autoethnography as method.⁵² That is to say, I, the author, am writing this thesis about Australia, because it is where I am. I grew up on Anaiwan land, in a town founded by squatters who had violently seized that land from the Indigenous inhabitants, who had fought fiercely – but unsuccessfully – to hold onto their Country.⁵³ As we shall see in Chapters 3 and 4, that process was determined by the commodity frontier of wool, searching for cheap nature, compelled forward by the expansive tendencies of value and the environment-making colonial state. As Haraway reminds us, all perspective is partial, but there is privilege in that.⁵⁴

⁴⁹ McIntyre, ‘Nature, Labour and Agriculture: Towards common ground in new histories of capitalism,’ p. 73.

⁵⁰ McIntyre, ‘Nature, Labour & Agriculture,’ p. 97.

⁵¹ D. Haraway, ‘Situated Knowledges: The science question in feminism and the privilege of partial perspective,’ *Feminist Studies*, 14(3): 575-599 (1988).

⁵² H. Chang, *Autoethnography as Method*, New York: Routledge (2016)

⁵³ C. Clayton-Dixon, *Surviving New England: A history of aboriginal resistance & resilience through the first forty years of colonial apocalypse*, Armidale: Anaiwan Language Revival Program (2019).

⁵⁴ Haraway, ‘Situated Knowledges.’

Also emerging from that (my) embodied perspective is the devastating salience of the Capitalocene on this continent, within this nation-state. As touched on above, Australia is the world-leader in marsupial extinction, an outsized contribution to the Sixth Great Extinction.⁵⁵ On a per capita basis, it is one of the worst carbon emitting countries in the world,⁵⁶ and the dominance of fossil capital here sees Australia exporting more coal still to the rest of the world.⁵⁷ The specificity of the Capitalocene *as it has produced nature, class and state in Australia* is of global significance. Thus, for the reasons of need, embodiment, and significance, there is a pressing urgency for a world-ecology of Australian capitalism. Exploring the *origins* of this totality on this continent is just the beginning of what must be a much larger research agenda.

Spatially, the empirical focus of the thesis includes the eastern colonies of British Australia – chiefly New South Wales, and Queensland. This scope is justified in part by seeing the category of ‘commodity frontiers’ as a methodology, as well as a theoretical tool; we are following the commodity frontier historically as it unfolded, and so that history helps to define our scope. The three cases to be explored are *wool, coal, and sugar*. We trace wool through the pastoral frontier out from its beginnings in the class relations of the Sydney settlement, over the Great Dividing Range, and up to the tablelands; the vertical frontier of coal mining began in the Hunter region, and only later spread to the Illawarra, once the relations of fossil capital were established; the plantation socioecology of sugar played out northward of Brisbane, along a coastline that was initially part of New South Wales, with the establishment of a separate state in Queensland itself hinging on driving that commodity frontier. Of course, much more work could be done to explore

⁵⁵ P.S. Dasgupta and P. Ehrlich, ‘Why we’re in the Sixth Great Extinction and What it Means to Humanity,’ in P. Dasgupta, P. Raven, and A. McIvor (eds), *Biological Extinction: New perspectives*, Cambridge: Cambridge University Press (2019).

⁵⁶ A. Morton, ‘Australia shown to have highest greenhouse gas emissions from coal in world on per capita basis,’ *The Guardian*, October 12 (2021), available online at <https://www.theguardian.com/environment/2021/nov/12/australia-shown-to-have-highest-greenhouse-gas-emissions-from-coal-in-world-on-per-capita-basis>

⁵⁷ S. Rosewarne, ‘The transnationalisation of the Indian coal economy and the Australian political economy: The fusion of regimes of accumulation?’ *Energy Policy*, 99: 214-223 (2016).

fully the origins of the Capitalocene in Australia; hopefully any brevity in historical detail here is seen as a justification of further empirical research under this theoretical frame, rather than a limitation of the overarching argument. For example, a fuller history of the pastoral commodity frontier on the Australian continent would likely consider the distinct unfolding of the frontier in Van Diemen's Land (Tasmania), or from Port Philip (Melbourne), or Palmerston (Darwin). There are certainly commodity frontiers beyond the three selected here – wool, coal, and sugar – that are worth exploring from this vantage point: whaling, copper, wheat, iron, and gold spring to mind. This then begs the question, “why these three?” Why wool, coal, and sugar?

The purpose of historical materialism is to go beyond appearance and attempt to drill down to the essence of the thing.⁵⁸ The aim here is, in part, to historically specify capitalism as a totality of socioecological relations. As such, choosing an unfamiliar trio of commodities presents the opportunity to reveal their hidden, ‘internal relations.’⁵⁹ This goes beyond a ‘positivist approach to theory testing,’ where case studies are merely ‘theoretically informed.’⁶⁰ The limitations of this common approach are outlined by Harvey, who argued that in the usual move between theory and history there

is an introductory and concluding chapter in which the works of major theoreticians are in the foreground of the argument, separated by a case study in which it is often hard to discern even a trace of influence of any of the theoretical works appealed to in the beginning and the end. The issue of how theoretical work might in turn be informed and advanced by case study work is rarely if ever addressed.⁶¹

By developing incorporated comparison here as a method, and through repeated, dialectical movement between theory and history, we might hope to overcome this spectre of positivism. Here Philip McMichael's ‘incorporated comparison’ is an important vehicle of ‘historical theory

⁵⁸ N. Geras, ‘Essence and appearance: Aspects of fetishism in Marx's ‘Capital’,’ *New Left Review*, I/65: 65-81 (1971).

⁵⁹ B. Ollman, ‘Marxism and the philosophy of internal relations; or, How to replace the mysterious ‘paradox’ with ‘contradictions’ that can be studied and resolved’, *Capital & Class*, 39(1): 7-23 (2015), p. 21.

⁶⁰ D. Harvey, *Spaces of Global Capitalism: A theory of uneven geographical development*, London: Verso Books (2019), p. 78.

⁶¹ *Ibid.*

that does not presume a structure, but views structure as formed through specific historical relations.’⁶² This approach accepts an ontology of totality, and appreciates the necessity for a philosophy of internal relations,⁶³ giving us a crucial tool to animate the historical exploration of commodity frontiers. Take McMichael again:

Incorporated comparison... is not a formal, ‘external’ procedure in which cases are juxtaposed as separate vehicles of common or contrasting patterns of variation. Rather comparison is ‘internal’ to historical inquiry where process-instances are comparable because they are historically connected and mutually conditioning. Secondly, incorporated comparison does not proceed with an *a priori* conception of the composition and context of the units compared, rather they form in relation to one another and in relation to the whole formed through their inter-relationship. In other words, the whole is not a given, it is self-forming.⁶⁴

In this way, different ‘commodity frontiers’ are not presumed to be historically separate processes, bumping into each other like billiard balls. That kind of externalisation of commodity frontiers risks the kind of limited interaction cautioned against by Lukács: ‘if by interaction we mean just the reciprocal causal impact of two otherwise unchangeable objects on each other, we shall not have come an inch nearer to an understanding of society.’⁶⁵ Nor are they crude, functional outgrowths of a pre-existing capitalist structure. Rather the nature of the structure is constantly self-forming through these historical moments, that are themselves internally related. This approach also helps us to overcome the anachronism of doing ‘Australian’ history, as that unit only exists through these historical processes. Perhaps it is not incidental that McMichael, who has led the development of ‘incorporated comparison’ as a method, began his scholarly career with a seminal analysis of the pastoral frontier in colonial Australia.⁶⁶ These ontological and methodological claims will be explored further in Chapter 1, but for now we can say that the commodity frontiers of wool, coal, and sugar are understood through the method of incorporated comparison.

⁶² P. McMichael, ‘World-systems analysis, globalization, and incorporated comparison,’ *Review (Fernand Braudel Center)*, 39(1): 195-218 (2016), p. 197.

⁶³ Explored further in Chapter 1.

⁶⁴ McMichael, ‘World-systems analysis, globalization, and incorporated comparison,’ pp. 197-198.

⁶⁵ G. Lukács, *A Defense of History and Class Consciousness: Studies in Marxist Dialectics*, trans. R. Livingstone, Cambridge, MA: The MIT Press (1971 [1923]), p. 13.

⁶⁶ P. McMichael, *Settlers and the Agrarian Question: Capitalism in colonial Australia*, Cambridge: Cambridge University Press (1984).

Each of these frontiers also interrupts conventional historiographies of Australian economic development in important ways: a re-telling of the much-storied wool frontier allows us to reveal the centrality of land 'cheapened' through appropriation and extirpation; exploring the early extraction of coal, driven by the state and by capital, shows how 'cheap energy' underpins conventional emphases on urbanization and coastal trade; and sugar brings into view that the importance of racialization as a strategy of 'cheap lives' and 'cheap labour,' one which continues and spreads beyond the initial invasion dualism of "White Settler" and "Black Indigene," patterning class, state, and nature with racial difference. These three commodity frontiers weave together stories of invasion, dispossession, exploitation, class and state formation. In the process, they show that Australian colonial history can usefully be thought of as a process of bringing this continent into the socioecological totality of capital – and in-so-doing, setting in motion the crises that are with us today. The commodity frontier was the key mechanism of that incorporation. It is also driven forward by contradiction and crisis. And while the contradictions of contemporary Australia are not direct, functional reproductions of those that emerged in the nineteenth century, they nevertheless have their roots in that past. Pastoralism and land clearing are, to this day, important contributors to both species' extinction and climate change; fossil capital still patterns our urban spaces, state formation, and directly drives climate change; and while the sugar plantations are no longer with us, much of Australia's tropical agriculture is still reliant on racialized, 'cheap' migrant workers, and reproduces that same soil exhaustion that began in the nineteenth century. In short, our spatial scope emerges from the strategic selection of three historically and politically important commodity frontiers: wool, coal, and sugar. Our temporal scope runs from the invasion of Indigenous Australia by the First Fleet, in 1788, through to the federation of the colonial states into the Australian state, in 1901. Simply, this is a history of the nineteenth century. This temporal scope defined by the need to be broad enough to capture the movement and dynamics of the commodity frontier – demonstrating dialectics of appropriation and exploitation, of expansion and exhaustion, of commodification and decommodification – while operating within the strictures of a doctoral thesis. The combination of such a broad spatial

and temporal scope within the bounds of a single thesis will mean I sacrifice a certain amount of empirical reach, but crucially ensure that the history produced can speak to the political and theoretical tasks that animate this work. I also hope to set the ground for further work tracing these commodity frontiers, and others, through to the crises of today.

A final comment on the scope of this thesis is on the inclusion of a brief ‘visual essay.’⁶⁷ Although not nearly as extensive as that found in the second edition of Connell and Irving’s *Class Structure in Australian History*, there is some attempt to take this method seriously. There are dangers here, of selection, presentation, and interpretation. A necessary step is to acknowledge these works as historical sources, rather than mere illustrations, requiring critical historical treatment. Indeed, critical treatment of landscape as art – one of the sources deployed here – reveals something of the very separation of society and nature under capitalism that this thesis seeks to critique. Lukács is not often thought of as an ecosocialist thinker, but this has recently been challenged.⁶⁸ An illustration of this thread within his work is in his consideration of landscape:

When nature becomes landscape – e.g. in contrast to the peasant’s unconscious living within nature – the artist’s unmediated experience of the landscape (which has of course only achieved this immediacy after undergoing a whole series of mediations) presupposes a distance (spatial in this case) between the observer and the landscape. The observer stands outside the landscape, for were this not the case it would not be possible for nature to become a landscape at all.⁶⁹

And so, not only are there dangers in the selection of pieces, but Lukács reminds us that art is historically specific, under capitalist socioecological relations. In this way, there is a danger of tautology – that capitalist art is used to represent capitalism. Moving that caution aside for a moment, Connell and Irving impress the utility of such an approach: ‘even such a selection can show how processes documented in written texts can be more deeply documented visually, and

⁶⁷ R. Connell and T. Irving, *Class Structure in Australian History: Poverty and progress*, second edition, Melbourne: Longman Cheshire Pty Limited (1992), pp. 265-6.

⁶⁸ S. Altun, C. Ciaconte, M. Moore, A.D. Morton, M. Ryan, R. Scanlan and A.H. Smidt, ‘The life-nerve of the dialectic: György Lukács and the metabolism of space and nature,’ *Review of International Political Economy*, OnlineFirst (2022).

⁶⁹ Lukács, *A Defense of History and Class Consciousness*, pp. 157-8.

how some aspects of class relations can literally be seen in a way they cannot be written.⁷⁰ Here, however, we go beyond attempting a visual interpretation of class relations, to rather give a fuller sense of the production of nature at the commodity frontier. I seek to reveal the socioecological relations of capitalism, not only through theory and history, but also through a selection of cartography, art, and photography.

Outline of the thesis

Again, let us return to our central, organising question: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? This question involves a radical rethinking of Australian history, through the lenses of historical materialism, eco-socialism, and world-ecology. To attend to this question, the structure of this thesis follows the method of Marx, who insisted on the importance of ‘rising from the abstract to the concrete.’⁷¹ Chapter 1 begins by articulating a theory of capitalism from the vantage point of socioecological crisis. Unlike Beckert *et al*’s apolitical formulation of the ‘commodity frontier’ we begin from the critique of capital. Moving through ontology, epistemology and method, we begin to appreciate the nature of the object under consideration, and to build conceptual tools to grapple with it. It will be put that capitalism is best understood as a totality of socioecological relations, necessitating a philosophy of internal relations. Of course, these theoretical moves require historical specification, which is precisely the purpose of this thesis. It is with commodity frontiers, and engines that drive them – value and ‘Cheap Nature’ – that we find our historical entry-point.

And yet, before diving from this springboard into historical account, another object demands theoretical interrogation – the state. Chapter 2 follows on from the critique of capitalism

⁷⁰ Connell and Irving, *Class Structure in Australian History*, second edition, p. 266.

⁷¹ K. Marx, *Grundrisse: Foundations of the critique of political economy (rough draft)*, trans. M. Nicolaus, London: Penguin Books (1993 [1973]), p. 101.

developed in the first chapter to consider the nature of the state. Specifically, it grapples with the idea of the ‘environment-making state,’ for cheapness at the commodity frontier often has to be *created*. This contingent process of valuation is rarely determined simply by a collision of capital, nature, and labour. Even (or perhaps especially) in contexts of imperialism and invasion, more is going on than simply adding in Indigenous and peasant resistance. To grapple with the commodity frontier, theoretically or historically, we need to take the state seriously. Here we find a relational shift from general processes of state formation – which revolve around securing, opening, and knowing nature – toward the specific imperatives of the state under capitalism. The state is seen as an ongoing project, and the crystallisation of the balance of class forces – a processual and relational ‘object’ that is necessarily bound up in the production of nature, and the commodity frontier.

Chapter 3 begins the movement from the abstract to the concrete, by interrogating the invasion of the Australian continent by British settlers. The specificity of capitalist socioecological relations is first established by a characterization of the relations that preceded them: Indigenous socioecologies of Dreaming, of care for country, of burning. The purpose here is not to homogenise or romanticize Indigenous societies pre-1788, but to take examples to illustrate difference. By telling the story of invasion, we then begin to see the dialectical nature of the commodity frontier – and capitalism more generally – in the uneasy relationship between exploitation and extirpation. Here we find that primitive accumulation nuances dominant conceptions of settler-colonialism, rendering legible the frontier.

Chapter 4 brings our attention to the *commodity* of the ‘commodity frontier,’ specifically by considering the expansion of capitalist socioecologies through the production of wool. In telling a brief history of the nineteenth century, we capture in view the rise and fall of the commodity frontier as a site of cheapness and of crisis. Through three successive booms, nature is cheapened

and exhausted, through dialectics of appropriation and commodification. Wool is initially cheapened through thousands of years of Indigenous labour, embodied in carefully-produced grasslands – the ‘biggest estate on earth’⁷² – which were greedily devoured by the colonists’ sheep. The exhaustion of this socioecological niche occurred rapidly, setting in train the contested reproduction of the frontier through processes of class and state formation.

Chapter 5 shifts from the rapidly expanding horizontal frontier of pastoralism and wool, to unearth the ‘hidden abode’ of fossil capital, underground. It narrates the history of coal mining as it emerged in colonial New South Wales, at Newcastle, noting the heavy lifting done by the imperial and colonial states to establish a circuit of fossil capital production. This contingent conditioning of ‘cheap energy’ unleashed possibilities for capital throughout the colony, especially in urbanization and industrialization. In this way a contribution is made toward the lacuna that is Australian energy history, as well as a powerful example of how an apparently distinct commodity frontier emerged from those same socioecological relations seen on the pastoral frontier.

Chapter 6 locates the commodity frontier in the proliferation of sugar plantations northward from Brisbane, in the newly-established colony of Queensland. Crucially, from its inception, this commodity frontier relied on the labour of unfree, racialized workers, variously recruited and kidnapped from across the Pacific Islands – known then as ‘Kanakas.’ Again we find the socioecology of capitalism at work, here in the mortality of the Kanakas, in diseased cane, and the rapid exhaustion of soil. As with wool, the socioecological crises emerging from those relations of cheapness and value drove forward dialectics of expansion, commodification, and financialization. Class and state formation moved through the socioecology of the frontier,

⁷² B. Gammage, *The Biggest Estate on Earth: How Aborigines made Australia*, Sydney: Allen & Unwin (2012).

hinging on race as a material category of difference, defining cheapness. The plantation model did not last into the twentieth century, but rather than being undone by liberal politics, it was undermined by its own contradictory and exhaustive relations.

Argument

In this way, this thesis moves through theory and history to explain the origins of capitalism on the continent of Australia in a way suitable to our current conjuncture of crisis; it seeks to do history ‘in urgent times.’⁷³ We begin from a contemporary conjuncture riven with socioecological crises that demand theoretical and historical explanation – a conjuncture of mass extinction, of collapsing ecosystems, of accelerating climatic change – and seek to contribute to transcending those crises. The vehicle to achieve this end is our central, animating research question: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? In answering this question, we begin from a definition of capitalism as a historically specific totality of socioecological relations: processes of cheap nature, class formation, state formation, racialization, and gendered difference, driven forward by the structuring power of the value form.⁷⁴ These tools will help us to situate the moment of the commodity frontier within the broader dynamics of world capitalism. These relations violently displaced extant Indigenous socioecologies, spreading across the landscape of Australia via the vehicle of ‘commodity frontiers.’ The thesis traces the process of invasion empirically, and the production of cheap nature at the frontiers of wool, coal, and sugar. In exploring the internal relations of these frontiers through space and time we find them bound within the same totality, defined by dialectics of appropriation and exploitation, of crisis and expansion, of cheapness and of great cost. Put simply, the thesis grapples with the political and analytical challenge of the Capitalocene;

⁷³ Rees and B. Huf, ‘Doing History in urgent times: forum introduction.’

⁷⁴ One key eco-socialist category which this thesis attends to insufficiently is gender. While we consider at points questions of social reproduction, and how this overwhelmingly gendered process relates to the ‘cheapness’ of historical nature, further attention to this intersection is an urgent site for further research. A beginning might be found in K. Alford, *Production or Reproduction? An economic history of women in Australia, 1788-1850*, Melbourne: Oxford University Press (1984).

it looks to contribute to its undoing through a retelling of the history of the invasion of this continent, and an apprehension of the nature of capitalism. Through a history of commodity frontiers, we begin to appreciate capitalism as a socioecology of crisis. In this, we discover how historical materialism, especially in its eco-socialist and world-ecology contributions, enables an understanding of the production of nature and socioecological crisis in Australia.

Chapter 1 – Rising from the Abstract: A theory for bushfires, floods, and mass extinction

The philosophy of internal relations implies that the character of capital is considered as a social relation in such a way that the internal ties between the relations of production, state-civil society and conditions of class struggle can be realized.¹

Capitalism is not an economic system; it is not a social system; it is a way of organizing nature.²

Introduction

As we have seen, the global crises of climate change, species extinction, and ecosystem collapse are especially pronounced in Australia. From the ‘Black Summer’ bushfires of 2019-20, through oscillations between drought and flood, species extinction and the death of the Great Barrier Reef, this conjuncture demands theoretical and historical explanation. It is the contention of this thesis that these crises are not merely ecological, but are socio-ecological; that is, the ‘natural’ processes of our ecosystems – global dynamics of climatic change, and regional/local dynamics of land-use, invasive-species pressures, or water-availability, for example – cannot be understood in exclusion or separation from social relations. As put by Andreas Malm and Alf Hornborg, for example, ‘Realizing that climate change is “anthropogenic” is really to appreciate that it is *sociogenic*’.³ Similarly, following Jason W. Moore, accelerating and colliding socioecological crises show that the social is also always ecological, that ‘the ecological dimension should never be

¹ A. Bieler and A.D. Morton, *Global Capitalism, Global War, Global Crisis*, Cambridge, UK: Cambridge University Press (2018), pp. 8-9.

² J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), p. 2.

³ A. Malm and A. Hornborg, ‘The geology of mankind? A critique of the Anthropocene narrative’, *Anthropocene Review*, 1(1): 62-69 (2014), p. 65.

abstracted.’⁴ Bringing this all together, our task here is to account for the origins of Australia’s many converging socioecological crises, and in-so-doing contribute to defining the forces that determine and reproduce these crises – forces that must be overcome if these crises might be transcended or resolved. It is in this context, that we consider the central research question of this thesis: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? With that question in mind, this chapter begins the work of articulating the contributions of historical materialism, eco-socialism and world-ecology. This work will help to situate the commodity frontier within a broader theoretical understanding of capitalism.

Put another way, the purpose of this chapter is to begin to articulate a theory of capitalism from the vantage point of socioecological crisis. This move is necessary, as our theorisation must be fit for purpose, and as such we will explore the method of vantage point, and the philosophy of internal relations, below. From this position, we will chart a course through a series of conceptual categories drawn from historical materialist thought that might contribute to a theory of capitalism grounded in – and useful for – the socioecological crises of the present and future. This approach is not, however, uncontentious. Dipesh Chakrabarty, for example, is concerned that ‘many of us still approach the problem of global warming armed only with weapons forged in times when globalization (of media, capital) seemed to be the key issue for the world.’⁵ In their own experience,

I realized that all my readings in theories of globalization, Marxist analysis of capital, subaltern studies, and postcolonial criticism over the last twenty-five years, while enormously useful in studying globalization, had not really prepared me for making sense of this planetary conjuncture within which humanity finds itself today.⁶

⁴ J.W. Moore, ‘Sugar and the Expansion of the Early Modern World-Economy: Commodity Frontiers, Ecological Transformation, and Industrialization’, *Review (Fernand Braudel Center)*, 23(3), 409-433 (2000), p. 414.

⁵ D. Chakrabarty, ‘The Politics of Climate Change is More Than the Politics of Capitalism’, *Theory, Culture & Society*, 34(2-3): 25-37 (2017), p. 25.

⁶ D. Chakrabarty, ‘The Climate of History: Four Theses’, *Critical Inquiry*, 35(2): 197-222 (2009), p. 199.

The ultimate position that Chakrabarty comes to, is to argue that while one cannot deny that ‘climate change has profoundly to do with the history of capitalism,’⁷ ‘that it cannot be reduced to the latter.’⁸ From this view, the project of this thesis is flawed, that it does not fully appreciate the enormity of the Anthropocene, or its implications for theory and history. Chakrabarty’s argument against relying on previous theories of capitalism to explain climate change and the many other crises of the Anthropocene seems to hinge on the analysis that this current conjuncture is distinct from the usual crises of capital, in that the fallout is wider, even universal: ‘Unlike in the crises of capitalism, there are no lifeboats for the rich and the privileged.’⁹ Of course, our theorization must not be rigid and fixed; this is precisely the point of dialectics – we must constantly move from theory to history, and back again. And indeed, there is much important theoretical work that has been done within historical materialism in light of the enormity of the ‘Anthropocene’ (or, rather, ‘Capitalocene’), and more yet still to do. But are these crises *not* the crises of capitalism?

This thesis and chapter are positioned explicitly against those who would – like Chakrabarty – deliberately eschew the critique of capitalism in the face of this conjuncture. But further, this thesis will show the utility of applying such a theory to the history of the invasion of Australia, in its ability to explicate the conditions that have shaped the production of nature and crisis since settlement. While historians concerned with this period and place are increasingly appreciating the way the climate crisis ramifies with their subject matter,¹⁰ there is yet to be a serious (re)engagement with the theoretical tools of historical materialism¹¹ generally, or eco-socialism specifically, from this vantage point. As such, this chapter engages with a series of related goals and necessary theoretical steps: to argue for the relevance of considering capitalism as a totality,

⁷ *Op. Cit.*, p. 212.

⁸ Chakrabarty, ‘The Politics of Climate Change’, p. 29.

⁹ Chakrabarty, ‘The Climate of History’, p. 212.

¹⁰ Y. Rees and B. Huf, ‘Doing History in urgent times: forum introduction.’ *History Australia*, 17(2): 225-229 (2020).

¹¹ A notable exception to this is H. Forsythe and S. Loy-Wilson, ‘Seeking a New Materialism in Australian History,’ *Australian Historical Studies*, 48(2): 169-188 (2017).

and for seeing capitalism as fundamentally socioecological. Emerging from these ontological claims is the epistemological and methodological necessity of adopting a philosophy of internal relations. These precepts bring many things into view – ideas, gender, race, and state power, to name a few – but we argue that none of these objects can be understood in isolation, or ‘*ontological exteriority*,’¹² from capital’s socioecological totality. This will make a case for the nature of the object under consideration. Moving from that ontological position, we will turn to some animating theoretical categories. Beginning with the ‘structuring power of value,’ we will turn to the ‘production of nature’ under capitalism. These general tendencies will be made clearer still through a consideration of how the logic of value leads to the necessity of Cheap Nature. This thesis is organised around the need to rise ‘from the abstract to the concrete,’¹³ and it is on the category of Cheap Nature that this move will turn. Finally, we will consider three categories that illustrate the logic of value and Cheap Nature in motion: the ‘commodity frontier,’ the ‘ideology of nature,’ and ‘crisis.’ In this way, this chapter will outline a theory of capitalism that might equip us to answer our central question of how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism, conditioning the production of nature and of crisis. This theoretical articulation, when combined with the historical exploration of following chapters, will allow us to develop our central argument: that the tools of historical materialism – especially ecosocialism and world-ecology – provide a compelling and necessary way of comprehending the emergence of the specifically-capitalist socioecological crises that have defined the production of nature on this continent since British invasion.

¹² A.D. Morton, ‘The Limits of Sociological Marxism,’ *Historical Materialism*, 21(1): 129-58 (2013).

¹³ K. Marx, *Grundrisse: Foundations of the critique of political economy (rough draft)*, trans. M. Nicolaus, London: Penguin Books (1993 [1973]), p. 101.

Ontology

Totality

When Chakrabarty argues that climate change has much to do with the history of capitalism, but ‘cannot be reduced to [it],’¹⁴ he is in essence arguing against the ontological assertion of a capitalist totality. He is arguing that capitalism is one part of the story, but that there are other structures and agents that sit outside capital, and interact with it. This position might be termed ‘ontological exteriority.’¹⁵ The distinction between totality and exteriority is articulated by Eric Wolf:

[T]he world of humankind constitutes a manifold, a totality of interconnected processes, and inquiries that disassemble this totality into bits and then fail to reassemble it falsify reality. Concepts like ‘nation’, ‘society’, and ‘culture’ name bits and threaten to turn names into things. Only by understanding these names as bundles of relationships, and placing them back into the field from which they were abstracted, can we hope to avoid misleading inferences and increase our share of understanding.¹⁶

Invoked here is the danger of reification, the turning of “names into things,” or confusing our abstract categories as distinct objects that constitute history. If we side with Wolf, that the nature of things is a totality of bundled relationships that are mutually constitutive, then the premise of positivist approaches to social science would seem shaky, at best. Indeed, in Marx’s critique of political economy, it is precisely this tendency of the ‘vulgar political economists’ that is subject to critique. Their failing is not entirely their own, however, as it is precisely the nature of the social relations under consideration – capitalism – that a relational essence is obscured by its appearance as things: ‘economics does not treat of things, but of the relations between persons and, in the last analysis, between classes; however, these relations are always *bound to things* and *appear as things*.’¹⁷ Similarly, for Lukács the ‘bourgeois sciences’ are defined by an empiricism which ‘seek[s] refuge in the methods of natural science, in the way in which science distils ‘pure’

¹⁴ Chakrabarty, ‘The Politics of Climate Change’, p. 29.

¹⁵ Morton, ‘The Limits of Sociological Marxism’, p. 142.; Bieler and Morton, *Global Capitalism, Global War, Global Crisis*, pp. 6-20.

¹⁶ E.R. Wolf, *Europe and the People without History*, second edition, Berkley, CA: University of California Press (1982/1997), p. 3.

¹⁷ F. Engels, quoted in G. Lukács, *History and Class Consciousness: Studies in Marxist dialectics*, trans. R. Livingstone, Cambridge, MA: The MIT Press (1968/1971), pp. 14-15, emphasis in original.

facts and places them in the relevant contexts by means of observation, abstraction and experiment.’¹⁸ But when one begins from the ontological beginning that the social world is built of relationships, these approaches are at best insufficient, and at worse misleading – whether these separations are pursued due to an ideological commitment to aping the natural sciences, or whether one is hoodwinked by the tendency of the object to cloak its relational essence through its appearance as a ‘thing,’ such as the commodity. As put by Bieler and Morton,

By positing a world that is made up of logically independent things – an atomistic approach to ontology – the elements may only, again at best, then come to relate as interdependent. But, most significantly, the inner connections that are constitutive of social relations are rent asunder by this commitment to ontological exteriority.¹⁹

This thesis, then, begins from a commitment to thinking relationally, and attempting to avoid the violence of this kind of reification.

Not all historical materialism is marked by a commitment to the relational ontology of the totality. For Morton, much ‘sociological Marxism’ is guilty of an ontological exteriority, or a ‘treatment of state, civil society and the economy as always-already *separate spheres*.’²⁰ Also implicated are materialist approaches to international relations, including Robert Gilpin, and Susan Strange.²¹ Elsewhere, Ellen Meiksins Wood made a similar criticism, that

Marxism since Marx has often lost sight of his theoretical project... In particular, there has been a tendency to perpetuate the rigid conceptual separation of the ‘economic’ and the ‘political’ which has served capitalist ideology so well ever since the classical economists discovered the ‘economy’ in the abstract and began emptying capitalism of its social and political content.²²

If ever there was a sign that categories are taking on “thing-ification,” it would be the emergence of dualisms. This dualism – ‘politics’ and ‘economics’ – might be put alongside others, including

¹⁸ Lukács, *History and Class Consciousness*, p. 5.

¹⁹ Bieler and Morton, *Global Capitalism, Global War, Global Crisis*, p. 7.

²⁰ Morton, ‘The Limits of Sociological Marxism’, p. 129, 134. Examples include: M. Burawoy, ‘For a Sociological Marxism: The complementary convergence of Antonio Gramsci and Karl Polanyi’, *Politics & Society*, 31(2): 193-261 (2003); C. Tuğal, *Passive Revolution: Absorbing the Islamic challenge to capitalism*, Stanford: Stanford University Press (2009)

²¹ Bieler and Morton, *Global Capitalism, Global War, Global Crisis*, pp. 7-8; R. Gilpin, *The Political Economy of International Relations*, Princeton, NJ: Princeton University Press (1987); S. Strange, *States and Markets*, second edition, London, UK: Pinter Publishers (1988).

²² E.M. Wood, *Democracy Against Capitalism: Renewing Historical Materialism*, London: Verso (1995/2016), p. 16.

the ‘ideal’ and the ‘material’, ‘agents’ and ‘structures,’ or ‘states’ and ‘markets.’ Or, importantly, ‘society’ and ‘nature’ – this latter dualism will be considered closely a little further on. To take Wood’s argument further, that Marx’s theoretical project was bound up in the rejection of these dualist, atomistic appearances, we might return to Lukács:

[A]s far as *method* is concerned, historical materialism was an epoch-making achievement precisely because it was able to see that these apparently quite independent, hermetic and autonomous systems were really aspects of a comprehensive whole and that their apparent independence could be transcended.²³

Through this brief overview of the ontological assertion that is ‘totality’, we have sketched this approach and some of its others. Of course, such an approach is not uncontroversial, with both contestations around its articulation, as well as heavy critiques against the concept and the approach it implies.²⁴ We cannot engage with all of those questions here; rather, the assertion is fairly straightforward: that any separations made between different “parts” or “spheres” of “society” fail to grasp the ontology of the object under consideration, that studying ‘capitalism’ is necessarily a totalizing question, which demands attention to relationality that might be obscured through reification.

Indeed, it is specifically the nature of capitalism that demands this approach, as ‘world history becomes decipherable only when its totalizing interconnections *objectively* arise out of the conditions of capitalist development.’²⁵ This was argued by Marx, who put that it was only capitalist development that ‘produced world history for the first time, insofar as it made all civilized nations and every individual member of them dependent for the satisfaction of their

²³ Lukács, *History and Class Consciousness*, p. 230.

²⁴ For an overview of this literature, see D.A. López, *Lukács: Praxis and the Absolute*, Leiden: Brill Publishing (2019); J. Martin, *Marxism and totality: the adventures of a concept from Lukács to Habermas*, Berkley, CA: University of California (1984).

²⁵ I. Mészáros, ‘totality’, in T. Bottomore (ed.) *A Dictionary of Marxist Thought*, Harvard: Harvard University Press (1983), p. 537.

wants on the *whole world*, thus destroying the former natural exclusiveness of separate nations.’²⁶

Or, for Lukács,

In pre-capitalist society the particular aspects of the economic process... remain separate from each other in a completely abstract way which permits neither an immediate interaction nor one that can be raised to the level of consciousness... In capitalism, however, all the elements of the structure of society interact dialectically.²⁷

Now this element of capitalist totality, as articulated by Marx and Lukács, raises interesting questions for a study such as this: a study of the *frontier*. It raises questions of periodization: when did the capitalist totality of world history emerge? It raises questions of colonialism and race: who are the civilized nations, and does that imply that some nations or peoples are not? It also leaves open the messiness of the frontier: at what stage are indigenous societies incorporated into the totality? Even if their own social relations are yet to be defined by capital, does conflict with invading colonists bring those ‘others’ inside the purview of the totality? These are challenging questions, that this thesis will grapple with historically and theoretically. And a beginning to that engagement might be in returning to what Moore terms the ‘Cartesian dualism’²⁸: “society” and “nature”. This move is further justified by a recent unearthing of Lukács own deep engagement with socio-nature, with Sirma Altun *et al* arguing that ‘it is possible to discern in Lukács a relational approach to analysing the metabolic *internal relation* of society and nature that interiorises theory and practice as well as whole and parts.’²⁹ In this way, across the relational contributions to historical materialism we begin to develop an answer to our question, of how this approach to history and method might help us to understand the production of nature and the origins of socioecological crisis in Australia, through the vehicle of the commodity frontier. Through a commitment to thinking in terms of totality, and the necessarily relational theory and method that emerges from that commitment, this history might be apprehended.

²⁶ K. Marx, *The German Ideology*, trans. T. Delaney and B. Schwartz, Moscow: Progress Publishers (1968), sect. IB1, emphasis in original.

²⁷ Lukács, *History and Class Consciousness*, pp. 230-231.

²⁸ Moore, ‘The Capitalocene, Part I: on the nature and origins of our ecological crisis,’ *Journal of Peasant Studies*, 44(3): 594-630 (2017), p. 595.

²⁹ S. Altun, C. Ciaconte, M. Moore, A.D. Morton, M. Ryan, R. Scanlan and A.H. Smidt, ‘The life-nerve of the dialectic: György Lukács and the metabolism of space and nature,’ *Review of International Political Economy*, OnlineFirst (2022), p. 3.

Socio-nature

The articulation of 'society' and 'nature' as separate spheres was a fundamental element of much Enlightenment thought. This conceptual separation emerged gradually, in many (Western) contexts, but one example might be in the compartmentalization of academic inquiry into disciplines; the definition of history as a distinct field was explicitly framed as the study of society and *not* nature. In the words of Hegel, 'we must first take notice of those natural conditions which have to be excluded once for all from the drama of the World's History.'³⁰ By the 1870s, this view had been generalised³¹ – a position which held for at least the next hundred years, and is epitomised in the words of Collingwood, 'the events of nature are mere events, not the acts of agents whose thought the scientist endeavours to trace... all history properly so called is the history of human affairs.'³² The separation of society and nature was not just an intellectual project, however, as this dualism carried 'operative force in reproducing the world as we know it.'³³ Indeed, in appreciating the violence that this abstraction did to those groups externalized to 'nature' – women, colonies, ecosystems³⁴ – we might transcend two dualisms with one stone: society-nature *and* the ideal-material. As we observe the 'operative force' of these ideas historically, through the course of this thesis, it is shown that 'ideas can be conceived as material social processes.'³⁵ Indeed, that they *should* be. And so, as we push back against the false separation of the ideal and the material, we also push back against the intellectual and historical attempts to sever society from nature. In this, we follow much eco-socialist thought, and begin with a nested ontological assertion, sitting within the position on totality above: that 'society' and

³⁰ G.W.F. Hegel, *Lectures on the philosophy of history*, ed. P.C. Hodgson, trans. R.F. Brown, P.C. Hodgson and J.M. Stewart, Berkeley: University of California Press, (1988, orig. 1827), p. 97.

³¹ J.A. Thomas, *Reconfiguring modernity: Concepts of nature in Japanese political ideology*, Berkeley: University of California Press, (2001); see also P. Rossi, *The dark abyss of time: The history of the Earth and the history of nations from Hooke to Vico*, trans. L.G. Cochrane, Chicago: University of Chicago Press, (1979/1984).

³² R. G. Collingwood, *The idea of history*, Oxford: Oxford University Press (1946), p. 212-216.

³³ Moore, 'The Capitalocene, Part I: on the nature and origins of our ecological crisis,' p. 595.

³⁴ M. Mies, *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labour*, London: Zed Books (1986), p. 77.

³⁵ A. Bieler and A.D. Morton, 'The Deficits of Discourse in IPE: Turning Base Metal into Gold?', *International Studies Quarterly*, 52 (2008), p. 103.

‘nature’ are not at all separate, not simply inter-related or entwined, but essentially *whole*: ‘society-in-nature’, humans within the ‘web of life’.³⁶

When Moore speaks of the ‘operative force’ that the ideational separation of ‘society’ and ‘nature’ has played over the five-hundred-year history of the Capitalocene, we might also think of Neil Smith’s conception of the ‘ideology of nature.’ Although not identical to Moore’s Cartesian dualism, Smith too notes the historically specific way that ‘nature’ is often treated under capitalism, arguing that there is

an essential dualism that dominates the conception of nature. On the one hand, nature is *external*... External nature is pristine, God-given, autonomous; it is the raw material from which society is built, the frontier which industrial capitalism continually pushes back... On the other hand, nature is also clearly conceived as *universal*... Thus ecological treatments of human society situate the human species as one among many in the totality of nature.³⁷

Here we follow Smith in rejecting the dualism of society-nature that permeates so much history and thought. That dualism shares the same ‘ontological exteriority’ that a relational-totality approach attempts to avoid – but here that exteriority-thinking is not just a faulty analytical lens, but also a force that is at work in the history we are attempting to grapple with. As such, we will see this ‘ideology of nature’ at work in the history that this thesis will explore.

Interestingly, some of the first thinking that began to assert the separation of the social and the natural was not conceptions of an external wilderness-space, but rather the emergent process of racialization. The collision of race, colonies, and nature within the capitalist totality was captured well by Franz Fanon, when he argued that

Hostile nature, obstinate and fundamentally rebellious, is in fact represented in the colonies by the bush, by mosquitoes, natives and fever, and colonisation is a success when all this indocile nature has finally been tamed. Railways across the bush, the draining of swamps and a native population which is non-existent politically and economically are in fact one and the same.³⁸

³⁶ Moore, *Capitalism in the Web of Life*, pp. 33-45.

³⁷ N. Smith, *Uneven Development: Nature, capital and the production of space*, 3rd ed., London: Verso (2010), pp. 11-12.

³⁸ F. Fanon, *The Wretched of the Earth*, trans. C. Farrington, London: Penguin Books (2001 [1961]), p. 201.

It has been suggested that the very category of 'race' emerged with conceptions of "savage" bodies during Iberian colonialism in the Americas post-Columbus, and was quickly mirrored in England's colonial domination of Ireland.³⁹ So too did women's bodies need to be externalized into 'nature', to separate out social-reproductive labour from the emerging commodity form of waged labour.⁴⁰ The construction of race, gender, and wilderness are important related processes that constitute the history of Australian capitalism, when the vantage-point of socio-nature is taken seriously. When we appreciate the historic and abhorrent role played by these dualisms, the ontology of totality becomes an absolute necessity; we must rise above the violence of ontological exteriority. Thankfully, the work of eco-socialist thinkers over decades has well equipped us for this task. Thinking relationally, grappling with totality, we approach a

dialectical method [that] avoids the distinction of Nature versus Society, or viewing the environment as an object based on its interaction with society as externally related. Instead, the philosophy of internal relations guides us through the inner ties of class, capital, Nature to address how frontiers of appropriation are produced and reproduced in the web of life.⁴¹

Thus, throughout this thesis, the term 'socioecological' will be deployed to embrace the necessary ontology of eco-socialism. But to talk of ontology does begin to raise the question of method; and so, let us consider more closely the 'philosophy of internal relations.'

Internal relations

It has been argued that Marx ascribed to a 'philosophy of internal relations.'⁴² The essential thrust of this approach is that objects, or "things," are defined by the relations that constitute them –

³⁹ R. Patel and J.W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*, Berkely: University of California Press (2017), pp. 50-51; C. Robinson, *Black Marxism: The making of the Black Radical tradition*, Chapel Hill, NC: University of North Carolina Press (1983/2000), pp. 36-39.

⁴⁰ S. Federici, *Caliban and the Witch: Women, the Body and Primitive Accumulation*, Brooklyn: Autonomedia (2004).

⁴¹ A.D. Morton, 'On the violent abstraction of nature,' *Progress in Political Economy*, April 30 (2019), available at <https://www.ppesydney.net/on-the-violent-abstraction-of-nature/>

⁴² B. Ollman, *Alienation: Marx's conception of man in capitalist society*, second edition, Cambridge, UK: Cambridge University Press (1971); B. Ollman, *Dance of the Dialectic: Steps in Marx's method*, Chicago: University of Illinois Press (2003).

indeed that they do not exist beyond these relations.⁴³ Ollman identifies this philosophical conviction in much that Marx wrote. For example,

when he [Marx] declares that man “is nature” or that his objects “reside in the nature of his being,” the ties to which our attention is drawn are clearly *not* external ones. Rather, the individual is held to be in some kind of union with his or her object; they are in fact relationally contained in one another, which requires that each be conceived of as a Relation.⁴⁴

Interestingly, the examples Ollman draws on here relate closely to the exploration of ‘socio-nature’ above, or the co-production (perhaps internal relation?) of nature and society. They ‘reveal man as somehow an extension of nature, and nature somehow an extension of man’⁴⁵ – this idea will be taken further through the below engagement with Neil Smith and the ‘production of nature.’ But certainly, we can see that recent focus on socioecology actually draws on a deep history of such an understanding by Marx.⁴⁶ To dwell a little longer on the implications of a philosophy of internal relations, Ollman sets out what is at stake in a useful way:

[T]he philosophy of internal relations is a matter of conception and not of fact... The question, then, is – as between the commonsense [external] and relational conceptions – which one do we adopt? If the analogy helps – do we view the bottle as half empty or half full? Neither answer is wrong; yet each carries its own implications. The main criterion that counts... is the utility of each approach in solving and/or avoiding problems.⁴⁷

The matter of “proving” an ontological standpoint is highly fraught. On the question of normative values in the study of (political) economics, Frank Stilwell usefully suggests that ‘values should be explicit rather than implicit – better blatant than latent.’⁴⁸ By laying out the commitment of this thesis to a relational methodology, grounded in the ontological assertion of totality and internal relations, we have attempted to follow that same suggestion; too much social-scientific inquiry leaves these questions unexamined, leading to fruitless debates. The test for all of this, however, as put by Ollman, is in the utility of approaches to solve problems. We might put that the inability of so many analyses of the ‘Anthropocene’ to successfully identify the origins of our socioecological crises speaks to an ontological failure, on the terms laid out by Ollman above.

⁴³ G.E. Moore, 'External and Internal Relations', *Proceedings of the Aristotelian Society*, 20 (1919-20).

⁴⁴ B. Ollman, *Dance of the Dialectic*, p. 37, quoting K. Marx, *Economic and Philosophical Manuscripts of 1844*, trans. M. Milligan. Moscow: Foreign Languages Publishing House (1959), p. 156.

⁴⁵ Ollman, *Dance of the Dialectic*, pp. 37-8.

⁴⁶ See J.B. Foster and P. Burkett, *Marx and the Earth: An anti-critique*, Leiden: Brill Publishers (2016).

⁴⁷ Ollman, *Dance of the Dialectic*, p. 53.

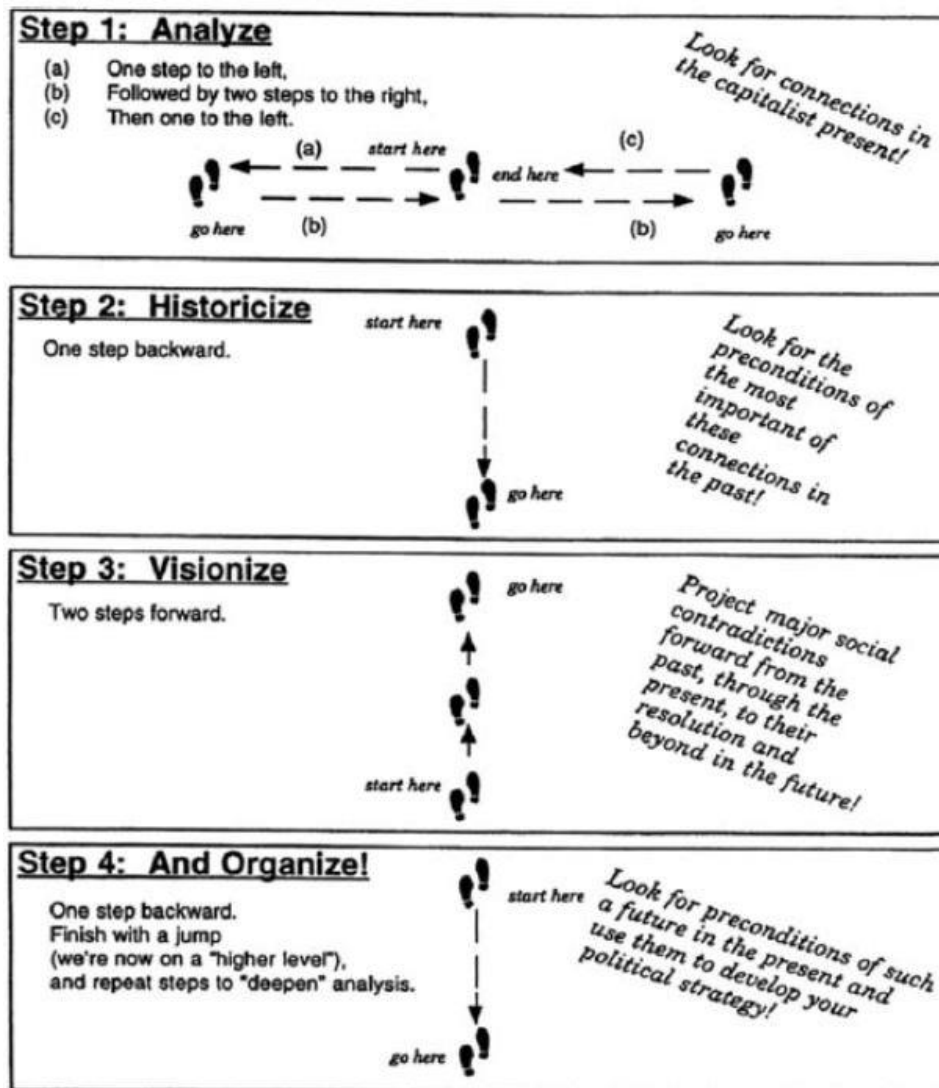
⁴⁸ F. Stilwell, *The Political Economy of Inequality*, Cambridge: Polity Press (2019), p. 11.

Against this approach, Ollman emphasises the necessity for dialectics. We might usefully pause and unpack what we mean by this, thought the work of Gilliant Hart. Hart, who herself was summarizing Harvey and Ollman, provides eight precepts that contribute to a dielctical approach. For Hart, ‘there are ways of thinking about dialectics that are neither teleological nor totalizing,’ and such an approach involves several steps: a ‘focus on *processes*, not *things*’; ‘to ask of every ‘thing’ or ‘event’ by what process was it constituted and how is it sustained?’; “Things’ and ‘systems’ that many regard as irreducible are seen in dialectical thought as internally *contradictory* by virtue of the multiple processes that constitute them’; ‘Things are always assumed to be internally heterogenous (i.e. contradictory) at every level’; ‘Parts and wholes are mutually constitutive of each other’; ‘Ongoing change/transformation is inherent and holds out political possibilities’; ‘Dialectical enquiry is itself a process that produces concepts, abstractions, and institutionalizes structures of knowledge’; and that ‘dialectical enquiry necessarily incorporates ethical, moral, and political choices/values into its own processes.’⁴⁹ The philosophy of internal relations represents a commitment to a dialectical epistemology. Elsewhere’ debates around ‘neoliberalism’ have become mired in the external relation of ‘states’ and ‘markets’, similarly illustrating the limitations of an externally-related approach.⁵⁰ Certainly, my contention is that the philosophy of internal relations, as one of the steps in the ‘dance of the dialectic’ (Figure 1.1), has rarely been put to work. This thesis hopes to illustrate its utility through a specific historical moment – the origins of capitalist socioecological relations in Australia.

⁴⁹ G. Hart, ‘Relational comparison revisited: Marxist postcolonial geographies in practice,’ *Progress in Human Geography*, 42(3): 371-394 (2016), pp. 378-379.

⁵⁰ See I. Bruff, ‘Overcoming the State/Market Dichotomy’, in S. Shields, I. Bruff and H. Macartney (eds) *Critical International Political Economy: Dialogue, Debate and Dissensus*, London: Palgrave (2011), pp. 80-98; M. Ryan, ‘Contesting ‘actually existing’ neoliberalism’, *Journal of Australian Political Economy*, 79 (2015).

Figure 1.1 – The ‘Dance of the Dialectic’⁵¹



In this sense, then, the utility of the philosophy of internal relations as deployed here will be in the ability of this thesis to comprehend the contradictions with which it grapples. This can only be achieved by moving through history, and by a consideration of the political implications that arise from the analysis. Indeed, Ollman has argued that it is precisely in moving past the political impotence of ‘paradox’ to the empowerment of ‘contradiction’, that the utility of internal relations is found.⁵² But what does the “doing” look like, here? As Bieler and Morton argue in the first

⁵¹ B. Ollman, ‘Why Dialectics? Why Now?’ in B. Ollman and T. Smith (eds), *Dialectics for the New Century*, London: Palgrave Macmillan (2008), p. 24.

⁵² Ollman, ‘Marxism and the philosophy of internal relations; or, How to replace the mysterious ‘paradox’ with ‘contradictions’ that can be studied and resolved,’ p. 21.

epigraph above, from this approach ‘the character of capital is considered as a social relation in such a way that the internal ties between the relations of production, state-civil society and conditions of class struggle can be realized.’⁵³ They go on, noting that it ‘makes explicit a conception of capital through which connections are maintained and contained as aspects of a self-forming whole.’⁵⁴ Now, we might add to their list of “containers”, beyond ‘the relations of production, state-civil society and conditions of class struggle’ – perhaps there we might add the production of nature, the structuring power of the value form, and the historical projects of gender and racialization. But Bieler and Morton lay out the challenge ahead, to maintain those connections that we know to be there, binding the totality. We might have to pull out a set of relations for closer consideration – and in doing so, take up new vantage points that exclude other relations from the immediate view.⁵⁵ The all-important step, that is too often forgotten, is to put that container of relations back into its place within the totality. In-so-doing, we gain a more complete view of our object, without doing the ‘violence’ of reifying the abstraction caused by our vantage point.⁵⁶ For example, the following chapter will outline a theory of the ‘environment-making’ state, and much of the historical exploration of the thesis will consider ‘the state’. If isolated passages on ‘the state’ were extracted from their context, it might seem as if the state is being treated as a ‘thing’ that ‘exists’. Of course, the state does not exist *per se*, but without the ability to take that bundle of relations and consider them ‘as if real,’ we would never be able to progress the analysis.⁵⁷ Here again we return to the power ‘incorporated comparison’ as a methodology which operationalises a philosophy of internal relations and the ontological assertion of totality. As put by McMichael:

⁵³ Bieler and Morton, *Global Capitalism, Global War, Global Crisis*, p. 9.

⁵⁴ *Ibid.*

⁵⁵ Indeed, in this process of moving abstraction, we find an important distinction between this approach and that of Open Marxism, which risks the capital relation overwhelming all others. See A. Bieler, I. Bruff, and A.D. Morton, ‘Acorns and fruit: From totalization to periodization in the critique of capitalism’, *Capital & Class*, 34 (1): 25-37 (2010).

⁵⁶ D. Sayer, *The violence of abstraction: The analytic foundations of historical materialism*, Oxford: Basil Blackwell Publishing (1987), p. 125.

⁵⁷ C. Hay, ‘Neither real nor fictitious but ‘as if real’? A political ontology of the state’, *The British Journal of Sociology*, 65(3): 459-480 (2014).

An alternative to a preconceived concrete totality in which parts are subordinated to the whole is the idea of an emergent totality suggested by “incorporated comparison.” Here totality is a conceptual *procedure*, rather than an empirical or conceptual premise. It is an imminent rather than a *prima facie* property in which the whole is discovered through an analysis of the mutual conditioning parts. A conception of totality in which parts (as relational categories) reveal and realize the changing whole.⁵⁸

We are ‘working with relational categories,’ which ‘reveal and realize the changing whole.’ In this way, categories such as the state are appreciated not only as themselves being relations rather than discreet, existing objects – but going further, the totality itself is not pre-determined, but emerges through these relational categories, unfolding historically. It is for this reason that this thesis maintains a commitment to capitalism as an *emerging socioecological totality* – through Ollman, Hart and McMichael we can see the totality not as a predetermined, totalizing theoretical lens, but rather a method to unearth the historical constitution of capitalism. And so, with the help of McMichael, we move from ontology to method.

Now, having gone some way toward making the latent blatant, we move forward with three nested understandings: that the object of our analysis is the totality of capitalist relations; that those relations are fundamentally socio-ecological, following the commitment that ‘the ecological dimension should never be abstracted;’⁵⁹ and that the only way forward in understanding that totality is through a philosophy of internal relations. With these ontological, epistemological, and methodological precepts in hand, we can embrace the central challenge of this chapter: developing a theory of capitalism that might be both historically powerful and fit for the (socio-ecological) crises of our current conjuncture.

⁵⁸ McMichael, ‘Incorporating Comparison within a World-Historical Perspective,’ p. 391.

⁵⁹ Moore, ‘Sugar and the Expansion of the Early Modern World-Economy,’ p. 414.

The Centrality of Capital

Structuring Value

The argument here is that capitalism is a historically specific set of socioecological relations, and that these relations should be understood as an internally related totality. What is required, then, to unfold this argument is a definition of capitalism, and a theory of value. The rest of this chapter will tease out the relations implied above – the production of nature, Cheap Nature, the commodity frontier, and related processes. But first, we might begin, as Marx did, with the commodity. Immediately, we are confronted with the dual character of commodities under capitalism, as the embodiments of both *use value* and *exchange value*. A good has a concrete use-value, especially here the specific qualities of the material and technology. Nature exists here, concretely: ‘Use values like coats, linen, etc., in short, the physical bodies of commodities, are combinations of two elements, the material provided by nature, and labour.’⁶⁰ Simultaneously, however, the commodity exists in the realm of exchange-value, a realm of equivalence, homogeneity, quantification. And while pre-capitalist societies had ways of drawing equivalence between goods, ‘abstract value’ as a form of social domination was yet to emerge:

For Marx, understanding value means not only understanding a society of “exchange,” but also a society wherein (a) workers can only access life through the value form of money and (b) economies are organized through the expansion of value (M-C-M’).⁶¹

The first of these two conditions, the separation of workers from the means of subsistence, providing a compulsion to sell ones’ labour power as a commodity in exchange for money, is well accounted for by Political Marxism.⁶² Similarly, the need for value (and capital) to expand is an important element to an historically specific and robust definition of capitalism – ‘accumulation for accumulation’s sake, production for production’s sake.’⁶³ The reason Marx starts with the commodity is, of course, to explain value. Value was an important question in the context of

⁶⁰ Marx, *Capital I*, p. 133.

⁶¹ M. Huber, ‘Value, Nature, and Labour: A defense of Marx,’ *Capitalism Nature Socialism*, 28(1): 39-52 (2017), p. 41.

⁶² E.M. Wood, ‘The separation of the economic and the political in Capitalism,’ *New Left Review*, 127(1): 66-96 (1981); *The Origin of Capitalism: A longer view*, London: Verso Books (2002).

⁶³ Marx, *Capital I*, p. 595.

Capital; both Smith and Ricardo relied on (distinct) labour theories of value to explain prices in the economy. But unlike the Classical political economists Marx sets out to critique, the purpose of Marx's value theory is *not* to explain price – value does other work.

Marx turns an a-historical, universal statement into a theory of value that operates solely under capitalist relations of production. At the same time, the value theory reaches out beyond the problem of simply defining a standard of value for determining the relative prices of commodities. The value theory comes to reflect and embody the essential social relations that lie at the heart of the capitalist mode of production. Value is conceived of, in short, as a social relation.⁶⁴

And so, when we talk of a Marxist theory of value, the question at hand is not an attempt to explain price, but rather an attempt to unveil the ways the social relations of generalized commodity production and exchange create powerful, structural imperatives on us all. The theoretical task is also political, as an understanding of value following Marx 'gives us a tool for analysing how capitalist exploitation works, and changes and develops; for understanding capitalist exploitation in process.'⁶⁵

The above interpretation of the purpose of Marx's value theory is not uncontentious – indeed questions of value and price have animated debates among Marxists, and with (especially Keynesian) interlocuters, for decades.⁶⁶ But when we begin from the ontological beginning of internal relations and totality, we can better appreciate the analytical move that is 'vantage point;' it is precisely in ignoring Marx's vantage point that we could fall into the trap of theorizing value as price. Elson and Harvey above have appreciated this, and in doing so seen the political and theoretical purpose of 'value.' Perhaps the best example of this interpretation, however, comes from Moishe Postone, who saw that

Marx's theory provides the basis for a critique of the form of production and the form of wealth (that is, *value*) that characterizes capitalism, rather than simply calling into question their private

⁶⁴ D. Harvey, *The Limits to Capital*, second edition, London: Verso Books (2006), p. 15.

⁶⁵ D. Elson, 'The Value Theory of Labour', in D. Elson (ed.), *Value: The representation of labour in capitalism*, London: Verso Books (1979/2015), p. 171.

⁶⁶ For an outline, see G. Harcourt, *Some Cambridge controversies in the theory of capital*, Cambridge, UK: Cambridge University Press (1972); J. Robinson, *Economic Philosophy*, London: Routledge (1972/2017), pp. 26-46; D. Elson (ed.), *Value*; B. Fine, 'The continuing imperative of value theory', *Capital & Class*, 75:7-18 (2001); A. Saad-Filho, 'Transformation Problem', in B. Fine, A. Saad-Filho and M. Boffo (eds) *The Elgar Companion to Marxist Economics*, Cheltenham: Edward Elgar Publishing (2012).

appropriation [i.e. distribution]. It characterizes capitalism in terms of an abstract form of domination associated with the peculiar nature of labour in that society and locates in that form of domination the ultimate social ground for runaway “growth,” and for the increasingly fragmented character of work and even of individual existence in that society.⁶⁷

It is in treating value as an ‘abstract form of domination’ that Postone grasps the purpose of Marx’s vantage point, and shows us a way forward for bringing value-theory to bear on the question of capitalism as a historically-specific socioecology. Indeed, Postone gives us a nod in this direction, as he connects the abstract domination of the value form to ‘runaway “growth”’. The myriad compulsions that the value form impose on all – capital, labour, finance, the state, indigenous agencies resisting its expansion – is what we mean by the *structuring power of value*. As put by Postone, with this category

Marx analysed how these social powers and knowledge are constituted in objectified forms that become quasi-independent of, and exert a form of abstract social domination over, the individuals who constitute them. This process of self-generated structural domination cannot be fully grasped in terms of class exploitation and domination, nor can it be understood in static, nondirectional, “synchronic” terms. The fundamental form of social domination characterizing modern society, that which Marx analysed in terms of value and capital, is one that generates a historical dynamic beyond the control of the individuals constituting it.⁶⁸

Simply put, value is a category that seeks to explain the structures that compel individuals to reproduce capitalist socioecological relations. Postone put this argument to work in a critique of the kind of work that labour is compelled to pursue under capitalism, to deliver a critique of the continuation of the value form under ‘actually existing socialism.’⁶⁹ But the approach is powerful and relevant to the question of socioecological crisis, as the structuring power of value is at work in the particular way nature is produced under capitalism. The power of ‘abstract social domination’ – of the ‘self-generated structural domination’ that the value form (re)produces – shapes the way that individuals must labour in and through ‘the web of life’. We turn now to consider the outcome of that labour: the ‘production of nature.’

⁶⁷ M. Postone, *Time, Labour, and Social Domination: A reinterpretation of Marx’s critical theory*, Cambridge, UK: Cambridge University Press (1993), p. 17, emphasis in original.

⁶⁸ Postone, *Time, Labour, and Social Domination*, p. 31.

⁶⁹ *Ibid.*, pp. 391-394.

Production of nature

Society has never existed outside of nature, whatever the 'ideology of nature' might suggest. The beginning of societies, states, and even the specificity of the human species are tied up with people shaping their environment and being shaped by it.⁷⁰ Smith's production of nature thesis follows Marx, in that it sees labour as the central mediation of nature across human history. This is articulated in *Capital I*, where labour

confronts the materials of nature as a force of nature. He sets in motion the natural forces which belong to his own body... in order to appropriate the materials of nature in a form adapted to his own needs. Through this movement he (sic.) acts upon external nature and changes it, and in this way he simultaneously changes his own nature.⁷¹

It is from this kind of rich soil that historical materialism and eco-socialism grow, this double-internality of society and nature gives us a grounding which helps to perceive the separation of 'Society' and 'Nature' through the ideology of nature as mere appearance. When these categories are properly treated as internally related, concepts like the 'production of nature' emerge, which not only help us think transhistorically, but also with temporal and spatial specificity – the latter animated by attention to value as a socioecological structuring force. Harvey reflected on the above passage from Marx in a similar vein: 'This dialectic, of perpetually transforming oneself by transforming the world and vice versa, is fundamental to understanding the evolution of human societies as well as the evolution of nature itself.'⁷²

In this sense, nature has been 'produced' for a long time. But our concern here is the specific way that nature is produced under the structuring power of value. This was captured by Neil Smith as the 'production of nature for exchange.'⁷³ From the perspective of the Cartesian dualism of Society and Nature, their separation makes the idea of the 'production of nature' a contradiction in terms.

⁷⁰ D. Graeber and D. Wengrow, *The Dawn of Everything: A new history of humanity*, Toronto: Penguin Books Canada (2021); J.C. Scott, *Against the Grain: A Deep History of the Earliest States*, New Haven: Yale University Press (2017).

⁷¹ Marx, *Capital I*, p. 283.

⁷² D. Harvey, *A Companion to Marx's Capital*, London: Verso Books (2010), p. 112.

⁷³ Smith, *Uneven Development*, p. 59.

Surely that which is natural is necessarily that which is not produced? While it has taken the announcements of geologists for most historians to begin appreciating that society cannot exist outside of nature, this is something many historical materialists have appreciated for some time. Importantly, however, this tradition goes further – and considers that nature, as it exists today, cannot exist without society. Indeed, this observation goes back to Marx:

So much of this activity, this unceasing sensuous labour and creation, this production, the basis of the whole sensual world as it now exists, that were it interrupted only for a year, Feuerbach would not only find an enormous change in the natural world, but would very soon find that the whole world of men and his own perceptive faculty, nay his own existence, were missing.⁷⁴

This appreciation of the *internal relations* of society and nature, which cannot now be disentangled, prompted Smith to go beyond Lefebvre's 'production of space'⁷⁵ to consider the 'production of nature':

Nature is generally seen as precisely that which cannot be produced... But with the progress of capital accumulation and the expansion of economic development, this material substratum is more and more the product of social production... it is in the production of nature that use-value and exchange-value, and space and society, are fused together... This [approach] will allow us to treat the real patterns of uneven development as the product of the unity of capital, rather than blindly to situate the process in the false ideological dualism of society and nature.⁷⁶

In the first instance, the production of nature is transhistorical, or at the very least, precapitalist. This is particularly apparent in the Australian context, where evidence of deliberate clearing through firestick burning, plant selection, and hydroengineering by First Nations peoples dates back tens of thousands of years.⁷⁷ Indeed, it was through thousands of years of labour that the vast grasslands of Eastern Australia were *produced* – labour that was appropriated as 'Cheap Work' by the rapid pastoral expansion associated with British invasion. The production of wool by the early settlers/invaders was distinct from the production of nature associated with Indigenous firestick burning, however: grasslands were produced by Aboriginal Australians for their use-value, whereas only a small fraction of the colonial wool clip was ever used by those

⁷⁴ K. Marx and F. Engels, *The German Ideology*, New York: Progress Publishers (1970 [1843]), p. 63, quoted in Smith, *Uneven Development*, p. 53.

⁷⁵ H. Lefebvre, *The Production of Space*, trans. D. Nicholson-Smith, Oxford: Basil Blackwell Publishers (1991 [1974]).

⁷⁶ Smith, *Uneven Development*, pp. 49-50.

⁷⁷ B. Gammage, *The Biggest Estate on Earth: How Aborigines made Australia*, Sydney: Allen & Unwin (2012); B. Pascoe, *Dark Emu: Aboriginal Australia and the Birth of Agriculture*, Broome: Magabala Books (2018); M. Smith, *The Archaeology of Australia's Deserts*, Cambridge: Cambridge University Press (2013).

that produced it. This was production for exchange – an exploration of the displacement of Indigenous socioecologies by those of capitalism, asserted through invasion and violence, will animate Chapters 3 and 4 of this thesis. In doing so, we will come to see that just as the exchange of commodities marks a qualitative shift in the social relations of production, so too does the production of nature when driven by the search for exchange value:

In relation with nature, therefore, ‘exchange value... plays... an accompanying role to use value’... The use value of nature remains important, of course; only with difficulty (and great expense) can a butcher do the job of a cobbler using the tools and materials of a carpenter. But it is no longer the abstract possibility or impossibility of production that dictates the use of nature. It is the relative cheapness or expense of using various use-values that counts.⁷⁸

We will return to this passage from Smith further on, as his suggestive comment on ‘relative cheapness’ is central to understanding Cheap Nature and the commodity frontier. For now, we might simply say that ‘the contemporary relation with nature derives its specific character from the social relations of capitalism.’⁷⁹

The ‘production of nature’ thesis as articulated by Smith goes beyond the simple-but-central claim that nature is produced in a specific way when capitalist social relations predominate (making those relations socioecological). The second chapter of this thesis will engage specifically with the theoretical challenge of ‘the state’, but it is worth flagging Smith’s connection of the production of nature with state theory:

With the division of society into classes the state makes its historic appearance as a means of political control. As Engels put it, at “a definite stage of economic development, which necessarily involved the cleavage of society into classes, the state became a necessity because of this cleavage.” The function of the state is to administer the class society in the interests of the ruling class, and this it does through its various military, legal, ideological, and economic arms.⁸⁰

In this way, Smith’s theorization of the internal relations between the state and the production of nature for exchange positions him as an important antecedent to much recent eco-socialist

⁷⁸ Smith, *Uneven Development*, p. 67, quoting Marx, *Grundrisse*, p. 252.

⁷⁹ *Ibid.*, p. 69.

⁸⁰ *Ibid.*, p. 61, quoting F. Engels, *The Origin of the Family, Private Property, and the State*, New York: International Publishers (1933[1892]), p. 143.

scholarship, especially Christian Parenti's 'environment-making state.'⁸¹ But more important to the theoretical task of this chapter is the way the 'production of nature' informs the idea of 'cheapness', more-recently associated with Jason W. Moore.⁸² On this point, it is worth taking Smith at length:

In the relation with nature, therefore, "exchange value . . . plays . . . an accompanying role to use value." It does so in two senses: first, the use of natural material is regulated by the quantity of exchange-value its employment will bring, and this applies as much in the labour market as the raw material market. But also, since the material aspects of the second nature were produced as commodities, nature has been produced with an exchange-value component. (In this case it is not abstract external nature which exercises an oppressive control over human beings but the weight of dead labour.) The use-value of nature remains important, of course; only with difficulty (and great expense) can a butcher do the job of a cobbler using the tools and materials of a carpenter. But it is no longer the abstract possibility or impossibility of production that dictates the use of nature. *It is the relative cheapness or expense of using various use-values that counts.* Use-value is transformed into exchange-value (in calculation as well as practice) in the production process. Hence, just as "use value falls within the realm of political economy as soon as it becomes modified by the modern relations of production, or as it, in turn, intervenes to modify them," the same is true of exchange-value and nature. Exchange-value falls within the realm of nature as soon as a second nature, through the production of commodities, is produced out of the first.⁸³

This passage serves as an excellent articulation of the connection between the production of nature and the structuring power of value, the way that exchange value becomes central to decision-making. As Smith says, it is the 'relative cheapness or expense' that counts; it is the domination of abstract value that determines the way nature is produced. Also important within this passage is a comment about the immediacy of the effect of value on the production of nature: 'Exchange-value falls within the realm of nature as soon as a second nature, through the production of commodities, is produced out of the first'. As our attention moves – theoretically, historically, spatially – to the commodity frontier, this point becomes imperative: second nature comes into being as soon as commodities begin to be produced. Often the frontier is a space that combines commodified and non-commodified socio-natures, but this co-existence *does not* vitiate the inclusion of the frontier in the socio-ecological totality of value and capital.

⁸¹ C. Parenti, 'The Environment making state: Territory, nature, and value', *Antipode*, 47(4), 839-848 (2015).

⁸² Moore, *Capitalism in the Web of Life*.

⁸³ Smith, *Uneven Development*, p. 67, quoting Marx, *Grundrisse*, p. 252, 881, emphasis added.

To briefly summarise, our question here is how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism, and how eco-socialism and world-ecology might help us to understand the origins and nature of capitalism in times of socioecological crisis. Toward that end, the original contribution of this thesis begins from a commitment to the philosophy of internal relations, and the treatment of capital as a socio-ecological totality. The central category of capital is seen to be value, treated as a structuring force of abstract social domination. That domination is, in fact, socioecological, as is revealed by Smith’s treatment of the production of nature for exchange; capitalism is defined as a socioecological relation, which compels nature to be produced in this way. It is in Smith’s treatment of the rising primacy of ‘relative cheapness’ that we bring into view two crucial categories, the historical application of which facilitate our grappling with that central question – these are ‘cheap nature’ and the ‘commodity frontier.’

Value and Cheap Nature

One purpose of Marx’s value theory was, as touched on above, to show the origins of class in the sphere of production. ‘What Marx’s theory of value does is provide a basis for showing the link between money relations and labour process relations in the process of exploitation. The process of exploitation is actually a unity.’⁸⁴ This emerges from the difference between the use-value and exchange value of labour power; there is necessarily a gap between the value paid out to the worker in wages, and the value produced by the worker in that period of time, else production would not go ahead: ‘the value of labour power, and the value which labour power creates in the labour process creates in the labour process are two entirely different magnitudes.’⁸⁵ Importantly, while individual capitals might profit from savvy deals within the sphere of exchange, this cannot be a generalized explanation for profit, surplus, or the expansion of capital – ‘there is, therefore, no exploitation in the sphere of exchange.’⁸⁶ It is understandable, then, why

⁸⁴ Elson, ‘The Value Theory of Labour’, p. 172.

⁸⁵ Marx, *Capital I*, p. 193.

⁸⁶ Harvey, *The Limits to Capital*, p. 23.

so much attention has been paid to the moment of ‘variable capital’ (labour) in the circuit of capital, as from the vantage point of class this is the element that rises to the top. While a focus on variable capital defines the approach of most Marxists, considerable attention has also been paid to one part of constant capital: fixed capital, or those inputs that outlast the production process, such as machinery, animals, and real estate. Indeed, it is in the interaction of fixed and variable capital that much Marxist thinking on technology and crisis emerges.⁸⁷ But as our vantage point shifts, so too does our theory. For Moore and many eco-socialists,⁸⁸ it is in that other part of constant capital that we find the value-theoretical importance of Cheap Nature: circulating capital.

The concept of ‘Cheap Nature’ mounts an argument about the historically specific socioecological relations of capitalism. It animates the general category of the ‘production of nature for exchange’ to detail what Smith meant by ‘It is the relative cheapness or expense of using various use-values that counts.’⁸⁹ Consider Moore’s argument, as he teases out this strand of Marx’s thinking on nature:

Circulating capital is the forgotten moment in Marx’s model – a casualty of dualist habits of thought. It consists of energy and raw materials used up during the production cycle. The dynamism of capitalist production, observes Marx, leads the ‘portion of constant capital that consists of fixed capital... [to] run significantly ahead of the portion consisting of organic raw materials, so that the demand for these raw materials grows more rapidly than their supply’. Marx goes still further. Not only does fixed capital in industrial production tend to “run ahead” of raw materials sectors, the *condition* for large scale industrial production is Cheap Nature: ‘it was only the large fall in the price of cotton which enabled the cotton industry to develop in the way it did’.⁹⁰

⁸⁷ S. Clarke, ‘Crisis Theory,’ in B. Fine, A. Saad-Filho and M. Boffo (eds) *The Elgar Companion to Marxist Economics*, Cheltenham: Edward Elgar Publishing (2012), pp. 90-94.

⁸⁸ Key antecedents of Moore here include J. O’Connor, *Natural causes: Essays in ecological Marxism*, New York: The Guilford Press (1998), p. 148-49; M. Folin, ‘Public enterprise, public works and social fixed capital: Capitalist production of the ‘communal, general conditions’ of social production,’ *International Journal of Urban and Regional Research*, 3(3) (1979); M. Pianta, ‘The conditions of production: A note,’ *Capitalism Nature Socialism*, 3(1), (1989).

⁸⁹ Smith, *Uneven Development*, p. 67.

⁹⁰ Moore, *Capitalism in the Web of Life*, pp. 93-94, quoting K. Marx, *Capital: Volume III*, ed. F. Engels, New York: International Publishers (1967), pp. 118-119.

For Moore, this general statement about the circuit of capital – that the rate of surplus is increased where ‘organic raw inputs’ can be acquired for less, as it will reduce the ratio of constant to variable capital – is quite straightforward, and not especially controversial. It is in *how* nature is acquired cheaply, and the articulation of this process with the crisis tendencies of capitalist production, that the novelty of ‘Cheap Nature’ as a world-historical concept is found. Continuing on, from Moore and Marx above, it is neither overproduction (of machinery) nor underproduction (of raw materials) that is central, but rather how the two relate. Moore suggests two directions flowing from this articulation:

The first is how the “normal” accumulation of capital drives the rising costs of production through the progressive exhaustion of the natures within both the circuit of capital (exploitation) and in the orbit of capitalist power (appropriation). The second is how underproduction fetters – or threatens to fether – accumulation, and how it has been resolved through great waves of geographical restructuring. Thus, eras that mark the demise of one long wave of accumulation and the rise of another tend to be accompanied by “new” imperialisms and “new” scientific revolutions. In these periods, as capitalist and territorialist agencies seek to find, secure, and appropriate Cheap Natures that can resolve the problems of the old order.⁹¹

The first of these points is reminiscent of O’Connor’s ‘second contradiction,’ which will be explored further on.⁹² The second speaks more to the way the need for ‘Cheap Natures’ drives the uneven and combined development of capitalism, through long waves of accumulation and appropriation, linked to capitalism’s inherent spatial expansion to new frontiers – or, simply, ‘commodity frontiers.’

Moore goes on to disaggregate the category of ‘Cheap Nature’ into what he terms the “Big Four” – labour, food and energy and materials. Those four are expanded again in Moore’s collabouration with Raj Patel, *The History of the World in Seven Cheap Things* – Nature, money, work, care, food, energy and lives.⁹³ The tendency for this taxonomy to expand might concern some theorists, but the grounding in Marxian value theory outlined above does at least make clear the basis of these claims: ‘Capitalism’s ‘law of value’ [is], it turns out, a law of Cheap Nature. It [is] ‘cheap’ in a

⁹¹ Moore, *Capitalism in the Web of Life*, p. 94.

⁹² O’Connor, *Natural Causes*, pp. 158-176.

⁹³ Patel and Moore, *The History of the World in Seven Cheap Things*, pp. 4-5.

specific sense, deploying the capacities of capital, empire, and science to appropriate the unpaid work/energy of global natures within the reach of capitalist power.’⁹⁴ In this way, the law of value is seen to structurally impel capital to seek out uncommodified, or ‘historically cheap,’ natures. This is here understood to be a motor force in the world-history of capitalism, helping to determine projects of empire, racialization, gendering, state formation, and ultimately uneven development. It is for this reason that Moore terms his approach ‘world-ecology;’ at its most abstract, ‘world-ecology’ as an approach joins ‘the accumulation of capital, the pursuit of power, and the co-production of nature in dialectical unity.’⁹⁵ This thesis seeks to rise from the abstract to the concrete, as it mounts the argument that in this search for ‘cheapness,’ the totality of capital defines the socioecological relations of crisis. And, as we see in Moore’s references to empire, long waves, and geographical restructuring, the value-theoretical claims of ‘Cheap Nature’ have very real historical and geographical implications. As we build a theory capable of accounting for Australia’s history of socioecological crisis, we turn to consider Cheap Nature in motion, beginning with the ‘commodity frontier.’ It is in the articulation and historical specification of this category that this thesis finds is key contribution to our understanding of the origins of capitalism, and the crises of the Capitalocene, on this continent.

Cheap Nature in Motion

The commodity frontier

World-ecology, then, is a world historical method, that takes seriously the ontological commitment to totality. It builds on the framework of world-systems theory, drawing heavily on the contributions of Braudel and Wallerstein.⁹⁶ Indeed, much of Moore’s early work was centered

⁹⁴ J.W. Moore, ‘The rise of Cheap Nature,’ in J.W. Moore (ed.) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, Oakland, CA: PM Press (2016), p. 89.

⁹⁵ Moore, *Capitalism in the Web of Life*, p. 3.

⁹⁶ F. Braudel, *The Mediterranean and the Mediterranean world in the age of Philip II*, 2 vols., New York: Harper and Row (1972-1973); *Civilisation and Capitalism, 15th-18th Century: The Wheels of Commerce* (vol. 2), trans. S. Reynolds, London: William Collins Sons and Co Ltd (1984); I. Wallerstein, *The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*, New York: Academic Press (1974).

on rereading these seminal scholars, with the framework developed later building on this grounding. This return to Braudel and Wallerstein was in part an argument that these scholars were always centered on the role and conception of the environment in their respective world-histories. For example, Moore asserts that although ‘Wallerstein’s work is widely characterized as a rupture with Braudel’s emphasis on the physical environment... Wallerstein’s analysis of the crisis of feudalism and the rise of capitalism pivots on socio-ecological factors.’⁹⁷ Much of this analysis is rooted in crisis theory, as the environment is seen as both co-producer of crisis, as well as integral to the contingent resolution of that crisis. As summarized by Moore,

On the one hand, the emergence of capitalism as a response to feudal crisis by Europe’s ruling strata was conditioned by the ecological contradictions of the feudal system, such as declining soil fertility. On the other hand, the likelihood of a successful transition to capitalism, rather than a reversion to feudalism or a world imperium, was itself predicated on the widening and deepening transformation of the earth so as to favor the generalization of commodity production... The extension of the commodity production frontier zones (silver, sugar), at first in the Atlantic islands and then in the Americas, was the decisive moment of world ecological reorganization.⁹⁸

Hinted at in this quotation is the mechanism whereby ecological (re)organization can be seen to both resolve the entrenched crisis of the old (feudalism) and drive the new (capitalism) – the ‘commodity frontier.’ The archetypal examples given are, of course, silver and sugar: both central to Iberian expansion in the 15th century onward. Distinct from ‘Political Marxism’, which focuses on the generalization of capitalist social (wage) relations within the ‘core’, world-ecology necessarily draws out attention outward:⁹⁹ ‘Capitalism not only has frontiers; it exists only through frontiers... Through frontiers, states and empires use violence, culture, and knowledge to mobilize natures at low cost. It’s this cheapening that makes frontiers so central to modern history and that makes possible capitalism’s expansive markets.’¹⁰⁰ This is what is encapsulated in the category of the ‘commodity frontier,’ in its true, political articulation. In this way we follow also Avilés, whose ‘focus on the expansion of capitalism’s Cheap law of value through the

⁹⁷ J.W. Moore, ‘*The Modern World System as environmental history? Ecology and the rise of capitalism*’, *Theory and Society* 32: 307-377 (2003), p. 308.

⁹⁸ Moore, ‘*The Modern World System as environmental history?*’, p. 312.

⁹⁹ For a critique of Political Marxism on its perceived Eurocentrism, see Anievas and Nişancıoğlu, *How the West Came to Rule*.

¹⁰⁰ Patel and Moore, *A History of the World in Seven Cheap Things*, p. 19.

production and reproduction of commodity frontiers within Chile's history of capital and state formation' reveals the production of nature and space 'in a peripheral social formation.'¹⁰¹

Moore was not, of course, the first to notice that accumulation relies on appropriation. The claim that 'Capitalism not only has frontiers; it exists only through frontiers'¹⁰² echoes Maria Mies' emphasis on the world-systemic importance of unpaid work by 'women, nature, and colonies.'¹⁰³ As put by Sturman, 'capitalism relies on deep wells of formally unvalued human labour and non-human nature, recombined in changing articulations as prompted by crisis, to sustain it.'¹⁰⁴ Importantly, if we are to avoid reproducing this appropriation within the sphere of what we might call 'intellectual labour,'¹⁰⁵ appropriate recognition ought to be given to the broad literatures that have contributed to this argument: 'the traditions of materialist feminism, eco-socialism and materialist eco-feminism present, in turn, attempts to theorise capital's appropriation of life beyond direct exploitation and accordingly how to advance political strategy for a world beyond capitalism.'¹⁰⁶ Significant contributions arise also from the tradition of Black Radicalism, and the many contentious debates around the role of unfree labour under capitalism. We will return to some of the key contributions of this literature, as they relate to our understanding of capitalism as a socioecology of Cheap Nature, in Chapter 6 of this thesis, where we consider the commodity frontier of Queensland sugar production. Certainly we can note here, however, Eric Williams'

¹⁰¹ D. Avilés, *Spatial Political Economy: Uneven development and the production of nature in Chile*, PhD Thesis, The University of Sydney (2022), p. 7.

¹⁰² *Ibid.*

¹⁰³ Mies, *Patriarchy and Accumulation on a World Scale*, p. 77.

¹⁰⁴ A. Sturman, *Capital, the State and Climate Change in Aotearoa New Zealand*, PhD Thesis, The University of Sydney (2021), p. 42. See also J. Ghosh, 'Capital', in B. Fine, A. Saad-Filho and M. Boffo (eds) *The Elgar Companion to Marxist Economics*, Cheltenham: Edward Elgar Publishing (2012)

¹⁰⁵ A. Sohn-Rethel, *Intellectual and Manual Labour: A critique of epistemology*, trans. M. Sohn-Rethel, Leiden: Brill Publishing (1978/2020).

¹⁰⁶ Sturman, *Capital, the State and Climate Change in Aotearoa New Zealand*, p. 43. See also, Federici, *Caliban and the Witch*; M. Giménez, *Marx, Women and Capitalist Social Reproduction*, Chicago, IL: Haymarket Books (2018); M. Mellor, *Feminism and Ecology*, Cambridge: Polity Press (1997); A. Salleh, *Ecofeminism as Politics: Nature, Marx, and the postmodern*, second edition, London: Zed Books (2017); M. Mies and V. Shiva, *Ecofeminism*, London: Zed Books (2014/1993); T. Bhattacharya (ed.) *Social Reproduction Theory: Remapping Class, Recentering Oppression*, Cambridge: Pluto Press (2017); L. Vogel, *Marxism and the Oppression of Women: Toward a Unitary Theory*, New Brunswick, NJ: Rutgers University Press (1983).

insistence that capitalism relied upon Atlantic slavery – a view that argued ‘without slavery there is no sugar, and without sugar, there is no industrialization.’¹⁰⁷ This is echoed by Mbembe, in their pithy insistence that ‘[T]he plantation system... was the key to the constitution of modern capitalism.’¹⁰⁸ Gender and race, and other differences besides, *must* be in view, as they are frequently the strategies that make Nature (as human and non-human lives outside of the wage-labour nexus are treated by capital) historically ‘cheap’ at the commodity frontier. But we might make a more general point here as well, which is that these many forms of ‘cheap nature’ were captured earlier in Marx’s ‘free gifts of Nature’:

Natural elements entering as agents into production, and which cost nothing, no matter what role they play in production, do not enter as components of capital, but *as a free gift of Nature to capital*, that is, as a free gift of Nature’s productive power to labour, which, however, appears as the productiveness of capital, as all other productivity under the capitalist mode of production.¹⁰⁹

In this way, all that is outside the commodity system that is swept up into the production of commodities – be it soil nutrients, the social-reproductive labour of the household, or the life-energies of unfree labour, all here captured as ‘Nature’ – are happily treated as increased productivity, leading to profits and accumulation. The gifting of Nature to capital will be explored further from an agential perspective in the following chapter. Here we note these antecedent strains of thought which feed into the world-ecological category of ‘cheap nature,’ at the ‘commodity frontier.’

‘Commodity frontiers’ are places and times where the stuff of accumulation can be got for less. In some instances, this means socionatures are yet to be commodified, and thus can be seized – through violence, through enclosure, through projects of empire, state formation, racialization or gendering. In other times and places there will be a dialectic of commodification, decommodification, and crisis at work, as the capitals and states struggle against socioecological

¹⁰⁷ J.R. Eichen, ‘Cheapness and (labour-)power: The role of early modern Brazilian sugar plantations in the racializing Capitalocene, *EPD: Society and Space*, 38(1):35-52, (2020), p. 39; see also E. Williams, *Capitalism and Slavery*, Chapel Hill, NC: University of North Carolina Press (1944), pp. 163-166.

¹⁰⁸ A. Mbembe, *Critique of Black Reason*, Durham, NC.: Duke University Press (2017), p. 47.

¹⁰⁹ K. Marx, *Capital: Volume III*, New York: International Publishers (1959), p. 745.

contradiction to re-articulate the frontier. What is important here is that ‘cheapness’ is defined historically:

Cheap Nature is “cheap” in a historically specific sense, defined by the periodic, and radical, reduction in the socially necessary labour-time of these Big Four inputs: food, labour-power, energy, and raw materials. Cheap Nature, as an accumulation strategy, works by reducing the value composition – but increasing the technical composition – of capital as a whole; by opening new opportunities for investment; and, in its qualitative dimension, by allowing technologies and new kinds of nature to transform extant structures of capital accumulation and world power. In all this, *commodity frontiers* – frontiers of appropriation – are central.¹¹⁰

Here we continue to rise through different levels of abstraction, and arrive at a central organizing concept that begins to suggest a method for comprehending socioecologies of crisis. The logic of capital sees that accumulation is tied to appropriation in a dialectical unity. Moore specifically links this dialectic to crisis, when he proffers a ‘tendency of the ecological surplus to fall.’¹¹¹ This contentious claim will be explored further below. For now, the simple claim being made is that commodity frontiers, or frontiers of appropriation, are of world-historical and world-ecological significance. They bring our attention to the historical movement of capital and help us to think with a socioecological totality in mind. This conceptual utility is developed further through the introduction of incorporated comparison¹¹² as a method to perceive seemingly distinct frontiers as, in fact, internally related, and co-constituting.

It is for this reason that this thesis is organized around three of the ‘commodity frontiers’ that drove the establishment of capitalist socioecological relations across the Australian continent: wool, coal, and sugar. As we explored in the introduction, there are other commodity frontiers too that might be explored. Indeed, while the concept of the ‘frontier’ has received the most attention in North America, in some ways Australia can be read as the ideal-typical case, as Australian capitalism exists only through the continuous search for frontiers; the dialectic of accumulation and appropriation is not-so-obsured as it is in the great financial centers of the

¹¹⁰ Moore, *Capitalism in the Web of Life*, p. 54.

¹¹¹ *Ibid.*, pp. 91-102.

¹¹² McMichael, ‘Incorporating Comparison within a World-Historical Perspective.’

world. To be clear, by drawing our scope around three specific commodity frontiers, we are not making some crude quantitative argument. These cases have not been selected because they are or were necessarily the most lucrative, or that they were spatially dominant – the traditional approach to Australian economic historiography.¹¹³ Rather, the selection of these three commodity frontiers reveals a commitment to the relational methodology of ‘incorporated comparison.’¹¹⁴ As McMichael suggests, ‘the multiple form of incorporated comparison analyses a cumulative process through time- and space-differentiated instances of a historically singular process.’¹¹⁵ In this sense, our multiple commodity frontiers reveals a cumulative process: in this case, the production of nature under capitalism and the origins of the Capitalocene’s socioecological crises. By showing that disparate, seemingly unrelated processes were (and are) *internally related*, and each explicable through reference to the categories of value and cheap nature, we can better argue for the ontological and epistemological centrality of treating capitalism as a socioecological totality. Second, these cases each set in motion important contradictions that are with us today – species extinction, climate change, socioecologies of difference leveraged as cheap labour. In this way, our relational methodology is not only ontologically necessary, but animates the political potential of the commodity frontier research agenda by doing the strategic work of connecting different ‘environmental issues,’ showing them as essentially whole. And through our commitment to a socioecological conceived totality, we also show that there ought to be no separation between ‘social’ and ‘environmental’ causes. Our question is: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? In this way, we approach the novel contribution of this thesis: an account of the origins of Australia’s many converging socioecological crises, through an argument being developed both theoretically and historically, that our crises are specifically capitalist.

¹¹³ For example, I. McLean, *Why Australia Prospered: The shifting sources of economic growth*, Princeton, NJ: Princeton University Press (2013).

¹¹⁴ P. McMichael, ‘Incorporating Comparison within a World-Historical Perspective: An alternative comparative method,’ *American Sociological Review*, 55(3): 385-397 (1990).

¹¹⁵ McMichael, ‘Incorporating comparison within a world-historical perspective,’ p. 392.

Crisis

It has been asserted that the socioecological relations of capitalism are defined by contradiction and crisis. At this stage, this argument remains assertion: this is something to be resolved empirically and historically. As put by Clarke, 'while the tendency to crisis might be inherent in capitalism, the determinants and characteristics of any particular crisis are always singular, embedded in the concrete characteristics of capital accumulation at a particular place and time.'¹¹⁶ But to maintain a connection between theory and history, that exploration ought to set out equipped with an appreciation of Marxist crisis theory, especially as it relates to the socioecology of Cheap Nature. The attention paid to the dialectical motion of contradictions through time and space is one of the key strengths of historical materialist thought, and this methodology is taken forward by much eco-socialist thought. Contradiction and crisis are tools to trace the internal relations of the capitalist totality, allowing us to apprehend these socioecological relations at a high level of generality and abstraction, while also equipping us to explain historical and geographical specificity and change. As put by Ollman, "contradictions' ... can be studied and resolved.'¹¹⁷ Indeed, it was the problematic of explaining 'uneven development' that saw Smith articulate the 'production of nature for exchange,' in his appreciation of unity of space and nature. Beginning from this departure point, three key conditions of capitalisms crisis-ridden expansion through frontiers are examined. These are the 'second contradiction', the 'metabolic rift' and the 'tendency of the ecological surplus to fall.' We will explore each in turn.

Going beyond the 'first contradiction' of capital – the suppression of demand due to the dual-character of labour as the source of value in production *and* the main market for the realization of that value, leading to crises of overproduction¹¹⁸ – James O'Connor offered a 'second'

¹¹⁶ S. Clarke, 'Crisis theory,' p. 95.

¹¹⁷ Ollman, 'Marxism and the philosophy of internal relations; or, How to replace the mysterious 'paradox' with 'contradictions' that can be studied and resolved'.

¹¹⁸ Harvey, *Limits to Capital*, pp. 190-203.

fundamental contradiction. Here, O'Connor was concerned with the contradictory internal relations between the 'conditions of production' and the relations of production. The conditions of production – 'external, physical conditions', 'labour power,' and 'the communal, general conditions of social production'¹¹⁹ – might be thought of as the stuff that is needed for production to take place, spanning what is often thought of as 'the environment' (space, materials, energy), and the ability of labour to do work. Although not totally analogous, there is a close relation here with the 'Big Four cheaps' discussed by Moore above. Important, for O'Connor, these conditions were not produced to be commodities, but were treated as such, leading to a tendency for capitalist production to exhaust or degrade these conditions: 'the combined power of capitalist production relations and productive forces self-destruct by impairing or destroying rather than reproducing their own conditions ("conditions" defined in terms of both social and material dimensions).'¹²⁰ O'Connor saw this contradiction, and its inherent crisis tendencies, as being mediated by the state, which we will consider more closely in Chapter Two. But here we might take some examples of how the relations of production – relentless accumulation compelled forward by value – might undermine the conditions that production rests upon.

Examples of capitalist accumulation impairing or destroying capital's own conditions, hence threatening its own profits and capacity to produce and accumulate more capital, are many and varied. The warming of the atmosphere will inevitably destroy people, places, and profits, not to speak of other species life. Acid rain destroys forests and lakes and buildings and profits alike. Salinization of water tables, toxic wastes, and soil erosion impair nature and profitability. The pesticide treadmill destroys profits as well as nature... In these ways, we can safely introduce "scarcity" into the theory of economic crisis in a Marxist, not a neo-Malthusian, way.¹²¹

As O'Connor says, manifestations of this contradiction are 'many and varied;' the central point is that from this view there is a tendency for capital to degrade the socioecological conditions it relies upon. Crucially, however, we must think of this tendency in a 'Marxist, not a neo-Malthusian, way.' That is to say, these crises are not necessarily fatal or determined – it is as much in the way crises are (temporally or spatially) 'resolved' that the utility of this theory is found.¹²² Such 'fixes'

¹¹⁹ Marx, *Capital I*, p. 562; *Grundrisse*, p. 533.

¹²⁰ O'Connor, *Natural Causes*, p. 165.

¹²¹ *Ibid.*, p. 166.

¹²² B. Jessop, 'Spatial Fixes, Temporal Fixes, and Spatio-Temporal Fixes,' in N. Castree and D. Gregory (eds), *David Harvey: A critical reader*, Oxford, UK: Basil Blackwell Publishing (2006).

help to explain the evolution of socioecological relations, of uneven development. Indeed, through this thesis attention will be paid to how the development of capitalist socioecological relations in Australia can be understood as a constant process of contradiction, crisis, and ‘fixing.’ Here we see an important connection with Moore’s conception of Cheap Nature, in the sense that rapid exhaustion of cheap natures at the commodity frontier are often fixed through deeper commodification, or displacement of these contradictions through deepening of class relations or state mediation: ‘ecological revolutions resolve developmental crises by reducing the capitalization of nature, and finding new quantitative – *and qualitative* – means of appropriating the biosphere’s work/energy.’¹²³ Here we begin to see the richness of the eco-socialist vantage-point, as it draws on deep wells of dialectical materialist thought around crisis and space. The crises thrown up by these “environmental limits” are in fact only crises insofar as they pose a barrier to further expansion of value: ‘the *real historical limits* of capitalism derive from capital as a relation of capitalization and appropriation. The “limits to growth” are not external but derive from relations internal to capitalism.’¹²⁴ As this thesis moves to show the validity and necessity of an eco-socialist approach to history in the context of the Capitalocene, the dialectical conditioning of the commodity frontier, driven forward through crises of historical cheapness will be revealed.

A further element of an appropriately eco-socialist theory of capitalism and its crises emerges from Marx, developed especially by J.B. Foster – the ‘metabolic rift.’ Marx’s socioecological thought is grounded in his use of *Stoffwechsel* – ‘the metabolic interaction [Stoffwechsel] between man and nature, the everlasting nature-imposed condition of human existence’¹²⁵ – which emphasises the production of nature as transhistorical. The *rift* in this metabolism is, in contrast, historically specific under capitalism. Others have pursued the unearthing of ecological thinking

¹²³ Moore, *Capitalism in the Web of Life*, p. 141.

¹²⁴ *Ibid.*, p. 101, emphasis in original.

¹²⁵ Marx, *Capital I*, p. 290.

in Marx in detail,¹²⁶ but an example of these roots is the following, much-quoted passage from *Capital Volume I*:

all progress in capitalist agriculture is a progress in the art, not only of robbing the worker, but of robbing the soil; all progress in increasing the fertility of the soil for a given time is a progress towards ruining the more longlasting sources of that fertility. The more a country proceeds from large-scale industry as the background of its development, as in the case of the United States, the more rapid is this process of destruction. Capitalist production, therefore, only develops the techniques and the degree of combination of the social process of production by simultaneously undermining the original sources of all wealth - the soil and the worker.¹²⁷

In this powerful extract, we see that treating capitalism as a socioecology is not a recent invention, but something that has its origins in Marx's critique of capital. Foster builds on this, noting that 'the disruption of the soil cycle in industrialized capitalist agriculture constituted nothing less than 'a rift' in the metabolic relation between human beings and nature'.¹²⁸ This rift can be conceived of spatially, with the interruption of nutrient flows between the town and city. But as Marx notes above, capitalist agriculture is historically specific in the way it 'robs' nature of nutrients, energy and work; much of that specificity can be understood through the categories of value and cheapness explored above. Importantly, the metabolic rift is another way of conceiving of the crisis-ridden nature of capitalist socioecology. Synthesizing Moore and Foster in this way is not uncontroversial, however: Moore has argued that the formulation of the 'metabolic rift' reinforces the Cartesian dualism, with 'society' (capitalism) impacting on a separate 'nature',¹²⁹ whereas Foster has labelled Moore a 'Latourian Marxist... [who] now stands opposed to the eco-socialist movement.'¹³⁰ Encapsulated in the charge of 'Latourian Marxist' is a critique of the perceived tendency to collapse society and nature into one whole, and yet that move is criticised as 'Nature is seen as becoming progressively anthropogenic in a unifying way, without alienation

¹²⁶ P. Burkett, *Marx and Nature: A red and green perspective*, New York: Palgrave Macmillan (1999); J. B. Foster, *Marx's Ecology: Materialism and Nature*, New York: Monthly Review Press (2000); K. Saito, *Karl Marx's Eco-socialism: Capital, nature, and the unfinished critique of political economy*, New York: Monthly Review Books (2017).

¹²⁷ Marx, *Capital I*, p. 638.

¹²⁸ J.B. Foster, 'Review of the month: Marx and the Rift in the Universal Metabolism of Nature,' *Monthly Review* 65(7) (2013), p. 3.

¹²⁹ J.W. Moore, 'Metabolic rift or metabolic shift? Dialectics, nature, and the world-historical method,' *Theory and Society*, 46: 285-318 (2017).

¹³⁰ J.B. Foster, 'Marxism in the Anthropocene: Dialectical rifts on the Left,' *International Critical Thought*, 6(3): 393-421 (2016).

and without rifts. There is no need for a dialectics of nature and society, or even for natural science in the usual sense, since natural processes are now to be treated as internal to the social dialectic.’¹³¹ It is possible that such a view would be roundly critical of this thesis too, in its focus on a socioecological totality; and yet, does the critique hold? Surely with a philosophy of internal relations, and a methodology of incorporated comparison, we can hold ‘society’ and ‘nature’ both together and apart, enough to bring into view the possibility of rifts? Elsewhere Paul K. Gellert has gone some way toward bridging this divide, suggesting that the differences between the approaches of Foster and Moore are overstated, and really reduce down to questions of periodization, semantics, and vantage-point; these differences aside, the approaches share ‘foundational affinities in seeing extractive regions as experiencing ecologically unequal exchange via unequal power relations, extraction of ‘free gifts’ of nature to support the expansion of capitalist accumulation elsewhere, and the deep and persistent underdevelopment of the extractive peripheries.’¹³² Indeed, the condition of the commodity frontier is located squarely in this overlap. Here we might also suggest that those distinctions around what nature is, and the language we ought to use to understand it, might be overshadowed by a shared commitment to the simple point – and indeed, the only limited point we are looking to establish here – that capitalism as a way of organizing nature is *fundamentally contradictory and prone to crisis*.

Finally, let us take Moore again, and dwell a little on the idea of the ‘tendency of the ecological surplus to fall.’ Here again we find an argument that gives us theoretical tools to comprehend the historical creation of cheap nature, and the processes set in motion by the compulsions of the value form as these fraught socioecologies undermine that very, necessary cheapness. As discussed above, value under capital requires an ever-expanding throughput of raw materials;

¹³¹ *Op. Cit.*, p. 400.

¹³² P.K. Gellert, ‘Bunker’s Ecologically Unequal Exchange, Foster’s Metabolic Rift, and Moore’s World-Ecology: Distinctions with or without difference?’ in R.S. Frey, P.K. Gellert, and H. Drahms (eds) *Ecologically Unequal Exchange: Environmental injustice in comparative and historical perspective*, New York: Palgrave Macmillan (2019), p. 116.

profitability is increased where those raw materials can be got for less: 'the rate of profit is inversely proportional to the value of raw materials.'¹³³ Note Marx is concerned with the *value* of these raw materials – if these inputs to production are uncommodified, appropriated, or free, then Cheap Nature is realized, and accumulation expands apace. As that accumulation spirals upward, the 'portion of constant capital that consists of fixed capital... [to] run significantly ahead of the portion consisting of organic raw materials, so that the demand for these raw materials grows more rapidly than their supply.'¹³⁴ Against this tendency is the expansive project of bringing more and more of 'Nature' within the sphere of appropriation, so that value creation can continue profitably – the project of empire, state formation, and science, discussed further in the following chapter. As a result of this folding-in of further frontiers of appropriation, 'when capitalists can set in motion *small* amounts of capital and appropriate *large* volumes of unpaid work/energy, the costs of production fall and the rate of profit rises.'¹³⁵ This is what Moore terms the 'ecological surplus.' This value-theoretical framing of Cheap Nature was explored above as a structuring force that (unevenly) produces nature under capitalism. Here we note that this point can also be read as a potential for crisis, in that without the condition of Cheap Nature being met, then profitability is threatened. As Clarke insisted above, crisis theory must be worked out historically, and that is precisely the approach Moore has taken to the question of challenges to Cheap Nature. Indeed, it is historically that we see cheapness secured, undermined, contract and then expand again. This is not simply a function of crude physical depletion of scarce resources – although, 'depletion is real enough'¹³⁶ – but rather of the internal relations of capital, as 'there is a dialectic between capital's central capacity to appropriate biophysical and social natures at low cost, and its immanent tendency to capitalize the reproduction of labour power and extra-human natures.'¹³⁷ This tendency toward capitalization of the frontier, which both fixes contradictions

¹³³ Marx, *Capital III*, p. 111.

¹³⁴ *Ibid.*, pp. 118-119.

¹³⁵ Moore, *Capitalism in the web of Life*, p. 95, emphasis in original.

¹³⁶ *Ibid.*, p. 105.

¹³⁷ J.W. Moore, 'The End of the Road? Agricultural Revolutions in the Capitalist World-Ecology, 1450-2010', *Journal of Agrarian Change*, 10(3): 389-413 (2010), p. 392.

and creates new ones, is something that will emerge historically throughout the thesis, and is a deeply socioecological process – in some instances, capitalization of the frontier emerges as a resolution to class contradictions, other times it emerges simply through competition for rents that might be seized through primitive accumulation, or it might present as a way to overcome the movement of the ‘second contradiction’ at work. This perspective on crisis is historical and relational, and eschews crude biophysical readings of ‘limits to growth;’ ‘the real historical limits of capitalism derive from capital as a relation of capitalization and appropriation. The “limits to growth” are not external, but derive from relations internal to capitalism.’¹³⁸ Questions still remain as to whether these crises of Cheap Nature could ever become so pointed as to present a fatal contradiction to capital, and these questions are especially pointed in the face of contemporary crises of cheap food and energy.¹³⁹ But as a historical tendency, capitalism as a socioecology of Cheap Nature is certainly one defined by crises – crises often fixed, spatially and/or temporally, through the opening of further frontiers of appropriation.

Crisis is an important element of our emergent socioecological appreciation of capitalism, in the sense that it helps us to trace the contradictory internal relations of the capitalist totality historically and geographically. It is also bound up in questions of *periodization*. Moore begins his explication of this tendency through historicization, noting that traditional crisis theory, with its focus on overproduction, emerges from an implicit periodization of capitalism – the ‘Two Century Model.’¹⁴⁰ Contrasting the apparent crises of the last two centuries – theorized variously by Lenin, Luxemburg, Harvey and Keynes – ‘early capitalism’s dominant crisis tendency was not overproduction, but *underproduction* – the insufficient flow of labour, food, energy, and materials relative to the demands of value production. Early capitalism’s greatest problem centered on the delivery of cheap inputs to the factory gates, not on selling the commodities that issued from

¹³⁸ Moore, *Capitalism in the web of Life*, p. 101.

¹³⁹ Moore, ‘The End of the Road? Agricultural Revolutions in the Capitalist World-Ecology, 1450-2010,’ p. 395.

¹⁴⁰ Moore, *Capitalism in the Web of Life*, p. 92.

manufacturing centers.’¹⁴¹ When capitalism is defined socioecologically, in terms of the structural drive to find cheap natures through commodity frontiers, the periodization of capitalism that emerges sees its origins in the fifteenth century, with Iberian sugar production and the Columbia exchange.¹⁴² And when we see the particular crisis tendency that defined early capitalism – crises of *insufficient Cheap Natures* – this helps us to read the energy revolution of the British industrial revolution not as the beginning of capitalism, but as an enduring developmental fix to capitalisms existing crises. When the agricultural revolutions of Dutch capitalism faltered,

definitely by the 1760s, the British married technical ingenuity with geological good fortune to move from increasingly expensive wood fuel to increasingly cheap coal. This marriage solved – but did not abolish – the problem of underproduction, setting the stage for two centuries of remarkable expansion.¹⁴³

While the fix of coal was not without its own contradictions,¹⁴⁴ the emergence of fossil capital demonstrates the internal relations, bound through crisis, of these apparently-separate commodity frontiers – internal relations that will be traced historically within the frame of Australian capitalism in Chapter Five of this thesis. We should also note that this emphasis on periodization flows all the way from the initial questioning that forms our vantage point onto the capitalist socioecological totality: defining our contemporary crises as crises of capitalism ultimately leads to the question “when did capitalism begin.” This question leads to a compelling critique of the framing of the Anthropocene. But it also speaks to extant debates in settler-colonial Australian history, as to whether the colonies were always-already capitalist, or if capitalism emerged later on this continent. As we shall see through this thesis, Humphrys’ argument that ‘despite the early Australian colonies encompassing the extensive use of unfree convict labour

¹⁴¹ *Ibid.*; see also Moore, ‘The End of the Road? Agricultural Revolutions in the Capitalist World-Ecology, 1450-2010’.

¹⁴² Moore, ‘Sugar and the Expansion of the Early Modern World-Economy’.

¹⁴³ Moore, *Capitalism in the Web of Life*, p. 92; see also R. Allen, ‘Why the industrial revolution was British: commerce, induced invention and the scientific revolution’, *Economic History Review*, 64(2): 357-384 (2011); E.A. Wrigley, *Energy and the English Industrial Revolution*, Cambridge, UK: Cambridge University Press (2015); A. Malm, *Fossil Capital: The rise of steam power and the roots of global warming*, London: Verso Books (2016).

¹⁴⁴ T. Mitchell, *Carbon Democracy: Political power in the age of oil*, London: Verso Books (2013), pp. 12-42.

and a virtual absence of wage-labour, the 'English relations of production' (definitively capitalist relations) were present from the start'¹⁴⁵ can be understood as eco-socialist.

Conclusion

Our current conjuncture of bushfires, floods, species extinction, and ecosystem collapse demands theorization. We must have a compelling and historically-sound understanding of when and where these contradictions originated if we are to accurately identify the structures and agents that serve to reproduce these crises, or if we might draw together politically the alienated groups struggling against localized manifestations. Contrary to those who look for answers beyond or against historical materialism, it is the argument of this thesis that these crises can and must be seen as specifically capitalist. The purpose of this chapter, then, has been to show that we need not start from scratch – many of the theoretical tools we require are available to us already. To that end, an ontological grounding was developed, treating capitalism as a socioecological totality, best armed with a philosophy of internal relations and an attention to the structuring power of value. Value itself, when viewed from our socioecological vantage-point, is then seen not only to structure social relations, but to produce socio-natures. Specifically, socioecologies of Cheap Nature, driven forward by commodity frontiers – frontiers of appropriation, of unpaid work/energy. A red connective thread weaves together value and the frontier to our epistemological grounding in internal relations, in that each emerge through contradiction and crisis. It is precisely through the dialectical interaction of these contradictions, of capitalization and appropriation, that capital produces nature and space so unevenly. Histories of capitalism are usually histories of commodification. Critiques of Marxist histories often pivot around the importance of spaces of non-commodification. Eco-socialism and Cheap Nature offer a way forward that encompasses both, and indeed sees the dialectical relation between

¹⁴⁵ E. Humphrys, 'The Birth of Australia: Non-capitalist social relations in a capitalist mode of production?' *Journal of Australian Political Economy*, 70 (2013), p. 111.

commodification and non-commodification as the motor of history, of difference, and of crisis. And so, this thesis looks to explore the history of Australian capitalism, through the commodity frontiers of wool, coal, and sugar, to illustrate and enliven the theory unfolded above. But before we launch into that history, there is one other category that we ought to consider in the abstract, as our understanding of capital is incomplete without it. The following chapter will consider ‘the state.’

Chapter 2 – The Nature of the State: Toward a world-ecological theory of the state

‘[T]he capitalist state does not *have* a relationship to “nature” rather it is a relationship with nature. The state is a crucial ecology making institution within the metabolism of capitalism.’¹

‘[B]usinesses and markets are ineffective at doing what makes capitalism run. Cultures, states and scientific complexes... [ensure that] new resource geographies [are] mapped and secured.’²

Introduction

Our driving question is how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? This question allows us to illustrate how the approach of historical materialism, especially eco-socialism and world-ecology, might reveal the conditions through which our current crisis emerged. Through the unfolding of eco-socialist theory in the previous chapter, we begin to appreciate capitalism as an emergent socioecological totality, driven forward by the structuring power of value, by the search for Cheap Nature. Historically, these relations have been evident especially at the ‘commodity frontier’ – that moment where nature is made cheap, where the dialectics of abundance and exhaustion, appropriation and exploitation produce nature and produce crisis. But in grappling with that question, of how this history might be understood, there is another bundle of relations that must be considered. The value-theoretical arguments of world-ecology – those of ‘cheap Nature’ – beg the questions of *how* Nature is cheapened, and by whom? Who is doing this, and why? This brings us back around to an enduring question grappled with by historical materialism – the state. But as previous iterations of state-theory debate illustrate,

¹ C. Parenti, ‘The Environment making state: Territory, nature, and value’, *Antipode*, 47(4), 839-848 (2015), p. 843.

² R. Patel and J.W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*, Berkely: University of California Press (2017), p. 39.

articulating an ecological theory of the state will be a challenging task. This chapter will not develop a general theory of the state. Rather, it will attempt to flesh out the suggestive comments of Patel and Moore, in the epigraph above, considering *why* the state might pursue these various tasks – which might be grouped into *securing*, *opening*, and *knowing* Nature – for capital (or, perhaps, for itself). With Nature mapped, secured, and accessed, many other processes must be contingently worked out: labour regimes regulated, prices mediated, regulatory environments established, etc. Each of these tasks, and many besides, clearly rely on the state. But just as the mechanisms whereby the state under capitalism serves to reproduce capitalist social relations are not always apparent, similarly obscured are the reasons *why* the state might pursue these ends. The task of theorizing the state is an important one, and yet one which is too-often neglected. Histories of state formation informed by, and reflecting upon, Marxian state theory are few and far between.³ A further limitation of state theory, beyond its theoretical ‘impoverishment’⁴ and limited application to history of the (uneven) development of capitalism around the world, is its ecological blind-spot. Following recent contributions to this lacuna,⁵ this chapter aims to bring state theory into conversation with world-ecology, and to consider the role(s) played by the state in producing nature.

This chapter engages with the extant historical materialist literature which attempts to comprehend the state, theoretically. ‘State theory’ is often associated most strongly with debates regarding the ‘autonomy’ of the state to operate against the interests of capital, which were most

³ Notable examples include A.D. Morton, *Revolution and the State in Modern Mexico: The political economy of uneven development*, London: Rowman and Littlefield (2011); L. Panitch and S. Ginden, *The Making Of Global Capitalism: The Political Economy Of American Empire*, London: Verso Press (2012); B. Teshke, *The Myth of 1648: Class, geopolitics, and the making of modern international relations*, London: Verso Books (2003).

⁴ L. Panitch, ‘The Impoverishment of State Theory’, *Socialism and Democracy*, 13(2) (1999).

⁵ Including Parenti (2015) ‘The Environment Making State’; C. Parenti, ‘Environment-Making in the Capitalocene Political Ecology of the State,’ in J.W. Moore (ed.), *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, Oakland: PM Press, 166-185.

intense during the 1970s.⁶ These debates were emerged from a frustration with the two dominant theories of the state in the post-war period, that the state either functionally represents the interests of capital,⁷ or was a mere neutral arbiter of social contestation.⁸ Against this dualism, an approach emerged which saw the state as operating with 'relative autonomy' from the interests of capital, with that relativity being determined through struggle and the material conditions of production.⁹ Those debates did not arrive at a singular position, however. Debates regarding the relationship between the state and capitalism might be called 'classic,' in the sense that decades of research have 'not resulted in clear conclusions.'¹⁰ Without providing a full review of those debates here, there are two more limited (though still challenging!) points that we might draw out here: first, the problem of speaking of 'the state' at all; and second, the central contribution of Nicos Poulantzas, to view the state as a social relation, or as the '*specific material condensation of a relationship of forces among classes and class fractions.*'¹¹ This first problem might be seen to emerge from the broad tendency of social-scientific thinking to fall into presuming the 'ontological exteriority' of objects – or, rather, the tendency of relations to appear as things, which are then studied as such. As put by Jessop,

Theorizing the state is further complicated because, despite recurrent tendencies to reify it as standing outside and above society, there can be no adequate theory of the state without a theory of society... Everyday language sometimes depicts the state as a subject - the state does, or must do, this or that. Sometimes it treats the state as a thing - this economic class, social stratum, political party, or official caste uses the state to pursue its projects or interests. But the state is neither a subject nor a thing.¹²

⁶ R. Miliband, *The State in capitalist society: An analysis of the Western system of power*, Weidenfeld and Nicolson: London (1969); J. O'Connor, *The Fiscal crisis of the state*, St Martin Press: New York (1973); L. Panitch, *The Canadian State: Political Economy and Political Power*, University of Toronto Press: Toronto (1977); N. Poulantzas, *State, power, socialism*, Verso: London (1978); J. Holloway and S. Picciotto (eds), *State and Capital: A Marxist Debate*, Edward Arnold: London (1978); S. Clarke (ed.) *The State Debate*, Basingstoke, UK: Palgrave (1991).

⁷ V.I. Lenin, *The State and Revolution*, London: Penguin Books (1992 [1918]).

⁸ R.A. Dahl, *A Preface to Democratic Theory*, Chicago, IL: University of Chicago (1965).

⁹ B. Jessop, 'Relative autonomy and autopoiesis in law, economy, and state,' in G. Teubner and A. Febbrajo (eds) *State, Law, Economy as Autopoietic Systems*, Milan: Giuffrè Press (1992), pp. 187-265.

¹⁰ D. Hall, 'Rethinking Primitive Accumulation: Theoretical Tensions and Rural Southeast Asian Complexities', *Antipode*, 44(4) (2012), p. 1204. Or, put another way, 'social scientists do not so much solve problems as get bored with them,' B. Jessop, *The State: Past, present, future*, Polity Press: New York (2015), pp. 1-3.

¹¹ N. Poulantzas, *State, Power, Socialism*, trans. P. Camiller, London: Verso Books (2014/1987), p. 129, emphasis in original.

¹² B. Jessop, *State Power: A strategic-relational approach*, Cambridge, UK: Polity (2008), p. 3.

This methodological challenge of grappling with the state, which does not truly exist as a discrete object, has been resolved in many ways, such as treating the state ‘as if’ it was real,¹³ or by looking historically to identify effects which can only be attributed to ‘the state’ – so-called ‘state effects.’¹⁴ Indeed, this issue might be seen to emerge from those same ontological and methodological issues outlined in the previous chapter, regarding totality and the philosophy of internal relations. The way forward identified there was to use a moving vantage point to pull out bundles of relations – ‘capital,’ ‘value,’ ‘nature,’ etc. – so that analysis might move forward, but to always plug those relations back into the totality, to avoid the trap of reification. The same might be true here: we absolutely need to talk about ‘the state’ *as if it exists*, so that we might grapple with it historically and strategically, but to always return to the recognition that the state is a set of relations within a larger totality. In doing this, we arrive at Poulantzas, whose contribution in those state-theory debates of the 1970s was to see the state as a social relation. More specifically, he argued that

The (capitalist) State should not be seen as an intrinsic entity: like ‘capital’, *it is rather a relationship of forces, or more precisely the material condensation of such a relationship among classes and class fractions, such as this is expressed within the State in a necessarily specific form...* However, the State is not purely and simply a relationship, or the condensation of a relationship; it is the *specific material condensation* of a relationship of forces among classes and class fractions.¹⁵

This was the central contribution of Poulantzas and is commensurate with the ontology and methodology of totality outlined in the previous chapter. This suggestive contribution was extended into the ‘strategic-relational’ approach to the state, developed chiefly by Bob Jessop: ‘The strategic-relational approach starts from the proposition that the state is a social relation.’¹⁶ While we have not the scope to explore this articulation here, it is worth noting the enduring relevance of Poulantzas. We move forward with this understanding; while we may at times need to talk about the state as if it is a thing that exists, this is a necessary shorthand for historical narration. In the final analysis, we return to the state as a set of relations bound up with the balance of class forces, situated within the broader totality of capital.

¹³ Hay, ‘Neither real nor fictitious but ‘as if real’?

¹⁴ T. Mitchell, ‘Society, Economy, and the State Effect,’ in G. Stienmetz (ed.), *State/Culture: State-formation after the cultural turn*, Ithica, NY: Cornell University Press (1999), pp. 76-97.

¹⁵ Poulantzas, *State, Power, Socialism*, pp. 128-9, emphasis in original.

¹⁶ Jessop, *State Power*, p. 1.

And yet, the state theory debates of the 1970s do not fully equip us for the historical task of explicating the Capitalocene. These seminal debates certainly provide rich material with which to fertilize contemporary and future work,¹⁷ but the task before critical scholars today is different to that of previous generations. While the ecological crisis dubbed here as the ‘Capitalocene’ was beginning to become apparent in the conjuncture of the 1970s, even the emerging literatures of eco-socialism, ecofeminism and deep ecology were primarily concerned with the role of environmental movements, rather than the broader relationship between capital, nature, and the state. Even this nascent engagement was more than we saw in the debates around theories of the state, however. Jessop has argued that Poulantzas’s failure to consider nature was a key limitation of his work, and one common to most work done in that conjuncture:

Poulantzas’s main theoretical concerns were class relations, the specificity of the capitalist state and hegemonic struggles, and the distinction between normal and exceptional regimes.... He did not mention the ecological factors in crisis dynamics, let alone their fundamental organic link in contemporary societies to the logic of capital accumulation.¹⁸

We might go further than this, and argue that the state theory of the twentieth century in general has been limited by an ecological lacuna. Since, and in light of our current socioecological crises, Jason W. Moore has argued that the ecological can never be abstracted. But this ought not lead us to reject all previous work pursued from distinct vantage points, in different conjunctures. As put by Jessop, in attempting to understand the state, ‘combining *commensurable* perspectives allows a more complex analysis, which may put apparently contradictory statements about the state into a more comprehensive analytical schema.’¹⁹ Jessop is right to stress commensurability. To what extent might an ecological state theory work with or against existing arguments targeted more at the class-character of the state? Can the state be both the crystallization of the balance of class forces, as well as the producer of cheap Nature? If so, do these seemingly separate claims indicate

¹⁷ I certainly hope many of these contributors would concur with J.C. Scott’s generous offer, ‘Sooner or later, all of this ends up on the compost heap of scholarship and the happiest result is that it makes good fertilizer for those who work these fields after us’ (J.C. Scott, ‘Response to commentaries on *Against the Grain*,’ *The Journal of Peasant Studies*, 46(4), 885-892 (2019), p. 885).

¹⁸ B. Jessop, ‘Nicos Poulantzas on political economy, political ecology, and democratic socialism,’ *Journal of Political Ecology*, 24: 186-199 (2017), p. 193.

¹⁹ Jessop, *The State*, p. 7, emphasis in original.

multiple determining mechanisms – or perhaps these different roles are internally related? These questions will be considered.

Although the substantive historical content of this thesis will be in subsequent chapters, this chapter will preface that historical specification, developing our theory of the state in conversation with the process of state formation in settler-colonial Australia. Attention will be given to the early colonial period, and environment-making activities such as territorializing, and mapping; the importance of natural sciences, such as botany and agronomy; and the violent nature of the pastoral frontier. In this way, intersecting and overlapping conceptual categories – the state, state formation, the environment-making state, primitive accumulation, and the origins of capitalism – will be animated and illustrated. First, however, the chapter will consider the environment-making state by its three key tasks, in the abstract, as they relate to a world-ecology of cheap Nature: knowing, opening, and securing. We will then move through these three categories historically. To return to our central question – how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? – this chapter makes the contribution of outlining the state as a socioecological relation, and lays out how theories and histories of the production of nature and the commodity frontier are incomplete without including the state in view. In this we see that the commodity frontier is produced through the state relation, in contradictory ways. The real test for this theoretical framework however will be the power of these categories to enliven our historical and political understanding of socioecological crisis, and its roots in the production of cheap nature at the commodity frontier.

Seeing like a state: Legibility as state formation

If we are to articulate a theory of the state that can account for the way in which states make – and cheapen – environments, then we must locate mechanisms whereby the state (or, perhaps, agents operating within the strategic-relational field that we call the state) might pursue these goals. Here we might start not with the capitalist state, but the state in general, tracing what has been called ‘primary state formation,’²⁰ or elsewhere the emergence of states organized by taxation rather than tribute.²¹ For early states, the twin imperatives of taxation and military security demand that the state *measure* their territory and populace. Indeed, Scott sees this imperative going back further still, to all societies organized by a sedentary, urban state form. For him, sedentarisation can be seen as ‘a state’s attempt to make society legible, to arrange the population in ways that simplified the classic state functions of taxation, conscription, and prevention of rebellion... [We should] see *legibility as a central problem of statecraft*.’²² What kind of activities and processes might be read as part of the project of legibility? From this perspective,

processes as disparate as the creation of permanent last names, the standardization of weights and measurements, the establishment of cadastral surveys and population registers, the invention of freehold tenure, the standardization of language and legal discourse, the design of cities, and the organization of transportation [appear] comprehensible as attempts at legibility and simplification.²³

These processes of simplification, or abstraction, cannot hope to capture the complexity of an entire environment or group of people. In the oft-quoted words of Alfred Korzybski, ‘a map is not the territory it represents.’²⁴ But perhaps that is not necessarily a problem. ‘These state simplifications... [do] not successfully represent the actual activity of the society they [depict], nor were they intended to; they represented only that slice of it that interested the official observer.’²⁵ If we read state simplifications not as erroneous, but rather as capturing what that

²⁰ Jessop, *The State*, pp. 126-135.

²¹ C. Tilly, *Coercion, Capital and European States, A.D. 990 – 1992*, Wiley-Blackwell: London (1992).

²² Scott, *Seeing like a State*, p. 2, emphasis in original.

²³ *Ibid.*

²⁴ A. Korzybski, *Science and Sanity: an introduction to non-Aristotelian systems and general semantics*, International Non-Aristotelian Library Publishing Company: New York, (1933), p. 58.

²⁵ Scott, *Seeing like a State*, p. 2.

which was intended, then we can read much into why some things are measured and some things are not; why some things are made legible, while others are left un-read.

Importantly, the project of state-legibility has not simply been one of statisticians and bureaucrats developing specific ways of measuring and rationalizing the outside world – these abstractions carry immense material force. Through measurement states actively reshape – or ‘produce’ – the socioecological relations within a particular space. Take agriculture as an archetypal example:

Agriculture is, after all, a radical reorganization and simplification of flora to suit man’s goals. Whatever their other purposes, the designs of scientific forestry and agriculture and the layout of plantations, collective farms, ujamaa villages, and strategic hamlets all [seem] calculated to make the terrain, its products, and its workforce more legible – and hence manipulable – from above and from the center.²⁶

Put simply, states shape ecologies and society into forms that are easier to measure. Scott gives the example of the undermined productivity (and, indeed, sickness and death) associated with the rationalization of forestry in Germany through the 17th-19th centuries. In this way, the material outcome of statecraft abstraction can often undermine the very goal of that measurement – evidence of the state project is as much in failure as it is in success. We might reframe Scott’s argument here into eco-socialist terms: through the materiality of measurement states are imbricated in the production of nature. Further, this is one of the many ways in which the state can be thought of as socioecological. And to carry through on a relational interpretation of the state, we might also say that measurement as a key state effect is itself subject to contestation and determination through the state as a ‘material condensation of the balance of class forces.’ As the state is a key condition of the *production of nature*, understanding that state actors might be motivated by this desire for legibility is significant. While we might see that the function of the state is to deliver rationalised, ‘cheap nature’ to capital, this need not be explained only through a functionalist or instrumentalist understanding of the state; rather the state may

²⁶ *Op. Cit.*,

often pursue this task of producing nature *for its own reasons*. To take legibility as a fundamental way in which the state produces nature, we might also bring this into articulation with another approach to the state. For James O'Connor 'the capitalistic state must try to fulfil two basic and often mutually contradictory functions – *accumulation* and *legitimization*.'²⁷ As O'Connor argues, the capitalistic state must maintain accumulation, as it relies on taxation of that accumulated capital for its own existence. Similarly, in both the pre-capitalistic and capitalistic periods, the mode of production must be organized in a way that is legible to the state, as a precondition for the very taxation O'Connor is concerned with. This is necessarily a socioecological process, imbricating the state with the production of nature.

We might make an even more fundamental point, however: that the state produces nature to exist at all. Here we might consider *state formation*:

The key to primary state formation is the development of logistical capacities that extend control over a territory and its population and to govern the expanded territory through a multilevel administrative apparatus that had developed an internal specialization of tasks.²⁸

The state *is* territory – and that territory can only be defined by knowing the space within its boundaries. Here we might briefly engage with how theories of space and state collide, as in Lefebvre: 'Sovereignty implies 'space', and what is more it implies a space against which violence, whether latent or overt, is directed - a space established and constituted by violence.'²⁹ The violence of state formation will be explored further in the next chapter, theoretically and historically. But space is not a transhistorical category – while the state is intimately bound with the production of space, that process shifts from under capitalism. This is what is captured by the Lefebvre's category of 'abstract space,' the kind of homogenous space and nature that capital demands. Through the emergent totality of capital, abstract space becomes 'The dominant form of space, that of the centres of wealth and power, endeavours to mould the spaces it dominates

²⁷ O'Connor, *The Fiscal crisis of the state*, p. 6.

²⁸ Jessop, *The State*, p. 127.

²⁹ H. Lefebvre, *The Production of Space*, trans. D. Nicholson-Smith, Oxford: Basil Blackwell Publishers (1991 [1974]), p. 280.

(i.e. peripheral spaces), and it seeks, often by violent means, to reduce the obstacles and resistance it encounters there.’³⁰ Importantly, this goal is never fully realised, as ‘this abstract space took over from historical space, which nevertheless lived on, though gradually losing its force... abstract space is not homogeneous; it simply has homogeneity as its goal, its orientation, its ‘lens’.’³¹ That fraught reaching toward homogeneity works through the messiness of ‘first nature,’ producing second nature in a dialectical process which falls short of its goal, of abstract space. Indeed, if abstract space was ever achieved, then there would be no historical difference to constitute relatively Cheap Nature; there would be no commodity frontier.

Returning to state formation, the state is closely bound with the production of space, as the state only exists through space. As Jessop puts it, ‘[s]tatehood rests on the territorialization of political power: its three key features are state territory, a state apparatus, and a state population.’³² The process of territorialization often proceeds in geopolitical articulation with other state powers. These interactions are shaped at least in part, however, by the ways in which states know, and can define, space. It is for this reason that the formation of *settler states* is so interesting and revealing. Considering the history of the American frontier, author and diplomat Octavio Paz observed this:

America was, if anything, geography, pure space, open to human action. Since it lacked historical substance – ancient social classes, established institutions, religions, and hereditary laws – reality presented no obstacles other than natural ones. Men struggled not against history but against nature. And wherever there was an historical obstacle – indigenous societies, say – it erased them from history, reduced to a mere natural fact, and dispensed with them accordingly... Evil is outside, part of the natural world, like Indians, rivers, mountains, and other obstacles that must be domesticated or destroyed.³³

³⁰ Lefebvre, *The Production of Space*, p. 49.

³¹ *Op. Cit.*, pp. 49, 287.

³² B. Jessop, ‘The World market, variegated capitalism, and the crisis of European integration,’ in P. Nousios, H. Overbeek and A. Tsolakis (eds), *Globalization and European integration: Critical approaches to regional order and international relations*, Routledge: London (2012), p. 22.

³³ O. Paz *El Arco y la Lira* (1956), p. 279, quoted in G. Grandin, *The end of the myth: From the frontier to the border wall in the mind of America*, Metropolitan Books: New York (2019), p. 13.

This passage is immediately connotative of Smith's 'ideology of nature:' 'As wilderness or garden, primal or arcadian, the image of landscape embodied the hope and promise of the American future... The progressive aspirations fostered by early capitalism were at one and the same time comparatively unfettered by preceding social forms yet confronted head on by a geographic nature more profoundly formidable than a decaying feudalism.'³⁴ While we might push back against Paz's implication that the Old World had or has transcended its own 'natural' history, it is certainly true that the socioecological nature of the state is particularly apparent where that state has emerged in the context of world-ecological capitalism, post 1492. Here too we also see the material force of the Cartesian dualism discussed in the previous chapter, as nature is redefined as 'Nature' – a violent, racialized, and gendered category that externalizes and rationalizes that which the state does not wish to 'see'. Paz is also reflecting on the ideas which helped to propel the frontier; in the case of the American colonies, state formation *was* the production of nature. This was understood well at the time. As Benjamin Franklin put it, the task of the settlers was to expand across the continent of North America, 'by clearing the America of woods,'³⁵ as this would ensure an operating market without the crises he associated with Europe. Curiously, while the concept of the frontier is well developed in the context of North America, the same cannot be said for settler-colonial Australia – something that demands greater analysis than simply pointing to "impenetrable" deserts.³⁶ The histories of these settler-colonial states might help us to peel back the alienated ecological dimension of *all* state theory, including that of the 'Old World.' States, in order to exist, produce nature. But first, they must 'know' it.

³⁴ N. Smith, *Uneven Development: Nature, capital and the production of space*, 3rd ed., London: Verso (2010), p. 18.

³⁵ B. Franklin, 'Observations concerning the increase in mankind,' in W. Clarke, *Observations On the late and present Conduct of the French, with Regard to their Encroachments upon the British Colonies in North America. ... To which is added, wrote by another Hand; Observations concerning the Increase of Mankind, Peopling of Countries* (1755), available online at <https://founders.archives.gov/documents/Franklin/01-04-02-0080>.

³⁶ Though these deserts were and are inhabited – impenetrability here is specified by the drive of capital to overcome these natural barriers, and create 'abstract space.' On the possibility of society in the desert, see: B. Pascoe, *Dark Emu: Aboriginal Australia and the Birth of Agriculture*, Broome: Magabala Books (2018), chapter 3; M. Smith, *The Archaeology of Australia's Deserts*, Cambridge: Cambridge University Press (2013).

Again, we might return to Scott's central argument, to see 'legibility as a central problem of statecraft.'³⁷ And flowing from this "need to know," and the spatiality of the state, is the concomitant need to produce nature in a way that is rationalized and simplified – a process of knowing that carries material force, and reshapes environments and socioecological relations: 'each State *has* its space; the latter belongs first to nature, which the State opposes historically and politically through its entire powerful mass.'³⁸ This treatment of "knowable space" and the territoriality of the state is reminiscent of Ó Tuathail's category of 'geopower': 'the functioning of geographical knowledge not as an innocent body of knowledge and learning but as an ensemble of technologies of power concerned with the governmental production and management of territorial space.'³⁹ Parenti is useful here, as he goes on to articulate how the process of "knowing" is a crucial facet of the state as environment-maker, considering an even broader range of activities than Scott specifies under 'state simplifications':

geopower is the ensemble of state practices that make environments. Geopower technologies include: exploring, describing, cadastral surveys; building roads, canals, dams, railroads, telegraphs; establishing property rights, borders, policing and identification systems; scientific surveys, and all the applied natural sciences, like botany, agronomy, and geology. Each of these in turn and in combination have ecological reverberations; all of these administrative and scientific practices continually make and remake capitalist social nature.⁴⁰

The state, then, must know space/territory in order to exist at all, and deploys further means of rationalization and simplification that reshape society, nature, and socioecological relations in ways that make easier the central functions of the state – especially taxation. But this in and of itself does not create a world-ecological theory of the state. Indeed, one of the strengths of extant Marxist state theory is its focus on class as it relates to the *value*. It is in relating an ecological theory of the state that we can see this approach as commensurate with class-centered theories of the state. We must move on to consider a more specifically capitalist state, and how these activities of knowing are changed and extended so as to *open* nature to capital, as this pertains to

³⁷ Scott, *Seeing like a state*, p. 2.

³⁸ H. Lefebvre, *State, Space, World: Selected essays*, ed. N. Brenner and S. Elden, trans. G. Moore, N. Brenner and S. Elden, University of Minnesota Press: Minneapolis (2009), p. 225.

³⁹ G. Ó Tuathail, *Critical Geographies*, University of Minnesota Press: Minneapolis (1996), p. 6.

⁴⁰ Parenti, 'The Environment Making State,' p. 835.

the location of use-values. Parenti puts this succinctly: ‘the pre-existing use values of non-human nature, found upon the surface of the earth, are essential to capital, and the institutions that ultimately control the surface of the earth are states.’⁴¹ And so, let us return to the theory of value, as in the previous chapter, so as to bring the ‘social’ relation of the state into closer articulation with the socioecology of Cheap Nature.

The state and value: Providing ‘free gifts’

As we have seen in Chapter 1, value is a fraught topic for political economists – but this ought not lead us to eschew it. Further, as we attempt to grapple with the state as part of the totality of capital, let us consider again value as a socioecological category. The essential argument taken from *Capital* was that ‘while all inputs contribute *value* to output, only labour-power contributes *surplus-value*.’⁴² This is the position from which class analysis takes off, with a good deal of historical materialism defining capitalism by the generalization of the relations of production that result in this kind of value production and the exploitation of the producers of surplus-value.⁴³ For many, the implication of this analysis is that the natural world – the location of non-human use values, consumed within production under the heading of ‘constant capital’ – was unimportant to Marx.⁴⁴ Much work has gone into challenging this argument;⁴⁵ while some of this work has involved renovating Marxism, there has been much evidence unearthed to indicate that Marx himself was sensitive to the importance of the non-human work and value in the production of capitalist profit. In Marx’s words, ‘Labour is *not the source* of all wealth. *Nature* is just as much

⁴¹ *Ibid.*, p, 830.

⁴² M. Desai, *Marx’s Revenge: The resurgence of capitalism and the death of statist socialism*, Verso: London (2002), p. 59.

⁴³ For examples, see Brenner, R. ‘The Origins of Capitalist Development: A critique of Neo-Smithian Marxism’, *New Left Review*, 104(1): 25-93, (1977); E.M Wood, *The origin of Capitalism: a longer view*, Verso: London (2002).

⁴⁴ E.F. Schumacher, *Small is beautiful: A study of economics as if people*, Blond & Briggs: London (1973), p. 15.

⁴⁵ For examples, see: J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015); J.B. Foster and P. Burkett, *Marx and the Earth: An anti-critique*, Leiden: Brill Publishers (2016); J.B. Foster and P. Burkett, ‘Value isn’t everything,’ *Monthly Review*, 70(6), (2018).

the source of use values (and it is surely of such that material wealth consists!) as labour, which itself is only the manifestation of a force of nature, human labour power.’⁴⁶ Some of the controversy associated with decentring labour – treating labour power as itself just one of many forms of energy derived from the biosphere – might be mediated *via* the concept of rent: ‘it could be argued that non-human nature provides rents: utilities that exist outside of the labour process, but are delivered to it and captured by it as unearned income.’⁴⁷ This argument is advanced through the contextualization of Marx within a historically specific period of capitalist development, during which production was the key distributional relation. Various approaches to periodizing the historical development of capitalism have shown a tendency for long waves, or systemic cycles of accumulation, with that accumulation being driven variously by productive and non-productive relations.⁴⁸ In the context of the current conjuncture the concept of ‘accumulation by dispossession’ has been proffered as a way of understanding the current shift away from production, toward appropriation, as the singular or primary mode of accumulation.⁴⁹ In a similar vein, Andreucci *et al* have articulated ‘value grabbing’ as an attempt to highlight that ‘property rights[in the current period]... are not used exclusively or even mainly to *produce* new commodities, but rather are mobilized to *extract* value through rent relations.’⁵⁰

Bringing these points together and back to our question: whether one is speaking of rent, produced value, ongoing primitive accumulation⁵¹ and continuous enclosure, or simply the production of nature, each of these implicates the state in some way. Consider Parenti at length,

⁴⁶ K. Marx, *Critique of the Gotha Programme*, Progress Press: Moscow (1970 [1875]), p. 1.

⁴⁷ Parenti, ‘The environment making state,’ p. 833.

⁴⁸ F. Braudel, *Civilisation and Capitalism, 15th-18th Century: The Wheels of Commerce* (vol. 2), trans. S. Reynolds, London: William Collins Sons and Co Ltd (1984); D.M. Gordon, R. Edwards, and M. Reich, ‘Long swings and stages of capitalism’, in D.M. Kotz, T. McDonough, and M. Reich (eds), *Social structures of accumulation: The political economy of growth and crisis*, Cambridge University Press: Cambridge (1994); G. Arrighi, *The Long Twentieth Century: Money, power and the origins of our times*, Verso: London (2010).

⁴⁹ D. Harvey, *The New imperialism*, Oxford University Press: Oxford (2003); S. Prudham, ‘The fictions of autonomous invention: accumulation by dispossession, commodification, and life patents in Canada’, *Antipode*, 39(3), 430-455 (2007).

⁵⁰ D. Andreucci, M. Carcia-Lamarca, J. Wedekind and E. Swyngedouw, ‘“Value grabbing”: A political ecology of rent,’ *Capitalism Nature Socialism*, 28(3), 28-47 (2017), p. 29.

⁵¹ Explored further in Chapter 3.

in his articulation of the 'environment-making state,' which connects these various strands – class, enclosure, nature and value:

Capital as a process... always has an outside upon which it is dependent. It is the logic of enclosure at a molecular level. The seizure of external nature's utilities is at the heart of the valorization process. We see this logic of the *micro enclosure* within the labour process... For Marx, labour power... is similar to the motive force of a waterfall, or the calories of a potato, or the infinite energy of the sun, in that it is a *pre-existing force external to capital*... The valorization process is both the creation of utilities by human labour power and the capture/transfer of the pre-existing utilities of non-human nature within the cash nexus... Labour power, like the other natural forces, becomes a force of production in that it is *captured* in the labour process by capital in a process of micro-level energetic enclosure; an enclosure not of territory, but of energies; human, biophysical, kinetic, and solar... In this discussion of labour power, human history begins to emerge as ecological history, and production as the production of (*pace* Smith) social nature.⁵²

Drawing directly on Marx, Parenti helps us move past mechanical analyses of the production of surplus value to show a much broader matrix of values that capital can put to work in different ways in the interest of profit and accumulation. Importantly, in highlighting the energetic nature of labour, we see that a strong analytical separation of surplus value (the labour process) and rent (appropriation of value created elsewhere through the application of property rights) obscures the process which is common across the two – capital valorizing pre-existing stocks of energy. And all the while, the state looms large: 'The state appropriates nature for capital directly by force; during conquest, enclosure and the creation of functional property rights; and indirectly by its development of landscape and infrastructure.'⁵³ Here we begin to bring together relational strands that help us to see the role of the state in producing nature cheaply at the commodity frontier. Let us continue to unpack this.

For Marx, production is reliant on particular 'conditions of production' – land, labour, and infrastructure.⁵⁴ They imbricate somewhat with Polanyi's 'fictitious commodities.'⁵⁵ For O'Connor, these conditions are significant, as they are also *relations* – 'definite property, legal and

⁵² Parenti, 'The Environment making state,' pp. 833-34.

⁵³ *Ibid.*, p. 838.

⁵⁴ Marx, *Critique of the Gotha Programme*.

⁵⁵ K. Polanyi, *The Great transformation*, Beacon Press: Boston (1944), p. 131.

social relationships'⁵⁶ – with contradictory tendencies that might threaten their reproduction. As with all contradictions of capitalism, these contradictions necessarily traverse the terrain of the state. In this case, however, it is not only crisis management that involves the state in the conditions of production; rather, the very production of these conditions requires the state:

The production and (in many respects) the distribution of the conditions of production are not regulated by the market (or the law of value). There must be an independent or “relatively autonomous” agency that makes human labour power, nature, and infrastructure and space available to capital in the desired quantities and qualities and at the right times and places. This agency can be no other than the capitalist state that produces these conditions and/or regulates access to, use of, and exit from labourpower, land, raw material, and other markets for fictitious commodities which Marx called “production conditions” ... In sum, a general condition of capitalist production is the politically guaranteed existence of labourpower, urban infrastructure and space, and environmental conditions.⁵⁷

This is an interesting passage, which sees O'Connor characterising the state as both 'relatively autonomous' *and* as an 'agency' – two moves which sit a little uncomfortably with our relational methodology. But there is still much value here, as despite these ontological slips, O'Connor continues on, developing this general tendency through time. He notes the proliferation of state agencies and the remit of existing agencies, as managing the production of nature becomes more challenging over time: 'there is less abundant nature, on the one side, and capital has a greater need for an organized, rationalized access to nature, on the other.'⁵⁸ And here we also begin to bring in crisis, as the 'second contradiction' of capital is seen as a contradiction that traverses the terrain of the state. This is an important way to highlight the dialectical nature of the state as the producer of cheap nature – the state as 'environment-maker' is not a crude, functionalist form of state theory that argues “capital needs cheap nature, so the state delivers it.” Rather, where the state does produce cheap nature in such a way as to reproduce the socioecological relations of crisis, the state has a contradictory role to protect that same nature from pollution, exploitation, and degradation. We might also suggest that the movement of that contradiction through time is patterned by Poulantzas' 'balance of class forces.'⁵⁹

⁵⁶ O'Connor, *Natural causes*, p. 148-49.

⁵⁷ *Ibid.*; see also Folin, 'Public enterprise, public works and social fixed capital.'

⁵⁸ O'Connor, *Natural causes*, p. 307.

⁵⁹ Poulantzas, *State, power, socialism*, p. 137.

Here we are at another theoretical point that demands historical specification – the way in which the state must necessarily work to manage the contradictions of the commodity frontier, and the production of nature for exchange more generally, is precisely the historical content of later chapters. Remaining abstract for now, however, we might say: the irreconcilable nature of the class-contradiction is internally related to the irreconcilability of the nature-contradiction (supporting Moore’s argument that the ecological should never be abstracted away). The implication of this is that as cheap nature becomes more and more challenging to produce, so too will it become increasingly difficult to meet demands of environmental movements *and* capital – not only as these two groups demand different outcomes, but also (and especially) as the demands of the latter require the simultaneous cheapening and protection of nature. When O’Connor theorizes that the conditions of production must be provided ‘in the desired quantities and qualities and at the right times and places,’⁶⁰ this is a law in the true Hegelian sense – a ‘field of gravity,’ as Marx would put it.⁶¹ Of course, the state will get this wrong, if for no other reason than different capitals will have competing demands on the produced nature. The point is that the general argument around the state needing to reproduce both accumulation *and* legitimation means that the state *cannot absent itself* from the production of the conditions of production: ‘if these conditions are neglected, and/or their productive powers damaged, there arises the possibility not only of an economic crisis for capital but also a legitimation crisis for the state or a political crisis for the ruling parties and government.’⁶²

While there may be a general tendency of the state to ensure the provision of the conditions of production – and indeed we can see quite clearly historically that when infrastructure, energy, accessible land, or sufficient(ly cheap) labourpower is *not* provided, capital is quick to demand these conditions – it is also clear that the state is not the only agent that produces nature in this

⁶⁰ O’Connor, *Natural causes*, p. 148.

⁶¹ K. Marx, *Capital: Volume III*, New York: International Publishers (1959), p. 239.

⁶² *Ibid.*, p. 150.

way. Indeed, 'capital itself always produces a considerable part.'⁶³ However, 'the intervention of the state makes a difference in the *form* in which those ... conditions are provided, as in this case they are unprofitable activities performed outside the circuit of capital.'⁶⁴ The idea that it is the state's role to provide infrastructure – that is, access to an expanded field of Nature at a cheaper cost – when the market cannot ought not to be particularly controversial. As put by Alexander Hamilton, environment-maker *par excellence*,

Good roads, canals and navigable rivers, by diminishing the expense of carriage, put the remote parts of a country more nearly upon a level with those in the neighborhood of the town. They are on that account the greatest of all improvements... Though they introduce some rival commodities into the old market, they open many new markets to its produce.⁶⁵

These infrastructures facilitate the desire of capital to "annihilate space by time," as 'capital does not actually annihilate [space] all by itself, but rather does so while symbiotically bound up with the state.'⁶⁶

And, so, we might say that, whether conceptualized as enclosure of energies outside capital, or as the production of the conditions of production, we cannot have the valorization of capital without the state – specifically, the state's many and varied processes of environment-making. The state is central to the value-form, as the location of use-values. First those use-values must be 'known:' a process of simplification which is pursued by the state for its own purposes, but knowledge which is then appropriated and leveraged by capital through technics as varied as map-making, botany, and the development of standards of measurement. Then, as we move from the state in general to the capitalist state, we see particular importance given to the state as the provider of the conditions of production: infrastructure, labourpower, and the raw materials needed for production. Finally, then, whether produced nature is deployed in production for the creation of value, or that value is "grabbed" through rent, the reproduction of these value-relations relies on

⁶³ Pianta, 'The conditions of production: A note.'

⁶⁴ *Ibid.*

⁶⁵ A. Hamilton, *Report on the subject of manufactures* (1791), in Parenti, 'The environment making state', p. 840.

⁶⁶ Parenti, 'The environment making state', p. 840.

the state as enforcer of property rights. The state as the guarantor of property is hardly a new idea – indeed, it is so well established, it is accepted across many disciplinary boundaries, and is even broadly accepted in libertarian circles.⁶⁷ Less well appreciated, however, is how private property is a socioecological relation. Considering the role of the state in securing the production of nature through property rights is a crucial final step in developing this theory of the state as environment maker.

Private property rights, especially as they relate to land, have been a central concern of political economy for hundreds of years. The creation of a market in freehold land is a central part of the story of the origins of capitalism. It has generally been well understood that private property rights cannot exist without the state: as regulator, alienator, and enforcer. 'Property rights, not to be confused with mere possession, are an abstraction that in the modern world presupposes the territorial power of the state.'⁶⁸ And yet, often the alienating nature of exchange leads us to treat private property as primarily an economic or social relation. Land as a socio-*ecological* relation is too often lost. And yet, 'biology underpins the pivotal influence that ownership of the earth exerts on human life... Except for some coastal communities, the earth's population in every era has always depended on the land for at least 85 percent of the energy that keeps it alive, and for all its clothing and shelter.'⁶⁹ And so we must remind ourselves first, that private property relies upon the state, and second, that the historically specific form of property ownership that in part defines capitalism has led to a particular set of socioecological relations. *Securing Nature* is, in this sense, the third element in approaching a theory of the state which accounts for the state as an ecological assemblage, as much as a political or economic institution.

⁶⁷ F. Hayek, *The Fatal Conceit: The errors of socialism*, University of Chicago Press: New York (1988), p. 33.

⁶⁸ Parenti, 'The environment making state,' p. 835.

⁶⁹ A. Linklater, *Owning the Earth: the transforming history of land ownership*, Bloomsbury Press: London (2013), p. 3.

Weber's famous "Politics as a Vocation" lecture, delivered in Munich on 19 January 1919, led to one of the most quoted definitions of the modern state: 'we must say that the state is the form of human community that (successfully) lays claim to the *monopoly of legitimate physical violence* within a particular territory – and this idea of 'territory' is an essential defining feature.'⁷⁰ While this quote is well-remembered, what is often forgotten is the context in which it was delivered; Weber was heavily influenced by the writings of Marx, Lenin and Trotsky in formulating this definition. Each of these writers were aware that one of the key roles of this legitimate violence was to enforce property rights – something we must come to see as a deeply ecological regime. As Parenti puts it,

the economic and environmental implications of the "monopoly of legitimate physical violence *within* a particular territory" means the state acts to regulate and produce both human and non-human nature: bodies, labour power, and the use values of "natural" resources, all the crucial components of value. It is precisely *the territoriality of the state* that creates its *inherently environmental characteristics*. And this makes the state central to what Moore (2013) calls capitalism's "world-ecological project of accumulation."⁷¹

The use-values necessary to the valorisation of capital are located on the land (or below it). Those use-values must be enclosed with private property rights, through a process of primitive accumulation. This condition will be explored further historically and theoretically in the following chapter, but is entirely bound up with the state, as implied by Lefebvre above, in agreement with Weber: 'a space established and constituted by violence.'⁷² That private property is then fed into production, whether as food, fibre or as the particular qualities of that land – say, the location of a fast-flowing stream, offering returns (rents) to whomever owns that space. Capital can then 'produce' nature through the addition of a water-wheel, safe in the knowledge that the gains associated with that 'improvement' will flow back to the producer, thanks to the backing of the state.

⁷⁰ M. Weber, *The vocation lectures*, trans. R. Livingston, Hackett Press: Indianapolis, IN (2004 [1919]), p. 33.

⁷¹ Parenti, 'The environment making state', p. 836-7, emphasis in original.

⁷² Lefebvre, *The Production of Space*, p. 280.

‘Press forward the improvements’

Let us stop to consider the establishment of the colonies in light of our emerging world-ecological state theory offered above. In correspondence in 1797, Joseph Banks, the well-known aristocrat and amateur botanist,⁷³ impelled Governor Hunter of colony of New South Wales ‘to press forward the improvements.’⁷⁴ Back in London, Banks was a chief supporter of and advocate for the Australian colonies, and the political weight that this botanist carried is most instructive of the types of knowledge relevant and important to a colonial Governor, busy with his role in the process of state formation. Although the historical and contemporary legitimacy of attributing the legal dispossession of Indigenous Australians of their land by an invading British empire to the concept of *terra nullius* is contested,⁷⁵ there is no doubt that the “improvement” of land was a way in which private property was predicated on the application of capital to land – or, put differently, the production of nature; ‘the ideas of the use and exploitation of nature that underpinned the natural law ideas of property were at the heart of the motivation for European expansion.’⁷⁶ The perceived lack of improvement or cultivation of land used as justification for the dispossession of Indigenous people around the world. Indeed, it was even used to support the embarkation of the First Fleet, as a 1787 London newspaper advocated that ‘The Expedition to Botany Bay comprehends in it more than the mere Banishment of our Felons; it is an Undertaking for Humanity... [as] a capital Improvement will be made in the Southern part of the New World.’⁷⁷ To date, the central contention between and among orthodox and heterodox historiographies of Australian colonization has been whether the primary motivation for the settlement/invasion of Australia was purely penal, or economically motivated (probably a false choice, considering the

⁷³ T. Musgrave, *The Multifarious Mr. Banks: From Botany Bay to Kew, The Natural Historian Who Shaped the World*, New Haven, CT: Yale University Press (2020).

⁷⁴ Banks to Hunter, 30 March 1797, *Historical Records of New South Wales [HRNSW]*, vol. 3, p. 202.

⁷⁵ D. Ritter, ‘The “rejection of *terra nullius*” in *Mabo*: A critical analysis,’ *Sydney Law Review*, 18(1), (1996); K. Beattie, ‘*Terra Nullius* and the colonization of Australia,’ BA Honours thesis, The University of Sydney (1998); M. Connor, *The invention of terra nullius: Historical and legal fictions on the foundation of Australia*, Macleay Press: Sydney (2005); B. Attwood, ‘*The Law of the Land* or the law of the land?: History, law and narrative in settler society,’ *History Compass* 2, 32(117) (2004).

⁷⁶ A. Fitzmaurice, ‘The genealogy of *Terra Nullius*,’ *Australian Historical Studies*, 129 (2007), p. 5.

⁷⁷ Quoted in A. Frost, ‘“As it were another America”: English ideas of the first settlement in New South Wales at the End of the Eighteenth Century,’ *Eighteenth-Century Studies*, 7(3) (1974), p. 271.

socioeconomic determinants of crime). Lost in that debate is that from the outset, the motivation, framing, and enactment of colonial state formation betrayed the ontological centrality for the state to produce nature. The alienation of that land from the Crown to settlers/invaders was itself often conditional on improvement, making the institutionalization of private property another form of state-led environment-making. This was the case with the *Robertson Land Acts* of 1861, which introduced the selection and purchase of freehold lots of crown land.⁷⁸ Selectors were required to live on their land for three years, and to make *improvements* worth £1 per acre.⁷⁹ Summarily,

While British interest in Australian settlement was motivated primarily by economic and political objectives, these were linked with the desire to know the land in scientific terms. Such scientific enquiry gave British imperial claims more legitimacy and also raised the possibility of more effective utilization of the land through the techniques of scientifically based improvement.⁸⁰

In the language of imperialism, “improvement” is a curious term. Even John Locke took pains to distinguish between the passive rentier landlord and the pursuit of agricultural improvement.⁸¹ Ellen Wood takes this Lockean emphasis as indicative of the importance of an ‘ideology of improvement’ in the emergence of capitalism, as ‘with *productivity* and the wealth to be derived from ‘improvement,’ he came much closer to the distinctive systemic logic of capitalism.’⁸² And while Wood was focused on the English countryside, the culture of improvement was perhaps even more important in the colonies, as outlined above. In these ways again we see the state bound up in the production of nature – here through the legal, often constitutional, encoding of the need for nature to be ‘improved.’

Following on from improvement as a necessary condition of ownership, we might look again at the material implications of state legibility. Behind the military government, and the botanist,

⁷⁸ *Crown Lands Occupation Act of 1861*, Government of New South Wales, 18 October 1861.

⁷⁹ J. Starr, and M. Nicholas, *Pioneering New England*, Ribby Publishing: Adelaide (1978).

⁸⁰ J. Gascoigne and S. Maroske, ‘Science and technology,’ in A. Bashford and S. Macintyre (eds), *The Cambridge History of Australia*, Cambridge University Press: Cambridge, UK (2013), p. 442.

⁸¹ N. Wood, *John Locke and Agrarian Capitalism*, Los Angeles: Berkeley University Press (1984).

⁸² E.M. Wood, *The Pristine Culture of Capitalism: An historical essay on old regimes and modern states*, London: Verso Books (2015 [2001]), p. 7.

perhaps the next most important member of the colonial government was the Surveyor General, armed with his Gunter's chain. Introduced in 1620 by Edmund Gunter, the chain facilitated cadastral surveying of land, and played a crucial role in the Enclosures movement in Britain. From there, it became a central tool of state simplification across the British empire, as it was the basic unit of imperial measurement system. From the seventeenth century onward, a system of measurement was established that was directly modelled on English systems of agriculture, and the changing social relations of production associated with the British agrarian revolution: a furlong, measuring 10 chains, literally means 'furrow length,' being the distance a team of oxen could plough without resting; an acre is a strip of land, measuring one chain by one furlong, was seen as the amount of land one man could work per day.⁸³ These metrics have their origins much further back than 1620, but it is unsurprising given our discussion of 'seeing like a state' that it was during the period of Enclosures that these units needed to be standardized – hence, the 'chain'. And it was precisely this chain that was deployed by the Surveyor General, and his⁸⁴ agents, to map land grants, leases and runs in the Australian colonies. Consonant with the state theory above, it is interesting to note the moment of 1827, with the establishment of the Nineteen Counties (Plate 4.3). At this point most of the interior of the continent was unknown to the settler-colonial state. The *Nineteen Counties Act* was an attempt to define the territoriality of the colonial state according to surveyed land. Unofficially, the frontier of settlement continued to push beyond these boundaries, creating a 'hinterland' of sorts, with squatting runs extracting resources from areas of non-state territoriality – activity that was endorsed and internalized by the 'Squatting Act' of 1836. This period briefly shows the contradictions inherent between these ecological purposes of the state, and its entanglement with accumulation. A fuller exploration of this period,

⁸³ F. Seebohm, *The English village community: Examined in its relation to the manorial and tribal systems and to the common or open field system of husbandry*, Cambridge University Press: Cambridge (2012 [1883]).

⁸⁴ Historically speaking, it was a 'him'. There have been twenty-nine Surveyor Generals in New South Wales since settlement, and only the current surveyor general is a woman: Narelle Underwood, since 2016 to the present.

and the socioecological struggle over land rights associated with the pastoral frontier, will be the substantive focus of the following chapter.

It is not just in these imperatives for capitalizing land that the state becomes involved in the socioecology of value production. It is with the state-formative act of enclosure, that value is 'grabbed.' As we have discussed above, the natural world carries value. Whether enclosed land is gifted or sold by the state, a large portion of this transfer is in the form of rent. This is true whether the capitalist is interested in the richness of the soil – which was certainly the case on the Australian pastoral frontier, as grasslands embodying thousands of years of Indigenous labour were quickly transformed into wool for export – or the minerals below the ground, which may or may not be geologically 'known.' The very act of land being transferred from the state, the 'ultimate landlord'⁸⁵, results in the biophysical qualities of that land being opened up for surplus value creation. Nature is produced, but more importantly, it is cheapened in the first instance of enclosure. This is one reason why the frontier takes on such significance under world-ecology, as it is where nature is the cheapest. Nature can be cheapened further, over time – perhaps through the application of stored energy, in the form of phosphates – but only through the appropriation of other, uncommodified natures, such as guano. Importantly, the establishment of private property rights over land is related to the territoriality of states. The two processes mutually reinforce each other. 'Thus viewed, primitive accumulation is also a process of state formation.... The global enclosures of the long sixteenth century fuelled the rise not only of capitalism but also of the capitalist state.'⁸⁶ As such, the following chapter will be concerned with the theory and history of primitive accumulation on the Australian continent, conceived of as a process bound up with state formation and the production of nature at the commodity frontier.

⁸⁵ Parenti, 'The environment making state', p. 836.

⁸⁶ *Op cit.*, p. 389.

Conclusion

The question this thesis is engaged with is how have 'commodity frontiers' shaped the socioecology of Australian capitalism? It is argued that a sufficiently eco-socialist history of commodity frontiers might reveal the conditions that patterned the origins of capitalism in Australia, and the crisis-riven production of nature that defines the Capitalocene, in Australia and elsewhere. In grappling with this question, these theoretical approaches appreciate the absolute necessity of engaging with the problem of the state, especially to explain the historical specificity of cheapness at the commodity frontier. This chapter has begun to lay out the state as a bundle of socioecological relations that is at once within and outside the totality of capital. We have seen that the state does not have a relationship with nature, as it does not survive outside of nature. The state cannot exist without producing nature. The state is an array of socioecological relations, which is shaped by and a representation of the dominant relations of production. The emergence of capitalism is delivered, in part, by a shift in the organization of the state, and the way that state organizes nature. Patterned by the value-form, the state 'cheapens' nature by first doing the work capital is loath to do – produce, map, and know a territory, with particular forms of knowledge which quantify those resources which the state (and capital) care about. With that nature known, the state is also bound to ensure the conditions of production, the use values of nature, are available to capital. This begins with basic infrastructure, which assists with the mobility and efficacy of the state's violent arm – the military and police. Further spaces and natures are 'opened' to capital, as the state assists capital in the annihilation of space by time. Finally, with violence the right to 'own' nature is ensured through private property rights over land. In this process state formation and primitive accumulation occur concurrently, as capital enforces the territoriality of the state, and the state secures use values for accumulation.

Through these steps we begin to see not only that the state *must* be seen as an 'environment-maker', as well as the 'crystallization of the balance of class forces.' Not only that, but we also

begin to see the myriad ways in which Nature is 'cheapened' by the state. This is an important mechanism in understanding the world-ecological history of capitalism, and importantly does not need to lead to a crude functionalist or instrumentalist analysis. The state produces 'cheap nature' as much for its own interests, as well as for those of capital. Indeed, if the state was to absent itself from the production of nature, both nature as we know it (that is, 'second nature'), and the state, would cease to exist. This does not represent a comprehensive, nor even sufficient theory of the state. Rather, it takes its lead from Patel and Moore, and from Parenti, and attempts to make the case for thinking of the state ecologically. This is an important case to make. In the context of the Capitalocene, it is crucial that continued conversations around the theorisation of the state do not cling too rigidly to the vantage-point of the class-character of the state, which has defined previous iterations of these debates. This chapter has attempted to show through the state's role in the value-form, that a world-ecological reading of the state is commensurate with more class-centric approaches – indeed, that the two are not only commensurate, but internally related. This socioecological theory of the state is not only analytically stronger, but crucial for doing political economy in the current conjuncture of ecological crisis. As O'Connor suggested decades ago, the 'second contradiction' of capital traverses the terrain of the state. Liberal environmentalist approaches to the climate crisis assume that the state has full autonomy to regulate capital in the interest of environmental sustainability.⁸⁷ Not only is it dubious that any form of (capitalist) economic growth can be decoupled from a growth in net environmental throughputs,⁸⁸ but so too is it difficult to imagine a capitalist state pursuing an agenda which sufficiently addresses the ecological crisis. This is not simply because to do so would involve the state confronting capital – the analysis much state theory would lead to – but because this would be a departure from the state's ontological need to know, open and secure nature. Not only is the state constrained in its ability to lessen the exploitation of labour by capital, but it is also constrained by the need to deliver Nature – measured, mapped, rationalized, appropriated – to the 'factory door'. Marxian

⁸⁷ For example, take J. Sachs, *The age of sustainable development*, Columbia University Press: New York (2015).

⁸⁸ J. Hickel and G. Kallis (2019) 'Is Green Growth Possible?', *New Political Economy*, OnlineFirst (2019).

state theory ought to engage both theoretically and historically with the role of the state in the *production of nature*, and with the tendency of the state to 'cheapen' Nature for the purposes of capital. Without this kind of theoretical and historical understanding of the state, post-colonial, environmental and anti-capitalist movements are poorly equipped for the work that must be done. As we have seen, primitive accumulation and the state are bound. We follow those internal relations now to explore these processes of extirpation, appropriation and exploitation at the frontier. The following chapter develops an account of the invasion of Indigenous Australia, do develop better our socioecological understanding of capitalism and crisis.

Chapter 3 – “Arsenic in the milk”: The dialectics of extirpation and exploitation

See, my people see land ownership as being totally different to the English way of ownership, because our way used to be “The land owns us”, and it still is that to us. The land grows all of us up... [it] has given me my responsibility now that I have grown up, to care for my country, care for my mother, care for everything that is around me.¹

Your sheep, that were wont to be so meek and tame and so small eaters, now, as I hear say, be become so great devourers, and so wild, that they eat up and swallow down the very men themselves. They consume, destroy, and devour whole fields, houses, and cities.²

Every year renders the aboriginals [sic] more and more dependent on the white populations. In some of the settlements, before many years, they will either die off or have to work for subsistence.³

Introduction

In engaging our research question, of how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism, we move now to history. Furnished with the theoretical tools developed through Chapters 1 and 2, here we will consider their specific articulation in the invasion of Indigenous Australia by British settlers. The central contention of this thesis is that the converging crises of the Capitalocene must be seen as internally related, and each emerging from the contradictory socio-ecological relations of capitalism – and that this is made clear through an analysis of the dialectics of the commodity frontier. Through an understanding of this period and place, we might come to see that the origins of capitalism and the Capitalocene are one and the same. By engaging in the incorporated comparison of three commodity frontiers – wool, coal, and sugar – we can appreciate the analytical and political necessity of a historical materialist, or more

¹ B. Randall, ‘The Land Owns Us’, video, Creative Spirits (2009).

² T. More, *Utopia*, chapter 22, cited in G. Monbiot, *Feral: Rewilding the land, the sea, and human life*, Chicago: University of Chicago Press (2014) p. 155.

³ *Armidale Express*, 20/10/1860, p. 3, quoted in C. Clayton-Dixon (2019) *Surviving New England: A history of aboriginal resistance & resilience through the first forty years of the colonial apocalypse*, Anaiwan Language Revival Program: Armidale, NSW.

particularly, an eco-socialist approach. They are frontiers of cheap nature, produced in part by the social relations of capitalism – that is to say, class – and by the internally related process of state formation – the state existing *through* ‘environment-making.’ We do this work with an excruciating awareness of the unspeakable damage that will be done – and has already *been done* – to human and non-human lives in the Capitalocene. Of this violence, the story of the colonization of the Australian continent is just a part. But that violence is real, pervasive, and horrifying. This violence is distilled in the quotation used here as the title of this chapter: Susan Young, the daughter of a squatter, recollected an event that involved the ‘poisoning of the blacks at [the Macdonald River station] by putting arsenic in the milk.’⁴ Let us be clear about what happened here. A squatter in the New England region regularly had local Indigenous people come into his station – a common relationship, explored further below. Perhaps this pastoralist provided milk to them as payment for work on the station, or maybe as tribute to avoid stock being taken. Either way, this man decided that this arrangement no longer suited him, so he *murdered a whole family* by lacing the milk buckets with arsenic. This is just one small moment of the violence done to the Indigenous custodians of this land, in the name of value. The history of capitalism on this continent is also a story of violence done to the Indigenous peoples who have abided here for tens of thousands of years, and to the delicate ecosystems those Indigenous societies existed in and through. Developed here is an argument of internal relations, seeking to show co-constitution, and to squarely locate *capitalism* at the root of these weighty problems.

As we have explored in previous chapters, the approach that is best equipped for this task is historical materialism – especially, in its eco-socialist and world-ecological forms. Before we can tie these strands of history, theory, and crisis together, however, we must first develop an appreciation of that history. In this chapter we will be exploring the invasive relations of the

⁴ S. Young, ‘Reminiscences of Mrs. Susan Bundarra Young (formerly Mrs. James Buchanan), of Bundarra,’ *Journal and Proceedings of the Royal Australian Historical Society*, 8 (Supplement) (1923), p. 8.

frontier. We will consider the socio-ecological relations that were established by the colonials, as well as the forces that demanded them. But a frontier is not only viewed from the vantage of the metropole. Without an understanding of the socioecological relations that were violently displaced by invasion, we cannot fully understand this change, nor the terrain upon which capitalism developed so unevenly. This will help us to see the specificity of capitalist socio-ecological relations. It will give content to the category of 'cheap nature', especially when we consider the sources of 'value' in the first colonial wool boom of the 19th century. Further, the enclosure of the Australian continent into capitalist world-ecology was not uncontested; the complex and contradictory relationship between Indigenous Australians and the settler-colonials patterns the socioecological relations of each to this day. As such, there is a historical and theoretical necessity to explore 'primitive accumulation,' and its implications for each. Settler-colonialism has been defined for some time by the drive toward the 'elimination of the native,'⁵ but this belies the need of capital for 'cheap Nature,' and the history of both extirpation *and* exploitation in these emerging relations. As such, this chapter will move through the Dreaming, and the *necessarily* violent 'primitive accumulation' of the frontier, to the relations of state formation and class formation that was the pastoral frontier of the settler-colonials.

Indigenous Production of Nature

This is a story of the production of nature, of landscape and capital. It is at once an attempt to explain why bush roads follow the path they do, why there can be such old gumtrees alongside those roads, while the paddocks behind are bare stubble; and why the explanation for both is central to accounting for, and overcoming, the convergent crises of the Capitalocene. That 'nature' is located on the Australian continent, and, in the words of Charles Massey: 'Australia is what it is, not a splodge of plasticine waiting to be remoulded.'⁶ This is a pithy rejection of what Lefebvre

⁵ P. Wolfe, *Settler Colonialism and the Transformation of Anthropology*, London: Cassell and Co (1999).

⁶ C. Massey, *Call of the Reed Warbler: A new agriculture, a new earth*, Brisbane: University of Queensland Press (2017), pp. 18-19.

would term 'abstract space'⁷ – capital, through the abstraction of the value form, seeks to render all space homogenous and equivalent. But space is somewhere, with all of the associated messy biophysical realities. While the socio-ecological relations of capitalism – the production of nature *for exchange* – are always contradictory, and have devastated landscapes where-ever they go, the Australian continent is particularly fragile. Tim Flannery tells us that four key processes have shaped this ecological (and later socio-ecological) particularity: continental drift, regional geology, and climate being three. But most importantly, Australia is very, very old.⁸ Having detached from the Antarctic continent some twenty million years after the Chicxulub comet wiped out non-avian dinosaurs and most other forms of life, Australia “sailed off alone, an island ark adrift on a sea of change”, carrying a cargo of flora and fauna that had become extinct in other continents.⁹ The combination of these factors has led to Australia having ‘some of the nutrient-poorest, worst-structured, most fragile and driest soils on Earth... This also meant the continent was a disaster waiting to happen if the wrong land-use technologies and world views were applied to it.’¹⁰ Indigenous societies existed on this continent going back 65,000 years.¹¹ That these societies endured as long as they did brings into relief both the failures of the invaders, and the specificity of capitalist socio-ecological relations. While we should avoid romanticization, it is evidently possible to live within the web of life – even the Australian web of life – in a way that does not lead to planetary societal collapse.

The uniqueness of the Australian landscape and its inhabitants has been a constant source of struggle for the settler-colonials. This can be seen in early attempts to systematize a new method

⁷ H. Lefebvre, *The Production of Space*, trans. D. Nicholson-Smith, Oxford: Basil Blackwell Publishers (1991 [1974]), pp. 285-291.

⁸ T. Flannery, *The Future Eaters: An ecological history of the Australasian lands and people*, New York: Grove Press (2002).

⁹ Massey, *Call of the Reed Warbler*, quoting R. Smith, *Australia: The time traveller's guide*, p. 15.

¹⁰ *Ibid.*, p. 17.

¹¹ C. Clarkson, Z. Jacobs, *et al.*, ‘Human occupation of northern Australia by 65,000 years ago,’ *Nature*, 547: 306-310 (2017).

of pastoralism for this landscape.¹² It can also be seen in the way settler-colonial systems of knowledge production have been shaped, such as with the field of environmental history, which

...in Australia is inspired not only by broad changes in the western scholarly agenda and by the global ecological crisis. It is also brought into being by a settler culture's slow and fitful adaptation to a unique ecology and a profoundly Aboriginal place. Indeed, we can argue that Australia's unusual history and natural history have shaped an innovative environmental enquiry, one that has a particularly intimate relationship to deep time, is required to learn a very different ecology, and needs to comprehend the last ice age as a human experience.¹³

Socially, culturally, and economically, the settler-colonials have so far struggled to adapt to this particular ecology. As put by Lefebvre above, 'abstract space *is not* homogenous; it simply *has* homogeneity as its goal, its orientation, its 'lens'.'¹⁴ This thesis argues, despite the various attempts to grapple with this landscape by settlers – be it Boldrewood in the nineteenth century, or these more-recent attempts referenced by Griffiths – as long as these socio-ecological encounters are governed by the 'lens' of abstract space, or more simply and generally, the world-ecology of capitalism, these attempts will continue to produce the contradictions and crises of the Capitalocene. It was not simply the ecology of the Australian continent that confronted the settler-invaders, however; there was no 'first nature' to be found, in 1788. It was *socioecology* that defined the Australian continent; before examining the history and character of these settler-colonial, capitalist socio-ecological relations, we must go back to the Dreaming.

Dreaming Ontologies

Compounding, and emerging from, Australia's unique ecological history is the continent's incredibly long and rich *Indigenous* social history. In *The Biggest Estate on Earth: How Aboriginies made Australia*, Bill Gammage adopts the shorthand of '1788' to refer to 'the beliefs and actions of Aboriginal people at the time of first contact', while acknowledging that 'English stumbles to find apt words for 1788. Hundreds of pages try to define Aboriginal social units (tribe, horde, clan,

¹² For example, R. Bolderwood, *S.W. Silver and Co.'s Australian Grazier's Guide*, ed. J.S. Ryan, Armidale: University of New England Press (1994 [1879,1881]).

¹³ T. Griffiths, 'Environmental History, Australian Style,' *Australian Historical Studies*, 46:2 (2015), p. 167.

¹⁴ Lefebvre, *Production of Space*, p. 287.

mob, language group, family, kin) without achieving clarity or consensus.’¹⁵ We might go further to add that not only are these social units without adequate understanding, but so too are Indigenous conceptions of nature, weather, seasons, ecology, justice, and even gender largely outside comprehension of formal settler-colonial knowledge. This thesis must recognize this complexity, but go further still. We must appreciate that the very epistemologies we often gauge truth-claims against emerged from the violent history of imperialism, and in many cases entrench those inequalities today.¹⁶ Even within the limited frame of documentary history, however, evidence remains of these developed and diverse societies – the power of Bruce Pascoe’s revolutionary *Dark Emu: Aboriginal Australia and the birth of agriculture*¹⁷ is, in part, in how he turns these imperial methodologies on their masters. Beyond documentary history, the oral traditions and knowledge systems of the Dreaming are only now being taken seriously.¹⁸ But for all of these advances, and the many more that will hopefully follow, we must face the reality that Indigenous knowledge of all kinds – not to mention lives, families, cultures, and ecologies – have been eviscerated by the very act of settlement. Let us consider some of the fragments of understanding that remain, to speak of the rich socioecological relations of Australia’s Indigenous peoples within the web of life, on a fragile continent.

What emerges immediately and consistently is that the old, racialized myth of Indigenous Australians as simple ‘hunter-gatherers’ is demolished by all available evidence. This goes to definitions – and, indeed, periodisations – of civilization. Pascoe quotes Harry Lourandos:

¹⁵ B. Gammage, *The Biggest Estate on Earth: How Aborigines made Australia*, Sydney: Allen & Unwin (2012), p. xviii.

¹⁶ R. Connell, *Southern Theory: The global dynamics of knowledge in social science*, Cambridge: Polity Press (2007).

¹⁷ B. Pascoe, *Dark Emu: Aboriginal Australia and the Birth of Agriculture*, Broome: Magabala Books (2018).

¹⁸ L. Waller, ‘Indigenous Research Methodologies and Listening the Dadirri Way,’ in T. Dreher and A.A. Mondal (eds) *Ethical Responsiveness and the Politics of Difference*, London: Palgrave Macmillan (2018), pp. 227-242.

‘The old distinction between “resourceful” agriculturalist and “quiescent” hunter can no longer really be seen to apply.’ If we examine the past, it cannot support the idea of ‘passive adaptation to natural environments, but [rather] active participation in complex interplays – among them, social, environmental and demographic.’ Aboriginal people were not reacting to a state of nature, but *directly affecting its production*.¹⁹

Pascoe puts forward an argument that Indigenous Australians were in fact the first agriculturalists in the world. This has drawn considerable criticism. Notably Sutton and Walshe have suggested that Pascoe concedes to the very linear developmentalist thinking that he seeks to critique by presuming that ‘hunter-gatherers’ necessarily did not shape environments.²⁰ But even this critique concurs entirely that Indigenous Australians lived in and through the web of life in important ways. An interesting connection here that has not yet been drawn is with the ‘production of nature’ thesis. As we saw in Chapter 1, Neil Smith drew on Engels to emphasize that the production of nature in general is a consistent feature of humanity, not capitalism. Rather, the specificity of capital leads to the production of nature for exchange, mediated by the value form.²¹ What Pascoe is emphatically showing here is that Indigenous Australian societies had their own mode(s) of production, which existed through a particular way of producing nature. This history is rightly considered *history*,²² and these societies rightly considered *societies* – a point that ought not need to be made, but that is still excluded by many conceptual categories, disciplinary traditions, and accepted narratives.²³ And, as alluded to by Griffiths earlier, this history is much longer than most people assume, upending conventional narratives of the “origins

¹⁹ Pascoe, *Dark Emu*, p. 63, quoting H. Lourandos, *Continent of Hunter Gatherers*, Cambridge, UK: Cambridge University Press (1997), p. 335. Emphasis added.

²⁰ P. Sutton and K. Walshe, *Farmers or Hunter-Gatherers: The Dark Emu Debate*, Melbourne: Melbourne University Press (2021), pp. 7-10.

²¹ N. Smith, *Uneven Development: Nature, capital and the production of space*, 3rd ed., London: Verso (2010), pp. 34-35, 71.

²² Cf. R. G. Collingwood, *The idea of history*, Oxford: Oxford University Press (1946), pp. 212-216; G.W.F. Hegel, *Lectures on the philosophy of history*, ed. P.C. Hodgson, trans. R.F. Brown, P.C. Hodgson and J.M. Stewart, Berkeley: University of California Press, (1988, orig. 1827), p. 97.

²³ Indeed, the recent conservative attempt to restart the ‘history wars,’ by (*ad hominem*) attacks on Bruce Pascoe reflect the inability of some to accept this. For examples, see Windschuttle, K. ‘The Epicenter of Our History’, *Quadrant*, November 12, <https://quadrant.org.au/opinion/bennelong-papers/2019/11/the-epicentre-of-our-history/>; Bolt, A. (2019) ‘Timeline: How Bruce Pascoe became Aboriginal. Or not’, *Herald Sun*, December 5; O’Brien, P. *Bitter Harvest: The illusion of Aboriginal agriculture in Bruce Pascoe’s Dark Emu*, Sydney: Quadrant Press (2019); Anonymous, ‘Dark Emu Exposed – The Myth of Aboriginal Agriculture?’, <https://www.dark-emu-exposed.org/>.

of civilization.” This production of nature was not without fault, but so enduring that the ecology of the continent *evolved*, in a literal Darwinian sense, around its continued practice.

Indigenous Australian production of nature was informed and caused by a much broader set of values, emotions, and beliefs, beyond the homogenization of the value form. A useful place to begin is with the web of oral traditions known as the Dreaming – a ‘total conception of nature from the largest scale to the smallest within the context of deep time.’²⁴ The first Western attempt to codify these complex belief systems, moralities, cosmologies and ecologies was by William Stanner, who saw three key facets to the Dreaming: an understanding of the biophysical world, the interconnections and common origins of all forms of life, and the way social life ought to be organized within this nature. It might be thought of as an ontology, theology, cosmology, ecology, and sociology. The Dreaming relayed ‘the great marvels – how all the fire and the water in the world were stolen and recaptured;... how the hills, rivers, and waterholes were made; how the sun, moon, and stars were set upon their courses’, and how these courses explain terrestrial cycles and processes.²⁵ Already, we can see how this knowledge precedes Newtonian thermodynamics and Bernard Palissy’s ‘discovery’ of the hydrological cycle, by many thousands of years.

A more specific example of Dreaming ontologies, and their socioecology, might be in the Boorong clan, of the Wergaia people (country recognized by settlers as north-western Victoria), and their cosmology of the star called Neilloan. This star was named after a bird called the Malleefowl – or *Lowan*, or *Loan* – a bird which buries its eggs in mounds of leaves and bark, so that the decomposing organic matter of the mound might heat the egg, incubating it. Only visible in the Boorong night sky between March and October, this star appears at the same time as the

²⁴ G. Albrecht, *Earth Emotions: New words for a new world*, Ithaca, NY: Cornell University Press (2019), p. 3.

²⁵ W.E.H. Stanner, *The Dreaming and Other Essays*, Melbourne: Black Inc. Press (2009), p. 61.

Malleefowl's mound-building season. Part of the constellation astronomers call 'Lyra,' the constellation is characterized by regular, visible meteor showers in April, which further parallel the Malleefowl, which spends April kicking up sand, twigs and bark to create its mound. This cosmological knowledge of the Boorong's Dreaming informs their interaction with the web of life, as when 'Neilloan fades in the southern sky in October, the Loan's eggs will be ready to harvest.'²⁶ This Dreaming story also led to an understanding of morality, where the Loan was elevated in celestial importance, fostering a broader ethic (common to many Dreaming stores around the continent) which places human life within – not above – the web of life. Following this, while the Loan's eggs were harvested in a limited number, the bird itself was not hunted. A defining characteristic of the Australian Capitalocene – a period less than three centuries long – has been rapid species extinction; the Boorong people lived alongside the Loan for millennia. As put by Gammage, 'Aboriginal landscape awareness is rightly seen as drenched in religious sensibility, but equally the Dreaming is saturated with environmental consciousness. Theology and ecology are fused.'²⁷

This is, of course, just a fragment of the surviving knowledge of a single community, and its relation to a specific species. Further examples will be explored of ecologically-embedded production of nature in Indigenous Australian societies, many of which were deeply informed and reproduced by Dreaming stories. Some of these, such as stories about inappropriate gender relations, which could lead to discord and violence, illustrate that Aboriginal Australia was not perfect.²⁸ These real examples of conflict help us to avoid recreating 'noble savage' myths. Interestingly, one example often given of Aboriginal Australian ecological mismanagement – that of the gradual extinction of Australia's megafauna after the initial colonization of the continent

²⁶ G. Albrecht, *Earth Emotions*, pp. 4-5; J. Morieson, 'Neilloan', Victorian Malleefowl Recovery Group, <http://www.malleefowlvictoria.org.au/aboriginalAstronomy.html>

²⁷ B. Gammage, *The Biggest Estate on Earth*, p. 131.

²⁸ G. Albrecht, *Earth Emotions*, pp. 5-8; A. Roberts and C.P. Mountford, *The Dreamtime Book*, Sydney, NSW: Reader's Digest & Rigby (1973), pp. 70, 96.

around eighty thousand years ago²⁹ – has recently come into question. It would seem that Aboriginal Australians shared the continent with megafauna for around seventeen thousand years, that extinction through over-hunting could only have occurred if population densities during that early period were much higher than any known examples since, and that climatic variation is a more convincing explanation.³⁰ More-recent research has pushed that period of co-existence out to 40,000 years.³¹ We do not need to mythologise Aboriginal Australia, however, to make the blatantly obvious point that the socioecology of ‘1788’ was far more durable than the socioecology which supplanted it.

What this section is grasping for, is a sense of the radically distinct ontology that underpinned Aboriginal socioecologies. Theology, cosmology, ecology, and sociology were one, remain one in important contemporary sites of resistance, and must be made whole once more. This is important to appreciate, before we move on to consider the socio-ecological relations of the pastoral frontier, as they show us the historical specificity of the relations that the settler-invaders brought with them. They are also important to acknowledge, as in many cases the Frontier was a place of messy overlap, and relational co-existence. As the socio-ecological relations of capitalism violently asserted themselves, the breadth of the process of primitive accumulation was such that even these knowledges and beliefs were put to work for capital. When drovers took a “black boy” with them, to find the scant waterage needed to transport their sheep – their capital – they were drawing on the very ‘songlines’ that sustained Indigenous political economies for millennia.³² And so, let us dwell with the socio-ecology of Indigenous

²⁹ E.g. T. Flannery, *The Future Eaters*; G. Monbiot, *Feral*, p. 162.

³⁰ D. Choquenot & D.M.J.S. Bowman, ‘Marsupial megafauna, Aborigines and the overkill hypothesis: application of predator-prey models to the question of Pleistocene extinction in Australia’, *Global Ecology & Biogeography Letters*, 7:3 (2008); M.C. Westaway, J. Olley, & R. Grün, ‘At least 17,000 years of coexistence: Modern humans and megafauna at the Willandra Lakes, South-Eastern Australia,’ *Quaternary Science Reviews*, 157:1 (2017).

³¹ G.J. Prideaux, *et al.*, ‘Re-evaluating the evidence for late-surviving megafauna at Nombe rockshelter in the New Guinea highlands,’ *Archaeology in Oceania*, OnlineFirst (2022).

³² A. McGrath, *Born in the Cattle’: Aborigines in cattle country*, Sydney; Allen & Unwin (1987), p. 23.

Australians a little longer, and consider how it could be that, in this fragile ecosystem, with low precipitation and poor soils, Indigenous peoples' found resources 'abundant, convenient and predictable.'³³

Smoky Cape

Indigenous land management was evident to the settler-invaders from the very beginning, even if they did not understand what they were seeing. An entry in Captain James Cook's journal on 13 May, 1770 mentioned a 'head land, on which we saw fires that produced a great quantity of smoke, bore W. distant four leagues. To this point, I gave the name of Smoky Cape; it is of a considerable height, and over the pitch of the Point, is a round hillock.'³⁴ What Cook named 'Smoky Cape' was in fact known as Arakoon (Plate 3.1). Cook was entirely ignorant of the powerful 'songline' which connected the area of Arakoon and the northerly Mount Yarrahapinni. Located on the traditional lands of the Dunghutti peoples, this significant area was 'a place of gathering and ceremony for the Dunghutti, Gumbaynggir and Biripi nations.'³⁵ While it is of course possible that the smoke Cook saw was not deliberately lit, it is much more likely that Cook was observing the close relationship between Indigenous society, culture, ecology, farming, and *fire*. Indeed, there is an oral history in the region which suggests Cook also saw Dunghutti people using that very fire on 'Smoky Cape' to trap kangaroo – an interesting example of the limitations of surviving documentary evidence.³⁶

³³ B. Gammage, *The Biggest Estate*, p. 3.

³⁴ 'Smoky Cape Lighthouse Group', *New South Wales Heritage Register*, H01007.

³⁵ 'South West Rocks', *Kempsey Shire Heritage*, <https://www.kempsey.nsw.gov.au/heritage/south-west-rocks.html>

³⁶ S. Mason, familial oral history, 10 September, 2020.

Plate 3.1 – Smokey Cape, NSW Coast, 1900³⁷



Pictured above is Arakoon, now known as 'Smokey Cape,' after Cook. In this picture we see a lighthouse has been constructed in roughly the location Cook first saw smoke from Indigenous fires.

Either way, Cook made many other observations of indigenous land management using fire. For example, two weeks prior on 1 May, as the HMS *Endeavour* travelled south along the east coast of Australia, while the ship was moored and his party “explored,” Cook noted

the country which we found [was] diversified with woods, lawns and marshes; the woods are free from underwood of every kind and the trees are at such a distance from one another that the whole country or at least a great part of it might be cultivated without being obliged to cut down a single tree.³⁸

This is a truly remarkable source, which we ought to dwell on. Anyone who has spent any time on the mid-north coast of New South Wales in the recent past will appreciate how dramatically different the coastal landscape is now, just two and a half centuries on. Dense mangroves and

³⁷ Library of NSW, PXE 711/2, FL1711473, <https://search.slnsw.gov.au/permalink/f/1cvjue2/ADLIB110064658>.

³⁸ J. Cook, journal, 1 May 1770, cited in R. Parkin, *HMS Bark Endeavor*, vol 1., Melbourne, Vic: Melbourne University Press (1997), p. 189.

abundant acacias give this coastline some of the most impenetrable scrub imaginable.³⁹ That Cook observed ‘woods free from underwood’ two weeks sailing north is astounding.

But here we have a microcosm of the pivotal shift in land-management practices post-1788. And it is of direct significance that this same region was decimated in the summer bushfire season of 2019.⁴⁰ The modern landscape of the Macleay valley is not, however, entirely scrub; it is defined by scrub *and* lowland pasture. There is a stark dualism between the acacia bushland, and dairy country – what Jason Moore might call a ‘Cartesian dualism.’ As Cook observed, however, the ‘1788’ landscape was comprised of ‘diversified woods, lawns and marshes’ – and yet, he saw no need to clear any of this in order to cultivate the land. How might we explain this paradox?

The Australian landscape has evolved to rely on fire. As Griffiths put it earlier, the socioecological history of Australia leads us to think about Deep Time in a way unfamiliar to the Western mind. Most Australian plants need regular and predictable fire to reproduce; the rapid change in landscape post-1788, as well as the marked increase in sporadic but intense *wild*-fire, are produced by an interruption in a human-flora symbiosis which was reproduced over tens of thousands of years. Palynology (the study of pollen grains) shows that this history goes even deeper, with evidence suggesting that ‘Aboriginal Australians began using fire as a tool over 120,000 years ago.’⁴¹ While there is much to say about fire in Australia, Gammage notes three key facts about these pre-invasion fire regimes:

³⁹ The author remembers this vividly, spending many family holidays in this region. Also, Gammage, *The Biggest Estate on Earth*, p. 6: ‘Untended east coast bush today has much underwood and no bare hills, let alone woods chequered with lawns’.

⁴⁰ See Bushfire Recovery Project, ‘Fire Maps,’ accessed online at: <https://www.bushfirefacts.org/fire-maps.html>

⁴¹ Pascoe, *Dark Emu*, p. 161; G. Singh, A.P. Kershaw & R. Clark, ‘Quaternary vegetation and fire history in Australia,’ in A.M. Gill, R.A. Grovess & I.R. Noble (eds), *Fire and the Australian Biota*, Canberra: Australian Academy of Science (1981); A.P. Kershaw, ‘A Quaternary History of N.E. Queensland from Pollen Analysis,’ *Quaternary Australia*, 12(2) (1994).

1. Unlike the [the British flora familiar to] most early observers, about 70 per cent of Australia's plants need or tolerate fire. Knowing which plants welcome fire, and when and how much, was critical to managing land. Plants could then be burnt and not burnt in patterns, so that post-fire regeneration could situate and move grazing animals predictably by selectively locating the feed and shelter they prefer.
2. Grazing animals could be shepherded in this way because apart from humans they had no serious predators. Only in Australia was this so.
3. There was no wilderness. The Law – an ecological philosophy enforced by religious sanction – compelled people to care for all their country. People lived and died to ensure this.⁴²

Taking points 1 and 3 together, we have the central contract between Aboriginal Australians and the web of life they lived within. With fire, food could be got easily, travel was leisurely, and there was much time for talking, singing, and dancing: 'Like landowning gentry [in England], people generally had plenty to eat, few hours work a day, and much time for religion and recreation... Abundance was normal.'⁴³ But this relied upon the *uninterrupted* care of country, and this care had to include *all* country. Again, the socioecology of Aboriginal Australia shows the historical specificity of a set of property relations which creates a dualism between managed and unmanaged land, and also shows the violence that was done to this landscape by interrupting this pre-existing, and enduring philosophy of Country. The central concepts of history that underpinned the conduct of the invaders – that civilization is defined by its mastery over nature, and that these 'savages' could not have any claim to this land precisely because they had not 'improved' it⁴⁴ – are comprehensively vitiated by an appreciation that Indigenous Australians were *producing nature*, but doing so in a way that appreciated the worth of the non-human, and was not determined by the abstractions of the value form.

We must understand, then, that plants in Australia had evolved in response to an enduring burning program, which was deeply embedded in understandings of Country, and the theology-ontology of the Dreaming. This practice was both old, and wide, with the landscape being managed holistically, creating a mosaic of different micro-ecologies. One outcome of this land

⁴² B. Gammage, *The Biggest Estate on Earth*, pp. 1-2.

⁴³ *Ibid.*, p. 4.

⁴⁴ Ritter, 'The "rejection of *terra nullius*" in *Mabo*'; Beattie, 'Terra Nullius and the colonization of Australia'; Connor, *The invention of terra nullius*; Attwood, 'The Law of the Land or the law of the land?.'

management practice was the easy herding of kangaroo. The green shoots of post-burn pasture were used to entice the kangaroo for hunting; other times active fire was used instead to herd wildlife into terrain traps and bottlenecks. Burning was crucial not only to cultivate seeds, and to harvest kangaroo, but this also improved the quality of the otherwise-poor soils that predominate on the continent.

Plate 3.2 – *Ginninginderry Plains, New South Wales, c.1832, R. Hoddle.*⁴⁵



This early landscape by Robert Hoddle is a useful source to consider the contrast between Indigenous care for country and the production of nature at the wool commodity frontier. Ginninginderry [i.e. Ginninderra], or the watershed of the Ginninderra Creek, is now within Canberra, the capital city of Australia. These treed grasslands here, however, contrast with the landscape produced by pastoralism – bare paddocks, isolated trees, and dense scrub outside the graziers' fences.

Just as invasion interrupted extant fire management practices, so too did the settlers interrupt the millennia of labours that had encouraged – *produced* – the fine grasslands and pastures described in such enamoured tones by the first ‘explorers.’ Limited visual evidence illustrates these landscapes before their destruction by the pastoral commodity frontier, but *Ginninginderry Plains* (Plate 3.2) gives us a sense of this distinction. Written sources are easier to come by, as seen in the words of settler Henty Waterhouse, in 1804,

⁴⁵ National Library of Australia, R06/6642, <https://catalogue.nla.gov.au/Record/3423118>.

I am at a loss to describe the face of the country otherways than as a beautiful park, totally divested of underwood, interspersed with plains, with rich, luxuriant grass... This is the part where the cattle that have strayed have constantly fed – of course, their own selection.⁴⁶

Here Waterhouse is making two points we ought to note. First, he tells us of the ‘rich, luxuriant grass’ which proliferated in patches of the great mosaic of 1788 land management. Second, he highlights the way these areas drew cattle – just as they would also draw sheep, as they had done kangaroo pre-invasion. Indeed, kangaroo still gravitate to grasslands. Not only do they show total disregard for the pastoralist’s fences, grazing in paddocks denied to sheep and cattle – they also enjoy freshly seeded playing fields in peri-urban and regional spaces. Put in the language of the invaders, Indigenous care for country had indeed “improved” the land. This will become especially significant when we turn to consider the shape of the pastoral frontier, as well as the value it appropriated – the fleeces that sold so well during the first wool boom of the nineteenth century were imbibed with the labour-power of *thousands of years of indigenous land management*.⁴⁷ Thinking back to the theorisation of the ‘production of nature’ as outlined in the Chapter 1, we might raise the question of whether Indigenous production of nature, as seen here through Australian Indigenous land management is sufficiently captured in the dualism of ‘first’ and ‘second’ nature? Perhaps Marxist arguments, from Lukács to Lefebvre to Smith, are remiss in focusing on socio-nature and its production as a result of abstract space, or exchange-value, exclusively at the expense of First Nations peoples’ relations to land. While ‘second nature,’ or the production of nature for exchange is seen as qualitatively distinct for Smith, I would suggest that the lumping of all pre-capitalist history, in its rich diversity, within ‘first nature’ might obscure important relational differences – especially when the question of sustainable socioecological futures is at hand. This is a question that further ecosocialist thought ought to grapple with.

⁴⁶ 12 March 1804, *Historical Records of New South Wales*, vol. 5, p. 259.

⁴⁷ S. Hallam, ‘The First Western Australians’, in C.T. Stannage (ed.), *A New History of Western Australia*, Perth: University of Western Australia Press (1981), p. 64.

This section has been brief, and only hints to the breadth of the emerging literature which attempts to rediscover lost Indigenous knowledge of Country. This limited engagement, however, begins to show four key points: first, that the Australian continent has a unique ecology; second, that this ecology is actually a *socio-ecology*, as the Australian biota cannot be understood without appreciating the ancient and enduring social relations which produced it; third, that the production of nature is transhistorical, but that the specific mode of production of nature that defined capitalism is not; and finally, that the socio-ecological relations of capitalism are incompatible with the Australian landscape, the animals that inhabit it, and especially with the continuation and revivification of the oldest enduring culture on this planet. Again, Gammage gives us a pertinent passage, worth considering at length:

People civilized all the land, *without fences*, making farm and wilderness one. In the Great Sandy Desert women replanted yam tops and scattered millet on soft sand, then watched the seasons: millet crops a year after its first rain. This is farming, but not being a farmer. Doing more would have driven them out of the desert. Mobility let them stay. It imposed a strict and rigid society, but it was an immense gain. It gave people abundant food and leisure, and let them live in every climate and terrain. It made possible a universal theology, and it made Australia a single estate. Instead of dividing Aborigines into gentry and peasantry, it made them a free people.⁴⁸

Importantly, we can also learn practices of contemporary resistance and anti-capitalism, from these environmental histories.⁴⁹ Even ahead of the main body of violence that was the Frontier Wars, smallpox decimated Aboriginal communities and nations around the continent.⁵⁰ Gammage notes that this left the survivors with much more work, ‘since the Dreaming still required every inch of country to be cared for... In their terrible predicament they may have turned even more to their closest ally: fire.’⁵¹ In an example of precisely this, when Gumbangarri man Bill Cohen became the head stockman in the 1930s at Kunderang – a station in the Northern Tablelands of New South Wales then run by the Wright family. To celebrate this promotion, he took a ride around the boundary of the property, camping and fishing at several spots. In a heroic expression

⁴⁸ Gammage, *The Biggest Estate on Earth*, p. 304, emphasis added.

⁴⁹ ‘Environmental history’ here conceived as necessarily social *and* natural. See S. Sörlin & P. Warde, ‘The problem of the problem of environmental history: A re-reading of the field’, *Environmental History*, 12, 1 (2007), pp. 107-130.

⁵⁰ Gammage, *The Biggest Estate on Earth*, p. 153; N.G. Butlin, *Our Original Aggression*, Sydney: Allen & Unwin (1983), p. 160.

⁵¹ Gammage, *The Biggest Estate on Earth*, pp. 153-154.

of culture, and care for Country, with the space of agency granted to a valuable worker on the station, he turned to fire: 'the following night, Top Yard. Then, lifting up Black Camp Spur, on out to the Front Tablelands. Of course I had 2 dozen boxes of matches and didn't I let the neighbours know there was a firebug in the area!'⁵²

As Moore tells us, world-ecology demands 'frontier thinking'. There are, however, existing approaches to the study of the frontier other than historical materialism. Key among these is the approach of settler-colonial studies (SCS) – a field built in large part on the work of Patrick Wolfe, which defines settler-colonialism by the 'logic of elimination'. An examination of this approach, alongside the history of Indigenous labour on the pastoral frontier in the Australian colonies, usefully demonstrates the utility of a dialectical materialist approach. It shows the internal relations of extirpation and exploitation – twin processes encapsulated within the category of 'primitive accumulation', but violently separated by the approach of SCS. Importantly, recasting this process as one of primitive accumulation not only shows the internal relations of capitalism, and its determination of socioecological crisis – it can also account for the politics that emerge, and that are necessary for successful struggle and resistance. Primitive accumulation, as articulated here, is a process of both class *and* state formation. First, then, we consider the 'logic of elimination.'

The logic of elimination

As outlined in the introduction, there has been a surge in attention to 'new histories of capitalism' around the world,⁵³ with a leading contributor being Sven Beckert, and his attention to commodity frontiers. This is a welcome development, after the 'retreat from class' common in the

⁵² B. Cohen, *To My Delight: The autobiography of Bill Cohen, a grandson of the Gumbangarri*, Canberra: Aboriginal Studies Press (1987), p. 103.

⁵³ For a useful summary, see K. Lipartito, 'Reassembling the Economic: New Departures in Historical Materialism', *American Historical Review*, February (2016), pp. 101-139.

discipline of History in the 1980s and 1990s.⁵⁴ This global trend has prompted calls for a similar return in the Australian historiography, looking toward a ‘new materialism.’⁵⁵ Importantly, Forsyth and Loy-Wilson frame this call with an acknowledgement of the limitations of extant economic history in Australia. They note that

as a discipline, Australian economic historians rejected what they perceived as an old British tendency to consider economic history to be an account of the emergence of capitalism out of a feudal agrarian past.... [Which led] Australian economic historians to place capitalism as the backdrop to local economics, rather than as a historically contingent subject in its own right.⁵⁶

Perhaps it is not surprising that settler-colonial histories presuppose capitalism, as it was the relations of capital which caused and then shaped the invasion and settlement of this land. And yet, Forsyth and Loy-Wilson go on to argue that a new materialism in Australia must offer ‘the historical tools and analysis that will help address the inequalities that we see.’⁵⁷ It is the contention of this thesis that such a materialism must be necessarily eco-socialist: only a dialectical materialism which treats inequality, species extinction, climate change, and political crises as internally related – *and historically specific* – can hope to transcend such socioecological relations. The light of this method must be shone on all ‘Australian’ history. Not only will it help in understanding the determinants of white settler history, but it also offers a more sophisticated understanding of the frontier: the contradictory relations of extirpation, expropriation, and exploitation. The dominant approach to understanding race relations in Australia is that of settler-colonial studies – an approach applied to many settler-colonial societies, but which emerged from the work done by Patrick Wolfe on Australia.

⁵⁴ E.M. Wood, *The Retreat from Class: A new ‘true’ socialism*, 2nd edition, London: Verso Books (1998).

⁵⁵ H. Forsythe and S. Loy-Wilson, ‘Seeking a New Materialism in Australian History,’ *Australian Historical Studies*, 48(2): 169-188 (2017).

⁵⁶ *Ibid.*, p. 173.

⁵⁷ *Ibid.*

For Wolfe, 'territoriality is settler colonialism's specific, irreducible element.'⁵⁸ Flowing from this territoriality, Wolfe defines the process as ongoing, structural, and most-importantly, *eliminary*. Settler colonies, in this view, 'were (are) premised on the elimination of the native societies. The split tensing reflects a determinate feature of settler colonization. The colonizers come to stay – invasion is a structure, not an event.'⁵⁹ This became known as the "logic of elimination" and became an organizing principle for this literature. In sum,

Settler colonialism is an inclusive, land-centred project that coordinates a comprehensive range of agencies, from the metropolitan centre to the frontier encampment, with a view to eliminating Indigenous societies.⁶⁰

For Wolfe, this focus on the 'logic of elimination' renders legible shifting relations between settlers, the colonial state, and First Nations peoples, from the crude violence of the frontier, through racialization (official and unofficial), assimilation, and even the permutations of 'Native title' law:

The continuing operations of the logic of elimination can include officially encouraged miscegenation, the breaking-down of Native title into alienable individual freeholds, Native citizenship, child abduction, religious conversion, resocialization in total institutions such as missions or boarding schools, and a whole range of cognate biocultural assimilations. All of these strategies, including frontier homicide, are modalities of settler colonialism. All of them come back to the issue of land.⁶¹

Identifying each of these moments of violence to indigenous bodies, cultures, languages, and ecologies as part of a coherent whole is certainly an important development. There is no doubt that the emergence and consolidation of SCS, especially in the context of Australian historiography, is a welcome contribution. It helps us overcome the Whiggish, racist tones of 'the history wars',⁶² and take seriously that Australian statehood is premised on the continuous possession of stolen land. This theft is not merely incidental, but tying back to chapters 1 and 2,

⁵⁸ P. Wolfe, 'Settler colonialism and the elimination of the native,' *Journal of Genocide Research*, 8(4): 387-409 (2006), p. 388.

⁵⁹ Wolfe, *Settler Colonialism and the Transformation of Anthropology*, p. 3.

⁶⁰ Wolfe, 'Settler colonialism and the elimination of the native,' *JGR*, p. 393.

⁶¹ P. Wolfe, 'In whole and in part: The racialization of Indigenous People in Australia,' in P. Wolfe (ed.) *Traces of History: Elementary structures of race*, London: Verso (2016), pp. 33-34.

⁶² S. Macintyre and A. Clark, *The History Wars*, Carlton, Vic: Melbourne University Press (2004).

shows the internal relation of dispossession, state formation, and the possibility of private property. As in Nichols,

dispossession of this sort combines two processes typically thought distinct: it transforms nonproprietary relations into proprietary ones while, at the same time, systematically transferring control and title of this (newly formed) property. It is thus not (only) about the transfer of property but the transformation into property. In this way, dispossession creates an object in the very act of appropriating it.⁶³

Dispossession, then, is central to primitive accumulation, and this is a necessarily violent process. But what of 'elimination'? This thesis, however, suggests that the explanatory power of 'the logic of elimination' is limited in crucial ways. Rather, the dialectical category of primitive accumulation offers a way to explain when and where a colonial state might shift between these different "modalities" of elimination. More importantly, this category also has the capacity to explain shifts from elimination to *exploitation*, and back again – something SCS has struggles to articulate in a material way.

Let us explore this further, through SCS as it has been deployed to understand Australian history. The approach of SCS is especially applied in comparative context, to define the key differences between plantation colonialism, and the settler variety.⁶⁴ For example, Silverstein contrasts settler colonialism in Australia, with the franchise colonialism deployed in Nigeria. In the case of Nigeria, it was in the interests of the colonial state to maintain existing Indigenous modes of production, and to manage their articulation with settler modes of production.⁶⁵ This comparative approach leads Silverstein to argue that in the case of Australia,

there was no imperative for the settler state to allow or control the continuing existence of indigenous people's self-management or economic lives. Indeed, the opposite was the case. To the extent that the Australian settler state was, and remains, based on the acquisition and total ownership of land, Aboriginal people, with a prior claim not only to the ownership of, but also sovereignty over, the land, pose a threat to settler hegemony and legitimacy. For settler

⁶³ R. Nichols, *Theft is Property! Dispossession and critical theory*, Durham, NC: Duke University Press (2020), pp. 30-31.

⁶⁴ F. Bateman and L. Pilkington, 'Introduction', in F. Bateman and L. Pilkington (eds) *Studies in Settler Colonialism: Politics, Identity and Culture*, London: Palgrave Macmillan (2011).

⁶⁵ B. Silverstein, 'Indirect Rule in Australia: A case study in settler colonial difference', in F. Bateman and L. Pilkington (eds) *Studies in Settler Colonialism: Politics, Identity and Culture*, London: Palgrave Macmillan (2011), p. 90.

colonialism, therefore, a continuing Aboriginal presence in Australia represents a persistent claim that could never be fully resolved within its structures.⁶⁶

This passage argues two things. First, that there was no reason for the settler state to maintain and/or interact with Indigenous modes of production in colonial Australia. Second, that settler sovereignty and legitimacy could not be maintained with ongoing Indigenous inhabitation of the land. Although these arguments typical of SCS are broadly correct, and push back usefully against apologist, imperialist and racist histories, they do violence to crucial details – details which are significant in explaining the determinants of these processes. First, the importance of Indigenous modes of production (especially their socioecological knowledge of the land, and their own reproduction through nature) was varied across the colonies, and over time. Many of the examples Silverstein draws on are from the 20th century. While it is true that questions of sovereignty became more pointed after Federation, and again in the context of global decolonialization in the post-war period, flattening out the century-and-a-half of history that led to that point is unhelpful. A more fine-grained history shows the myriad ways in which indigenous labour and knowledge was integrated into the settler colonies' political economies. Second, it is not clear that sovereignty or legitimacy of the Australian state has at all been challenged by the incomplete project of 'elimination'. What are the mechanisms implied here? Or the historical parallels to be drawn?

This chapter does not engage directly with the legal arguments relating to this second claim – the first point, however, is highly contentious and directly relevant to our understanding of cheap nature and the commodity frontier. The idea that there was 'no imperative' for the colonial state to allow the continued existence of indigenous peoples, and that this therefore led the state to pursue elimination (genocide) for the purpose of staking a stronger legal claim on territorial sovereignty, ought to be more closely considered. To do this, we must therefore consider some of the many ways that Indigenous modes of (re)production were *pivotal* in establishing the

⁶⁶ *Ibid.*, pp. 100-101.

socioecological relations of capitalism on the Australian continent. This does not downplay the cataclysmic violence done to Indigenous Australians. And as Wolfe readily admits, a 'logic of elimination' does not rely on total elimination for its proof. Indeed, such an argument would treat Australia's autochthonous peoples as entirely lacking agency – an assumption that is clearly historically incorrect.⁶⁷ But those examples where elimination was *not* the determining motivation usefully illuminate the actual process which led to elimination elsewhere. That is to say, an analysis which treats *capitalism* as the historically specific determinant of frontier relations helps us see *who* was doing violence, *why*, and leads us to an entirely different politics than the approach of SCS.

The question of exploitation is a difficult one for settler-colonial studies. Seeking to contrast settler-colonialism from other forms of colonialism, Wolfe argued:

In contrast to the kind of colonial formation that Cabral or Fanon confronted settler colonies were not primarily established to extract surplus value from indigenous labour. Rather, they are premised on displacing indigenes from (or replacing them on) the land.⁶⁸

And yet, as Englert observes, '[Franz] Fanon was writing from the Algerian context – a French settler colony... [which] depended on the exploitation of indigenous labour.'⁶⁹ As we shall see, this same critique might be leveled at Wolfe from the Australian context as well: while the purpose of settlement might not have been directly and explicitly bound up with putting Indigenous Australians to work, it is absolutely true that indigenous labour and knowledge was crucial at many junctures both to production and reproduction.

⁶⁷ See Clayton-Dixon, *Surviving New England*; pp.70-77; E. Willmot, *Pemulwuy: The Rainbow Warrior*, London: Bantam Press (1988); H. Reyndolds, *The Other Side of the Frontier: Aboriginal resistance to the European invasion of Australia*, Sydney: University of New South Wales Press (2006); S. Gapps, *The Sydney Wars: Conflict in the early colony, 1788-1817*, Sydney: NewSouth Press (2018).

⁶⁸ Wolfe, *Settler Colonialism and Anthropology*, pp. 1-2.

⁶⁹ S. Englert, 'Settlers, Workers, and the Logic of Dispossession,' *Antipode*, 52(6), (2020), pp. 1650-51.

Indeed, there is a methodological critique to be levelled here as well. By formulating SCS in this way, Wolfe and his followers have made *agential purpose* a defining element in their typology of colonialisms. If we accept this, we end up digging through sources to try and uncover something that is ultimately unknowable, and is itself overdetermined: why people do what they did. The problems of this approach are put forcefully by Lukács, who himself draws on Engels, and is worth quoting at length:

In his celebrated account of historical materialism Engels proceeds from the assumption that although the essence of history consists in the fact that “nothing happens without a conscious purpose or an intended aim”, to understand history it is necessary to go further than this. For on the one hand, “the many individual wills active in history for the most part produce results quite other than those intended—often quite the opposite; *their motives, therefore, in relation to the total result are likewise of only secondary importance*. On the other hand, the further question arises: *what driving forces in turn stand behind these motives?* What are the historical causes which transform themselves into these motives in the brain of the actors?” ... The essence of scientific Marxism consists, then, in the realisation that the real motor forces of history are independent of man’s (psychological) consciousness of them.⁷⁰

This is what is at stake with the abstractions of SCS. By developing their argument by contrasting real historical complexities with ideal-typical categories, this approach does violence not only to those empirical moments, but also leans on a theoretical abstraction that does little to unearth the ‘real motor forces of history,’ and can be contrasted with the theory and method of totality which this thesis draws on. Wolfe demonstrates this contradistinction himself in the case of Tasmania (Van Diemen’s Land). He gives examples of the incorporation of indigenous labour into the emerging capitalist social relations of production in that colony, before going on to argue:

Although these and other variations are significant and need to be acknowledged, they do not alter the primacy of the dominant pattern, manifest most clearly in the south and east of the continent, *where settler colonialism practically approximated its pure theoretical form*.⁷¹

So, for Wolfe, exploitation can and does historically manifest alongside elimination, but this does not challenge the theoretical primacy of the “logic of elimination.”

⁷⁰ G. Lukács, *A Defense of History and Class Consciousness: Studies in Marxist Dialectics*, trans. R. Livingstone, Cambridge, MA: The MIT Press (1971 [1923]), pp. 46-7, quoting F. Engels, *Feuerbach and the End of Classical German Philosophy* (1886), p. 354 ff, emphasis in original.

⁷¹ P. Wolfe, ‘Land, labour, and difference: Elementary structures of race,’ *American Historical Review*, 106(3) (2001), p. 871, emphasis added.

Of course, the utility of any abstraction depends on the question being asked – does it reveal more than it obscures?⁷² Perhaps if the purpose of this concept is simply to push back against those who actively challenge the historical reality and significance of frontier violence, and the inherent violence of settlement, then we might forgive it its empirical transgressions. But our concern here is different. We are interested in those same ‘real motor forces of history’ which also preoccupied Lukács. The argument we are developing here is that those “variations” from Wolfe’s “pure theoretical form” are an important part of the story. A dialectical explanation of the shift between exploitation and extirpation informs our understanding of the origins and reproduction of the socioecological relations of Australian capitalism. They illustrate the real motor forces which have not only decimated indigenous lives, cultures, and languages, but in so doing have created the Capitalocene and its crises.

Extirpation or exploitation?

At the conclusion of their chapter in *The Cambridge History of Australia*, Banivanua Mar and Edmunds denote the key shifts in Indigenous and settler relations in the nineteenth century.⁷³ For them, the first half of the nineteenth century was characterised by ‘the politics of territory and the taking of land, using physical violence and the rhetoric of conciliation,’⁷⁴ as Governors sought to balance the ideas of humanitarianism with the necessity of seizing land for production and for state formation. But after this initial phase of brutal frontier violence, a more complex picture of race relations emerged, which was regionally specific, and determined largely by those same processes – production and state formation. In some instances, Indigenous communities were successful in acquiring land as inalienable freehold, though these communities faced the challenge of rebuilding cultures and economies on Country after sickness, violence, and

⁷² Sayer, *The violence of abstraction*, p. 149.

⁷³ T. Banivanua Mar and P. Edmonds, ‘Indigenous and Settler relations’, in A. Bashford and S. Macintyre (eds) *The Cambridge History of Australia*, Cambridge: Cambridge University Press (2013), pp. 365-366.

⁷⁴ *Ibid.*, p. 365.

displacement. There were also racially diverse and polyglot communities where white settlers were the minority, such as in northern Queensland (discussed further in Chapter 6). Perhaps the most interesting to us here, there was also the 'delicately balanced model of mutual dependence that developed in pastoral country... through which Aboriginal people remained on their country in exchange for providing much-needed labour.'⁷⁵ This period shifted again toward the close of the nineteenth century, when 'the rise of a virulently 'white' settler-nationalism toward the end of the century [caused] this era of self-sufficient autonomy to come under threat.'⁷⁶ This pivot was succinctly captured by Blake: 'if the sight of the trooper or policeman with a rifle evoked terror in the nineteenth century, in the twentieth century it was a policeman with a removal order.'⁷⁷

Wolfe and Settler-Colonial Studies treat the 'logic of elimination' in a broad and nuanced way, which can help us explain much of this history. This approach has usefully been employed to help explain segregation, missions, miscegenation and removal. But it is the argument of this chapter, that this approach struggles to explain that period of 'mutual dependence' on the pastoral frontier – a period which the conceptual and theoretical tools of the historical materialist are much better suited to. And so, this section will draw out many examples of the historical integration of Indigenous labour into value production on the pastoral frontier, so that we might better account for the dialectic of extirpation *and* exploitation. Or, put another way, we will explore the conditioning of cheap nature at the commodity frontier through the incorporation of 'cheap' Indigenous labour. In doing so, this chapter does not seek to diminish the account of violence articulated so well by the communities which resisted and survived the frontier, nor SCS itself. It simply suggests that conceptually excluding these moments of exploitation conceals the other key

⁷⁵ *Ibid.*, pp. 365-366.

⁷⁶ *Ibid.*, p. 366.

⁷⁷ T. Blake, "'Deported... at the sweet will of the government': The removal of Aboriginies to reserves in Queensland 1897-1939,' *Aboriginal History*, 22 (1998), p. 61.

agent and structure of the frontier; we're concerned not only with the trooper, or the spread of smallpox, but also with the virulent spread of capital.

Especially in the second half of the nineteenth century, many sites along the pastoral frontier saw Indigenous communities living on or near squatter stations. In many cases this was a strategic decision by Indigenous communities. The Aboriginal population was vastly reduced by epidemics,⁷⁸ violence, and the ecological devastation caused by man and beast across the frontier. Those who survived and resisted this first wave of invasion sometimes found 'coming in,' to live on stations and near villages and towns was a way to remain on country, to attempt to keep the Dreaming alive, and to fill in gaps in their own ruptured socioecological relations of production. While the British empire was weaponizing addiction in China with the Opium Wars, so too was tobacco a useful lever in Australia as well, to draw Aboriginal communities closer to settlements.⁷⁹ In some cases, these agreements to share land were negotiated to guarantee rights to hunt, fish, and maintain culture through corroboree and ceremony.⁸⁰ Whatever the specific reasons of local strategic decision making and struggle, this was a common trend throughout pastoral regions of Queensland, South Australia, Western Australia, New South Wales, and later the Northern Territory.⁸¹ A picture is painted of these frontier relations in the New England region of New South Wales, in 1839, by Indigenous scholar Callum Clayton-Dixon:

⁷⁸ Some estimates put death rates due to small-pox and influenza within the Sydney region at 80 percent within 10 years of settlement. See J. Campbell, *Invisible Invaders: Smallpox and other diseases in Aboriginal Australia 1780-1880*, Melbourne: Melbourne University Press (2002).

⁷⁹ P. Smith, 'Station Camps: Legislation, labour relations and rations on pastoral leases in the Kimberly Region, Western Australia', *Aboriginal History*, 24 (2000), p. 81.

⁸⁰ H. Reynolds, *The Other Side of the Frontier: Aboriginal resistance to the European invasion of Australia*, Sydney: University of New South Wales Press (2006), p. 173.

⁸¹ P. Brock, 'Pastoral Stations and Reserves in South and Central Australia, 1850s-1950s', *Labour History*, 69 (1995); B. Thorpe, 'Aboriginal Employment and Unemployment: Colonized labour', in C. Williams and B. Thorpe, *Beyond Industrial Sociology: The work of men and women*, Sydney: Allen and Unwin (1992); R. Foster, 'Rations, Coexistence and the Colonisations of Aboriginal Labour in the South Australian Pastoral Industry, 1860-1911', *Aboriginal History*, 24 (2000); Reynolds, *The Other Side*, pp. 172-5.

There were a number of Aborigines residing and employed on several southern stations: a woman “living with the overseer” at Walcha, a man and a woman at Mihi, a boy “employed tending cattle” on Kamschatka, and three adults at Laura. The Commissioner himself [George MacDonald, Commissioner of Crown Lands], before the close of 1839, “succeeded in inducing several of the smaller tribes who frequent the district to visit the Police Camp where they have occasionally remained for a few days and rendered themselves useful in stripping bark for the buildings.” By 1842, the majority of stations in the district had at least “one or two Natives constantly on the establishment.”⁸²

To stay with the New England example, this Aboriginal labour on pastoral stations and in frontier settlements took on a heightened significance during that region’s gold rush in the early 1850s, when Indigenous workers substituted for the withdrawal of European labour in that period.⁸³ In this way, the vicissitudes of the colonial labour market – marked by the withdrawal of transportation (no more cheap convict labour), the gold rushes, and the pull of urbanization – were absorbed for the pastoralist by calling more or less on Indigenous labour. As Englert⁸⁴ suggests in his critique of SCS, this fluctuation is better accounted for by the category of primitive accumulation: a process necessarily determined by the uneven development of capitalism.

The frontier is a site of messy contradiction; that is why Marx worked backwards from his theory of capital to the explanation of origins, and his conceptualization of primitive accumulation.⁸⁵ But these encounters ought not be treated as historical aberrations from our pure theoretical categories. Indeed, it is our argument here that *Indigenous labour helped determine the possibility of capital accumulation on the pastoral frontier*. Put another way, the nature was made historically cheap at the commodity frontier of wool through dialectics of extirpation *and exploitation*, seen in the deployment of Indigenous labour. As put by a Select Committee in 1899, ‘Aboriginal labour was so essential in the pastoral districts that stations would have been abandoned without it.’⁸⁶

⁸² Clayton-Dixon, *Surviving New England*, pp. 111-112, citing: G. MacDonald (1839) ‘Itinerary for 16th of July – 28th of September’; G. MacDonald (1840, Jan 1) ‘Letter to the Colonial Secretary: ‘Forwarding the Itinerary’; G. MacDonald (1843, Jan 13) ‘Report to the Colonial Secretary’.

⁸³ Clayton Dixon, *Surviving New England*, p. 35., citing: R. Massie (1852), ‘Commissioner R.G. Massie’s Report on New England’, in L. Gilbert and E. Elphick (eds), *New England Readings*, Armidale NSW: Armidale College of Advanced Education (1977), p. 107.

⁸⁴ Englert, ‘Settlers, Workers, and the Logic of Dispossession.’

⁸⁵ M. Giménez, *Marx, Women and Capitalist Social Reproduction*, Chicago, IL: Haymarket Books (2018), pp. 54-55.

⁸⁶ Banivanua and Edmonds, ‘Indigenous and settler relations’, p. 360.

Let us look at that function more closely. Much of the folklore of Australia is bound up with the 'golden fleece' of the pastoral frontier. If any labour is seen to have been involved in the production of this bounty, beyond the landscape itself, then it would be the iconic settler stockman (see Plate 1). Nowhere in this story is Indigenous labour – for how could a colonization based on the logic of elimination put these hands to work? But for many, many decades the value produced by this industry was entirely contingent not only on the labour of generations of Indigenous Australians in the "improvement" of the soil and grasses, but this industry also relied on Indigenous labour to realise and reproduce that value. This labour was deeply woven into the fleece of the sheep in many ways, but two key roles emerged: the 'stockman' and the 'concubine.'⁸⁷

From first contact forward, the sexual violence experienced by Aboriginal women at the hands of settler-invader men was as horrific as it was ubiquitous. This went beyond the use of rape as a tool of invasion and warfare, but extended to concubinage. Indigenous women were kept as slaves, tending not only to the sexual desires of pastoralists and their workers, but *also to their social reproduction*.⁸⁸ As put by Reynolds, 'there are many reports of Europeans using force to recruit and keep their workers and all over Australia young women were forced into concubinage. The evidence for this is overwhelming.'⁸⁹ One government official told a Select Committee of the South Australian Parliament in 1899 that the 'forcible taking away of lubras⁹⁰' was common across the outback.⁹¹ In various states of freedom or unfreedom, these women enabled the social and physical reproduction of the frontier, through their domestic, care, and sexual labour. As concubines, 'lubras' were fundamentally bound up in the primitive accumulation of the frontier. As Federici showed us with the example of the witch-hunts of the 16th and 17th centuries, so too in the Australian frontier wars: 'the degradation of women are necessary conditions for the

⁸⁷ Reynolds, *The Other Side of the Frontier*, p. 173.

⁸⁸ On the elements of the 'mode of physical and social reproduction,' see Gimenez, *Marx, Women and Capitalist Social Reproduction*, p. 70.

⁸⁹ *Ibid.*, pp. 173-174.

⁹⁰ An offensive noun for Aboriginal women.

⁹¹ 'Select Committee on the Aboriginies Bill', South Australian Parliamentary Papers, 1899, 27, p. 26.

existence of capitalism in all times.’⁹² Of course, the connection between sexual violence, domestic labour, and value production is obscured by much research in many literatures, ‘which contributes to hide and naturalise the sphere of reproduction.’⁹³ It is no surprise then, that there are many more documentary examples of male Indigenous labour, and its import to the pastoral frontier, in both the primary and secondary literatures. And so, as we turn to consider the stockman, we must first pause to ask: could the spread of the pastoral frontier have continued as it did without the labour of many Indigenous women? Just how much of Macarthur’s pastoral fortune drew on the reproductive work of this forgotten historical agent?

It has been noted in many places that the long culture of hunting and animal husbandry prepared Indigenous men incredibly well to work with the beasts of the invaders⁹⁴ – horses, sheep and cattle. This ability was exercised initially as a method of resistance against the invaders, and then in the interests of subsistence as the socioecologies of traditional food sources were destroyed.⁹⁵ These skills, combined with far superior ecological literacy, made Indigenous stockmen incredibly capable and important on the pastoral run. As one Queenslander cattleman said in 1884, ‘I don’t know what we pioneers should have done without the blacks, for they cannot be beat at looking after horses and cattle.’⁹⁶ Another source corroborates this:

On all stations... in this western portion of Queensland a certain number of black boys and gins all employed, and it is difficult to see how stations could be worked without their assistance. The vast majority receive no remuneration, save tucker and clothes.⁹⁷

Where in our nationalist historiography is the Indigenous stockman, who was so crucial to the pastoral frontier? Of course, the purpose of this analysis is not to draw some crude periodization of the frontier, from the violence of the invasion, quickly to pleasant pastoral scenes of black and

⁹² Federici, *Caliban and the Witch*, p. 13.

⁹³ *Ibid.*, p. 8.

⁹⁴ Pascoe, *Dark Emu*, pp. 50-63; Gammage, *The Biggest Estate*, p. 132.

⁹⁵ Reynolds, *The Other Side of the Frontier*, pp. 162-171.

⁹⁶ A.S. Haydon, ‘Slavery in Queensland’, *Queenslander*, 12 April 1884, quoted in Reynolds, *The Other Side*, pp. 174-175.

⁹⁷ Anon., *Queenslander*, 23 May 1885, quoted *ibid.*, p. 175.

white shepherds and stockmen working side-by-side. Violence continued (and continues) in a multitude of forms. This story is also dramatically variegated along spatial lines, as some regions had less need for Indigenous labour, and so settlement in those areas – such as the Hawkesbury for example – did perhaps tend more toward a ‘logic of elimination’. But that is precisely the point: where land had already been secured, and the threat to capital investment posed by poaching reduced, there was no reason that Indigenous labour might not be *exploited*, rather than extirpated. To leave Queensland in the 1880s, and return to the New England in the 1854, Commissioner Bligh comments on the importance of Indigenous labour in the Armidale region during the gold rushes:

... the gold discovery which by drawing the greater portion of the working white population from their accustomed pursuits has in many instances reduced the stockholders to the necessity of employing the Aboriginies in all species of labour within their capabilities... At present the Native shepherd receives from [2 shillings and 6 pence] to [5 shillings] per week with rations and clothes, and I know of one Station in this District where several are employed in this way, giving considerable satisfaction by the way in which their work is performed and merely leaving at certain times of the year to go and join in the ceremonies of their tribe.⁹⁸

There are several points to note here, the wages of the Indigenous shepherd being one. Perhaps even more significant, however, is the final comment about these workers leaving the station, returning to community and country, often for ceremony. This brings us right back around to the invisibility of reproduction. The concept of primitive accumulation is many things, but centrally it is about establishing the social relations of capital. Bound up in this is a need not to kill off your labour force, often captured by Marx in ‘socially necessary labour cost.’⁹⁹ By maintaining their links with their families and communities, Indigenous workers *lowered their socially necessary labour cost*. That is, they were historically ‘cheap,’ compared to white settler workers, who lacked these relations of socioecological reproduction – knowledge of ‘bush tucker,’ families still on country who they could return to. They could be hired and fired for seasonal periods more easily, placating capital’s demand for flexibility. They could be fed less, as they were yet to be fully cut

⁹⁸ W. Bligh, ‘Commissioner W.R. Bligh’s Annual Report on the New England Aboriginies,’ in *Governors Despatches January-July 1854*, No. 54/11, p. 103-107, quoted in Clayton-Dixon, *Surviving New England*, p. 116.

⁹⁹ K. Marx, *Capital: Volume 1: A critique of political economy*, London: Penguin (1992), pp. 129-130.

off from their traditional means of subsistence. The indigenous stockman was not just skilled, and necessary – *he was cheap*. Further, this ‘cheapness’ relied on spheres of *uncommodified socionatures*, meaning that the expansion, and eventual commodification, of the commodity frontier would in time undermine this cheapness. These are the dialectics of the commodity frontier in action.

‘Cheapness’, in this sense, is an important driving force behind the frontier. We see here that the pastoral frontier was cheapened in different ways, many of which came back to the labour and lives of First Nations peoples. The loamy soils and abundant grasslands clear of undergrowth described by Gammage were the product of tens of thousands of years of Indigenous socioecology, all of which was appropriated by the spread of sheep and cattle over the land – a boom which compacted the soils, destroyed yam crops, muddied the waterholes, and made many settler-invaders very rich. From this initial spread, the value of the golden fleece was further subsidized by the reproductive labour of Indigenous women, and by the (largely) unpaid labour of the “black jumbuck.” All of this takes us back to the value-theoretical arguments of Moore;¹⁰⁰ primitive accumulation explains the dialectical relation of extirpation and exploitation, and better explains the driving forces behind the invading actors, state and squatter. But what is primitive accumulation, really? This category has been one of the most contentious for historical materialists, and is often where the critics of Marx draw their ammunition. This chapter will include an exploration of this category, with a close reading of the recent contributions of William Clare Roberts. The reason for this is to show not only that primitive accumulation holds more explanatory power than settler-colonial studies, but to go further, and to explore the *politics* that emerges from this analysis. As emphasized throughout this thesis, our purpose here is to trace the socioecological origins of the Capitalocene, and to unearth the internal relations of our contemporary converging crises. This is not only an analytical-historical necessity, but crucial to

¹⁰⁰ J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), pp. 16-18.

developing an appropriate politics to confront these violent socioecological relations and their defenders today. So, what is 'primitive accumulation,' and who are its agents?

Hot-house Australia: Primitive accumulation and ecocide

To tell the story of the violent shift from Indigenous ontologies of caring for country through to the current climate crisis, in Australia, requires an explanation of the emergence of capitalism; this outcome was not determined simply by the right boot of Admiral Arthur Philip touching down on the sand of Botany Bay. There have been important historical materialist attempts to grapple with this transition,¹⁰¹ but these have yet to engage with the vantage point of the Capitalocene, or the approaches of ecosocialism or world-ecology. That said, there is an important conceptual bridge across these literatures, which speaks to 'cheap nature' and to our theory of the state – 'primitive accumulation.' As such, this section moves dialectically through theory and history to develop further an understanding of the origins of the Capitalocene – or, in a more-common framing, the 'origins of capitalism' in Australia. This process of a mere two centuries is replete with contingency, with many agencies struggling to assert 'alternate histories.' This outcome is not reducible simply to the categories and histories of 'settler-colonialism.' As Marx noted, one Mr Peel's private colony at Swan River collapsed – while he took capital to the sum of £50,000, and some 3,000 members of the working class, he did not manage to 'export of English relations of production.'¹⁰² Similarly, the First Fleet did not carry the socio-ecological relations of capitalism within its eleven hulls, ready to unpack. Marx tackles precisely this question in Part VIII of *Capital*: how do moments of capital finally coalesce into *capitalism*? And yet, we might be more specific in outlining the purpose of Part VIII – let us consider Marx:

¹⁰¹ R. Connell and T.H. Irving, *Class Structure in Australian History: Documents, narrative and argument*, Melbourne: Longman Cheshire (1982); E. Humphrys, 'The Birth of Australia: Non-capitalist social relations in a capitalist mode of production?' *Journal of Australian Political Economy*, 70 (2013).

¹⁰² Marx, *Capital I*, p. 933.

The different momenta of primitive accumulation distribute themselves now, more or less, in chronological order, particularly over Spain, Portugal, Holland, France, and England. In England at the end of the 17th century, they arrive at a systematical combination, embracing the colonies, the national debt, the modern mode of taxation, and the protectionist system. These methods depend in part on brute force, e.g., the colonial system. But they all employ the power of the State, the concentrated and organized force of society, to hasten, hot-house fashion, the process of transformation of the feudal mode of production into the capitalist mode, and to shorten the transition. Force is the midwife of every old society pregnant with a new one. It is itself an economic power.¹⁰³

This passage emphasizes several key points. First, we see the gradual emergence of ‘different momenta’ of primitive accumulation, the bringing together of wealth that might be put to work as capital – plundered, seized, and accumulated through exchange. Second, these moments spanned the ‘old world’ empires, but only in the case of England was this merchant capital birthed into capitalism. This is explained with reference to two overlapping factors: contradictions within the existing feudal mode of production, as well as the emerging capacities and interests of the modern State. Third, that the role of the colonies within this system was to provide the wealth which might be transformed in the old world into this new mode of production.¹⁰⁴

The purpose of the category of primitive accumulation, then, is to help account for the emergence of capitalist social relations of production in the English countryside:

The origin of capitalism – the displacement of ‘politically’ constituted property by ‘economic’ power – depended on an historical process of *primitive accumulation* signifying the reconstitution of peasants in possession of the means of subsistence into propertyless individuals compelled to sell their labour.¹⁰⁵

Or, in the summary statement by Marx himself, primitive accumulation was ‘the historical process of divorcing the producer from the means of production... [so that] capitalism stands on its own feet.’¹⁰⁶ And yet, while Marx involved the colonies – especially Australia – in his explanation of

¹⁰³ *Ibid.*, p. 915.

¹⁰⁴ We might also talk about the implications here for violence, both within and without the State. Understanding the theoretical significance of violence, as well as how that theory informs praxis and strategy is a question considered in more detail by Lukacs (1971) *History and Class Consciousness*, pp. 239-253; and R. Luxemburg, *The Russian revolution, and Leninism or Marxism?*. Ann Arbor: University of Michigan Press (1961); D. Winczewski, ‘Rosa Luxemburg on revolutionary violence,’ *Studies in East European Thought*, 72: 117-134 (2020).

¹⁰⁵ A. Bieler and A.D. Morton, *Global Capitalism, Global War, Global Crisis*, Cambridge, UK: Cambridge University Press (2018), p. 87.

¹⁰⁶ Marx, *Capital I*, p. 875.

this process, is the concept that well placed to explain the contingent development of capitalism in Australia? Indeed, Marx concludes *Capital* with a statement seemingly to the contrary:

we are not concerned here with the conditions of the colonies. The only thing that interests us is the secret discovered in the new world by the Political Economy of the old world, and proclaimed on the housetops: that the capitalist mode of production and accumulation, and therefore capitalist private property, have for their fundamental conditions the annihilation of self-earned private property; in other words, the expropriation of the labourer.¹⁰⁷

Primitive accumulation, then, would seem to be a concept to explain the historic divorce of peasants from the land in the old world, instigated not by the capitalist, but by the State.¹⁰⁸ But things are not nearly so simple, as Marx's turn to consider the colonies highlights that these relations are contingent, and multilinear. This more-complex reading of Marx on imperialism and colonies was forcefully put by Kevin Anderson in *Marx at the Margins: On nationalism, ethnicity, and non-Western societies*. In his words, 'while some of [Marx's] writings show a problematically unilinear perspective and, on occasion, traces of ethnocentrism, the overall trajectory of Marx's writings on these issues moves in a different direction... [Marx] created a multilinear and non-reductionist theory of history.'¹⁰⁹ This approach gives space to multiple roads to capitalism – and even roads away from it; that when given the chance to return to the land, and secure their own subsistence, that capitalist production will falter for want of its constitutive element: surplus-value-producing labour.

But things are not nearly so simple. By treating primitive accumulation as the 'pre-historic stage of capital and the mode of production corresponding with it'¹¹⁰ Marx made a provocative periodization, which has been seen as his primary failing by many feminist and post-colonial theorists and historians. In doing so, Marx apparently excluded the violence of the colonies and violence against women's bodies from his definition of capitalism – these crude moments of

¹⁰⁷ *Ibid.*, p. 940.

¹⁰⁸ Wood, *Pristine Culture of Capitalism*, pp. 21-42.

¹⁰⁹ K. Anderson, *Marx at the Margins: On nationalism, ethnicity, and non-Western societies*, expanded edition Chicago, IL: University of Chicago Press (2016 [2010]), p. 237.

¹¹⁰ Marx, *Capital I*, p. 873.

primitive accumulation were *prehistorical* to capitalism, that is, 'outside' of it. An example of this reading is demonstrated by Silvia Federici.

Though Marx was acutely aware of the murderous character of capitalist development... he also assumed that the violence that had presided over the earliest phases of capitalist expansion would recede with the maturing of capitalist relations, when the exploitation and disciplining of labour would be accomplished mostly through the working of economic laws... In this, he was deeply mistaken.¹¹¹

Other examples might be found in the various critiques of the 'Political Marxist' approach of Robert Brenner and Ellen Meiksins Wood, by interlocutors such as Jairus Banaji, or Alexander Anievas and Kareem Nisancioglu.¹¹² These controversies, and others, are noted by William Roberts:

The concluding eight chapters of *Capital*, on "primitive accumulation," have bequeathed to us a field of historiography that is, every now and again, the site of great tournaments and battles between opposing factions... The conflicts fought out on [this] terrain of historiography and periodization are actually political conflicts. What is at stake in the discussion of the transition to capitalism are political strategies for effecting the transition out of capitalism.¹¹³

Our understanding of primitive accumulation directly informs our definition of capitalism. Our definition of capitalism determines which paths of action we deem will be most effective at disrupting it. This makes periodization political. And so, it is impossible to explain the relation between capitalism and the socioecological crisis of the twenty-first century without an explanation of origins. And while Marx may not have considered Australia *on its own terms*, his passing engagement holds significant implications – not only for periodization, but especially for *agency*, and the possibility of escape from capitalist social relations. Here we will draw closely on William Roberts' reading of *Capital*, especially as it relates to theorizing the state. As this analysis draws out the theoretical and strategic significance of the state, we might think back to the invasive relations of the frontier, and consider who was driving this process – squatter or state? As we have largely viewed the frontier from the 'other side', as Reynolds puts it, this raises more questions than it answers. And so, as we move from history, to theory, and back, we will stay with

¹¹¹ S. Federici, *Caliban and the Witch*, p. 12.

¹¹² J. Banaji, *Theory as History: Essays on Modes of Production and Exploitation*, Chicago, IL.: Haymarket Books (2010); Anievas and Nisancioglu, *How the West Came to Rule*.

¹¹³ W.C. Roberts (2017) *Marx's Inferno: The political theory of Capital*, Princeton, NJ: Princeton University Press, pp. 188-189.

the pastoral frontier in the following chapter. We will trace the role of the state in the expansion of the pastoral frontier, and see what Roberts conceptualization of 'primitive accumulation' might reveal.

The political implications of how we conceptualise primitive accumulation make it controversial. A powerful criticism of Marx is levelled by Cedric Robinson. In his view, 'Marx consigned race, gender, culture, and history to the dustbin... [he] deemed them so unimportant as a proportion of wage labour that he tossed them, with slave labour and peasants, into the imagined abyss signified by precapitalist, noncapitalist, and primitive accumulation.'¹¹⁴ Marx is seen to have placed the violence of actual global capitalism, lived experience for countless millions of people, as temporally outside of our theory of capitalism. Similar issues might be found by the next key theorist of primitive accumulation, Rosa Luxemburg, who instead displaced these processes *spatially*, as being 'outside' capitalism.¹¹⁵ Responding to criticisms emerging from the postcolonial world, many contemporary theorists and historians of primitive accumulation have sought to incorporate these processes into a more-capacious definition of capitalism. The classic example of this is in David Harvey's 'accumulation by dispossession':

Marx's general theory of capital accumulation is constructed under certain crucial initial assumptions which broadly match those of classical political economy and which exclude primitive accumulation processes... The disadvantage of these assumptions is that they relegate accumulation based upon predation, fraud, and violence to an 'original stage' that is considered no longer relevant or, as with Luxemburg, as being somehow 'outside of' the capitalist system.¹¹⁶

It is in light of this that Harvey formulates 'accumulation by dispossession' to represent the immanent and ongoing nature of these processes within actually existing capitalism. Coulthard is another contemporary example of this approach, who argues our conception of primitive accumulation within capitalism ought to emphasise 'the *persistent* role that unconcealed, violent

¹¹⁴ C. Robinson, *Black Marxism: The making of the Black Radical tradition*, Chapel Hill, NC: University of North Carolina Press (1983/2000), p. xxix

¹¹⁵ Luxemburg, *The Accumulation of Capital*, p. 401.

¹¹⁶ D. Harvey (2004) 'The "new" imperialism: accumulation by dispossession,' *Socialist Register*, 40, pp. 73-74.

dispossession continues to play in the reproduction of colonial and capitalist social relations.’¹¹⁷ And while Sven Beckert is not a theorist of primitive accumulation, he provides another example of approaches to the historiography of capitalism that argues ‘slavery, colonialism, and forced labour, among other forms of violence, were not aberrations in the history of capitalism, but were at its very core.’¹¹⁸ Politically, all of these arguments elevate the place of post-colonial, peasant, and feminist struggles over the expansion and/or reproduction of capitalism. Rather than the key agent of historical change being the factory-worker proletariat,¹¹⁹ the cast of significant historical agents is pluralized. But as Harvey himself notes, the abstract model of accumulation outlined in *Capital I* is precisely that – abstract. The very inclusion of Part VIII, which seems to shatter the model outlined up to that point, shows that Marx was fully aware that capital emerged into the world ‘dripping from head to toe, from every pore, with blood and dirt.’¹²⁰ So what was the purpose of that abstraction? Why might we want to hold on to that abstraction, in the face of the apparent violence that it does to history? William C. Roberts has recently re-stated the case for Marx’s primitive accumulation, precisely on the grounds of agency – especially the agency which opposes radical action. Let us consider the role of the state in primitive accumulation.

In the face of ongoing criticism from the victims of actually existing primitive accumulation – historical and contemporary – much modern Marxism has moved to expand conceptions of capitalist exploitation, to include the violence of slavery and unfree labour of all types, to include ‘land-grabs’, appropriation of women’s bodies and labour, and many processes beyond. Some choose to emphasize ‘entangled accumulation’, to capture the ongoing entwinement of

¹¹⁷ G. Coulthard (2014) *Red Skin, White Masks: Rejecting the colonial politics of recognition*, Minneapolis, MN: University of Minnesota Press, p. 9.

¹¹⁸ S. Beckert, *Empire of Cotton: A new history of global capitalism*, London: Penguin (2014), p. 441.

¹¹⁹ While this is surely reductive, much of ‘orthodox Marxism’ does seem to fall back to the importance of the factory on the path to consciousness, and thus historic class power. See G. Lukacs, *History and Class Consciousness*, p. 173.

¹²⁰ Marx, *Capital I*, p. 926.

appropriation and exploitation.¹²¹ But Roberts asserts that this is based on a misreading of Marx – that Marx did not exclude primitive accumulation from the internal workings of *capitalism*, but simply (and precisely) *capital*:

Marx (1976: 875, 928) identifies primitive accumulation as the ‘prehistory of capital’, not in order to consign it to the past, but in order to underscore the distinction between hording up wealth – money, land, products, whatever – and using it as capital. The violence of primitive accumulation can amass the former, but cannot make the accumulated wealth function as capital... [Marx] argues, rather, that primitive accumulation is an ongoing necessity internal to *capitalism*, but always anterior to the specific operations of *capital*.¹²²

The distinction here is agential, not temporal. The key questions are whether the process is specifically *capitalist* accumulation, and *who* is doing the deed. What Part VIII of *Capital* works toward is not a theoretical purging of imperial and gendered violence from capitalist modernity, but a historical account of how the key agent of primitive accumulation was put to work in the interests of capital: ‘an account of capital’s capture of the state, which undertakes capital’s dirty work because it has become dependent upon capital accumulation for its own existence.’¹²³ The implications of this analysis are deeply political. On one hand, this historical account of state formation leads to a skepticism of the autonomy of the state to depart too far from the interests of capital. But by positioning primitive accumulation within capitalism, the actual violence of apparently non-violent, ‘free’ production of commodities *by* commodities is revealed, despite the agential separation of the doing and the deed.

This occurred in the English case of primitive accumulation, enclosure. Let us consider Roberts’ reading of Marx’s historical argument closely:

Marx does not argue that capitalists originally amassed capital via primitive accumulation, and then, having monopolized the means of production, switched over to accumulation by exploitation. Instead, Marx argues that landlords amassed land through enclosure and expropriation, thereby creating the modern class of wage labourers; the capitalists then rose up *between* those two classes, coming to dominate both by exploiting the newly available resource of unattached labour-power. The process of primitive accumulation ‘incorporated the soil into capital’ (Marx, 1976: 895), but not by making the capitalists the *owners* of the soil. Instead the owners of the soil, the

¹²¹ G. Goncalves and S. Costa, ‘From primitive accumulation to entangled accumulation: Decentring Marxist Theory of capitalist expansion,’ *European Journal of Social Theory*, 23(2): 146-164 (2020).

¹²² Roberts, ‘What was primitive accumulation’, pp. 2, 15.

¹²³ *Ibid.*, p. 5, emphasis in original.

landlords, became dependent, for the cultivation of their land, upon the capitalists' mediation... The capitalists' power does not grow from conquest and plunder. The capitalists' power comes from being neither the conquerors nor the plundered.¹²⁴

Roberts reads this argument as being a rejection of the political economy of Saint-Simon, who saw the two central antagonists of history as between rentiers and workers. Marx was at pains to explain the historical novelty of capitalist exploitation *against this very view*. Let us think through this distinction with an example. Let us imagine a disused former industrial site at a central location within a city entwined with global capital – say, Sydney. If the state was to ‘re-zone’ this site as high-density residential, the owners of that land would likely see a substantial increase in property value – assuming they sell it on, we might view them as rentiers. It might seem like the state has created ‘value,’ and gifted it to a rentier landowner. It is precisely this kind of process that has been captured by contemporary reformulations of primitive accumulation, such as ‘accumulation by dispossession,’ or even ‘neo-feudalism.’¹²⁵ But by viewing this same process with Roberts’ agential reading of Marx in mind, two other agents come into focus – the state, and capital itself. We stop to ask, ‘why is the state acting as it is?’ And we see also that while rents have certainly been seized, the true iniquity we must observe is that without capital inserting itself in the process, value could not be realized or put to work *as capital*. After all, the rentier developer cannot succeed in filling a residential tower with tenants unless that ‘unattached labour-power’ is being put to work for the purposes of *capitalist* accumulation in the near vicinity.

Returning to Marx, and to the actual history of primitive accumulation in the specific context of Britain’s antipodean colonies, the state-theoretical implications of all of this are central. When we disaggregate along the lines of agency, most agree that ‘the state is the overwhelming agent of primitive accumulation. What goes unnoted is *why*.’¹²⁶ It is worth tracing the key contours of this

¹²⁴ *Ibid*, p. 10, emphasis in original.

¹²⁵ M. Wark *Capital is Dead: Is this something worse?* London: Verso Books (2019); J. Dean, ‘Neofeudalism: The End of Capitalism?’ *Los Angeles Review of Books*, May 12 (2020), <https://lareviewofbooks.org/article/neofeudalism-the-end-of-capitalism/>.

¹²⁶ Roberts, ‘What was primitive accumulation?’, p. 2, emphasis in original.

relation through Roberts' reading of Marx. This outline interacts and overlaps with discussions of the state in previous chapters, and will be further developed empirically throughout this thesis. Indeed, the questions of why 'the state' appears to act as it does in capitalist-settler-colonial contexts, and how relations of state formation lead to the contradictory and crisis-prone production of nature which defines the Capitalocene, are at the heart of this thesis. To this end, it is again worth considering Roberts. For Roberts, through a close reading of Marx's work on primitive accumulation, we see 'the state as *dependent agent of capital*':

The state is parasitic in that it depends on the accumulation of capital... and this dependency accounts for both the state's 'relative autonomy' from the actually existing class of capitalists, and for its very imperfect instrumental relation to capital as such. The state under capital is self-activating but subservient, a servile and corrupt henchman rather than a free agent.¹²⁷

Marx read the colonial empires of Europe as key sites of primitive accumulation, and while there were private actors operating in these contexts, these entire operations were dependent on the state. The state thereby 'gave a great boost to navigation and commerce... the treasures directly extorted outside Europe by the forced labour of indigenous peoples reduced to slavery, by embezzlement, pillage, and murder flowed back to the mother-country in order to function as *capital there*.'¹²⁸ And while there may have also been moments of true capitalist accumulation in these colonial contexts – commodities producing commodities, in-so-doing creating surplus value – much of this vast stock of expropriation was returned to Europe to work as capital there, in the mills of Manchester or the factories of Sheffield. But why did the European imperial states pursue these colonies – as bourgeois historians have often noted, they were expensive affairs which did not necessarily 'pay for themselves.'¹²⁹ In this question there is something about the relationship between states, taxes, bonds, and above all, *money*. As Roberts notes, 'Marx does not try to explain how the state came to have an interest in the accumulation. He does, however, indicate mechanisms by which this interest is preserved and recreated.'¹³⁰

¹²⁷ *Ibid.*, p. 12.

¹²⁸ Marx, *Capital*, p. 915, emphasis added.

¹²⁹ P.K. O'Brien and L. Prados de la Escosura (1999) 'Balance sheets for the acquisition, retention, and loss of European empires overseas', *Itinerario*, 23(3-4): 25-52.

¹³⁰ Roberts, 'What was primitive accumulation', p. 13.

The relationship between tax revenues and public indebtedness is one such mechanism. Once the feudal ties have been severed, the central state can only act insofar as it can pay its agents, and buy the weapons and other implements with which those agents enact the state's sovereign will. The modern state acts with money. It can acquire the money with which it acts only if capital continues to accumulate within the territory it controls.¹³¹

As we might recall from Ellen Meiksins Wood, the distinctiveness of capitalism is the apparent separation of the 'political' and the 'economic.'¹³² A very real outcome of this, compared with feudal social relations, is that the state no-longer has the ability to compel production of the surplus which it itself feeds off in order to exist. With the emergence of capitalism, the state must act in such a way that capital continues to grow. As put by Beggs, 'the capitalist state is as much a creature of money as money is a creature of the state.'¹³³

While this history demands much more detail, Marx's political argument begins to emerge. This political analysis of the state has often been misread as "normative developmentalism," located in Marx's claim that the perpetuation of smallscale peasant proto-industry and agriculture would 'decree universal mediocrity.'¹³⁴ Marx continues the argument that only a revolution of capitalist industry by the workers could lead to a 'negation of the negation.'¹³⁵ For Roberts, the explanation of these historically contentious statements is precisely in Marx's theory of primitive accumulation, and the related theory of the state under capitalism. For if primitive accumulation is a horrific outgrowth of the tendencies of states to act as servile dependants to capital, then our politics must acknowledge the vast violent forces the state can draw upon when these processes are threatened. It is for this reason that Marx saw peasant struggles against enclosure, and indigenous resistance to the violence of slavery and imperialism, as lacking the historical capacity to engender global revolution – these groups come up against the state itself directly, unlike the mediated clashes between capital and labour more common in the metropole.

¹³¹ *Ibid.*

¹³² E.M. Wood, 'The separation of the economic and the political in Capitalism', *New Left Review*, 127(1): 66-96 (1981).

¹³³ M. Beggs (2017) 'The state as a creature of money,' *New Political Economy*, 22(5), p. 473.

¹³⁴ Marx, *Capital*, p. 928.

¹³⁵ *Ibid.*, p. 929.

The magnitude of the state's power, and the reliability with which that power is utilised to foster the conditions of capital accumulation, indicate to Marx that the workers must unite in large numbers and carry out a political struggle to dismantle the state and expropriate the capitalist class... If the state is the servile agent of capital, then we can expect that alternative ways of life will be easily tolerated so long as they pose no threat to the accumulation of capital, and will face the full repressive power of the state if they do seem to threaten that accumulation.¹³⁶

Workers are then the prime revolutionary agent not because struggles over primitive accumulation are outside of Marx's conception of capitalism, but rather because in this view these fragmented groups lack the institutional capacity to challenge the actually existing capitalist state. Now this claim is, of course, open to contestation – and it certainly does not preclude a broad anti-capitalist coalition of those resisting expropriation as well as those challenging exploitation. It simply takes seriously the material, violent capacities of the state, and appreciates the stakes of these struggles for the state itself.

We must then move beyond the failure of dialectics that is the 'internal-external' debate about primitive accumulation and its relation to capitalism. Primitive accumulation is a crucial process for capitalism, ongoing and continually reproduced. In tracing the many histories of primitive accumulation, our attention ought to be brought to how appropriated *and expropriated* wealth is put to work as capital: when, where, and by whom? Sensitivity must also be given to the role of the state in primitive accumulation, always considering the question of *why* the state acts as it does – even if the outcomes of its policies are at odds with this original purpose. It is argued here that the concept of primitive accumulation is central to our understanding of the production of the Capitalocene in Australia. As we have explored in the previous chapter, the state is a key agent of 'environment-making,' and so the contours of the production of nature in Australia are defined in part by the state. We have seen here that the state produces nature through processes of primitive accumulation. And it is only through a history of primitive accumulation in Australia can we understand the drivers of the great violence that was the invasion of the Australian continent, and the subsequent elimination – and occasional exploitation – of the native. These are

¹³⁶ Roberts, 'What was primitive accumulation,' pp. 15-16.

the processes explored earlier in this chapter. A contradictory and revealing moment in this history is that of indigenous Australians with the labour-market of the frontier – one which challenges orthodox conceptions of settler-colonialism but reinforces the relevance of our historical materialist orientation.

Conclusion

This chapter opened with three epigraphs. The first highlighted the distinction between the socioecological relations that defined Indigenous modes of production and reproduction for millennia, and those that violently replaced them with the invasion of Europeans. The ontologies of Dreaming and care briefly outlined here may well present an important imaginary for alternative socioecologies – certainly, Indigenous histories on this continent present such durability so as to stretch back into Deep Time.¹³⁷ The invasion of this continent by British settlers did cataclysmic violence to those existing socioecologies, rending them asunder through murder and disease. But importantly, this was not simply a contest over territoriality (though it was this) – it was a process of primitive accumulation. For the ships at Botany Bay did – unlike with Mr Peel’s infamous attempted colonization at Swan River in western Australia – bring with them the socioecological relations of *capitalism*. While their spread, reproduction and dominance were contingent and resisted, the drive of value and the process of primitive accumulation came to dominate the pastoral frontier, signalling the emergence of the Capitalocene. The violence of the frontier was not simply in homicide – it was in ecocide as well, as those sheep ‘that were wont to be so meek and tame’ came to ‘consume, destroy, and devour whole fields, houses, and cities.’¹³⁸

Not only does primitive accumulation provide a stronger explanation of the driving forces behind extirpation *and* exploitation of Australia’s First Nations peoples, but it also equips us to see this

¹³⁷ B. Griffiths, *Deep Time Dreaming: Uncovering ancient Australia*, Carlton, Vic: Black Inc. Books (2018).

¹³⁸ T. More, *Utopia*.

process as ongoing, and internal to capitalism. Crucially for the purposes of my argument, primitive accumulation, driven both by and through the state, is key condition for the cheapening of nature at the commodity frontier. Race was a material process which defined cheapness and value at the frontier, as did the unpaid labour of previous generations burning practices, or the unpaid labour of guides, stockmen, and concubines. We will return to the conditioning of cheapness through racialization in Chapter 6, with the commodity frontier of sugar. We can say here, however, that primitive accumulation is a condition that emerges from the internal relations between class formation, state formation, and of 'cheap nature'. It is for that reason that the following chapter will continue to consider the pastoral frontier – this time from the perspective of the invaders, and especially from the perspective of capital: where is cheapness to be found, and how might it be created? Now we see the socioecological relations that were supplanted by invasion, and have an appreciation of the forces that drove the frontier. Let us look more closely at the agents involved, the structuring power of value, and the contradictory and destructive socioecological relations of the Capitalocene in Australia.

Chapter 4 – The Pastoral Frontier: class, state, ecology

Whatever affection they had for the natural environment, and whatever regret they felt about its passing, was buried beneath their fear of it and their uncompromising purpose – to pay the bills and feed and clothe the children.¹

Traversing the New England uplands, I could see and feel the pastoral industry's legacy; vast desolate paddocks as far as the eye can see, punctuated by a few dead eucalypts and parched creek beds, the hard dry ground trampled under countless millions of hooves.²

Introduction

This thesis engages with the question of how have 'commodity frontiers' shaped the socioecology of Australian capitalism? This primary question speaks to whether the crises of the current conjuncture emerge through socioecological relations that are specifically capitalist, and asks how the tools of historical materialism might allow an understanding of the production of nature and crisis at the commodity frontier. In Australia, these relations violently displaced those that existed before the British settlement/invasion of this continent. As Moore insists, capitalism does not have frontiers, rather it exists only through frontiers; an understanding of the frontier is not mere prehistory to the establishment of "pure" capitalist relations, but rather is instructive of the forces that constitute and drive capitalism, then and now. And so, where the previous chapter traced the process of primitive accumulation and the Indigenous relations capital displaced at the frontier, here we seek to trace the invasive, expansive relations this process established. This brings our attention, *via* the commodity frontier of wool, to the particular socioecology established by capital in large swathes of Eastern Australia during the nineteenth century: *pastoralism*. The pastoral political economy of colonial Australia is the focus of a vast literature,

¹ D. Watson, *The Bush*, Sydney: Penguin Random House Australia (2014), p. 5.

² C. Clayton-Dixon, *Surviving New England: A history of aboriginal resistance & resilience through the first forty years of colonial apocalypse*, Armidale: Anaiwan Language Revival Program (2019), p. 15.

and has been explored from many disciplinary and theoretical vantages. This chapter will present key moments of this history, in order to develop some specific points. Novelty emerges from the questions and concepts that animate world-ecology and ecomarxism more generally. First, it will be argued and illustrated that pastoralism emerged as a form of socioecological ordering *through the value form*. That is, pastoralism was a way of producing nature for exchange in a specifically capitalist way. Second, we shall explore how pastoralism was shaped and driven by the twin processes of class formation and state formation. In doing this, we begin to develop an appreciation of the contradictory relations that condition ‘cheapness’ at the commodity frontier. Class shaped pastoralism in a particular way, while the emergent colonial state was itself engaged in ‘environment-making’ in ways that both supported and limited pastoral expansion and accumulation. Further, none of these internally-related processes can be understood without considering the role of debt, money, and finance. All of this leads to our final and central contention: that the socioecological relations of the pastoral frontier produced nature in a historically-specific, contradictory way, which set in motion the contemporary crises of the Capitalocene – soil degradation, species extinction, and climate change. While Australia may no longer “ride on the sheep’s back”, this history shows us that these crises can only be transcended if we directly challenge the socioecological relations of capitalism itself.

The Dreaming, and the generations of care for country that were informed by this ontology, comprised the most enduring and successful socioecological regime humanity has known. While there are surely examples of environmental mismanagement across the temporal and spatial bounds of these Indigenous Australian societies, that humanity flourished on this fragile continent for so long without any evidence of ‘collapse’³ demonstrates this success. In stark contrast, less than three hundred years of capitalist settler-colonialism have brought Australia to the brink of ecological – and social – catastrophe. It is the contention of this thesis that this period

³ J. Diamond, *Collapse: How societies choose to fail or succeed*, New York: Viking Press (2004).

of settlement can be usefully categorized as capitalist – the socioecological relations established from 1788 onward ought to be considered as a whole, as a totality. Settler-colonialism does not adequately define these relations, rather *capitalism* does, though the former usefully buttressed the latter. One reason why it is important to consider this period from 1788 onward – rather than looking for the generalization of capitalist social relations in Australia at a later date⁴ – is that the ‘frontier’ of those relations is not simply a pre-history to capitalism, but a constituent part of it. It is not incidental that capitalist socioecological relations emerged through violence, appropriation, and extirpation, as these processes are ongoing and are crucial to condition the relative cheapness of the frontier. This chapter will consider moments of the settler-colonial frontier in Australia, so that we might identify the relations established, and trace the source of their propulsion. In telling this story, we move through key moments and processes: the world-historical context of wool; the primitive accumulation of money in the colony, and its conversion into pastoral capital; the emergence of the landed ‘Squattocracy’ class and its initial exhaustion of historically cheap natures at the frontier; then we trace the deepening commodification of the frontier, through fencing and land reform – processes which co-constitute state formation and a shift in the production of nature. The chapter concludes with a consideration of the state, and the socioecology of state power and bushrangers.

The world-history of wool

Wool was of world historical significance through the nineteenth and early-twentieth centuries. This might seem like an odd place to start for an eco-socialist account which is avowedly committed to relational analysis, and concerned with the structuring force of abstract value. Too much attention to the use-value of the commodity frontier threatens to obscure the frontier as a socioecological relation mediated by exchange value. Indeed, discrepancies between the vantage

⁴ The Robertson Land Acts of 1861 present a popular periodization. See J. Collins, *Possession vis-à-vis Power: Rent Theory, Global Mining and Modern Landed Property in Australia 1861- 2014*, Doctoral thesis, Western Sydney University (2016).

points of use and exchange value have created vast ruptures across 'green' thought of many persuasions.⁵ And yet surely these theoretical tensions reflect the deep contradictions between the abstract logic of capital, and the biophysical realities it necessarily must move through? This analysis is not presented simply to argue that "wool was important", but rather we are trying to show how apparently disconnected social relations – such as those of shifting European textile fashions, or the Napoleonic wars – help to pattern the exchange value of the fleece of a New South Wales Merino. These world-historical forces provide the context for a squatter choosing to run sheep up the valleys, thus directly shaping the socioecology of the frontier. Thinking through the totality of capitalist socioecological relations takes us to unexpected places. So let us step through the history of the commodity frontier of wool, beginning in 1788.

Starting the story of capitalist social relations on the Australian continent in 1788 might seem strange for those familiar with the mean conditions of the Botany Bay penal settlement in the last decade of the eighteenth century. Even in the early nineteenth century, the prospects of the colony seemed tenuous, simply in terms of subsistence. Before routes were found through the Blue Mountains, the settlement was hemmed in, fed by a few small farms around Paramatta: 'small-scale owner-occupiers living not much above subsistence.'⁶ Indeed, this was as the British state had planned it, with Lord Sydney explicitly downplaying the commercial prospects of the colony ahead of dispatching the First Fleet.⁷ This point is sometimes taken too far, however, even influencing the periodization of capitalism in Australia. That apparent initial aversion to commerce by certain operatives within the state is better understood within the broader world-history of capitalism and British imperialism, however; the British state had to be cautious not to raise ire of the East India Trading Company, which had a monopoly over all trade in the Indian

⁵ R. Walker, 'Value and Nature: From value theory to the fate of the earth', *Human Geography*, 9(1), 1-15, (2016).

⁶ I. McLean, *Why Australia Prospered: The shifting sources of economic growth*, Princeton, NJ: Princeton University Press (2013), p. 59.

⁷ A. Atkinson, *The Europeans in Australia, A History: The Beginning*, vol. 1, Oxford: Oxford University Press (1997), p. 213.

and Pacific Ocean.⁸ But more generally, this view ‘fails to take into account the historical origins of the colony as the projection of a metropolitan society undergoing commercial transformation.’⁹ While the settlement of eastern Australia was not exclusively motivated by commercial interests, this is not the same as saying the origins of the colony are outside the world-history of capitalism. Even within the small colony, ‘the colonial state’s creation of an exchange nexus between the store and small farmers generated a social environment for private accumulation. The private economy soon surpassed the public economy.’¹⁰ Even before pastoral expansion began beyond the boundary of the Blue Mountains, a class divide between peasant agriculture and landed pastoralists was evident, with “men of means” such as John Macarthur bringing capital into the colony as early as 1801¹¹ – and by capital, here we mean sheep.

In some ways, it was sheep that colonized the Australian continent, rather than the British. In 1800, there were 5217 people living in the colony of New South Wales, and some 6124 sheep.¹² By 1850, the population of sheep had reached 16 million, while the population of all colonies had only grown to 405,356 – a ratio of more than 39 head of sheep per capita. These figures illustrate that in terms of the production of space, the occupation of space, energy consumed, and many other concerns, sheep were the ‘motor force’ for most of the nineteenth century. And while the literature on sheep in Australia is expansive, most is either concerned with the lasting cultural impact of the stockman and drover,¹³ or with the wealth generated by this industry¹⁴ (See Plates 4.1 and 4.2). In order to work toward a more world-ecological understanding of the Merino sheep

⁸ *Ibid.*

⁹ P. McMichael, *Settlers and the Agrarian Question: Capitalism in colonial Australia*, Cambridge: Cambridge University Press (1984), p. 35.

¹⁰ *Ibid.*, p. 53.

¹¹ M. Steven, ‘Macarthur, John (1767-1834),’ *Australian Dictionary of Biography*, volume 2, Canberra: ANU Press (1967).

¹² M. Butlin, R. Dixon and P.J. Lloyd, ‘Statistical Appendix: selected data series, 1800-2010,’ in S. Ville & G. Withers, *The Cambridge Economic History of Australia*, Cambridge: Cambridge University Press (2014), p. 561; ‘The wool industry – looking back and forward,’ *Year Book Australia, 2003*, Australian Bureau of Statistics (2003).

¹³ R. Ward, *The Australian Legend*, Melbourne: Oxford University Press (1958).

¹⁴ N.G. Butlin, *Investment in Australian Economic Development*, Cambridge: Cambridge University Press (1964).

as an agent of the frontier, we will consider a few specific questions: Why sheep? Who benefitted? And what relations did they establish?

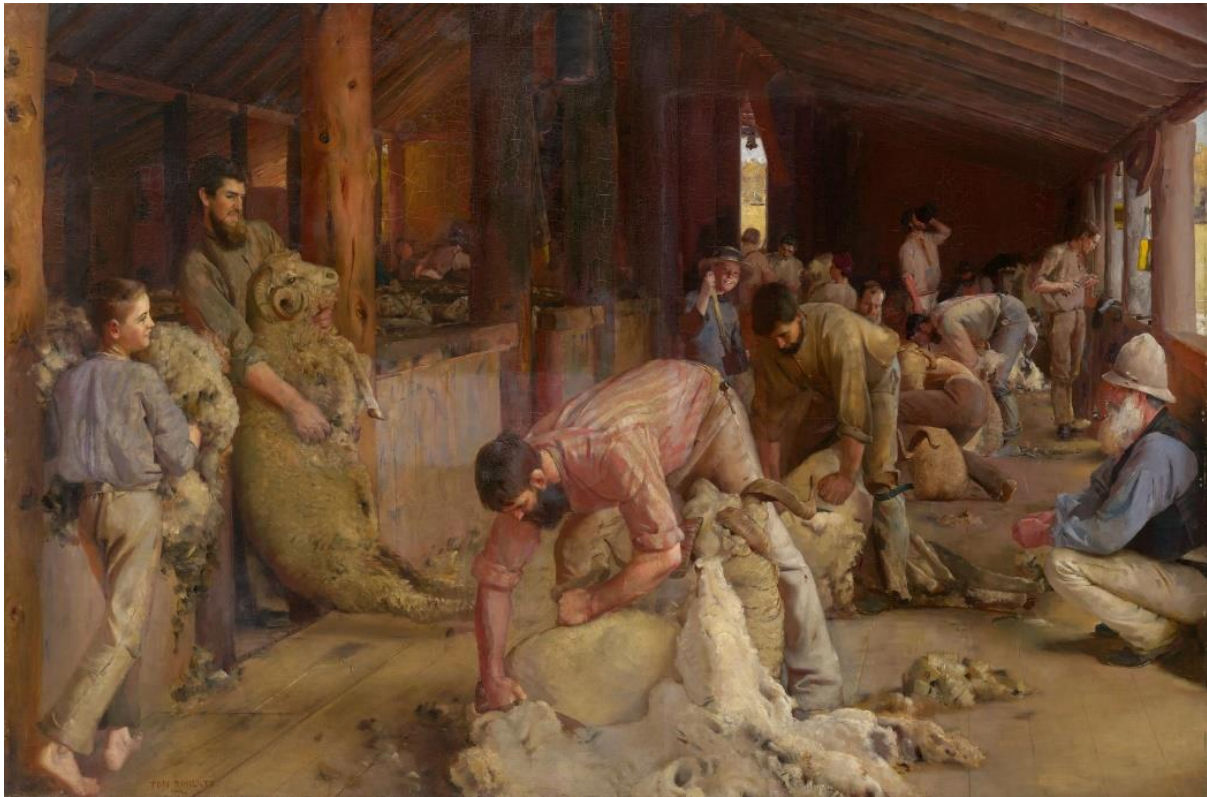
Plate 4.1 – *A break away!* 1891, Tom Roberts.¹⁵



A powerful source illustrating the ideology of nature at work on the pastoral frontier. The heroic figures of stockman and drover became central fixtures in the emerging folklore of the 'bush.' Note the dust kicked up by the breaking sheep – a result of soils packed hard by hooves, with all vegetation destroyed by these 'meek and tame' creatures.

¹⁵ Art Gallery of South Australia, <https://www.agsa.sa.gov.au/collection-publications/collection/works/a-break-away/24206/>.

Plate 4.2 – *Shearing the Rams*, 1890, T. Roberts¹⁶



Here we see the most intense period of labour involved in the wool commodity frontier – shearing. Like the drover and stockman, the shearer was a key cultural and political figure. That importance emerged from the socioecology of the capitalism, as it moved through the frontier.

The Industrial Revolution is largely associated with two key commodities – coal and cotton.¹⁷ While money-capital surely cares very little which commodities it must move through in the pursuit of ‘money prime’, it is certainly true that during this period of rapid capitalization and expansion, the bringing together of these two goods was of world-historical (and world-ecological) significance. These two represented ‘horizontal’ and ‘vertical’ frontiers, with cotton

¹⁶ National Gallery of Victoria, <https://www.ngv.vic.gov.au/essay/tom-robertss-shearing-the-rams-the-hidden-tradition/>

¹⁷ E.A. Wrigley, *Energy and the English Industrial Revolution*, Cambridge, UK: Cambridge University Press (2015); S. Beckert, *Empire of Cotton: A new history of global capitalism*, London: Penguin (2014).

being grown across the ‘ghost acres’ of India and America especially, and coal being extracted from Britain’s own frontier, the depth of mines in Wales, Scotland, and Northern England; these two commodity frontiers then being combined in the satanic mills of Manchester, Lancashire, and the like.¹⁸ And while these two commodities are absolutely important, we would do well to avoid lapsing into accidental quantitative argumentation; just because particular commodities loomed large in the import-export tables of the colonial *Blue Books*,¹⁹ does not mean that other commodities were unimportant, as research into “catalytic” commodities such as guano and potash show.²⁰ These commodities represent the tension between abstract value, and its troublesome need to circulate through use values, which operate in a world governed by biophysical realities. As industrial agriculture depletes soil nutrients, a spatio-temporal fix is reached by replacing those nutrients with phosphorous – non-renewable deposits of consolidated bird droppings.²¹ Rapid expansion of the cotton frontier requires a parallel growth in the constant capital throughputs required for its processing – hence the enormous potash economy in (the American) New England.²² And so, while wool might not immediately appear as a world-historical commodity, it was of global importance, as well as overwhelming local importance to Australia, as well as in several other colonial contexts.²³ Wool was a tool of class, energy, and empire; this world-historical context directly shaped the strategic choices of actors in the colony of New South Wales. The realm of exchange, patterned by these influences,

¹⁸ K. Pomeranz, *The Great Divergence: China, Europe, and the making of the modern world economy*, Princeton, NJ: Princeton University Press (2009); E. Barbier, *Scarcity and Frontiers: how economies have developed through natural resource exploitation*, Cambridge: Cambridge University Press (2011).

¹⁹ *The Returns of the Colony, 1822-1857*, New South Wales State Archives, 4/251-290. The *Blue Books* were the colonial ledger, and a key source of statistics for early economic histories of the colony. As few as four copies of each ledger were made, with two sent back to London, and two kept in the colony. The power of empire continues to pattern the availability of these sources, with sets available at the NSW State Archive and the University of Cambridge. See S. Preston, ‘Colonial Blue Books: a major resource in the Royal Commonwealth Society Library’, *Bulletin of the Friends of Cambridge University Library*, 26-27 (2006-2007).

²⁰ D. Theodoridis, P. Warde and A. Kander, ‘Trade and overcoming land restraints in British industrialization: an empirical assessment,’ *Journal of Global History*, 13 (2018); P. Warde, ‘Trees, trade and textiles: potash imports and ecological dependency in British industry, c. 1550-1770,’ *Past & Present*, 240(1) (2018); J.B. Foster, ‘Marx’s Theory of Metabolic Rift: Classical foundations for environmental sociology,’ *American Journal of Sociology*, 105(2) (1999).

²¹ J.B. Foster, ‘Marx’s Theory of Metabolic Rift.’

²² P. Warde, ‘Trees, trade and textiles.’

²³ Avilés Espinoza, *Spatial Political Economy*; E. Travieso, ‘United by grass, separated by coal: Uruguay and New Zealand during the First Globalization,’ *Journal of Global History*, 15(2): 269-289 (2020).

heightened the historical 'cheapness' of the pastoral frontier, as cheapness is always a relative relation.

Wool is much more land-intensive than cotton. In the nineteenth century, it required around twenty times as much land as cotton, per ton.²⁴ Britain, the metropole for most of global capital during this period, began the nineteenth century exporting more wool than it imported, but this flipped in the second half of the century.²⁵ It would also seem that for the duration of the nineteenth century wool, while of a much lower tonnage than cotton, contributed much more to Britain's 'ghost acres,' regardless of whether the manufactured textile was consumed domestically or internationally.²⁶ This argument is mounted by Theodoridis, Warde and Kander, who set out to empirically assess the 'ghost acre' thesis. As they put it,

there is no doubt that cotton played a crucial role in the mechanization of textile production, at a time when demands for cotton-producing land from British manufacturers was comparatively small. Yet the ecological footprint of woollens was much larger, especially after that industry had adopted similar forms of mechanized production.²⁷

Fashion historians show us that the growth of domestic cottons in this period was largely the domain of the wealthy, especially as Victorian sensibilities demanded extraordinary numbers of undergarments for women, who regularly wore seven layers of such clothes. More broadly, its ability to hold colour, and the variety of weaves, made it an exciting, foreign textile.²⁸ And yet, wool held its own – and even grew – in use among the working class, and in the military, for one key reason: warmth. Warm bodies require less energy, and therefore, food. Woollens are naturally warm, due to the loft of the fibres they are spun from. They also continue to provide warmth when damp, unlike cotton. These qualities help to explain the continued importance of

²⁴ Theodoridis, Warde & Kander, 'Overcoming land constraints in British industrialization,' p. 335.

²⁵ Theodoridis, Warde and Kander, 'Overcoming land constraints in British industrialization,' p. 341.

²⁶ *Ibid.*, pp. 342-345.

²⁷ *Ibid.*, p. 347. The mechanization of woollens was facilitated in part by the successful importing and breeding of Merinos in Australia, as the strength and length of fibres increased much over the domestic clip. See P. McMichael, 'Settlers and Primitive Accumulation: Foundations of capitalism in Australia', *Review (Fernand Braudel Center)*, 4(2), (1980), p. 318.

²⁸ R. Harzinski, 'A tale of two cloths' The transition from wool to cotton undergarments in England during the Victorian age', *Historia*, 15 (2006).

wool in bedding, across classes. To preface the word-ecological significance of all of this, where wool can be provided 'cheaply' – 'to the degree that [food and energy] issue a downward revision of the systemwide organic composition of capital'²⁹ – and where its use can reduce the need for other inputs, such as food, or wood to burn for heat, it facilitates the socioecological process of proletarianization, and lowers the cost of labour power. The rapid expansion of British colonial wool-growing, primarily in the Australian colonies, did precisely this: 'On a world scale, low rents paid by colonial woolgrowers were a condition of their commercial success, particularly in competition with German pastoralists.'³⁰ While the upper classes were embracing cottons and linens, the working class continued to rely on wool, made cheap through empire, and thus cheapening *their labour-power*. This was all due to the physical properties of the fibre itself, and contingent socioecological relations of the commodity frontier, operating through that biophysical reality.

The other significant group that relied on woollens was the military. The nineteenth century was one of almost constant military conflict. Likely the violence of the nineteenth century has only been surpassed by the century that followed it. In this context, wool was seen as a strategic resource. It is for this reason that 'one of the first acts of Napoleon, after getting possession of the peninsular of Spain, was to drive into France very large flocks of the Merino sheep.'³¹ In response to the shortfall of raw imports, the Privy Council pursued an investigation into securing the wool supply.³² As noted by FitzSimmons and Shaw,

²⁹ J.W. Moore, 'The End of the Road? Agricultural Revolutions in the Capitalist World-Ecology, 1450-2010', *Journal of Agrarian Change*, 10(3): 389-413 (2010), pp. 393-394.

³⁰ P. McMichael, 'Settlers and Primitive Accumulation,' p. 319.

³¹ J.K. Trimmer, *Practical observations on the improvement of British fine wool and the national advantages of the arable system of sheep husbandry*, London: James Ridgeway (1828), p. 11.

³² P. Hudson, 'The limits of wool and the potential of cotton in the Eighteenth and Early Nineteenth Centuries,' in G. Riello & P. Parthasarathi (eds), *The Spinning World: A global history of cotton textiles, 1200-1850*, Oxford: Oxford University Press (2009), p. 332.

Wool was of particular importance during a century of mass, cold-climate warfare... Between the 1850s and 1950s, the global wool trade would witness pulses of great demand during a series of wars in which nations jockeyed for access to wool...³³

Indeed, the period of pastoral capitalism holding determining political-economic significance in Australia runs through to the 1970s, precisely when wool was undercut by synthetics – though this also collided with the state as environment-maker, with Australia withdrawing protections for the wool industry.³⁴ These are the same synthetics researched so heavily by the United States Department of Defence after it struggled to secure adequate wool supplies during WWII and the Korean War.³⁵ Between the Napoleonic wars and World War II, Britain persecuted military conflict around the world, all the while equipping its soldiers with woollen uniforms and equipment. There are many important contributions that consider the relationship between capitalism, war, and imperialism.³⁶ Their differences aside, these many arguments all reinforce the world-historical importance of wool, *vis-à-vis* cotton, even if they do not say so explicitly: capitalism was internally related to war, and these wars were internally related to the Australian pastoral frontier, itself driven by the logics of expansion, of value, and of class. Clearly, then, wool holds a critical position in the world history of capitalism, weaving its way through the internally related processes of class, warfare, fashion, mechanization, and uneven development. Parts of this history were known to the actors involved in pushing the pastoral frontier,³⁷ but universally they operated under the compulsion of abstract value. This all speaks to the agency of those choosing to run sheep on their stolen land. But as failure of British rubber plantations in Malaysia highlight,

³³ P. FitzSimmons & M. Shaw, 'Fabric of War: The lost history of the global wool trade,' *Selvedge Magazine*, 90 (2019), p. 10.

³⁴ P. Bardley, 'The Collapse of the Australian Wool Reserve Price Scheme,' *The Economic Journal*, 104(426): 1087-1105 (1994).

³⁵ *Ibid.*, p. 18.

³⁶ V.I. Lenin, *Imperialism, The Highest Stage of Capitalism: A Popular Outline*, in *Collected Works*, Vol.22, London: Lawrence and Wishart (1964 [1916]); N. Bukarin, *Imperialism and World Economy*, intro. V.I. Lenin, New York: Monthly Review Press (1917); Kautsky, A. Callinicos, *Imperialism and Global Political Economy*, Cambridge: Polity Press (2009); A. Bieler and A.D. Morton, *Global Capitalism, Global War, Global Crisis*, Cambridge: Cambridge University Press (2018); D. McNally, *Blood and Money: War, slavery, finance, and empire*, Chicago, Il.: Haymarket Books (2020).

³⁷ Many squatters, state administrators, and Rum Corp officers were veterans of the Napoleonic Wars. For example, see J.V. Barry, 'Childs, Joseph (1787-1870)', *Australian Dictionary of Biography*, volume 1, Melbourne: Melbourne University Press (1966).

even when driven by a sound understanding of value and the global market, these plans are not always successful.³⁸ So again, we ask: why sheep? Or rather, why did sheep *work*?

Early colonial enterprise was much more varied than is often assumed. Looking at the Blue Book of 1825, exports of New South Wales included 1715 bales of wool, but beyond that, also: 3028 planks and 43 logs of blue gum; 1673 planks of cedar; kangaroo skins; 349 casks seal skins; 539 casks sperm oil; 119 casks sea elephant oil; 14 bundles of whale bone; 241 casks coconut oil; and 73 casks arrow root, among other items.³⁹ Colonial enterprise spanned coal mining, copper mining, forestry, whaling, flax, sugarcane, and a myriad of other tradeable commodities. And yet pastoralism quickly came to dominate. It is important to denaturalize this and consider the contingency of the uneven development of Australian capitalism. It is also worth turning that same eye for contingency toward the Australian state, landscape, social relations, and settler-Indigenous relations: 'Rapid expansion in Australia was neither organic nor inevitable. It was contingent on ecological limits and global political and economic contexts, and was contested by imperial and colonial governments, by excluded settlers, and, most of all, by Indigenous people.'⁴⁰ This thesis argues that much of this contingent history can be explained with reference to the frameworks of world-ecology and eco-socialism, and their constituent conceptual categories of produced nature, the environment-making state, cheap nature, abstract value, and the frontier. To preface our broader argument, let us drive the analysis through this theoretical lens, to direct better our historical narrative. This chapter is concerned with the commodity frontier of wool. The concept of the commodity frontier has been prefaced earlier in the thesis but let us remind ourselves of its content. Patel and Moore provide a suggestive starting point:

The frontier works through connection, fixing [the] failures [of capitalism] by siphoning life from elsewhere. A frontier is a site where crises encourage new strategies for profit. Frontiers are

³⁸ C. Ross, *Ecology and Power in the Age of Empire: Europe and the transformation of the tropical world*, Oxford: Oxford University Press (2017), pp. 99-135.

³⁹ *Returns of the Colony of New South Wales*, London: Colonial Office (1826).

⁴⁰ L. Ford & D.A. Roberts, 'Expansion, 1820-50,' in A. Bashford & S. Macintyre (eds), *The Cambridge History of Australia*, Cambridge: Cambridge University Press (2013), p. 121.

frontiers because they are the encounter zones between capital and all kinds of nature – humans included. They are always, then, about reducing the costs of doing business... Through frontiers, states and empires use violence, culture, and knowledge to mobilize natures at low costs. It's this cheapening that makes frontiers so central to modern history and that makes possible capitalism's expansive markets.⁴¹

To use this concept to provide a first-cut generalization of the first three decades of British settlement in eastern Australia, the colony – and agents within it – were searching around for frontiers. While early on this involved the simple struggle for subsistence, those who did not need to farm were swift to find ways to begin profiting. In so doing, they created the pastoral frontier.

Primitive Pastoralism, 1800-1830

We are speaking here of the officers of the New South Wales Corps – or, the 'Rum Corps'. Well before the exports of the colony were of any importance, the Rum Corps officers (and many civilian state officials) began to rapidly accumulate money; that money would become capital when thrown into commodity frontiers, in the search of expanded reproduction. One key strategy to facilitate this process of personal enrichment – and capital formation *as a class* – was through organized crime. The officers would combine their salaries, and leverage their position within the violent arm of the imperial state, taking control of merchant shipments as they arrived in Sydney. Having purchased the contents of the shipment, the officers would then sell these goods on to the government quartermaster, who was compelled to purchase said goods; this, as the colonial government was legally obliged to provide food and matériel to the convicts, officers, and free settlers. The colonial government could absorb these inflated prices, as they were paying them with bills of exchange drawn from the British Treasury. In this way, this emerging elite of officers began accumulating capital. In the words of Buckley, 'the first milch-cow for capitalists in Australia was the British government and – since British revenue was derived mainly from

⁴¹ R. Patel and J.W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*, Berkely: University of California Press (2017), pp. 18-19.

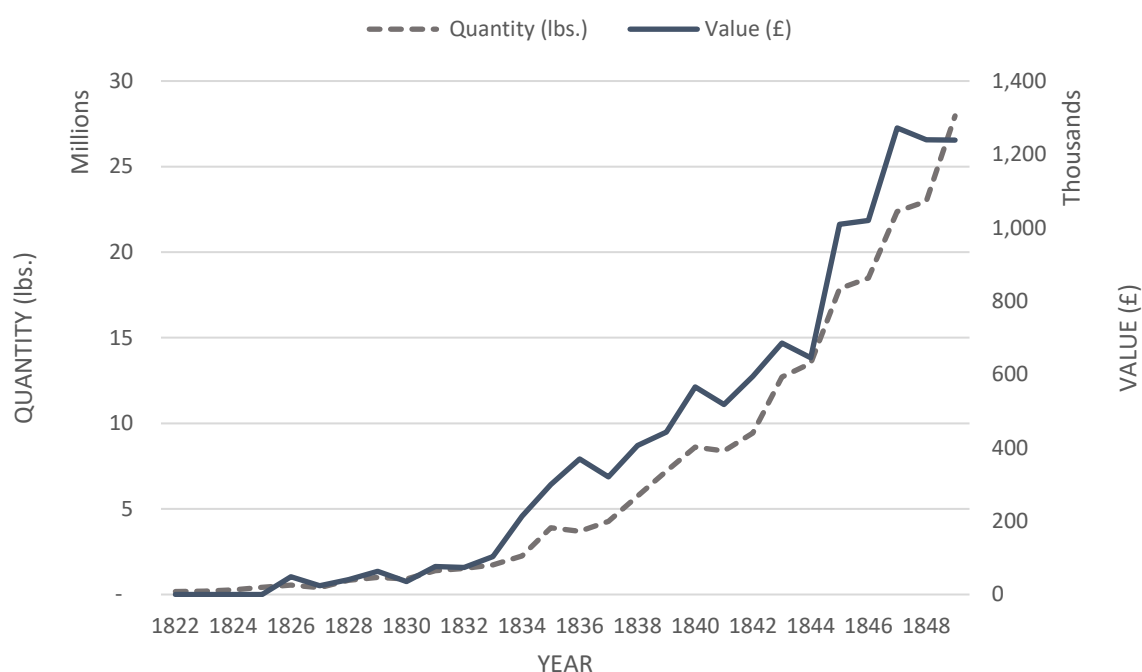
indirect taxes – the British people as a whole.’⁴² One of the leaders of this cartel was the much-lauded John Macarthur, who arrived in the colony £500 in debt, but had amassed a fortune of £20,000 in eleven short years.⁴³ In a colony hemmed in spatially by the Blue Mountains, and accumulating goods and capital slowly from the starting point of 1788, enterprising individuals such as John Macarthur were searching feverishly for frontiers, for new strategies for profit. It is for this reason that Macarthur purchased one thousand sheep off fellow officer Major Foveaux for £2,000 in 1800. With the rupture of those spatial barriers from 1813 onward⁴⁴ – as well as the parallel vectors of expansion radiating outward from the penal settlement of Newcastle, and south-west toward the Yass plains – the pastoral frontier began its rapid geographic expansion. But this frontier was not simply a geographic one: it was fundamentally a *socio-ecological* process, combing in complex and contradictory ways ecology, class formation, state power, the production of nature, the appropriation of land, and the extirpation of the original inhabitants. This was the commodity frontier at work, with rapid expansion from this point (Figure 4.1). All of this ‘rode on the sheep’s back.’

⁴² K. Buckley, ‘Primary Accumulation: The genesis of Australian capitalism,’ in E.L. Wheelwright & K. Buckley (eds), *Essays in the Political Economy of Australian Capitalism*, Sydney, NSW: Australia and New Zealand Book Company (1975), p. 20.

⁴³ *Ibid.*, p. 15.

⁴⁴ C.M.H. Clark, *A History of Australia I: From the earliest times to the age of Macquarie*, Brunswick, Vic: Melbourne University Press (1985 [1962]), pp. 277-279.

Figure 4.1 – Quantity and value of NSW wool exports, 1822-1848.⁴⁵



Remembering the previous chapter, on his travels down the east coast of Australia, Cook noted the quality of the grasslands that might be pastured without expending any labour. As explored at length in Gammage's *The Biggest Estate on Earth*, this was far from an isolated observation – rather, it was a ubiquitous characterization, from all European travelers in the early decades of settlement.⁴⁶ *Ginninginderry Plains* (Plate 3.2), shown above, might be thought of as an illustration of this landscape defined by strong stands of elder gums, surrounded by rich grassland. It is worth emphasizing again – these were landscapes and ecologies which had been shaped and nurtured by thousands of years of care for country, informed by the ontologies of the Dreaming. This was the space in which the pastoral frontier spread rapidly, and profitably; this was the socioecology which was done such enduring damage by the frontiers of capital. The assigned convict shepherds who tended the flocks of the early squatters did not need to drive the sheep up the valleys, and did not need to clear the land for grazing. Rather, they simply followed the sheep, who followed

⁴⁵ P. McMichael, *Settlers and the Agrarian Question*, p. 262.

⁴⁶ See especially, B. Gammage, *The Biggest Estate on Earth: How Aborigines made Australia*, Sydney: Allen & Unwin (2012), chapter 1, pp. 5-17.

the lush grass and loamy soils produced by Indigenous labour.⁴⁷ Thus, the shape of the settler-colonial Australian frontier followed the grasslands and sparsely wooded land which their sheep preferred. The shape of the settlement of Australia – the location of its towns and the path of its roads – was determined, in part, by Indigenous production of nature.

In the process of grazing, however, the sheep did immense damage. They were in an ecosystem which had evolved in very specific circumstances, and had no adaption for such voracious, hooved creatures.

The fertility encouraged by careful husbandry of the soil was destroyed in just a few seasons. The lush yam pastures of Victoria disappeared as soon as sheep grazed upon them... The English pastoralists weren't to know that the fertility they extolled on first entering the country was the result of careful management, and cultural myopia ensured that even as the nature of the country changed, they would never blame their own form of agriculture for that devastation.⁴⁸

As put by Patel and Moore above, frontiers are about reduced costs of business. Acquiring some of the most fertile grassland in the world for free (delivered and secured by the state) certainly reduced the cost of business. The practice of the colonial state assigning convicts to settlers as free labour reduced costs further still.⁴⁹ The benign fauna of the continent reduced costs of keeping sheep again. From the vantage point of world-ecology, the bales of wool produced by the spread of pastoralism across the eastern third of Australia were incredibly 'cheap' – especially in the context of a world market where the British empire was struggling to secure access to raw wool, and the steam mills of Lancashire were demanding the throughput of constant capital. Australian wool was 'cheapened' further in 1823, with a reduction on wool tariffs for the Dominion clip.⁵⁰ During the 1820s, more and more opportunistic agents were going to the frontier, with the aim of finding land and running sheep. Coming together at this confluence of events, we see technological improvements in mechanized spinning 'back home', early advances

⁴⁷ B. Pascoe, *Dark Emu: Aboriginal Australia and the Birth of Agriculture*, Broome: Magabala Books (2018), pp. 23-24.

⁴⁸ Pascoe, *Dark Emu*, p. 11.

⁴⁹ A. Woollacott, *Settler Society in the Australian Colonies: Self-government and imperial culture*, Oxford: Oxford University Press (2015), pp. 69-71.

⁵⁰ L. Ford and D.A. Roberts, 'Expansion, 1820-1850,' p. 128.

in breeding, and then in 1828 an endorsement of the quality of the Australian fleece by a British parliamentary select committee.⁵¹ Going further, that same committee predicted that ‘in fifteen or twenty years Britain would be getting from Australia as much of the finer wool as she needed.’⁵² And so, with the profitability of wool was becoming ever more apparent, as well as such powerful endorsements from the British state, more and more people clamoured to become involved. As a result, the class composition of ‘squatters’ began to shift. Through to the mid-1830s, ‘the term ‘squatter’ denoted a disreputable class; those without the means of respectability to acquire sufficient property through legal means.’⁵³ These emancipists and ticket-of-leave convicts, who could not afford sheep would often run cattle instead, to raise funds to start a wool flock. With feral cattle already plentiful (and the possibility of stealing stock from others), this was a way to make money quickly, as the growing towns cried out for cheap food.⁵⁴ But the term ‘squatter’ – and the class it referred to – were set to change dramatically. It is especially in the 1830-50s that we see the content of McMichael’s characterization of Australian settlement as ‘the contradictory process of expansion of the British state and capitalism.’⁵⁵ It is in this period we begin to see the coherence of a landed class, and the enmeshing of the Australian landscape with the metropolitan forces of British financial capital, with these groups actively contesting the shape and extent of state power – or, simply, the “Squattocracy.”

⁵¹ S.H. Roberts, *The Squatting Age in Australia, 1835-1847*, Melbourne: Melbourne University Press (1964 [1935]), pp. 42-43.

⁵² E. Williams, *Capitalism and Slavery*, Chapel Hill, NC: University of North Carolina Press (1944), p. 131.

⁵³ L. Ford & D.A. Roberts, ‘Expansion, 1820-1850,’ p. 129.

⁵⁴ J. Perkins & J. Thompson, ‘Cattle Theft, Primitive Accumulation and Pastoral Expansion in Early New South Wales, 1800-1850,’ *Australian Historical Studies*, 29(3) (1998), p. 297; J. Belich, *Replenishing the Earth: The settler revolution and the rise of the Anglo-world, 1783-1939*, Oxford: Oxford University Press (2009), p. 277.

⁵⁵ McMichael, *Settlers and the Agrarian Question*, p. xii.

The Squattocracy

The 1830s saw a proliferation of land reforms and settlements which might be tied back to the arguments of Edward Gibbon Wakefield.⁵⁶ These arguments are often seen as important in the shift of British colonial policy away from penalism, towards establishing “new Englands.” Through traveling and interviews with colonial capitalists, Wakefield became most concerned with the failure to establish a “natural” separation of the capitalist and the labourer, due to the easy access to land in the settler colonies: ‘Where land is very cheap and all men are free, where every one who so pleases can easily obtain a piece of land for himself, not only is labour very dear, as respects the labourer’s share of the producer, but the difficulty is to obtain labour at any price.’⁵⁷ Herman Merivale, commenting on this same question, argued that this condition led to

The urgent desire for cheaper and more subservient labourers – for a class whom the capitalist might dictate terms, instead of being dictated to by them... In ancient civilized countries the labourer, though free, is by a law of Nature dependent on capitalists; in colonies this dependence must now be created by artificial means.⁵⁸

The solution to this dire situation, for Wakefield, was ‘systematic colonization.’ The “artificial means” of creating a class of dependent labourers was by the colonial government setting a price on land high enough to be a barrier to the underclasses either producing *or* subsisting on this cheap land. The revenue raised through the sale of lands to “gentlemen of means” ought then to be used to sponsor the transport of more immigrant workers, thus ensuring a steady and reliable stream of labour, compelled to sell their labour-power to those enterprising landed capitalists. So quickly had Marx’s “vulgar” political economists forgotten the violence of the enclosures (which indeed continued into the nineteenth century) that the separation of labour from the land was seen as “Natural” in the “ancient civilizations,” and deploying state power to achieve this end only artificial in these aberrant colonial contexts. We might see the influence of these ideas in the ‘Ripon regulations,’ handed down to all settler colonies by the Secretary of State in 1831. These regulations ‘were intended to slow uncontrolled expansion in colonies such as New South Wales,

⁵⁶ E.G. Wakefield, *England and America: A comparison of the social and political state of both nations*, New York: Harper and Brothers (1834).

⁵⁷ *Ibid.*, p. 247.

⁵⁸ H. Merivale, in Wakefield, *England and America*, p. 235.

and to achieve 'systematic' or 'concentrated' land settlement patterns to ensure 'civilized' society.⁵⁹ These regulations ended land grants throughout the Empire, instituting auctions with a reserve price of five shillings an acre.⁶⁰ Wakefield spoke for an emerging class of frustrated colonial capitalists, providing a useful window into the way in which the commodity frontier was created by capital, through the state, in dialectics of cheapness and cost.⁶¹ As Connell and Irving impress on us, however, we can spend too much time exploring the motivations behind state policy changes, and miss the wood for the trees:

The creation of a white society in Australia was not accomplished in 1788; nor were its major directions in the long run set by that beginning... [The emergence of colonial capitalism] was not a product of official policy, but it was also not a matter of chance; it was the outcome of hard-fought struggles and grinding labour, from which the power structures of mercantile and pastoral capitalism successively emerged.⁶²

And so, while the pastoral class did begin to cohere more closely through the 1830s and 1840s, and state land policies certainly supported this, we ought to avoid a simple functional or instrumentalist reading of the colonial state in this period. Rather, as in Chapter 2, we see a coalescing of the state as an institution with a need to make space legible, and the state concurrently forming as a 'material condensation of the balance of class forces.'⁶³ While the state never consistently undermined the interests of capital, the interests of capital and the state were not synonymous – let us consider land use, land reform, and the state, a little more closely.

Another reason to be cautious of ascribing too much causal power to Wakefieldian ideas is that there was already a push by the colonial state – not the British state – to encourage large landholding, with assigned (convict) labour. This labour was not totally free, as graziers had to pay for the upkeep of these workers. Nevertheless, this kind of assignment represented a

⁵⁹ Ford and Roberts, 'Expansion, 1820-1850', p. 131.

⁶⁰ *Ibid.*

⁶¹ See O. U. Ince, *Colonial Capitalism and the Dilemmas of Liberalism*, Oxford: Oxford University Press (2018), pp. 113-157.

⁶² R. Connell and T.H. Irving, *Class Structure in Australian History: Documents, narrative and argument*, Melbourne: Longman Cheshire (1982), p. 31.

⁶³ N. Poulantzas, *State, Power, Socialism*, trans. P. Camiller, London: Verso Books (2014/1987), p. 129.

reduction in public expenditure (as the state no longer had to feed, clothe and house assigned convicts), as well as very cheap labour for the pastoralists.⁶⁴ During the 1820s, transportation of convicts from Britain increased in lockstep with expansion of the pastoral frontier.⁶⁵ The other policy shift was the ending of small land grants. The famous example of smallholder James Ruse – a former convict given a grant of agricultural land to farm near Paramatta⁶⁶ – was an example of a short-run period of grants, given while the main preoccupation of the colonial state was subsistence and self-sufficiency. From the mid-1820s ‘new regulations encouraged large landholders with grants in proportion to capital up to the 2560 maximum acreage, with an option to buy or rent adjacent Crown land.’⁶⁷ State power and pastoral class coherence developed together, with the creation of a Legislative Council, which was quickly populated by “men of means.”⁶⁸ These early squatters often arrived in the colony with capital from the core, but the financing of pastoral leases, transportation of the clip, and hiring of extra labour at shearing time, all necessitated the development of a local banking system. Hence, in 1826, the pastoralists established the Bank of Australia.⁶⁹ This was the start of the parallel and contradictory co-emergence of the pastoral production of nature, as well as finance capital, which itself produced nature through the rapid growth of urban centres – Sydney and Melbourne. We will consider the emergence of finance in more detail further on.

While the emerging pastoralist class certainly had a significant presence within the strategic-relational field of the state,⁷⁰ there were tensions between the Governor, Secretary of State and

⁶⁴ P. McMichael, *Settlers and the agrarian question*, p. 72.

⁶⁵ *Ibid.*, pp. 72-3.

⁶⁶ B.H. Fletcher, ‘Ruse, James (1759-1837),’ *Australian Dictionary of Biography*, vol. 2, Melbourne: Melbourne University Press (1967).

⁶⁷ P. McMichael, *Settlers and the Agrarian Question*, pp. 72-3.

⁶⁸ As an aside, that wealthy NSW politicians were first squatters, and then landowners, is no accident. This also set the precedent for the strong connection between the “big men” of the bush, and the eastern suburbs of Sydney. Still today large landowners in the bush often do not live there, but commute to their farm via helicopter a few times a year. Generations of these squatter families have been educated at the ‘greater public schools’ in Sydney, and then at the residential colleges within the University of Sydney.

⁶⁹ G.F.H. Bergman, ‘Solomon Levey in Sydney: From convict to merchant prince,’ *Royal Australian Historical Society Journal and Papers*, 6 (1964), p. 414.

⁷⁰ B. Jessop, *State Power: A strategic-relational approach*, Cambridge, UK: Polity (2008).

the Legislative Council, as seen with the establishment of the 'Limits of Location.' In 1826, following an order from Lord Bathurst, then British Secretary of State, Governor Darling set out the boundaries of the Nineteen Counties. These counties were the "limits of location," beyond which settlement was not endorsed, and land rights in no way guaranteed (Plate 4.3). Indeed, this was reinforced with the *Crown Land Encroachment Act* of 1833, which emphasized that occupation of lands outside these limits would not be taken into consideration for future leases.⁷¹ However, neither the Limits of Location, the *Encroachment Act* of 1833, nor the Ripon regulations, constrained the continued spread of officially illegal land occupation by these squatters.⁷² An emblematic example might be Henry Dumaesq, who began occupying a highland pastoral run in the 1830s, which he named 'Saumarez', reminiscent of his family home on the Island of Jersey. Other neighbouring pastoralists added Tilbuster, Salisbury, Hardolston, Armidale and Old Sarum to the list of nostalgic, imperial place names as these uplands were rapidly populated by sheep and settlers.⁷³ This region would later become known as New England – but that was, and always will be, Anēwan country.⁷⁴ Saumarez was almost two-hundred kilometers north-north-east of Gloucester, the most northerly of the Nineteen Counties, and around one-hundred kilometers north-east of Tamworth, the northern centre of the Australian Agricultural Company's pastoral activities (the AACo, as a chartered company of the British Crown, operated outside of the colonial government's regulations)⁷⁵ (Plate 4.3, GR 151, 30).

⁷¹ *An Act for protecting the Crown Lands of this Colony from Encroachment Intrusion and Trespass*, Sydney Gazette (10), 28th August, 1833.

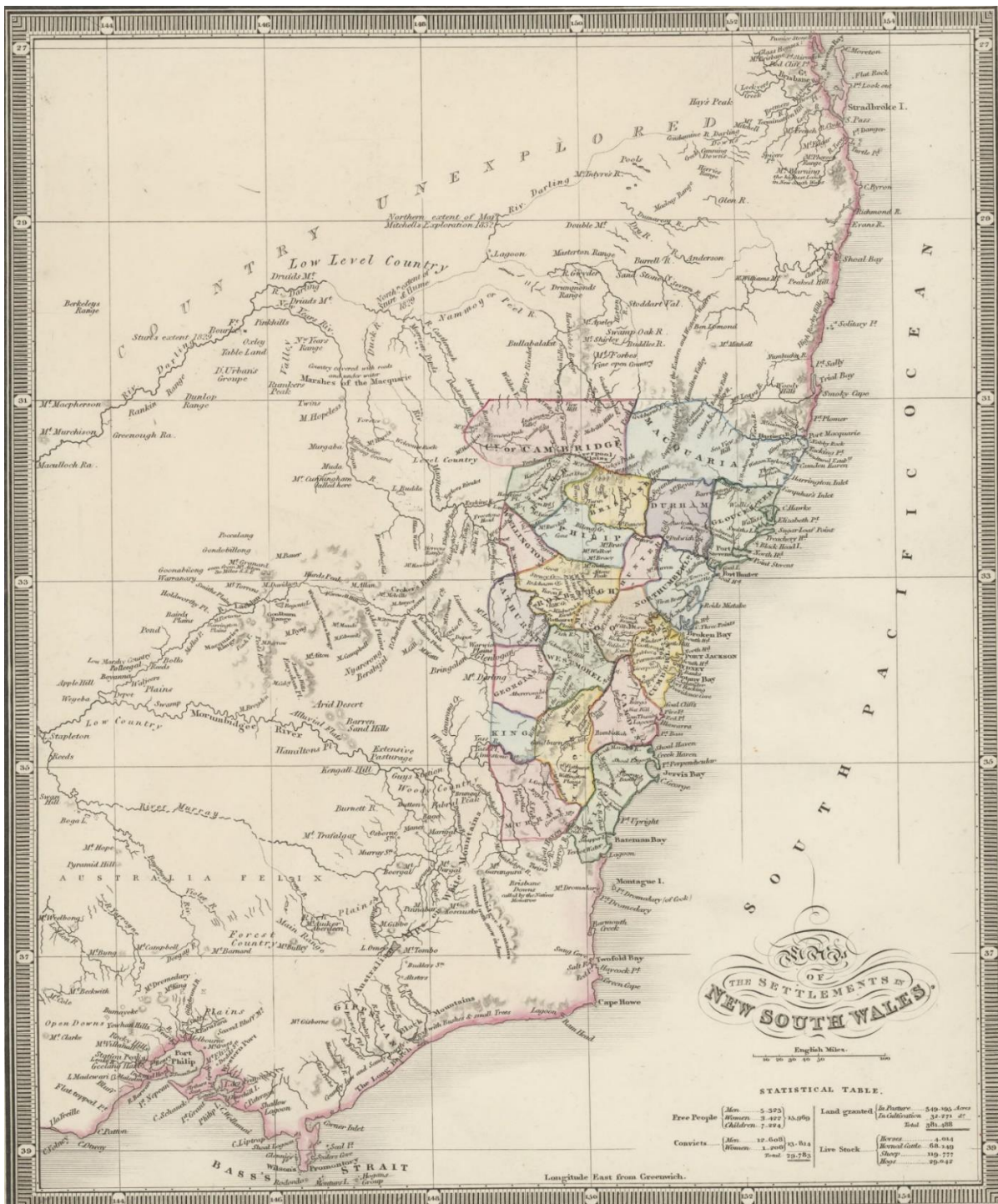
⁷² L. Ford & D.A. Roberts, 'Expansion, 1820-1850,' p. 131.

⁷³ J. Ferry, *Colonial Armidale*, Brisbane: Queensland University Press (1999), pp. 2-3.

⁷⁴ Clayton-Dixon, *Surviving New England*, p. 17.

⁷⁵ P. Pemberton, *The London Connection: The formation and early years of the Australian Agricultural Company*, doctoral thesis, The Australian National University (1991).

Plate 4.3 – Map of the settlements in New South Wales, 1842, James Wyld.⁷⁶



This map delineates the 'Limits of Location,' as outlined by Governor Darling. The very production of this map held material force in the production of nature at the commodity frontier, and the internally related process of state formation.

⁷⁶ National Library of Australia, <https://catalogue.nla.gov.au/Record/4316480>

Thinking back to the theories of an environment-making state in Chapter 2, the Limits of Location is a curious and revealing moment. During the early spread of the pastoral frontier, squatter runs were without fences or secure private land rights; enterprising officers of the Rum Corps and free settlers hobbled together enough money to buy a few breeding sheep, applied to the colonial state for assigned convict labour, and set out to find land further up the valleys than those who had informally claimed land already: 'A man of small capital acquired a flock and simply set out... Each was a land-freebooter scanning the horizon for unoccupied or unclaimed land.'⁷⁷ Absent a coherent class character, there were also ticket-of-leave convicts among their number, who might rustle cattle to get together the funds for a few sheep. At this point the state has several interests colliding. The colonial state was yet to map, survey, categorise, or "know" its territory in any comprehensive way, and had even less control than it did knowledge, with police and court systems strung thin. And yet, the expansion of leasehold and increased woollens production helped to finance a precarious colony. Meanwhile, as the pastoral class begins to cohere as a class of landed capital, the state becomes increasingly populated and constituted by their class power. The Limits of Location are a moment through which we can see some of the many contradictions of the frontier, of class formation, and state formation – processes which were ultimately propelling capital further inland, increasing the field of nature that was being produced for exchange. The very violence of invasion discussed in the previous chapter was bring driven by the frontier of capital.

The Dumaresqs, Mashers, Whites, Wrights, and other squatter families that seized the land of the New England – whose names are still stamped on the upland landscape in place and street names, and whose enormous wealth still dominate the region – were operating outside of state sanction. During this period, struggles over land rights and the agrarian question traversed the colonial and imperial states. Again, as Connell and Irving emphasise, 'The form of the state certainly

⁷⁷ S. Roberts, *History of Australian Land Settlement: 1788-1920*, Melbourne: Macmillan and Co. (1924), p. 163.

changed, moving closer to the English pattern, but it was never substantially opposed to private production.⁷⁸ This extended to the rapid appropriation and accumulation of capital occurring on the frontier, beyond the Limits of Location, by the pastoralists. While there were certainly attempts to constrain *who* could hold land, and how, this might be better understood as a combination of Wakefieldian concerns – i.e. ensuring that former convicts and poor settlers could not become a small-holding peasantry – and the need for a state to map, know, and be able to assert force over its own *territory*, as discussed in the previous chapter. All the while, sheep were following their noses, finding the sweetest grasses, and the pasture where they could move most easily. Some squatters followed their flocks themselves, but more utilized assigned convict labour to watch their merinos. Crude pens were sometimes used to corral stock at night, but often even this was unnecessary in a landscape without predators, where fences were yet to be erected between runs – rather, runs were generally separated by obvious geographic features, such as rivers or ridges. Even the mosaic of Aboriginal land management worked for the squatters-invaders in this, with stands of trees, or wooded gullies, might be used similarly to demarcate claims to space by pastoral capital.⁷⁹ Already these processes were entwined with British capital, with increasing financialization of pastoral activities – though this would be stimulated further at several points, not least in the creation of a legitimate market in freehold land, to be explored further on. It was a process of state formation and class formation, which necessarily involved the transformation of a continent, and the violent extirpation of its Indigenous inhabitants. As we saw in the previous chapter, Aboriginal resistance and resilience, and their continued articulation with the capitalist socioecological relations of the frontier, all condition the cheapness of the commodity frontier, and set in motion dialectics of extirpation and exploitation.

⁷⁸ Connell and Irving, *Class Structure in Australian History*, p. 35.

⁷⁹ Gammage, *The Biggest Estate on Earth*, pp. 18-25.

Fenced In and Locked Out, 1840-1860

This section considers the socioecological significance of the emergence of fencing on the pastoral frontier. Fences are such a naturalized, iconic element of the landscape created by the settler-invaders, it is easy to overlook their contingency and importance. The period from the late 1840s to 1861 saw significant changes on the pastoral frontier. In particular, the cessation of convict transportation to the colony (technically in 1841, though in effect this took several years to come fully into effect) signaled the beginning of the end of assignment. Without assigned labour, the squatters needed to hire shepherds to manage the flocks. The labour-intensiveness of shepherding was lower than the US or Argentina, as there were very few native predators for the sheep. Even so, this represented a new cost to running sheep – indeed, one of the first real costs. The cheapness of the frontier was challenged further with the gold rushes, especially between 1847-51. Initially, this resulted in acute labour shortages: ‘the immediate impact of the gold rushes was labour absenteeism on pastoral stations.’⁸⁰ As noted in the previous chapter, this led to squatters drawing on non-white labour, largely Chinese and Indigenous workers:

A considerable number of Chinamen are engaged as Shepherds, and even with this supply a deficiency of labour is still complained of by the Flock-masters, they have been compelled to accept the services of the native blacks, who to give them their due praise, bring in the Sheep in good condition.⁸¹

This situation even led to attempts to import indentured labour from India, which were blocked by the Indian colonial government.⁸² The result of all of this was to push up wages for shepherds. Interestingly, as the goldrushes began to peter out through the 1850s, the availability of labour returned, and even became more plentiful, due to the spike in immigration brought about by “gold-fever”. But the squatters never returned to that earlier labour regime; fences were a tool of class as much as they were a way to produce landscapes.

⁸⁰ McMichael, *Settlers and the Agrarian Question*, p. 217.

⁸¹ W. Gardner, ‘Production and Resources of the Northern and Western Districts of New South Wales’ (1854) Mitchell Library, Sydney (CXY A 176).

⁸² Connell and Irving, *Class Structure in Australian History*, p. 107.

The decision to invest in fencing was not simply determined by spot wage prices, however. As epitomised by the much-storied Eureka Stockade, the miners had rapidly developed a form of class consciousness, and were making increasing demands on the colonial state, including calls for access to land. And so, rather than simply take this unruly mob back on as shepherd-labour, the squatters increasingly chose to hire former miners to erect fencing. As put by McMichael:

Not only did the dispossessed gold field labour constitute a ready labour force for fence construction, but also the presence of dispossessed miners acted as a political catalyst for land reform, which moved pastoralists to secure property... The preindustrial labour of shepherding was replaced by a matching of wage labour to fixed capital.⁸³

And so, fences began to spread across the landscape. This might seem an unremarkable observation, but the fence signalled colonial Australia's emergence into the Capitalocene, driven forward by the contradictions of the commodity frontier. Fences epitomised the production of nature, determined by the structuring force of the value form. Not only did they emerge out of the emerging labour-relation in the colony, but they multiplied the relations between financial capital into the pastoral frontier, limited the scope for appropriate ecological management with fire, and even facilitated a new emphasis on breeding to increase yield (and profitability) – all processes that increased the entwinement of nature, capital, state and class, setting in motion the contradictions that confront us today. Let us step through those immediate implications of fencing.

In the early decades of pastoralism in New South Wales, sheep spread up the valleys followed the sweetest grasses, rapidly grazing them to stubble. They also compacted delicate soils which had *never before* been trampled by ungulates (hooved animals).⁸⁴ Further, through the many violences of the frontier, Indigenous care for country was interrupted. With all of this going on, some shepherds and squatters attempted to ape Indigenous land management, burning land to encourage new growth which the sheep might enjoy: 'The custom of setting the dry grass on fire

⁸³ McMichael, *Settlers and the Agrarian Question*, p. 216-217.

⁸⁴ A.V. Milewski and R.E. Diamond, 'Why Are Very Large Herbivores Absent from Australia? A New Theory of Micronutrients,' *Journal of Biogeography*, 27(4): 957-978 (2000).

is very prevalent throughout the colony, as the young grass shooting up soon after affords fine feeding for cattle etc.’⁸⁵ There are many examples of this technique being taught to settlers by Indigenous Australians who were guiding or translating for the invaders, though the white man did not understand the religious or socioecological importance of these lessons.⁸⁶ Settler experimentation with socioecologies of fire also interreacted with other conditions of the frontier, sometimes in unfortunate ways: ‘Because English axes proved unsuitable against the country’s hardwoods, settlers resorted to fire as the major clearing weapon. A thick smoke haze covered the coastal plain throughout the summer months and bushfires became endemic and destructive. [As a result] European weeds, mixed with seeds sown for the first crops, spread rapidly.’⁸⁷ Contrasting starkly with Indigenous knowledges of fire, however, settler burning practices were inept, and bushfires began to be a problem for settlers early on; the terror these fires brought are captured in William Strutt’s painting *Black Thursday* (Plate 4.4), seen below.

Perhaps absent the fences necessitated by the capitalist thirst for profit, the invaders might have studied this craft longer. This possibility was foreclosed, however, when ‘fences and haystacks made fire an enemy.’⁸⁸ As noted by JC Hamilton, a pastoralist reflecting on the period from the mid-nineteenth century, ‘the country we took up was lightly timbered... [It] remained open until brush fences were started, and the use of wholesale fire given up. This gave the timber a chance of going ahead as it liked.’⁸⁹ As we shall continue to dwell on, fences were an expensive *investment*. They cut crude cartesian lines across the existing mosaic of Indigenous-produced nature. Even if the invaders had the skill to burn cool rather than hot, small rather than large, controlled rather than wild, the agency of the fire could still lead it to burn out the posts so labouriously driven into

⁸⁵ G. Bennett, *Wanderings in New South Wales*, London: Richard Bentley Publishers (1834/1967), pp. 132-133.

⁸⁶ See Gammage, *The Biggest Estate on Earth*, pp. 307-309.

⁸⁷ W. J. Lines, *Taming the great southern land: A history of the conquest of nature in Australia*, Allen and Unwin: Sydney (1991), p. 59.

⁸⁸ *Ibid.*, p. 314; For an account of how this fear of losing fencing was leveraged by itinerant workers against the squatter, see A. Trollope, *Delphi Complete Works of Anthony Trollope*, p. 23489

⁸⁹ J.C. Hamilton, *Pioneering Days in Western Victoria*, Melbourne: Exchange Press (1913), p. 38.

the now-compacted ground. Fire and capital were in contradiction, and so the widespread use of fire withered. While this perhaps risks repetition, it is important to make this point clear: the use of fencing by pastoralists was determined by the emerging social relations of capitalism. And those relations must be seen as socioecological – we see here how the production of nature is itself determined by class, by the state, and by *value*. Finally, by interrupting tens of thousands of years of Indigenous care for country, we begin to see the emerging contradictions between the socioecological relations of capital, and the needs of the land and people that existed before invasion. We are reminded here of Lefebvre’s insistence that abstract space is never truly achieved;⁹⁰ fire and land-use determined by value were increasingly in contradiction, and this led directly to crisis.

Plate 4.4 – *Black Thursday*, 1851, William Strutt.⁹¹



This painting is a depiction of a bushfire which, on 6 February 1851, burnt roughly a quarter of the colony of Victoria.

⁹⁰ H. Lefebvre, *The Production of Space*, trans. D. Nicholson-Smith, Oxford: Basil Blackwell Publishers (1991 [1974]), p. 287.

⁹¹ State Library of Victoria, <https://ergo.slv.vic.gov.au/image/black-thursday-february-6th-1851>, cropped.

Briefly, let us locate this contradiction in the contemporary conjuncture. Gammage has argued that ‘fences on the ground made fences in our minds,’⁹² that they are reproduced ideologically through the Cartesian dualism of wilderness/managed land. While he is not wrong, here we choose to focus on the structuring forces of value, and the way fences impact the socioecology of this continent. Take the Newhaven Wildlife Sanctuary, a few hundred kilometers west of Alice Springs. Attempting to slow rapid species extinction in Australia, caused by capitalist land use and climate change, the conservation project fenced off 9,400 hectares in 2018, making it the largest predator-free enclosure on the planet at that time.⁹³ While much more traditional burning occurs in the Northern Territory than in the rest of the country, violence has still been done to vast swathes of the landscape. Newhaven had been a cattle station between the 1950s and 2006, when the Australian Wildlife Conservancy took over the land, and had been severely burnt in successive wildfires in the 2000s. As well as fencing off the area, AWC works with local Warlpiri rangers to care for the land – in the words of ranger Christine Ellis, ‘Lighting fires mean healthy country. Animals need fire. Without fire, the country gets sick.’⁹⁴ And yet, these burns must be managed incredibly carefully not to damage the fence; if cultural burns took out a section of the fence, the entire conservation program would be jeopardized. Out in the ‘red center’ fences are being deployed to try and arrest the crisis of extinction set in motion by the socioecological relations of capitalism, brought to the continent by the invading colonials. And yet those fences themselves embody the Cartesian dualism, and are still entirely unsuitable for the ecology of fire that this country relies upon. We now turn back to the nineteenth century, and move eastward to New South Wales, to continue to trace the boundary-line of fencing – but this contemporary vignette shows the broad ramifications of these nascent contradictions across time and space.

⁹² Gammage, *The Biggest Estate on Earth*, p. 321

⁹³ A. Ham, ‘Burning Questions’, *The Monthly*, July (2021) pp. 17-19.

⁹⁴ C. Ellis, quoted in Ham, ‘Burning Questions’, p. 18.

The way that fences produced nature and space on the pastoral frontier are not limited to interrupted fire regimes. With fences came the possibility of producing the genetics of the sheep themselves. Put simply by McMichael, 'given its capacity to isolate flocks, fencing was a precondition for scientific breeding to enhance the colonial wool yield.'⁹⁵ McMichael's passing comment about breeding to select for yield points us to a broader history, itself tied up with the rhythms of global-historical cheap nature. As we have explored above, wool was in competition with cotton; although wool was insulated somewhat from this due to its strategic significance, the global wool market was nonetheless volatile. Indeed, the periodic crises of the colonial political economy largely followed the global wool price.⁹⁶ In the crisis of the 1840s, this led to a spike in tallow production, as surplus sheep and cattle were brought together in blood and flame with colonial coal supplies, in an attempt to salvage devalued capital. The next significant slump in wool prices (1867-71) occurred, however, alongside the development of refrigerated transportation technologies – 'developments that lent the region unprecedented geographical and temporal proximity to the metropole.'⁹⁷ And with this spatial compression, the options available to the pastoralist for profitability multiplied, only heightening the contradictions of producing nature for exchange. Woods teases out some of these implications:

The ability to store flesh almost indefinitely in a frozen state refigured colonial pastoral economies, and with them the breeds of empire. Sheep producing areas turned from an exclusive focus on wool to growing meat as well. In cattle country, ranchers began an intensive process of "grading up" their motley herds with the use of imported British bulls, changing the bovine demography of the New World whether these animals trod the grasslands of Great Britain's overseas dominions proper or not. In these ways, bodies of sheep and cattle were remade to suit the refrigerated holds of ocean liners, and the empire itself was recast (at least in part) as a vast apparatus for feeding Britons.⁹⁸

The opening-up of European meat-markets further increased the determination of produced nature on the Australian continent by the vicissitudes of global commodity markets, and the search for profit by the new landed class. But whether the pastoralist was running sheep for wool

⁹⁵ McMichael, *Settlers and the Agrarian Question*, p. 219.

⁹⁶ See especially B. Fitzpatrick, *The British Empire in Australia: An economic history*, Melbourne: Melbourne University Press (1976), pp. 71-72.

⁹⁷ R.J.H. Woods, *The Herds Shot Round the World: Native Breeds and the British Empire, c. 1800-1900*, Chapel Hill, NC: University of North Carolina Press (2017), p. 5.

⁹⁸ Woods, *The Herds Shot Round the World*, p. 5.

or for mutton, the emerging rationalization of animal husbandry was an important element of production, itself entirely reliant on fencing. Indeed, it was fencing that facilitated farmer Bakewell developing the New Leicesters breed, as noted by Marx: 'In Bakewell's system, one-year-old sheep can already be fattened... [he has] reduced the bone structure of his sheep to the minimum necessary for their existence.'⁹⁹ And why was Marx interested in the development of this new breed of mutton sheep? 'In so far as credit mediates, accelerates and intensifies the concentration of capital in a single hand, it contributes to shortening the working period, and with this also the turnover time'.¹⁰⁰ That is, the very logic of capital, which shapes and determines 'The Working Period', also leads to the production of nature at the level of the genome, which then feeds back into the uses to which land might be put. The socioecological relations of capital, again, were shaping the production of the pastoral frontier.

This section has traced how the emerging class relations of the colonies, shaped by the end of transportation and the gold-rushes, saw increasing incentives for pastoral capital to replace labour with fixed capital, in the form of fencing. Determined by the value form, this new production of nature created new lines of contradiction, as these investments were incompatible with the burning of country. Those fences then allowed further production of nature through selective breeding, giving the pastoralist greater control over the production process. This breeding might be thought of as a technological attempt to cheapen nature. But while cheap nature abounds in this story, fences themselves were anything but. While timber for posts could be got very cheaply *in situ*, labour was not – especially considering the gargantuan tracts of land squatters were attempting to secure.

⁹⁹ Marx, *Capital II*, p. 315.

¹⁰⁰ *Ibid.*, p. 313.

In a response to this need for finance, banks – both domestic- and metropolitan-owned – began multiplying apace: ‘fencing initiated large-scale capital investment in the rural economy, encouraging the penetration of loan capital into pastoral production.’¹⁰¹ That this practice continued, and indeed became the norm, during the second half of the nineteenth century speaks to the political-economic efficacy of this investment. One contemporary account estimated a 10 per cent reduction in the number of employees on a sheep station.¹⁰² Another went further, suggesting that fencing reduced station costs by as much as two thirds, which is evidenced in the ledger records of stations ‘Balala’ and ‘Ollera’ in the New England.¹⁰³ This is evidenced through the wage bill for the Australian Agricultural Company’s pastoral activities: while stock of sheep and cattle rose fifty and one-hundred percent between 1868 and 1875, labour costs increased only twenty percent.¹⁰⁴ The structuring power of value, and the eternal search for profit by capital, is clearly seen here at the commodity frontier. Importantly, with a rising organic composition of capital, the spatial fix of fencing resolves a crisis of historical ‘cheapness’ emerging from the labour market, and yet through commodification multiplies contradiction.

Although not simply a function of increased fencing, this argument is evidenced also in the rapid increase in flock numbers between 1861 and 1891, which did *not* see a commensurate growth in the rural populations – populations rose, and towns grew, but nowhere near as quickly as herd numbers.¹⁰⁵ This mechanization of pastoral production led to a boom in what James Belich terms ‘farm-making’, which drew workers (early on, former miners, later, small selector farmers and immigrants) to settle the land; this is when towns really began to emerge, through an

¹⁰¹ McMichael, *Settlers and the Agrarian Question*, p. 216.

¹⁰² J. Gregson, ‘Memo regarding wire fencing’, in McMichael, *Settlers and the Agrarian Question*, p. 276.

¹⁰³ R. Hudson to Traill, letter, 18 July 1880; Balala records; both cited in. R. B. Walker, ‘Squatter and Selector in New England, 1862-95’, *Australian Historical Studies*, 29(8), (1957), p. 72.

¹⁰⁴ J.R. Robertson, ‘Equipping a Pastoral Property: Warrah, 1861-1875’, *Business Archives and History*, 4(1), (1964), p. 36.

¹⁰⁵ Fitzpatrick, *The British Empire in Australia*, pp. 135-136.

agglomeration of the many services needed to support the station: tool production and repair, rationing, cartage, banking, etc.. As put summarily by McMichael,

not only did fencing promote the (short-term) mortgage financing relation between urban capital and pastoralism begun in the aftermath of the 1840s crisis, but it also signalled the transition to free labour in the colonial economy, as preindustrial shepherding by contract gave way to a rural labour market.¹⁰⁶

The new paddocks varied in size, but some were more than 40,000 acres large.¹⁰⁷ And while their physical presence began to dominate the produced landscape of the pastoral frontier, their socioecological impact was wider still. As we have begun to illustrate here, these fences were expensive – costing in some places £50 per mile¹⁰⁸ – and this cost had significant implications for the emerging capitalist social relations of the colony, patterning class formation as it patterned the country. While crude overnight pens of fallen timber piled high were used early on by shepherds, fenced paddocks emerged properly through the contradictions of the 1850s labour market. But if fences were expensive, and encouraged the penetration of the pastoral economy by urban and metropolitan finance capital, then the cost of land itself would truly cement the financialization of the frontier. This process ultimately saw the end of shepherding by around 1890.¹⁰⁹ We move now to consider the commodification of land that resulted from the Robertson Land Acts, beginning in 1861.

The Frontier Commodified, 1861-1895

The Robertson Land Acts (RLA) defined land policy in the colony of New South Wales for the final third of the nineteenth century, and are one of the most-storied moments in the colonial period, especially animating historical debates in the twentieth century.¹¹⁰ The emerging urban political

¹⁰⁶ McMichael, *Settlers and the Agrarian Question*, p. 219.

¹⁰⁷ Gregson, 'Memo regarding wire fencing', p. 276.

¹⁰⁸ This is a rough figure, as the reader will appreciate. For further evidence and discussion, see J.D. Bailey, *A Hundred Years of Pastoral Banking: A history of the Australian Mercantile and Finance Company, 1863-1963*, Oxford: Clarendon Press (1966), p. 52.

¹⁰⁹ Walker, 'Squatter and Selector in New England, 1862-95', p. 72.

¹¹⁰ For just a few examples, see: W.K. Hancock, *Australia*, London: Ernest Benn (1930) p. 24; G.V. Portus, *Australia since 1606: A history for young Australians*, Melbourne: Oxford University Press (1932) pp. 159-60; E.O.G. Shann, *An Economic History of Australia*, Cambridge: Cambridge University Press (1938), pp. 200-

life of the colony, especially during and immediately after the gold-rushes, saw the dominance of the squatter challenged. With the passing of the first Robertson Land Act in 1861¹¹¹ it seemed that these reformers had achieved their goal, 'namely that agriculture would expand and that an industrious yeomanry would people and cultivate lands hitherto merely inhabited by flocks of wide-grazing sheep.'¹¹² In essence, the laws gave provision for "men of small means" to "select" blocks of land – either un-alienated, or currently held as pastoral lease by a squatter – which could then be purchased as freehold from the Crown:

Five shillings an acre was demanded as a deposit, the balance of fifteen shillings being payable in instalments in succeeding years. The selector was obliged to live on his selection for at least three years and erect improvements to the value of £1 an acre at least. Three times the area of the original free selection might be preleased if the land were available.¹¹³

These Acts remained in effect until 1895, and were only amended in 1875 – increasing the maximum size of initial selections to 640 – and in 1880, when the required cost of improvements was reduced to 10 shillings an acre.¹¹⁴ The purpose and political-economic effects of these land reforms are the subject of such extensive debate that it is difficult to comment on them only in passing. That said, this moment has never been considered from the vantage point of eco-socialism or world-ecology. How did the process of selection, and the commodification of land it represented, shape the emerging (contested) socioecological relations of the colony?

When measured against the yardstick of peopling the landscape with independent small-holder farmers and their families, the RLA were deemed unsuccessful early in historical assessment, with T.A. Coghlan, the NSW Government Statistician from 1886 to 1905, writing that they

10; A.G.L. Shaw, *The Economic Development of Australia*, Melbourne: Wilke & Co. (1944) p. 81; B. Fitzpatrick, *The Australian People 1788-1945*, Melbourne: Melbourne University Press (1946) p. 58; D. Pike, *Australia: The quiet continent*, Cambridge: Cambridge University Press (1962) p. 109; M. Clark, *A Short History of Australia*, London: Heinemann (1963/1969) pp. 143-4; J. Ritchie, *Australia: As Once We Were*, Melbourne: Heinemann (1975) pp. 108-11; J. Molony, *The Penguin History of Australia*, Melbourne: Penguin (1988) pp. 123-4; J.B. Hirst, *The Strange Birth of Colonial Democracy: New South Wales 1848-1884*, Sydney: Allen & Unwin (1988), pp. 151-2.

¹¹¹ *Crown Lands Alienation Act*, 25 Victoria, No. 1, 18 Oct. 1861.

¹¹² Walker, 'Squatter and Selector in New England', p. 66.

¹¹³ *Ibid.*, p. 66.

¹¹⁴ 33 Vic. No. 13, 10 Aug. 1875; 43 Vic. No. 29, 25 May 1880.

‘conspicuously failed.’¹¹⁵ Instead, Coghlan argued that the effect of the acts was rather to consolidate the tenure of the squatters, allowing them to transform their (potentially tenuous) leases into freehold. Much of the debate from that point on was confounded by the paucity of available data, and regional differentiation – certainly, it is clear that some regions saw more ‘successful’ selection than others. Further confusing matters were the diverse practices deployed by squatters, potential selectors, speculators, and “dummies” (parties uninterested in land, standing in as proxy for local squatters). It was common practice for squatters to secure their interests through their right to pre-emption on parts of their runs: if a squatter could secure key waterage and frontage sites, they might effectually secure their entire run, for such geographical features were key to successful production. Selectors too would stretch the law to their advantage where they could, often securing blocks much larger than 320 acres by purchasing neighbouring blocks under the names of wives and children.

None of this ought to be a surprise to a historian conscious of the material conditions of class formation and production that defined the conjuncture – that a new class of small-holding yeoman might recreate some idyllic, imagined pre-capitalist English countryside, uncontested by the existing socioecology of the pastoral commodity frontier was distinctly improbable. While surely there is no single generalization of effect of the Land Acts, Gammage gives us a useful corrective:

Small men with some capital were not interested in becoming a yeomanry, but in getting as much land as possible. A family of five ‘with £200 or £300’ did not select 320 acres and spend the balance on improvements as Robertson expected, but sought five selections of 320 acres, plus five pre-emptive leases, a total of 6,400 acres, or ten square miles – the area of a small squatting lease. The landless poor aspired not to a tenantry, but independence. The land acts were not acted upon in the spirit of an English rural ideal, but of the Australian gold rushes.¹¹⁶

¹¹⁵ T.A. Coghlan, *The Wealth and Progress of New South Wales 1901-02*, Sydney: Government Publications (1902), p. 436.

¹¹⁶ B. Gammage, ‘Historical Reconsiderations VIII: Who gained, and who was meant to gain, from land selection in New South Wales’ *Australian Historical Studies*, 2

In this sense, the process was speculative and class-aspirational. Selection was also very risky for the 'true' selector. With the legislated requirements for 'improvement' – there again is that curious socioecological concept – costs rose rapidly for such a claim. This, with the difficulty in finding "productive" land, due to squatters securing much of the best land, most required loan financing. But without collateral, selectors struggled against the market power of the entrenched squatters:

Lacking the same access to long-term finance as pastoralists, the newcomer had to find the purchase cost of the land, clear it, erect a dwelling, buy livestock and equipment, plant a crop and bring it to harvest, and finally get the produce to market, meanwhile taking casual and seasonal jobs to supplement the farm's income and help ride out bad seasons.¹¹⁷

In this way the selector struggled, and Wakefield smiled: the cost of land was high enough to ensure a group compelled to sell their labour power. Compounding this, it was common for squatters to buy up land forfeited by selectors, who could not make the land pay.¹¹⁸ Squatters also, however, found themselves increasingly indebted, as they sought finance to secure their runs.¹¹⁹ With these loans came a deep compulsion for profit, expanded production and accumulation. These general statements exploring the character of the RLA lead us to three points we will explore more closely: first, the increased integration of (urban) financial capital into the Australian landscape; second, the implications of the RLA for the ongoing processes of class and state formation; and finally, emerging from both of these points, a deepening of the production of nature for exchange – not the origins of that socioecological relation, but certainly a deepening of the contradictions of capital within nature.

As we have noted, through the 1850s merchant finance began to extend through the pastoral frontier, financing fencing, homesteading, wages, and pre-emptive claims on land. Most of that finance was, however, short-term, current account loaning. With the land reforms of the 1860s

¹¹⁷ S. Macintyre and S. Scalmer, 'Colonial states and civil society,' in A. Bashford and S. Macintyre (eds), *Cambridge History of Australia*, Cambridge: Cambridge University Press (2013), p. 192.

¹¹⁸ McMichael, *Settlers and the Agrarian Question*, p. 221.

¹¹⁹ Connell and Irving, *Class Structure in Australian History*, p. 107.

not only did the quantity of credit expand, but it also shifted qualitatively, increasingly toward long-term financing. These long-term mortgages were generally secured by liens on wool – a legal-financial technic backed by the colonial and imperial states, which gave finance a legal, state-supported claim to the wool clip, or *in extremis*, the animals themselves in the event of default. In short, the commodification of land (and inflation thereof driven by speculation and competition with selectors and dummies) led to the indebting of the landed pastoral class to urban financial capital.¹²⁰ To briefly bring the world-historical back into view, this process was occurring during a global spike in wool prices during the 1860s, driven in part by the interruption to global cotton production that resulted from the American Civil War: ‘during 1861-65 the export of Australian wool rose 71% above the export of the previous four years.’¹²¹ This is significant. The first wool boom was driven and shaped by the ‘cheap nature’ of the frontier, flocks following the deep grasses produced by Indigenous care for country. This second boom was patterned less by Indigenous or natural agency, and was increasingly determined by the structuring force of value. It is worth reading McMichael at length on this point:

The process of land selection transformed pastoral capital accumulation, which shifted to a capitalist mode as land became a commodity. Production methods intensified and increased wool yields, labour relations changed, and pastoral finance switched to a long-term basis. Indeed, the transformation of squatting runs into permanent, improved pastoral stations marked the subjection of pastoral production to urban capital. Traditional wool-growing practices regulated by natural forces and makeshift methods of squatting submitted to the rationalizing forces of urban capital, oriented to unit productivity in a *qualitative*, rather than a *quantitative*, sense... The penetration of the production sphere by urban capital (as pastoral finance capital) was the outcome of competition for pastoral agency by merchants and bankers, merging with pastoral capital as concentration and centralization proceeded... In this context, local urban capital increased its hold over the pastoral economy by using land reform to compel pastoralists to capitalize their operations, and opening up and transforming the landed economy with selectors.¹²²

McMichael’s emphasis on these increasing and multiplying compulsions on producers to capitalize, mechanise, expand and profit shows us that through land reform and financialization the pastoral frontier was becoming internalized into the totality of capital. We might, however, push back against his hard distinction between ‘capitalist’ and ‘traditional’ modes of production

¹²⁰ Fitzpatrick, *The British Empire in Australia*, p. 384.

¹²¹ *Ibid.*, p. 12.

¹²² McMichael, *Settlers and the Agrarian Question*, pp. 228, 232, emphasis in original.

– as this chapter and that proceeding attempt to show, the expansion of the pastoral frontier, driven by its many ‘cheap [un-commodified] natures’ is a necessary and constitutive relation to the world-ecology of capitalism.

To unpack McMichael further, there is an interesting debate invoked as ‘bankers’ are seen to be ‘merging with pastoral capital.’ Implied here is the ongoing process of class formation, patterned by the nature of production – specifically, the emergence of ‘company ownership’ of pastoral land and production. Companies had operated on the pastoral frontier for some time; a salient example being the Australian Agricultural Company (AACo), a chartered company established in London in 1825, and given the right to claim a lease of a million acres of its own choosing.¹²³ But largely squatters operated (legally) as individuals, or partners: representing 76.5% and 22.5% respectively of all registered pastoral leases in 1866.¹²⁴ At this point banks and incorporated entities represented less than one percent combined. By 1890, the structure of the industry had shifted significantly (Table 4.1).

Table 4.1 – Shares (%) of total registered pastoral leases in New South Wales, 1890.¹²⁵

	Banks	Companies	Partners	Individuals
1890	22.9	15.2	17.5	44.4

The meaning of these figures was the subject of some debate, especially between Brian Fitzpatrick and Noel Butlin. Fitzpatrick argued that these figures demonstrated that from around 1870 the independent pastoralist, through foreclosure and surrender, was supplanted by “company ownership and operation.”¹²⁶ Through close historical analysis and argument, Butlin contested

¹²³ The AACo will be a central focus of the following chapter, in the context of fossil capital.

¹²⁴ Butlin, *Investment in Australian Economic*, p. 135.

¹²⁵ *Ibid.*

¹²⁶ Fitzpatrick, *The British Empire in Australia*, p. 384.

‘that ownership was based merely on the possession of pastoral property as collateral security held under mortgage’, and that ‘it does not appear to be the case that company ownership of pastoral stations did become typical by the end of the century.’¹²⁷ And yet in the course of Butlin’s orthodox critique of a leading Marxist historian of that time, his conclusions essentially reinforce Fitzpatrick’s argument:

[P]astoralists accepting mortgage loans retained merely an equitable interest in mortgaged stations and became, essentially, tenants... Not only was their technical security greatly reduced, but their freedom to carry on pastoral enterprise was affected in some important respects. Pastoralists came to operate mortgaged stations subject to a considerable degree of financial and commercial restriction, and, to a less extent, of managerial control.¹²⁸

Missing the wood for the trees somewhat, Butlin fails to see that his conclusions are the same as Fitzpatrick – that pastoralists were increasingly impinged by the logics and demands of financial capital. In this way, as the operations of pastoral stations shifted toward higher and higher capitalization, with producers compelled to maintain profitability in order to keep the banker at bay, the increasing financialization of the pastoral frontier *constituted a new socioecological frontier*.

The production of nature took on a qualitatively different form – one that might be recognized as more-traditionally ‘capitalist.’ Indeed, it was during the period of the Robertson land reforms that land-clearing emerged in earnest as a form of land-use necessitated by the logic of capital at the commodity frontier. Both selectors and squatters alike (although for different reasons) ‘went in for ring-barking on an enormous scale’ from the 1860s.¹²⁹ The selector cleared land to attempt to eek out an agricultural existence on the marginal land they were relegated to by squatter class-power. Cleared land might appease the demand of the state that their selections be ‘improved’, while agriculture was less compatible with many Australian siconatures, compounding the need

¹²⁷ N.G. Butlin, ‘Company Ownership’ of N.S.W. Pastoral Stations’ *Australian Historical Studies*, 4(14) (1950), p.90.

¹²⁸ *Ibid.*, p. 110.

¹²⁹ G. Bolton, *Spoils and Spoilers: A history of Australians shaping their environment*, 2nd ed., Sydney: Allen & Unwin (1992), p. 42.

to clear trees so that crops might be planted.¹³⁰ The squatter might clear land to provide timber for fencing, to increase the ratio of labour to sheep, or simply to squeeze a larger flock into the paddock. And while some socioecological regimes of production were more successful than others, the crux is here: that as nature is produced under the strictures of capital, contradictions emerge. Disciplined by mortgage repayments, they look to squeeze wage costs – the classical Marxist contradiction of capital, grounded in the labour relation.¹³¹ But so too does that discipline lead to overstocking, overgrazing, or simply bringing ungulates into ecologies which had evolved without their ground-compacting hooves. Socioecological regimes of burning are interrupted, native grasses marginalized, and land is cleared of living and dead timber – and with it, habitat for a plethora of mammals and birds. In short, the origins of the socioecological crises of modern Australia are rooted in the logics of the pastoral frontier; the socioecological fault-lines of Robertson land acts can – and must – be traced through to today.

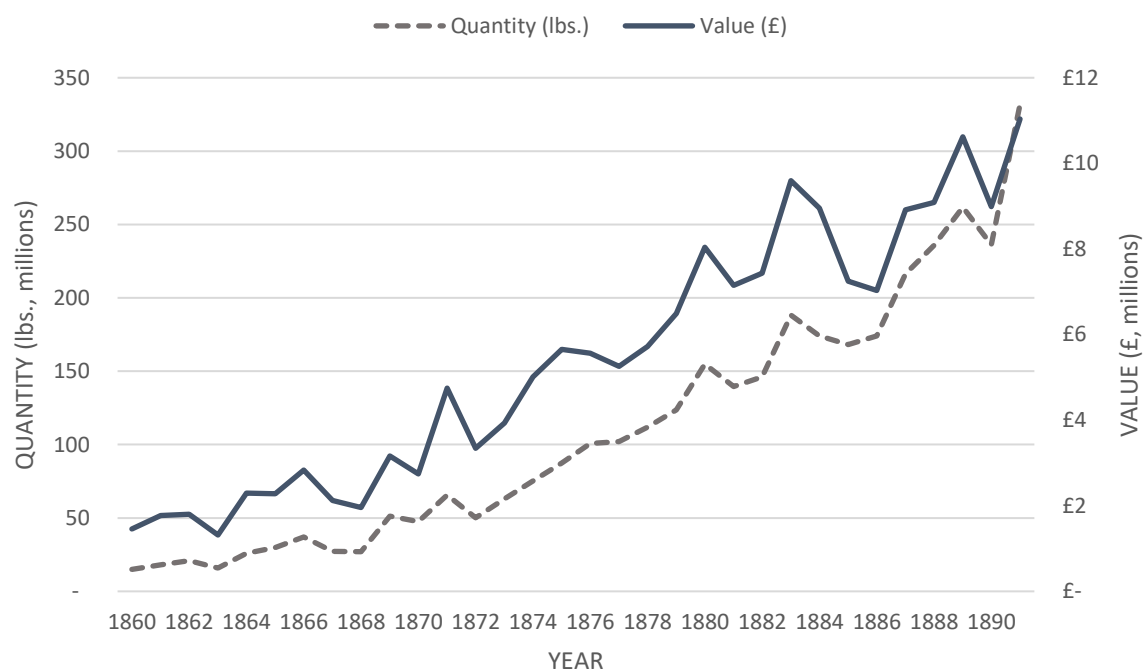
The land reforms of the 1860s are a key moment in a socioecological history of capitalism in Australia. Our engagement with this period and its literature has been brief, simply attempting to reveal these policies as *socioecological* in character, and to show the internal relations between class formation and the production of nature. This builds on the argument of the previous chapter, that these processes were premised on the violent extirpation of Indigenous peoples, societies, and their enduring socioecological regimes. What find is the production of nature at the commodity frontier being driven by the structuring power of value, illustrated by the sustained growth of sheep populations, and the value of the wool clip (Figure 4.2). The scope of this frontier is thrown into stark contrast, when the expanding sheep populations across the colonies is

¹³⁰ Indeed, the incompatibility of much of Australian socionature with imported European farming methods is typefied by the now-famous ‘stump-jump plough’ – a new type of plough invented in 1876 as a response to the South Australian government offering a £200 reward for a machine that would facilitate farming in the rough mallee scrub that covered much of the south. J. Hirst, ‘Stump-jump plough’ in G. Davison, J. Hirst, and S. Macintyre (eds), *The Oxford Companion to Australian History* (2001) Oxford: Oxford University Press; D. Whitelock, *Conquest to conservation: A history of human impact on the South Australian environment*, Cowandilla, SA: Wakefield Press (1985).

¹³¹ D. Harvey, *Seventeen Contradictions and the End of Capitalism*, London: Verso Books (2014), pp. 79-90.

compared to the settler population – a bizarre demography that is only explicable through an account of the commodity frontier, and its role in the history of Australian capitalism (Figure 4.3). There is one last element in this story that needs to be explicated a little more clearly, however: the state as environment-maker.

Figure 4.2 – Wool export quantity and value, NSW, 1860-1890¹³²



Students of Australian political history might find it strange to hear such frequent invocations of “the state” in this thesis, with such little attention paid to the many institutional changes occurring during the period explored above. Our history of the pastoral frontier has sped through more than half a century of history in the space of a few thousand words, with no mention of the emergence of responsible government, or the shifting boundaries of the polity in question: New South Wales in the 1830s included Port Philip, New Zealand, and extended all the way north to Cape York. By the 1860s, Victoria, South Australia, Queensland, and New Zealand had all been excised. A process

¹³² T.A. Coghlan, *Sheep and wool in New South Wales: with history and growth of the pastoral industry, of the colony as regards both these items of production*, Sydney: Government Printer (1893), p. 18.

of liberal democratization had occurred, first with limited democratic representation on the Legislative Council – with two-thirds of the council to be elected by “men of means” from 1846 – and then with the advent of responsible government and the creation of a Legislative Assembly in 1856.¹³³ While there is interest in these changes, and a materialist account of these processes¹³⁴ would be welcome, our concern with the state is at a higher level of abstraction. Self-government is, however, a significant moment of state formation. As we have seen above, and will see again in the following chapter, at certain points the interests of the colonial and imperial states differed and came into conflict. That said, the relative ease of achieving self-government for the colony of New South Wales (compared, for instance with those in North America) speaks to the compatibility of self-government with the interests of the imperial state:

Free trade was guaranteed by the supremacy not only of the British Navy on the trade routes but also of British industry in world markets. This made possible the contraction in the sphere of the imperial state in relation to colonies of British settlement; there was room now for the exercise of local autonomy by regional sections of the imperial ruling class in these colonies, provided that colonial interests were always subordinated to those of the mother country.¹³⁵

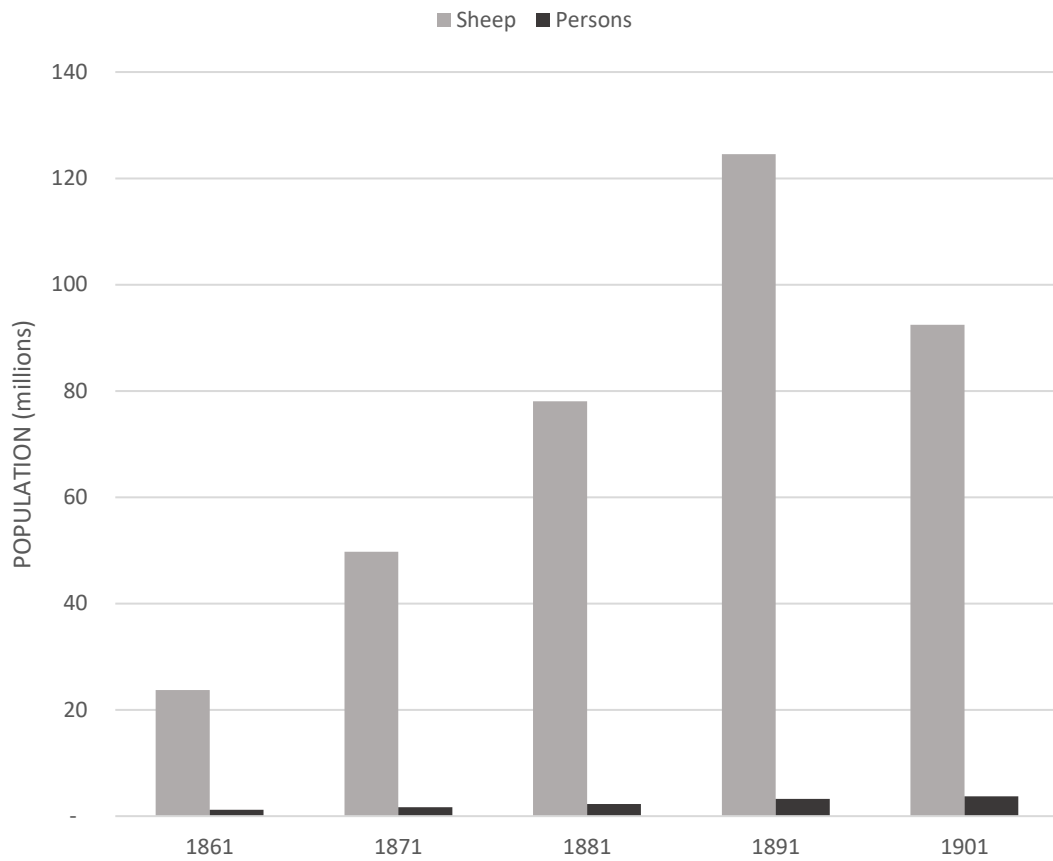
The history of the pastoral frontier – and the expansion of capital in that space – was a buttress to these imperial interests. While there was some competition between domestic and British banks during the boom of the 1850s and 1860s, especially between the Bank of New South Wales and the Bank of Australia, the pace of the boom made space for both. Whether as an avenue for British capital to invest, as a source of wool for the textile mills of northern England, or as a strategic asset for the British military, the dominance of pastoral capital in the colonial political economy ensured metropolitan interests. State formation, in its world-historical context, helped to drive the socioecology of the pastoral frontier, and its contradictions. Indeed, without the state seizing the land in the first place, none of this could have occurred.

¹³³ For this kind of political history, one might start with: P. Loveday and A.W. Martin, *Parliament, Factions and Parties: the First Thirty Years of Responsible Government in New South Wales 1856-1889*, Carlton, VIC: Melbourne University Press (1966); P. Loveday, A.W. Martin and R.S. Parker (eds) *The Emergence of the Australian Party System*, Sydney: Hale and Iremonger (1977); A. Curthoys and J. Mitchell, ‘The advent of self-government, 1840s-90’, in A. Bashford & S. Macintyre (eds), *The Cambridge History of Australia*, Cambridge: Cambridge University Press (2013), pp. 149-169.

¹³⁴ The closest we have to such histories are H. McQueen, *A New Britannia: revised edition*, Brisbane: University of Queensland Press (2004); Connell and Irving, *Class Structure in Australian History*.

¹³⁵ Connell and Irving, *Class Structure in Australian History*, p. 108.

Figure 4.3 – Population of Persons and Sheep, Australian colonies, 1861-1901.¹³⁶



But whether the state is colonial or imperial, our interest here is with the state as a ‘crucial ecology making institution within the metabolism of capitalism.’¹³⁷ Much of what has been discussed above immediately resonates with the theoretical exploration of Chapter Two. Indeed, if we take the insights of James Scott and James O’Connor together, with their relative emphases on *legibility* on the one hand, and *taxation* on the other, debates over the class-character of the Robertson land reforms recedes somewhat. As put by McMichael,

the relative success of selector legislation was secondary to the actual process of centralizing land settlement policy by the creation and administration of the land market... [and] the sale of the colonies’ greatest resource provided a source of funds other than direct taxation.¹³⁸

¹³⁶ T.A. Coghlan, *Statistics of the Six States of Australia and New Zealand, 1861-1903*, Sydney: Government Printer (1904), p. 20; Australian Bureau of Statistics, *Australian Historical Population Statistics*, cat. no. 3105.0.65.001, Canberra: ABS (2006).

¹³⁷ Parenti, ‘The Environment making state: Territory, nature, and value,’ p. 843.

¹³⁸ McMichael, *Settlers and the Agrarian Question*, p. 234. See also

Whether land was secured by a pre-emptive squatter purchase, or selected, it had to be surveyed. With surveying, the state began to develop its ability to *know* its territory, to exist as a territorial entity. Indeed, with the other Australian colonies separating out from New South Wales, state power could be exerted over a far more definite and knowable space. Concurrently, the interests of the state were advanced through securing its basis in taxation, and in-so-doing tying itself to the maintenance of this new land regime. As Gammage reminds us, judging the 'successes' of land reform depends on what you believe its purpose was; from this perspective, the RLA were certainly a success, supported further by their durability.¹³⁹

Plate 4.5 – *Bailed Up*, 1895/1927, T. Roberts.¹⁴⁰



The colonial state struggled to assert control over a territory which expanded rapidly, pushed outward by the commodity frontier. The movement of money-capital within the colony was threatened by the spectre of the bushranger.

¹³⁹ Gammage, 'Land Selection in New South Wales', p. 109.

¹⁴⁰ Art Gallery of New South Wales, <https://www.artgallery.nsw.gov.au/collection/works/833/>

An interesting microcosm that illustrates the contested nature of state formation is the history of Australian 'bushranging' – another moment in settler-colonial Australian folklore well explored by cultural and social historians, but with important material implications for state formation at the commodity frontier (Plate 4.5). One might keep Scott and O'Connor in mind to read one of the early challenges of the newly-independent New South Wales government in this period. The booms of gold and wool, and the financialization and mechanization of each, led to significant quantities of money travelling around the bush. State power in the form of the violent enforcement of private property (over money) through the carceral and policing systems was still incomplete over much territory. This, with the class contradictions of selection, created an environment where the bushranger might seek to struggle against, or even exit, state society. This is the very process explored by Hobsbawm, though he looks more generally at the 'bandit': 'they are peasant outlaws whom the lord and state regard as criminals, but who remain within peasant society, and are considered by their people as heroes.'¹⁴¹ Interestingly, Hobsbawm suggests that under a capitalist agrarian system social banditry creases to emerge – does this suggest, then, that Ned Kelly was operating outside of capitalism? Certainly, as a poor Irish selector with clear grievances with class domination, and the alignment of the state with landed capital, Kelly directly challenged the *legitimacy* of the colonial state. In his own words,

Boggy Creek and King River and the run of their stock on the certificate ground free and no one interfering with them paid heavy rent to the Banks for all the open ground so as a poor man could keep no stock. And impounded every beast they could get even off Government roads. If a poor man happened to leave his horse or a bit of poddy calf outside his paddock they would be impounded. I have known over 60 head of horses impounded in one day by Whitty and Burns all belonging to poor farmers.¹⁴²

Here we see Kelly taking issue with the power of the local squatters, and their entanglement with the uneven enforcement of property rights by the state. Kelly might have been engaged in a struggle with the Victorian state, and against landed capital within that territory, but he did have plenty of less-famous equivalents north of the Murray in New South Wales: Frank Ward, for

¹⁴¹ E. Hobsbawm, *Bandits*, New York: Pantheon Books (1969/1981), p. 17.

¹⁴² N. Kelly, 'Jerilderie letter', National Museum of Australia, p. 16. Transcript available online at <https://www.nma.gov.au/explore/features/ned-kelly-jerilderie-letter/transcription>

example, was a bushranger in the New England region, going by the name of ‘Thunderbolt.’¹⁴³ He too positioned himself as the selectors’ Robin Hood against the lords of the Squattocracy. These highwaymen would steal stock, and hold up Cobb & Co. carriages, seizing moneys indiscriminately, be they taxes or bank deposits, inflaming the interests of both capital and the state. The end of the period of bushranging toward the close of the century shows the increasing power and territoriality of the state (Plate 4.6). Without this state power, the profitability of the frontier carried even more risk than the ever-present climate variability, disease, and global wool prices. By removing this risk, through completing its violent control of the landscape, the state again ‘cheapens’ nature historically for capital. Even in shooting down Ned Kelly, or Thunderbolt, the state is working socioecologically, as environment maker.

Plate 4.6 – *Death of Frederick Ward (aka Captain Thunderbolt), 1870, S. Calvert.*¹⁴⁴



‘Captain Thunderbolt’ was a bushranger in the New England region. A rock formation just south of Uralla was known to be one of his hideouts. Thunderbolt was not the last of the bushrangers, but toward the end of the 19th century more and more of these outlaws were overcome by the violent arm of the state, as seen here.

¹⁴³ J.S. Ryan, ‘Stories and Prose,’ in A. Atkinson, J.S. Ryan, I. Davidson and A. Piper (eds) *High Lean Country: Land, people and memory in New England*, Sydney: Allen & Unwin (2006), pp. 298-9.

¹⁴⁴ State Library of Victoria, IAN18/06/70/116.

Conclusion

The driving research question at the heart of this thesis is how have 'commodity frontiers' shaped the socioecology of Australian capitalism? Within that frame we consider what conditions determined the production of nature and crisis at the frontier, and how that influences our broader understanding of capitalism as socioecology. The frontier is a site of contradiction and crisis. For Moore, a central feature of the frontier is that it is always, at some point, exhausted – not in a biophysical sense, rather that the historically-specific conditions that make nature cheap are riven through with contradiction. It is this socio-ecology of crisis that propels the frontier out further still, searching for new cheap natures.¹⁴⁵ This exhaustion is a combination of the biophysical, and what Moore terms 'historical Nature' – that is, how Nature articulates with world-capital at that point in time, its cheapness, and its contested commodification. The usual periodization of the Australian pastoral frontier traces three 'booms': 'Boom One', 1828-1842, 'Boom Two', 1847-1867, and 'Boom Three', 1871-1891.¹⁴⁶ Only the first of these was a true biophysical 'boom,' although it too was socially-conditioned by primitive accumulation and extirpation; as put by Griffiths, the first wave of the Australian pastoral frontier provided the settlers 'and their flocks with a short-lived bounty, an ecological niche that was exhausted in their lifetimes.'¹⁴⁷ This exhaustion was both social and natural (as indeed all processes are under capitalism), as "vacant" land was filled (vacant of sheep and settlers, in the eyes of the invaders), *and* the rich soils, yam fields, and sweet kangaroo grasses were quickly decimated by sheep – 'empire's proxy.'¹⁴⁸ From the 1860s, we have two related developments. The creation of a market for land, with the Robertson Land Acts, starting 1861. And from this period, we also see the need of pastoralists and selectors to clear land, as they 'went in for ring-barking on an enormous

¹⁴⁵ J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), pp. 111-112.

¹⁴⁶ J. Belich, *Replenishing the Earth*, p. 357.

¹⁴⁷ T. Griffiths, 'Introduction,' in T. Griffiths & L. Robin (eds), *Ecology and Empire: Environmental History of Settler Societies*, Edinburgh: Keele University Press (1997), p. 11.

¹⁴⁸ L. Dale, 'Empire's Proxy: Sheep and the Colonial Environment,' in H. Tiffin (ed.), *Five Emus to the King of Siam: Environment and empire*, Amsterdam: Rodopi (2007), pp. 1-14.

scale.’¹⁴⁹ While a traditional Marxist¹⁵⁰ account might be primarily concerned with the period following the commodification of land, world-ecology helps us to see this not as a simple ‘origins of capitalism’ moment, but rather a response to the contradictions already set in motion by the *frontier of capital*; exhaustion, followed by deepening commodification, spatial and temporal fixing, and overall ‘cheapening’, as stages in the same dialectical process. Just because land was not yet commodified before 1861 does *not* mean that the socio-ecological relations established by the settlers-invaders before that point were not capitalist – rather, the opposite. World-ecology renders this period legible in new and important ways. It will be the task of later chapters to situate this commodity frontier in incorporated comparison with other commodity frontiers, showing from more vantage-points the socioecological totality of capitalism. It has been the purpose of this chapter to open this history to our attention, guided especially by the conditions of the frontier, of the production of cheap nature through class, state, gender, and race. This chapter builds on our previous chapter, contrasting the expansive and exhaustive proliferation of sheep and settlement with the abiding relations of care that preceded them. While brief, this engagement with Aboriginal political economies emphasized the incredibly deep history of the Dreaming, and the processes of caring for country that this ontology-theology demanded. These were societies which show the historical specificity of the Cartesian dualism: there was no wilderness, and there was no ownership of land. In the words of Bibbulmun woman Chontarle Bellottie, ‘wilderness is not in my language. It’s not in the way that I communicate, because for me, my interpretation of [wilderness] is untouched, whereas we know as traditional owners that we’ve cultivated and gathered and hunted for so many thousands of years.’¹⁵¹ Rather, there was

¹⁴⁹ Bolton, *Spoils and Spoilers*, p. 42.

¹⁵⁰ Adopting Moishe Postone’s pejorative usage: Postone, *Time, Labour, and Social Domination*, p. 7.

¹⁵¹ C. Bellottie, quoted in J. Khan, “‘Wilderness’ evokes untouched landscapes, but can erase Indigenous people. Is it time to stop using the term?”, *ABC Science*, 2 Oct (2021), available at <https://www.abc.net.au/news/science/2021-10-02/wilderness-conservation-indigenous-science/100500954>

belonging to country, and holistic land management. The political economy this fostered was one of sufficiency and surplus, which made Aboriginal Australia a 'leisure society.'¹⁵²

This chapter, then, explored some of the world-historical significance of wool, and why capital *and the state* would be concerned with acquiring this commodity 'cheaply'. That cheapness was secured by the character of the Australia pastoral frontier, which was a combined process of class formation, state formation, the production of nature, and connection with the centres of imperial finance. This cheapness was also ensured by the 'cheap work' done by thousands of years of Aboriginal labour, and most of all by the 'cheap lives' of their descendants, violently extirpated from their land, so that it might be considered "empty" and therefore free. In this way, by attempting to explore both sides of the frontier, we have shown the internal relations of these processes: extirpation and exploitation; 'free gifts' and commodification; inside and outside of state power; cheapness and exhaustion. The lesson to be learned here, at the frontier, is that primitive accumulation is ongoing, as capital searches for human and non-human natures which it might acquire 'cheaply'. States and class pattern that searching, as do the agencies of Indigenous resistance, animals, and landscapes. Contemporary socioecological crises cannot be understood without this theoretical assertion, that capital requires cheap nature, and through its violence that 'historical cheapness' will be exhausted through dialectics of crisis and commodification. That theory is illustrated and corroborated by tracing the history of the pastoral frontier. From here, we move from the horizontal frontier to the vertical, and a much-less storied commodity (at least in the eastern colonies, in this period). We turn to consider 'fossil capital,' in the mines of the Australian Agricultural Company at Newcastle. Might we find this frontier also conditioned by relations of 'cheapness', of class and state formation, of finance and compulsion, profit, and expansion?

¹⁵² Gammage, *The Biggest Estate on Earth*, pp. 3-4. This also throws into historical relief Western notions of leisure being associated with just one class: T. Veblen, *The Theory of the Leisure Class: An economic study in the evolution of institutions*, Oxford: Oxford University Press (2013 [1899]).

Chapter 5 – Fossil Capital Down Under: Descending into the ‘hidden abode’

Coal in truth stands not beside but entirely above all other commodities. It is the material energy of this country – the universal aid – the factor in everything we do.¹

The history of energy is also and above all one of political, military and ideological choices that the historian has to analyse, by relating them to the strategic interests and objectives of certain social groups. This political reading of energy history is particularly important in the present climate context...²

The anarchy of capital had to become fossil.³

Introduction

This thesis is an historical and theoretical consideration of how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism. The rapid expansion of the pastoral frontier in the Australian colonies through the nineteenth century immediately speaks to this question. This chapter goes to less expected places, and traces the relations of the commodity frontier through the emergence of coal mining in the colony of New South Wales. Through this history, we pursue capital into its ‘hidden abode’ of production, here underground. This spatial re-orientation of the frontier is not incidental, as Huber and McCarthy emphasise in their concept of a ‘subterranean energy regime,’ which ‘not only relied on underground stocks of energy, but substantially relieved

¹ W.S. Jevons, *The Coal Question: An Inquiry Concerning the Progress of the Nation, and the Probable Exhaustion of Our Coal-Mines*, London: Macmillan and Co. (1865), p. viii

² C. Bonneuil and J. Fressoz, *The shock of the Anthropocene: The Earth, history and us*, trans. D. Fernbach, Verso: London (2016, orig. 2013), p. 107.

³ A. Malm, *Fossil Capital: The rise of steam power and the roots of global warming*, London: Verso Books (2016), p. 298.

the societal demand for land-based and spatially extensive sources of fuel (i.e. wood and other organic sources).⁴ As with wool, this focus on a particular moment of the expansion of capitalist socioecological relations into and across the Australian continent unearths the historical depth of our current socioecological crises. It also unveils these apparently disparate processes as internally related: mutually interacting, dialectically co-producing. This history will draw our attention to Newcastle and the Hunter Valley, to the machinations of the colonial and imperial states, and the activities of the Australian Agricultural Company. It will also contribute to an energy history of the colony. A history of fossil capital in Australia could take many forms, but in this instance, we are focusing especially on the preconditions that allowed the generalization of fossil capital relations to occur, helping us to develop a contingent, political story. We are concerned here with what Malm terms the ‘primitive accumulation of fossil capital’:

for a consumer and, more importantly, an industrial capitalist to be able to acquire fossil fuels, there must already be a capitalist specializing in the provision of F [fossil capital] to the market *as his own immediate object of profit-making*, his material detour to the accumulation of capital.⁵

To express this simply, the primitive accumulation of fossil capital = $M - C \dots P \dots C'(F) - M'$.⁶ As we shall see, the establishment of this relation was contingent and challenging, for the state and for capital.

Importantly, this chapter also reinforces the focus of the thesis on totality. As we see with the epigraphs from Jevons and Malm above, coal has historically had a generalising quality – it became a ‘factor in everything we do,’ leading to the impression that capital ‘had to become fossil.’ The method of incorporated comparison, and an appreciation of capital as an emerging totality of socioecological relations, helps us see that what is generalising about coal is not coal itself, but rather coal has historically spread through the relations of commodity production because the

⁴ M.T. Huber and J. McCarthy, ‘Beyond the subterranean energy regime? Fuel, land use and the production of space,’ *Transactions of the Institute of British Geographers*, 42: 655-668 (2017), p. 655.

⁵ *Ibid.*, 291.

⁶ M = money, C = commodities, P = production, F = fossil fuels, M' = money prime, or an increased amount of money. See Malm, *Fossil Capital*, p. 291.

relations of cheap nature are totalizing. This broad embrace of fossil capital as cheap energy is especially intriguing from the perspective of the commodity frontier, as this history will show. In some ways coal in the Hunter Valley was *not* an obvious frontier, a site where nature could be got cheaply, as coal mining required such extensive state subsidy and support to establish the primitive accumulation of fossil capital. But through the efforts of the environment-making state, a fossil capital frontier did eventually emerge, showing that frontiers are *socioecological*, not simply biophysical – they are historically specific, and often created through shifting social relations. Further, when fossil capital eventually becomes applied across the spectrum of commodity production, this cheap energy creates, accelerates, and fixes contradictory, failing frontiers elsewhere. This again reinforces the analytical and political power of historical materialism in its ecosocialist and world-ecological forms, as an approach which has the methodological tools to grapple with totality.

As we shall see, the emergence of this circuit of the primitive accumulation of fossil capital evinces the epigraph of Bonneuil and Fressoz above: this process was not a natural one, simply determined by ‘price’. Fossil capital ‘Down Under’ absolutely presented ‘Cheap Energy’ to capital, but that ‘cheapness’ was historical; it was contingent, and heavily reliant on the state. That cheapness is also historical in another sense, as the ramifications of burning those coals echo through time and space in a way that neoclassical equivalence can never grasp. We might also keep in mind that ‘cheapness’ in the sense of world-ecology includes ‘Cheap Lives’.⁷ First, the land from which the coals were raised were – and are – owned by the Indigenous inhabitants: the Awakabal and Worimi peoples. The entire history this chapter tells is predicated on the seizure of their land, secured through violence and disease. In the case of the NSW collieries, Marx’s words on primitive accumulation again ring true; just as was the case with wool, ‘capital comes dripping

⁷ R. Patel and J.W. Moore, *A History of the World in Seven Cheap Things: A guide to capitalism, nature, and the future of the planet*, London: Verso Books (2018), pp. 35-38.

from head to foot, from every pore, with blood and dirt.’⁸ The category of capital, however, includes other victims in the search for profit beyond the narratives of settler-colonial studies. The first recorded death in NSW coal mining, at Newcastle’s Nobby’s Mine, was in 1816, ‘and over the next 200 years over 1800 men and boys (the youngest 13 years) would die in ‘accidents’ in the Hunter and northern NSW District.’⁹ The tendency of capital to cheapen lives through its myopic attention to value, especially in the case of coal mining, was appreciated also by Marx. In reference to the 8,466 reported deaths in British mines during the 1850s, Marx noted that capital ‘is extremely sparing with the realized labour that is objectified in its commodities. Yet it squanders human beings, living labour, more readily than does any other mode of production, squandering not only flesh and blood, but nerves and brain as well.’¹⁰ Cheap Lives animated the pastoral frontier, through the extirpation of Indigenous Australians. The violence of fossil capital is broad and enduring – not only did it consume the bodies of those colonial subjects (often transported from other colonial frontiers, further exhausted, such as Scotland and Wales), but those coals dug up and burnt in nineteenth-century-hearths and boilers and foundries contribute in their own way to the violence done by the climate crisis today. Unearthing the relations that drive such violence is the crucial politics of energy history, and of world-ecology.

Unlike wool, the history of coal in NSW in the nineteenth century is not well-storied. In conventional economic histories of Australia and its constituent colonies, coal generally only emerges onto the field as a minor player toward the end of the nineteenth century, finally taking a leading role toward the end of the twentieth.¹¹ The boom of the early twenty-first century elevated this importance further, leading to Australia being described as a ‘coal superpower.’¹²

⁸ K. Marx, *Capital: Volume 1*, London: Penguin Books (1976), p. 834.

⁹ M. Quinlan, *The Origins of Worker Mobilisation: Australia 1788-1850*, New York: Routledge (2017), p. 188.

¹⁰ Marx, *Capital III*, p. 182.

¹¹ For a recent history of coal, consider M. Duck, ‘The Australian Resources Boom: Consolidating neoliberal hegemony’, *Journal of Australian Political Economy*, Issue 83 (2019).

¹² S. Rosewarne, ‘The transnationalisation of the Indian coal economy and the Australian political economy: The fusion of regimes of accumulation?’ *Energy Policy*, 99: 214-223 (2016).

The entanglement of fossil capital with the state, and the resultant impasse regarding energy policy change, is well explored in the current conjuncture.¹³ If one's definition of economic importance leads to looking beyond the national export tables, then perhaps you might see coal earlier, being bound up with the energy history of the early twentieth century, when 'Newcastle was probably the busiest coal port south of the Equator. In the steep hills behind the town lay fine seams of steam coal that was mined cheaply, carried cheaply the few miles to the wharves, and shipped cheaply to ports on nearly every coastline of the Pacific Ocean.'¹⁴ But even Blainey, one of the few historians whose work might be thought of as contributing to an energy history of the Australian colonies dismissed the early period of coal mining, or, rather, *the frontier of coal*. For him, in the first half of the nineteenth century, 'the timber cutter was more important than the coalminer.'¹⁵ Of course, the orthodox preoccupation with ranking the "importance" of commodities (generally by price) is not our primary concern here. Rather, the argument is that it when we explore the history of the frontier – whether horizontal or vertical – we see how socionatures are rearranged to create historical 'cheapness.' This is a crucial step, if we are to grapple with the contradictions and crises of the Capitalocene. Doing so equips us with a history that can account for the origins of our current crises *and in-so-doing define them*. In this we attempt to move beyond the 'consequentialist bias'¹⁶ of the Anthropocene, which looks for origins in stratigraphy; rather we look further back to locate the relations that led to the frontier being pushed in the first place. This is the work done by incorporated comparison: working back from the contemporary dominance of coal to produce a history of just that one commodity would not sufficiently emphasise the internal relations of this commodity frontier with others, or show that the later dominance of coal emerged through an already-emerging totality of socioecological

¹³ For example, L. Connor, *Climate Change and Anthropos: Planet, people and places*, Routledge: New York (2016); R. Pearce, *Pricing Carbon in Australia: Contestation, the State and Market Failure*, Routledge: New York (2018).

¹⁴ G. Blainey, *The Tyranny of Distance: How distance shaped Australia's history*, London: The History Book Club (1968), p. 283.

¹⁵ G. Blainey, 'Riding Australia's big dipper', *Griffith Review*, 12: 127-136 (2006), p. 129

¹⁶ J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), p. 171.

relations. In this way, processes otherwise treated as disparate are appreciated as internally related. This approach also helps to reinforce the ecosocialist assertion, which sees a range of processes normally treated as narrowly social – urbanization, electrification, class contradiction, financialization and production writ large – as fundamentally *socioecological*.

The relative neglect of the colonial coal mines in Australian (political) economic historiography demonstrates a conceptual failure to appreciate the socioecological nature of production. As we have mentioned, much has been made of the rapid expansion of the colony's pastoral economy,¹⁷ gold rushes,¹⁸ and urbanization as being integral to Australia's historical developmental trajectory.¹⁹ Each of these narratives of Australian economic growth, however, suffer from an energy "blind-spot:" these stories lack an explanation for the emergence of the energy regime which underpinned these other processes of economic growth – or, rather, capital accumulation as socioecology. And so, while the underdevelopment of energy history in Australia²⁰ demonstrates a broader analytical problem, it also means that we have much less secondary historical material to draw upon to trace these early stages. Some quantitative data is available in T.A. Coughlan's seminal statistical work in *The Wealth and Progress of New South Wales*, as well as the work of Pemberton in the compilation of data presented in *Pure Merinos and 'Others'*.²¹ There is only one other historical inquiry into the development of coal mining in the Hunter valley

¹⁷ For example, P. McMichael, *Settlers and the Agrarian Question: Capitalism in colonial Australia*, Cambridge: Cambridge University Press (1984); J.B. Madsen, 'Australian economic growth and its drivers since European settlement,' in Ville and Withers (eds), *Cambridge Economic History of Australia*, pp. 29-51.

¹⁸ G. Blainey, *The Rush that never ended: A history of Australian mining*, Melbourne: Melbourne University Press (1993).

¹⁹ N. Butlin, *Australian domestic product, investment and foreign borrowing, 1851-1938/39*, Cambridge: Cambridge University Press (1962).

²⁰ Compared with better-developed energy histories in North America, Europe, India, and elsewhere: Smil, V., *Energy in World History*, Boulder, Colo.: Westview Press (1994); A. Kander, P. Malanima, & P. Warde, *Power to the People: Energy in Europe over the Last Five Centuries*, Princeton: Princeton University Press (2014); C.F. Jones, *Routes of Power: Energy and Modern America*, Cambridge, MA: Harvard University Press (2014); Malm, *Fossil Capital*; S. Bhattacharjee, *India's Coal Story: From Damodar to Zambezi*, New York: SAGE Publishing (2017). A notable exception to this gap in Australia's energy history is G. Wilkenfeld, *The electrification of the Sydney energy system, 1881-1986*, PhD Thesis, Macquarie University (1989).

²¹ T.A. Coughlan, *The Wealth and Progress of New South Wales* (v. 2), 8th edition, Sydney: NSW Government Printer (1896); P. Pemberton, *Pure Merinos and Others: The shipping lists of the Australian Agricultural Company*, Canberra: ANU Archives of Business and Labour (1986).

which utilizes these same sources: Turner's *Coal Mining in Newcastle, 1801-1900*.²² Turner's history is invaluable, but largely descriptive. And so, while much of the historical content of this thesis makes its contribution through interpretation, this chapter also offers some novel historical content, drawing especially on the archives of the Australian Agricultural Company (AACo).

Following previous chapters, this chapter will be generally structured chronologically – focusing on key moments, processes, and agents – moving quickly through the nineteenth century. First, we will consider the discovery of coal, the ideology of steam, and the colonial state; second, we will explore the granting of a state-backed monopoly *and* monopsony to the AACO; third, we consider the emergence of competition, and how fossil capital navigated the turbulence of the gold rushes; finally, we provide consideration of the maturation of fossil capital in crises of overproduction and price-fixing. Throughout we will connect the analysis of production to the development of *demand* for fossil fuels by other fractions of capital. This process led New South Wales to rely on steam as the dominant form of industrial horsepower well before comparator settler-colonial political economies. As we move through this history, we will again see the explanatory power of eco-socialist and world-ecological categories, especially commodity frontiers, cheap nature, primitive accumulation, and the state as environment-maker. Before beginning this history, however, we will first add one more category to our lexicon: fossil capital. At hand is the question of how have 'commodity frontiers' shaped the socioecology of Australian capitalism? What are the socioecological relations that define these processes, and how are they conditioned? Grappling with these questions, this chapter will continue the development of several arguments: that the origins of capitalism – and the Capitalocene – in Australia begin earlier than some suggest, with invasion itself; that capitalist socioecological relations demand cheap nature, driving the search for commodity frontiers; that being driven by these same

²² J. Turner, *Coal mining in Newcastle, 1801-1900*, Newcastle History Monographs, no. 9, Newcastle: Newcastle Region Public Library (1982).

relations, the frontiers of wool, coal and sugar are internally related, sitting within a socioecological capitalist totality; that this internal relation demonstrates how the socioecological crises of the current moment are similarly related, conceptually singular – species extinction, climate change, water depletion and soil loss are all socioecological crises of our capitalist totality; and that the historical ‘cheapness’ of the frontier is not merely biophysical, but emerges through social relations – especially the social relations of the environment-making state. And so, with these questions, and tentative arguments, in our minds, we turn to fossil capital, ‘down under’.

Fossil Capital

The central claim developed with the category of ‘fossil capital,’ as articulated by Malm, is the idea that while capital predates fossil fuels, at a certain point in its development, capitalism came to be defined (at least in part) by its particular relation to fossilized sunlight and ancient, compressed vegetative material: ‘[fossil fuels] are not merely necessary as leather for boots, raw cotton for cotton textiles or iron ore for machines: they are utilized *across the spectrum of commodity production* as the material that sets it in physical motion’.²³ This argument builds on the category of ‘cheap energy,’ which shows how the socioecological relations of cheapness and the commodity frontier operate in a particular way with fuel:

Almost every other civilization has harnessed fire and found material that can sustain flame...[However,] the speed and scale of consumption of fuel under capitalism are unusual... Fuel does triple duty under capitalism. It is not only its own industry and force for scaling production in other industries but also provides a substitute for labour power and serves to keep that labour power affordable – and *productive*.²⁴

So far, so simple. Value requires cheapness to provide profit to capital; cheapness is magnified threefold in the instance of energy, due to the way it ramifies across the spectrum of commodity production. At a certain point, fossil fuels became predominant precisely because of their

²³ Malm, *Fossil Capital*, p. 288.

²⁴ Patel and Moore, *A History of the World in Seven Cheap Things*, pp. 34-35.

historical cheapness. This occurs because the socioecological relations of cheapness and the commodity frontier already exist, driving the adoption of fossil fuel as cheap energy.

One component of the historic cheapness of fossil fuels is spatial, as pointed out by Huber and McCarthy above. Fossil fuels ‘substantially relieved the societal demand for land-based and spatially extensive sources of fuel (i.e. wood and other organic sources).’²⁵ And while this varied historically, generally more *energy* could be extracted with less labour, when we compare coal to wood, substantially reducing the socially necessary labour time of heat and horsepower. Another component of this cheapness is temporal. Coal, and other fossil fuels, can be understood as radically compressed temporality. They are fuels that store the sunlight and life-energy of plants and animals across multiple millennia, compressed and condensed through time and gravity, which then burn in the space of minutes, the emissions of which will ramify through the climatic system for centuries. In this way they bring past, present and future into dramatic collision. Malm’s history of the emergence of fossil capital is also deeply social and political, showing how the ‘anarchy’ of competition between capitals made coal far preferable to the then-more-efficient alternative, water flows. A flow could not be hoarded for the individual producer, but rather demanded to be treated as a common. The spatial fixity of flows – embedded in the landscape – also reduced the power of capital *vis-à-vis* labour, as the flexibility to relocate production was key in breaking the bargaining power of workers during the industrialization of Britain.²⁶ The limitations of this political solution emerged toward the end of the nineteenth century, however, unearthed as the significant material power of workers involved in the production of coal energy.²⁷ This historical example of class contradiction as a socioecological contradiction then motivated the immense efforts of the imperial British state to attempt resolution of the resultant crisis, by working to secure access to oil from the Middle East in the late nineteenth and early

²⁵ Huber and McCarthy, ‘Beyond the subterranean energy regime?’, p. 655.

²⁶ Malm, *Fossil Capital*, pp. 104-120.

²⁷ See T. Mitchell, *Carbon Democracy: Political power in the age of oil*, London: Verso Books (2013), pp. 12-42.

twentieth centuries.²⁸ These shifts, from water to coal, and coal to oil, cannot be explained by a narrow, neoclassical focus on exchange – only through a historical materialist appreciation of the structural force of value, and the continuous search for frontiers which make production ‘cheap’ might we begin to grapple with this history. It is worth reiterating what Moore means by cheapness, as this key value-theoretic category continues to drive the analysis of this thesis:

Cheap Nature is “cheap” in a historically specific sense, defined by the periodic, and radical, reduction in the socially necessary labour-time of these Big Four inputs: food, labour-power, energy, and raw materials. Cheap Nature, as an accumulation strategy, works by reducing the value composition – but increasing the technical composition – of capital as a whole... In all of this, *commodity frontiers* – frontiers of appropriation – are central.²⁹

Commodity frontiers are the location where cheapness is found and created, always bound up in the dialectics of exploitation *and* appropriation. It should be immediately apparent why the capitalist would be excited by the shift toward fossil capital: not only are there strategic benefits in the anarchy of competition, against labour and against other capitals, but the energy might be put to use across the realm of production, cheapening whole swathes of the political economy. The burning of coal essentially appropriates the life-energy of deceased nonhuman species transformed into pure energy by decomposition, pressure, and time. It also appropriates land and lives into the future, through the violence of climate change. Fossil Capital emerges from the value relations of Cheap Nature.

For some, however, world-ecology and fossil capital do not sit together so comfortably. Moore has been especially concerned with the prevalence of the Industrial Revolution in ‘Green Thought,’ as a periodization pivot-point for modernity, and/or capitalism, and their concomitant ecological contradictions and crises. For Moore, ‘the fossil capital narrative ignores the epochal revolution in landscape that occurred between 1450 and 1750,’ and is concerned that conflating the emergence of fossil fuels with the emergence of capitalism obscures the ‘law of Cheap

²⁸ *Ibid.*; to trace this further forward into the twenty-first century, see also A. Bieler and A.D. Morton, ‘Axis of evil or access to diesel?’, *Historical Materialism*, 23(2): 94-130 (2015)

²⁹ Moore, *Capitalism in the Web of Life*, p. 53, emphasis in original.

Nature... “cheap” in a specific sense, deploying the capacities of capital, empire, and science to appropriate the unpaid work/energy of global natures within reach of capitalist power.’³⁰ From this view, a focus on fossil capital enforces a problematic periodization of capitalism, rendering invisible the world-ecological relations of Cheap Nature that pre-date the generalization of fossil capital. This thesis is in general agreement with this concern, demonstrated through the focus on earlier relations of invasion, primitive accumulation, and state formation. And yet this debate is not directly imbricated in this history or analysis, as our focus on 19th century Australia sits outside of the above periodizations, with the establishment of these colonies arguably emerging out of the contradictions of British industrialisation and urbanisation.³¹ Further, the story explored in this thesis is hardly fossil-capital-centric, as demonstrated by the previous and following chapters. Therefore, in this context the category of fossil capital remains useful, despite ongoing debate around the interaction of these concepts.

And yet, the view of Malm and Moore do not seem irreconcilable. It is in Malm’s category of the ‘primitive accumulation of fossil capital’ that we find a possible resolution:

For a private consumer and, more importantly, an industrial capitalist to be able to acquire fossil fuels, there must already be a capitalist specializing in the provision of F to the market *as his own immediate object of profit making*, his material detour to the accumulation of capital. We shall call this the circuit of *primitive accumulation of fossil capital*.³²

In the primitive accumulation of fossil capital, we see those same relations of the commodity frontier that Moore saw in Madeira sugar production in the fifteenth century, and that we have traced through the Australian pastoral frontier in the nineteenth century. Indeed, as this chapter shall explore, the vertical frontier of coal required that same confluence of capital, empire, science and state power that Moore claims are obscured by attention to fossil capital. The focus of this chapter on coal as fossil capital ‘down under’ is not an attempt to distinguish this frontier from

³⁰ J.W. Moore, ‘The rise of Cheap Nature,’ in J.W. Moore (ed.) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, Oakland, CA: PM Press (2016), p. 89.

³¹ E. Humphrys, ‘The Birth of Australia: Non-capitalist social relations in a capitalist mode of production?’ *Journal of Australian Political Economy*, 70 (2013).

³² Malm, *Fossil Capital*, p. 291.

the pastoral frontier, sugar, or any other; rather, our aim is to show the internal relations between them all. Just as we saw with the pastoral frontier, we find the emergence of fossil capital driven by the state, patterned by class relations, and productive of deep contradictions, which propel the frontier further outward. Or, rather, deeper. Not only is this story historically and politically important, then, but it also promises to contribute toward a bridging of divides between eco-socialists around the world. And so, let us trace the history of the primitive accumulation of fossil capital in the Australian colonies – a history that brings our attention to what is now known as the Hunter Valley, but then was ‘Coal River’.

Ideology of Steam, 1798-1825

As emphasized in their epigraph above, Bonneuil and Fressoz argue that energy history cannot be read as a process determined simply by price and efficiency. They call for a deeply denaturalized and contingent energy history, and look to a broader array of determinants, including military, strategic and political interests. Comparatively speaking, the existence of coal is not a sufficient condition to lead to its exploitation, as Pomeranz has shown by contrasting the history of coal mining in Britain against that of China.³³ Even the United States, which relied heavily on coal in the nineteenth century, only saw steam become the dominant form of industrial horsepower in the 1870s; this same dominance was achieved in New South Wales some twenty years earlier.³⁴ This chapter will sketch the long nineteenth century of Australian coal mining, with attention to some of these multiple determinants. First among these, we have the ‘ideology of steam,’ apparent in the early excitement around the discovery of coal – well ahead of the commercial viability of those seams being established.

³³ K. Pomeranz, *The Great Divergence: China, Europe, and the making of the modern world economy*, Princeton, NJ: Princeton University Press (2009), pp. 60-2.

³⁴ P. Malone, *Waterpower in Lowell: Engineering and industry in nineteenth-century America*, Baltimore: John Hopkins University Press (2009), p. 221; Colonial Secretary, *Returns of the Colony of New South Wales*, London: Colonial Office, (1856), p. 997; see Figure 5.3.

In 1797, while pursuing escaped convicts, a young soldier stumbled across visible coal strata at the mouth of a wide river, roughly sixty miles north of Sydney. He wrote to his father of his discovery of 'a very fine coal river, which I named after Governor Hunter... [where] Vessels from 60 to 250 tons may load there with great ease.'³⁵ When news reached England, the Duke of Portland, the British Secretary of State, wrote to the then-governor of the New South Wales colony, Hunter, with much excitement:

I trust this circumstance will afford you constant means of employing a considerable number of the convicts in a manner equally advantageous to the settlement and to the interests of the community at large. As exportation of coals from hence [Britain] to the Cape of Good Hope is attended with a very heavy expense to the public, I cannot but think of the great saving that may be made by sending them to the Cape from New South Wales.³⁶

As we see here, Portland was not immediately concerned with possibilities for private profit, but rather with strategic and fiscal motivations. Hunter did not immediately act on this instruction, however. Rather, the first coals raised in the colony were hewn from the cliff face at the mouth of the Hunter River a few years later by some enterprising traders, selling their coals in Sydney. These coals were bought by the master of a ship, the 'Earl Cornwallis', and sold on at the British East India Company's outpost of Calcutta in 1801. This mercantile venture saw a return on investment of almost one hundred and fifty percent.³⁷

While this enterprise was going on, the colonial state kept searching for further coal deposits. Sir Joseph Banks had lobbied the Navy Board to purchase boring rods to facilitate geological surveys, and Lieutenant Colonel Paterson had men working the bores by 1799.³⁸ In a similar vein, while *en route* to the colony to relieve Governor Hunter, Philip King wrote back to London to order two

³⁵ Shortland, 1798, in Connor, *Climate Change and the Anthropos*, p. 47.

³⁶ Portland to Hunter, 21 Dec 1798, in F.M. Bladen (ed.) *Historical Records of New South Wales*, Vol. 3 (1895), p. 519

³⁷ J. Comerford, *Coal and Colonials: The founding of the Australian Coal Mining Industry*, Aberdare: United Mineworkers Federation of Australia (1997), p. 33.

³⁸ Turner, *Coal Mining in Newcastle*, p. 14.

‘water engines’ for the colony: pumps, to facilitate the modern working of coal diggings.³⁹ King had grown up in Cornwall, surrounded by mines, and as such had bought into the importance of these works more than Hunter. He was also more than twenty years younger than Hunter, making him less steeped in the emerging cultural fascination with steam and industry.⁴⁰ Upon arrival in the colony, King sent a group of soldiers and convicts to establish a new settlement at the mouth of what was colloquially known as ‘coal river’ – this settlement would become Newcastle. He also moved to secure all coals in the colony for the Crown, issuing a General Order that established licenses and dues for any parties wishing to mine or trade in coals.⁴¹ The settlement struggled, and was given up within a year. Coals continued to be mined by private traders, but in the absence of any control or regulation, these mining activities degraded the accessibility of the coal seam. The miners did not leave any supporting pillars, to ensure the longevity of the mine, leaving it prone to collapse. After a few years King became so concerned by this development – compounded by the failure to locate quality, accessible seams elsewhere in the colony – that he moved to forbid all private parties from mining the colony’s coal. Rather, the state would take over production, and sell to the market at a fixed rate of ten shillings per ton.⁴² Following this, coal resources in the colony were owned and mined by the colonial state, from 1805 through to 1829. While not explosive, this period did see a steady rise in output (Figure 5.1). The fashion of this mining was described as primitive, but the state continued to put convicts to work in this way, raising several thousand tons of coal in a period when the colony itself was small, and its activities limited. Indeed, as convict labour was the main form of work-energy being thrown into production in the colony, the allocation of such a valuable and scarce resource as convicts to the mining activities at Newcastle reflects the commitment of the state to fossil energy. As put by Wilkenfeld,

³⁹ Comerford, *Coal and Colonials*, p. 35.

⁴⁰ J.J. Auchmuty, ‘Hunter, John (1737-1821)’, *Australian Dictionary of Biography*, volume 1, Melbourne: Melbourne University Press (1966); A.G.L. Shaw, ‘King, Philip Gidley (1758–1808)’, *Australian Dictionary of Biography*, volume 2, Melbourne: Melbourne University Press (1967).

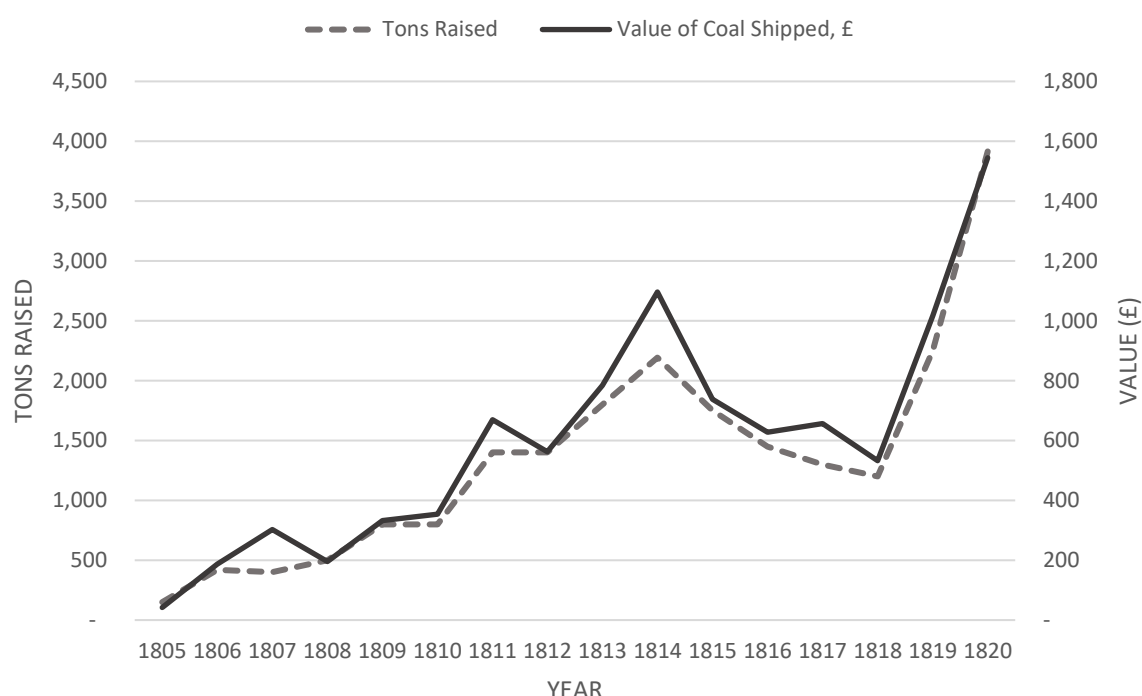
⁴¹ King to Paterson, July 1801, *H.R.N.S.W.*, vol. 4, pp. 428-30.

⁴² King to Hobart, 14 August 1804, *H.R.A.*, vol. 5, pp. 81-2; Turner, *Coal mining in Newcastle* p. 16.

The shortage of convict labour for gathering firewood was one factor in the ready adoption of coal to meet the energy requirements of government establishments in Sydney, and probably a reason for committing convict labour to the development of the mines in Newcastle... Wage rates [for free workers] fluctuated with economic conditions and immigration rates, but the underlying trend was upward. This contributed to the adoption of labour-saving technologies, and hence to the further development of energy resources.⁴³

Put simply, coal was favoured not because it was superior in a linear-developmental sense, as some might assume – rather, it worked within the emerging class relations of the colony.

Figure 5.1 - Coal Raised at Newcastle, 1805-1820⁴⁴



How might we understand these early years of primitive, state-based mining of coal? Several points emerge from this period: first, we see the ‘environment-making state’ hard at work, investing in bores, developing geological knowledge of the state’s own territoriality; second, we

⁴³ Wilkenfeld, *The Electrification of the Sydney Energy System*, p. 58.

⁴⁴ J.T. Bigge, *Transcript of evidence given before Bigge, 1819-1821*, Bank of New South Wales Archives, microfilm, in Turner, 1982, p. 17

see the state intervening in a mercantile frontier to keep open the possibility of these coals being worked more comprehensively in the future – as we shall see, this was crucial in the later-establishment of the circuit of the primitive accumulation of fossil capital; third, we see an array of state actors enamoured with the idea of colonial coal mining at a very early stage. Let us remind ourselves that this is early not just relative to the origins of the colony, but also to the emergence of steam power – the British commodity frontier of coal mining was itself still gaining ‘steam.’ Nevertheless, we see at work what Malm termed ‘steam fetishism’, an emerging entanglement of bourgeois liberal ideology and the qualities of the steam engine that would come to characterize much of late Georgian and early Victorian Britain.⁴⁵ This ideological commitment to steam would fuse with more-material considerations, both of which are evident in the next moment we shall consider. For after twenty-five years of state production, the environment-making state had shaped the historical cheapness of coal, encouraging a shift into the realm of capital. Enter the Australian Agricultural Company.

Chartered Capital, 1825-1830

If capitalism is defined by the socioecological relations of Cheap Nature, and that nature is made cheap through the movement of the commodity frontier, driven by the agencies of capital and empire, surely the chartered company is a key example of these projects and processes in action. We might think of the Dutch East India Company, the Barcelona Trading Company, the Virginia Company, or the South Sea Company.⁴⁶ Some have gone so far as to say that with the British East India company’s violent annexation of India we see how ‘Western imperialism and corporate capitalism were born at the same time.’⁴⁷ Certainly, the importance of trading companies, and

⁴⁵ Malm, *Fossil Capital*, pp. 194-199

⁴⁶ For some consideration of the relationship between capital, the state, and chartered companies, see R. Brenner, *Merchants and Revolution: Commercial change, political conflict, and London’s overseas traders, 1550-1653*, London: Verso Books (1993/2003), pp. 92-198; G. Arrighi, *The Long Twentieth Century: Money, power and the origins of our times*, Verso: London (2010), pp. 86-162; R. Mukherjee, *The Rise and Fall of the East India Company*, London: Monthly Review Press (1974), pp.

⁴⁷ W. Dalrymple, *The Anarchy: The relentless rise of the East India Company*, Bloomsbury Books: London (2019), pp. 396-397.

‘commercial capitalism’ more generally, to the development of capitalism is emphasised by Jairus Banaji.⁴⁸ A less-storied, yet similarly exemplary, case is that of the Australian Agricultural Company (AACo). The Company was founded in 1824, by an Act of British Parliament, and given a land grant in the new colony of New South Wales totalling 1,000,000 acres by the British Crown. While the company was open to any and all avenues for profitable production – their necessary ‘detour through nature’ on the road to money-prime, or, profit⁴⁹ – it was the wool boom of the early 1820s that especially motivated the formation of the Company. This was the result of considerable agitation by British capital, as they observed the incredible returns occurring through the New South Wales pastoral frontier: ‘Wool from thence to this country, has recently realized large returns to the proprietors, the superiority of the quality having commanded ready sales at high prices.’⁵⁰ Alan Atkinson, commenting on the design of the company, noted that it followed the model of ‘those great chartered enterprises which had sent English capital and labour to several parts of North America – to Virginia, Pennsylvania, Massachusetts and Georgia – when that continent was, from an English perspective, a “wilderness”.’⁵¹ Atkinson highlights for us a key element of the AACO’s mission: that it deliberately externalizes ‘nature’ into ‘wilderness,’ which might be produced into second nature, into the commodity frontier, by the application of capital and labour. In this way, the AACO evinces itself as a world-ecological actor, *par excellence*.

The world-ecological significance of the AACO is illustrated in its founding documents. Indeed, in their company plan of 1824 – published and circulated to the shareholders – the company Directors articulated most clearly the *historical cheapness* of the Australian pastoral frontier:

In New South Wales, from the mildness of the seasons, and the dryness of the soil, such protection and artificial treatment [as are required in European wool production] become unnecessary. With all these natural advantages, therefore, together with the protection of British institutions, and the

⁴⁸ J. Banaji, *A brief history of commercial capitalism*, Chicago, IL: Haymarket Books (2020).

⁴⁹ Malm, *Fossil Capital*, pp. 281-284.

⁵⁰ Australian Agricultural Company, *Australian Agricultural Company: Company Plan, November 1824*, London: Ruthven and Whitcomb Printers, (1826), p. 5, Australian Agricultural Company Records (AACR), Noel Butlin Centre.

⁵¹ A. Atkinson, ‘Preface’, in P. Pemberton (ed.), *In the service of the company: Letters of Sir Edward Parry, Commissioner to the Australian Agricultural Company*, volume 1, Canberra: ANU Press (2005), p. iii.

influence of capital, it is not indulging in too sanguine an anticipation to look forward to the time, when our manufacturers will derive their chief supplies of fine Wool from an English Colony, at a lower price than that at which they can now be imported from countries where the severity of the winter renders artificial treatment necessary, and increases the cost of production.⁵²

The enthusiasm here for wool directly reinforces the previous chapter, both in the geopolitical significance of Britain being able to secure the majority of its wool supplies from its own colony, and also the historic reduction in the cost of wool that was anticipated. Not limiting their options, however, the Company went on to list what it assumed would be its major sources of profit under its charter:

The sources from which the profits of the Company are expected to be derived, are: -
1st. From the growth and export of fine wool, from Merino Sheep of the most approved breed.
2ndly. From the breeding of Cattle and other Live Stock, and the raising of Corn, Tobacco, &c. for the supply of persons resident in the Colony.
3rdly. From the production, at a more distant time, of Wine, Olive-Oil, Hemp, Flax, Silk, Opium, &c. as articles of export to Great Britain.
4thly. From a progressive advance in the value of land, as it becomes improved by cultivation, and by an increased population.⁵³

Here we clearly see the AACo *thinking in terms of commodity frontiers*. On the Directors' fourth point, we also see a further entwinement of the ideology of improvement with the production of nature, driven by the exigencies of value. We should note, also, that many of the founding Directors of the company were Members in the British Parliament,⁵⁴ further illustrating the entanglement of the British state, finance, empire, and the commodity frontier. It has also turned out to be a durable formation of capital, still operating today – it is now publicly traded on the Australian Stock Exchange, largely specializing in beef production.⁵⁵ How, then, did this expedition of British financial capital into the Australian pastoral frontier become involved with coal? For, as we shall see, the AACo became the first agent of the primitive accumulation of fossil capital, creating the fossil frontier through its entanglement with the imperial and colonial states.

⁵² Australian Agricultural Company, *Australian Agricultural Company: Company Plan, November 1824*, London: Ruthven and Whitcomb Printers, (1826), pp. 6-7, AACR.

⁵³ AAC, *Company Plan*, pp. 15-16.

⁵⁴ AACo, 'Proprietors', *Australian Agricultural Company: Special Report, July 1825*, London: Ruthven and Whitcomb Printers (1826), pp. 3-27.

⁵⁵ 'Australian Agricultural Company Limited', *Australian Stock Exchange* (2021), viewed online at: <https://www2.asx.com.au/markets/company/aac>; Australian Agricultural Company, 'Our History' (2021), viewed online at: <https://aaco.com.au/about-us/our-history>.

The AACo was the first capital 'specializing in the provision of F to the market *as his own immediate object of profit making*.'⁵⁶

Government production of coal gives us a window into the state as environment-maker, but the un-mechanized and small-scale enterprise was never going to be sufficient to drive a transition to generalized fossil capital. This was noted by the *Sydney Monitor*, noting that of the coals raised at Newcastle 'the Government sell none of it: they have enough for their own consumption and the public must stick to the old material, Wood O'.⁵⁷ The potential for this industry to expand was apparent to John Thomas Bigge – a judge and royal commissioner, who was tasked in 1818 by Lord Bathurst, Secretary of State, to develop a report 'on the future of convict transportation and to investigate economic opportunities for the colony.'⁵⁸ Delivered in 1823, the third 'Bigge Report' made many recommendations for economic reforms to the colony. On the question of coal, Bigge advocated an end to the government monopoly on production:

The right to all minerals has been of late reserved in the grants made by Governor Macquarie, and I should recommend that this reservation should be continued, and that leases for terms of years should be granted of the coal, reserving to the Crown an annual rent for the same, with a certain proportion of the coal raised.⁵⁹

It has not yet been shown whether the AACo Directors approached The Crown, or the other way round. Either way, it would seem that the Bigge report led to a discussion between the Company and the imperial state, the outcome of which was to see the colonial mines transferred to the AACo, and them to be granted *exclusive* rights to mine coals in the colony. This was communicated to the shareholders of the Company in an 1825 special report: 'We have the satisfaction to acquaint you, that His Majesty's Government have agreed to grant the Company, a lease of [the

⁵⁶ Malm, *Fossil Capital*, p. 291, emphasis in original.

⁵⁷ *Sydney Monitor*, 1826, quoted in J. Jervis, 'The rise of Newcastle', *Journal of the Royal Australian Historical Society*, 21 (1935), p. 147.

⁵⁸ State Library of New South Wales, 'The Bigge report: subject guide' (2021) accessed at https://guides.sl.nsw.gov.au/ajcp/colonial_office_bigge_report

⁵⁹ J.T. Bigge, *Report of the Commissioner of Inquiry, on the State of Agriculture and Trade in the Colony of New South Wales* (1823) London: The House of Commons, State Library of New South Wales.

Newcastle] Coal Mines, for a period of thirty-one Years.’⁶⁰ The excitement of the company to include coal mining in their colonial enterprise was palpable, and is worth considering at length:

With reference to the demand, likely to be experienced for the produce of the Coal Mines, it may be sufficient to state, that there is now a large consumption of Coals at Sydney, where fuel is already scarce, and that, in the course of last year, several cargoes of the produce of these Mines were shipped to India, the Isle of France and the coast of South America... *We may thus, in the first place, fairly anticipate a considerable sale within the Colony of New South Wales, not only at Sydney, but at the various smaller towns now rising into importance.* And, secondly, in contemplating the numerous thickly-peopled settlements, and ports abounding in the eastern seas, including Calcutta, Madras, Bombay, Batavia, Canton, Singapore, the Isle of France, &c. &c., to many of which places, Coals have frequently been shipped from Great Britain, and at all of which, it finds a ready and profitable sale – we may expect an extensive demand for exportation, independently of the consumption of the produce of these Mines, likely to be caused by steam navigation, which will probably be introduced into that quarter of the globe, and encouraged by the facility of obtaining, from this source, abundant supplies of Coals.⁶¹

1825 is, of course, still early in the history of British industrialization, ahead of the major rail booms, and very early in the history of steam navigation. And yet, the excitement of the Directors is more than mere marketing to minor shareholders. Five of the AACo Directors were also directors in the British East India Company, and from that connection were well positioned to effect the very changes predicted above. As John Macathur Jr. of the AACo noted in correspondence,

several of our directors who are also directors of the East India Company are very desirous to work the mines, under a belief that they may facilitate steam navigation through the Eastern Seas... The Company have several steamboats in India, and are about to send more... The coals [for these steamers] are shipped under contract, from Newcastle [UK] whilst from *our Newcastle* [New South Wales] they may be procured at one half the present expense in consequence of the short distance and the want of cargoes for convict and trading vessels.⁶²

Whether the Newcastle coals were to be used for international transport, or within and between the colonies – as noted in the above italicized passage of the AACo 1825 *Special Report* – these actors all appreciated the utility of coal to be used across the spectrum of commodity production, prefacing Jevons argument by 40 years. They also appreciated that under the umbrella of British ‘free trade imperialism,’⁶³ these coals were internationally competitive and desirable, as these

⁶⁰ Australian Agricultural Company, *Australian Agricultural Company: Special Report, July 1825*, London: Ruthven and Whitcomb Printers (1826), pp. 45-6, AACR.

⁶¹ *Ibid.*, pp. 47-8, emphasis added.

⁶² John Macarthur Jr. to Wilmot Horton, 9 April 1825, AACR.

⁶³ J. Gallagher and R. Ronald, ‘The Imperialism of Free Trade,’ *The Economic History Review*, 6(1): 1-15 (1953).

coal mines would be of world-historical importance within the confines of the British empire, whose naval power was beginning to run on steam, and who would also exclude non-imperial coals from global competition.

Through these primary sources, we are granted a window into the machinations of fossil capital. We see a contingent energy history begin to emerge, as demanded by Bonneuil and Fressoz. We also see capital giving materiality to the ideology of steam exhibited by King decades earlier, seeing coal as a very real route to profit for a particular capital. This process clearly demonstrates the role of the state as environment-maker. It seems likely that absent the offer of the government mines and considerable protection from market pressures, that the AACo would not have added coal to their productive activities – the Company argued precisely this in negotiations with the imperial state.⁶⁴ The conditions granted to the company were most generous. Negotiations over these conditions continued for several years – the colonial state was initially reticent to hand over their mines, despite the instructions of the Secretary of State, and the company also sought further supports from the state to reduce their risks and costs.⁶⁵ But the transfer of the Government mines to the AACo was finally effected in 1930, with the company granted not just a monopoly, but cheap labour in the form of assigned convicts, as well as a state-backed *monopsony*: any coals the Company did not sell to other parties could be sold to the state for a fixed price.⁶⁶ And with these conditions, we finally see the emergence of a circuit of primitive accumulation of fossil capital in Australia. The AACo's mining was a confluence of empire, finance, and scientific knowledge of the strata developed by the state during their activities. With the transfer of the mines to the Company, production came to be determined by those same structuring forces of the commodity frontier: Cheap Nature, and the structural drive toward profit and expansion. And yet,

⁶⁴ Conference minutes, AACo and Sir George Murray, 10 June 1828, *Macarthur Papers*, Mitchell Library.

⁶⁵ See Pemberton, *The London Connection*, pp. 193-197.

⁶⁶ Turner, *Coal Mining in Newcastle*, pp. 29-32.

this cheapness was not assured, but contested and constructed through the state. Let us explore how those relations played out through the period of monopoly and monopsony.

Monopoly, Monopsony and Mechanisation, 1831-1839

Interestingly, while Governor King saw the need for mechanization of coal mining in 1801, the state never applied fixed capital to increase productivity. With the AACo assuming control of the mines at Newcastle, this quickly changed – in the words of the 1825 *Special Report*, ‘nothing is required but the application of machinery to raise it [Newcastle coal] in abundance, and of excellent quality.’⁶⁷ In 1831 the *Seventh Annual Report* of the company showed that in its first year of production, the total cost of ‘two Steam Engines and Apparatus, Salaries, Wages, and other Charges’ was £11,575.⁶⁸ As the wage cost of production was nil, thanks to the assignment of convict labour, we can presume the bulk of this outlay was for fixed capital. When we consider that the total value of coals raised by the government up until the transfer of the mines was £25,000,⁶⁹ we see that this was a significant investment, designed to expand production. As well as the introduction of steam engines and pumps, the company also quickly completed construction of an inclined plane down to the wharf (Plate 5.1), to expedite the loading of ships:

When the mine was opened officially on 10 December, 1831, invited dignitaries saw the first decorated wagons descend to the wharf where the steamer *Sophia Jane* waited to receive the first load. A single hammer blow was all that was required to release the coal into her holds before two more wagons descended from the mine and by doing so caused the empties to return. In its design and equipment this mine was without rival for twenty-five years.⁷⁰

Due to these outlays, the Company ran its coal operations at a loss for the first five years of its monopoly. And yet, despite these early losses, the AACo did not raise prices until mid-1833.⁷¹ As argued in previous chapters, one of the distinctive features of capitalism as a socioecological regime is the need to expand the subsumption of cheap natures due to the structural force of

⁶⁷ AACo, *Special Report, July 1825*, p. 48.

⁶⁸ AACo, *Seventh Annual Report*, London: C.S. Ruthven Printers (1831), p. 21, *AACR*

⁶⁹ T. A. Coghlan, *The Wealth and Progress of New South Wales*, volume 2, 8th edition, Sydney: NSW Government Printer, (1896) p. 92.

⁷⁰ Turner, *Coal mining in Newcastle*, pp. 32-33. This plane is also shown in Plate 5.1.

⁷¹ *Ibid.*, p. 49.

competition between capitals. But here, with the state protecting the emergence of fossil capital, the AACo had time on its side: for at least the first decade of production, the company deliberately suppressed the price of coal in order to stimulate demand. In the words of Governor Bourke, the aim of the company was 'to lay a foundation for future profit.'⁷² Despite such significant capital outlay, and continued unprofitability, the Company was so well capitalized that there was no need to call on the shareholders 'for any increase of the funds already placed at our disposal.'⁷³ Further to this, the insulation of coal from competition – a deliberate strategy to encourage the adoption and reliance of other capitals on fossil fuels within their own production – was *internally related to the pastoral commodity frontier*. Due to the success of the AACo's pastoral enterprise (its main enterprise), it was able to cross-subsidize its own coal activities. In this way, the socioecological ramifications of wool were not limited to the violent cessation of Indigenous burning practices, but even supported the emergence of fossil capital, which would of course contribute to a totally different kind of burning, centuries hence: the wildfires of the 'pyrocene.'⁷⁴

The AACo's attempts to stimulate the growth of a fossil capital economy saw considerable success through the 1830s (Figure 5.2). The main source of this increased demand was steam transport, largely within and between the colonies. This was communicated by the company's Commissioner, Dumaresq, to London: the increase had 'resulted mainly from the introduction of the steamship in 1831 and the extension of steamer service within the colony, between Sydney and the outer settlements and overseas.'⁷⁵ In 1835, Dumaresq began works on a new shaft,

⁷² Bourke to Stanley, 24 Oct. 1833, Colonial Office, 201/233, quoted in Turner, *Coal mining in Newcastle*, p. 49.

⁷³ Australian Agricultural Company, *Special Report*, p. 49.

⁷⁴ S.J. Pyne, *The Pyrocene: How we created an age of fire, and what happens next*, Oakland, CA: University of California Press (2021).

⁷⁵ G. Henning, 'Coals from Newcastle: Some assumptions of the Melbourne trade in the 1870s', *Journal of Australian Studies*, 10(18), pp. 43-59 (1986).

specifically to meet this increasing demand.⁷⁶ The Company reported with enthusiasm to the shareholders that

The rapid increase of the Town of Sydney, – the comparative failure of Wood for Fuel in its neighbourhood, – together with the increasing introduction of Steam Vessels and Steam Engines, combine to offer the most flattering prospect of adding annually to the Company's profits in this important department of their undertaking.⁷⁷

Here it is worth considering more closely the interaction of these two frontiers, wool and coal.

Belich has emphasized in his work on settler frontiers that

Booms were powered by mass transfers of people, money, goods, information and skills from one or more metropolises to the relevant frontier. They were characterized by a sudden surge in the vectors of mass transfer – ships, wagon trains, or railroads; banks, newspapers, booster literature, and post offices; migration businesses and organisations.⁷⁸

And yet, the boom, the commodity frontier, did not need steam in order to exist. Belich noted this specifically in relation to steam transport in the context of the first wool boom in the Australian colonies:

Steamers arrived in Australia during its first boom, in 1831, but not at the beginning of it, in 1828, and in numbers too small (six by 1839) to have much effect anyway. Steam transport was a factor in triggering later booms and was also crucial to some export rescues, but it is not the explanation for the earliest settler booms. Industrialisation supercharged the settler explosion but did not cause it.⁷⁹

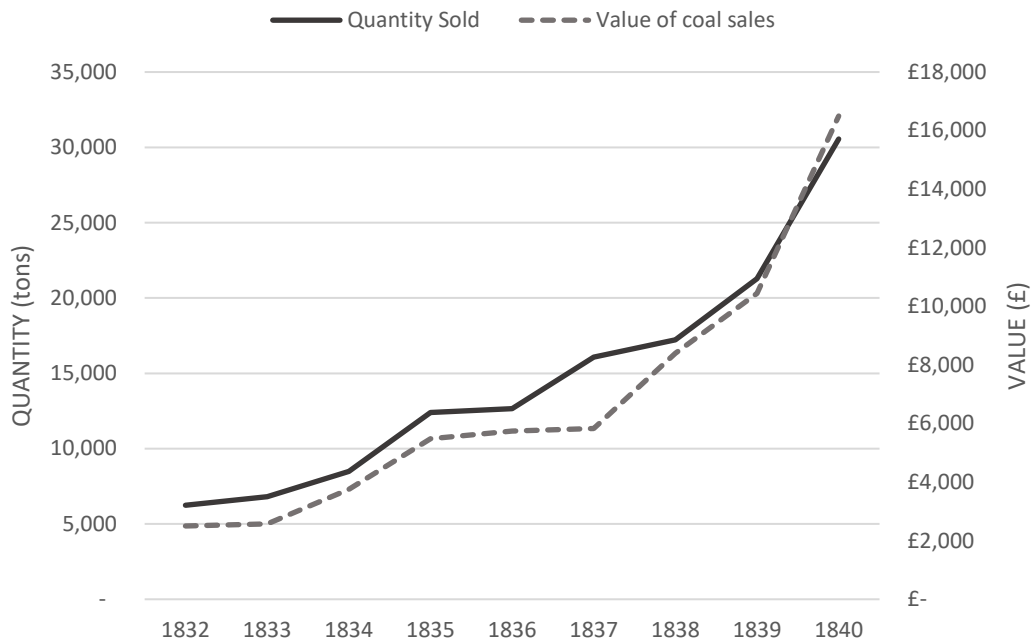
⁷⁶ Dumaresq to Court of Directors, May 4 1835, *AACR*.

⁷⁷ W.E. Parry, *Australian Agricultural Company: 11th Annual Report*, London: W. Marchant, Inram-Court Printers (1835), p. 14-15, *AACR*.

⁷⁸ J. Belich, 'Exploding Wests: Boom and bust in nineteenth-century Settler societies', in J. Diamond & J. A. Diamond (eds) *Natural Experiments of History*, Cambridge, MA: Harvard University Press (2010), pp. 55-58

⁷⁹ *Ibid.*, pp. 71-72.

Figure 5.2 - AACo Coal Sales, 1832-1840⁸⁰



That the relations of the frontier historically preceded the adoption of fossil capital as cheap energy reinforces Moore's criticisms of a myopic focus on coal alone. From the world-ecological perspective, the commodity frontier is where power, capital and knowledge come together in a historically specific way to make nature Cheap. This is what Belich calls the 'boom', the realization that the socially necessary labour-time of the 'Big Four' inputs to production has somehow been radically reduced through that frontier. In this sense, the more-gradual ramp up of the AACo's coal activities did not yet, in the 1830s, represent a historical cheap in the same way that wool did. Nevertheless, the circuit of the primitive accumulation of fossil capital is emerging – a necessary and contingent pre-condition for fossil capital to become the violent and volatile form of 'Cheap Nature' it later would. In the case of the AACo, we see that contingency being secured through the internal relations of this commodity with others, and in the certainty given to the Company by the state. Or, perhaps, rather than framing this as certainty being granted by one

⁸⁰ H.T. Ebsworth, *Australian Agricultural Company: Eighteenth Annual Report*, London: Marchant Printers (1842), p. 12.

agent to another, we might say that the socioecological relations of capital were “materially condensing” into and through the state.

Plate 5.1 – *Australian Agricultural Company Coal Works, Newcastle, 1833, J.C. White.*⁸¹



*In this early pencil drawing, we see carts of coal moving down the inclined plane, where coals are then loaded onto a waiting ship. We also see the artist has depicted a pair of Indigenous people in the foreground. The AACo port was located on the lands of the Awabakal people, who helped to build the bark huts for the workers of the Company, despite their immanent dispossession.*⁸²

Through the 1830s the AACo leveraged state-backed certainty and the profitability of its pastoral activities to enable its continued suppression of price, and in-so-doing, supported the emergence of steam transport and fossil energy in the colonies. And yet these entanglements created their own contradictions. As the first pastoral boom lost “steam” (its socioecological contradictions led to crisis), the AACo found itself forced to increase the price of coal to finance its now-struggling

⁸¹ State Library of New South Wales, <https://archival.sl.nsw.gov.au/Details/archive/110321711>

⁸² L. Ryan, ‘The Australian Agricultural Company, the Van Diemen’s Land Company: Labour relations with Aboriginal landholders, 1824-1835,’ in P. Edmonds and A. Nettlebeck (eds), *Inimacies of Violence in the Settler Colony: Economies of dispossession around the Pacific Rim*, New York: Palgrave Macmillan (2018), p. 25.

pastoral activities. Commissioner King was forced to increase prices to 10s. 10d. in 1840, and then 13s. for 1841-2.⁸³ These increases in price did not stifle demand, showing some success from the Company's decade of price suppression. Rather, the issue with increased prices was the encouragement of competition; while the AACo still had twenty-years of state-backed monopoly remaining, but as we remember from Chapter 2, laws are social, and the state a field of strategic-relational struggle. Could the AACo be sure its monopoly grant would be enforced? King appreciated this, and communicated his concerns to the Court of Directors: 'it would be prudent perhaps to lower the price: depending, however, as we now do upon the coal sales to support the agricultural department such a step would be a material loss and therefore I shall not do so unless I see it absolutely necessary.'⁸⁴

Another challenge to the Company emerging from the first crisis of the pastoral political economy was the looming end of convict transportation, and the concomitant issues within the labour regime. Transportation decreased markedly from 1838, and was finally abolished in 1840.⁸⁵ Even before the end of transportation, the AACo had had difficulties in sourcing enough skilled labour to man their fixed capital. This had driven the Company to 'engage free miners in this country [Britain], a measure which will incur a very considerable expense.'⁸⁶ These miners were not entirely free, as they were brought to the colony as indentured workers. Nevertheless, the *Richard Webb* arrived in 1840 with 37 miners onboard – a mix of Scottish, Welsh, and northern colliers. Contradictions abound, however, and this arrival did not solve the company's labour issues; rather, it created new ones. As soon as these miners arrived, they struck, demanding significant increases to conditions and pay.⁸⁷ Then-Commissioner King expressed his concern to the

⁸³ Coghlan, *The Wealth and Progress of NSW*, p. 92.

⁸⁴ King to Court of Directors, 1 May (1841), *AACR*.

⁸⁵ B. Fitzpatrick, *The British Empire in Australia: An economic history*, Melbourne: Melbourne University Press (1976), pp. 107-8.

⁸⁶ H. T. Ebsworth, *Australian Agricultural Company: Sixteenth Annual Report*, London: Marchant Printers (1840), p. 12.

⁸⁷ Pemberton, *Pure Merinos and Others*, p. 31.

Directors, that he had never met 'a more impertinent set of rogues', and that most of them 'had been concerned with the Chartist faction and have brought with them a spirit of insubordination that will be difficult to subdue.'⁸⁸ Although not on the manifests of the *Webb*, it would seem that the AACo had inadvertently imported the beginnings of class consciousness along with their indentured miners – something that would become an increasingly material issue for the company, and other mining companies, into the future. And so, with cracks of contradiction emerging from the company's labour regime, as well as the challenges presented by the first pastoral crash, whither the fortunes of fossil capital?

Competition and Combustion, 1840-55

The first decade of private coal production saw the quantity of coals raised increase almost sixfold, and the value of those coals eightfold (Figure 5.2). The relative scarcity of labour in the colony, due to the draw of the pastoral frontier, made wood *more expensive than coal per ton*.⁸⁹ Further, due to the energy density of coal, it was increasingly the preferable energy source for mills, smelting, heating, and – where possible – transportation. That is, the existence of a profitable circuit of the primitive accumulation of fossil capital was facilitating an emergence of fossil capital relations more generally, especially as this worked within the contours of the colonial class relations.⁹⁰ But the 'cheapness' of energy is historically defined and would shortly be undermined. The 1840s was marked by a deep crisis in British finance, and consequently, the Australian pastoral frontier.⁹¹ The depression that followed had many effects, but one of immediate relevance here was the increase in woodcutters, as unemployed shearers and shepherds tried to earn a living by hewing at gum trees. As the depression ramified through the

⁸⁸ Dumaresq to Court of Directors, May 4 (1835), AACR.

⁸⁹ King to Court of Directors, 5 August and 7 November (1843), AACR.

⁹⁰ Wilkenfeld, *The electrification of the Sydney energy system*, p. 58.

⁹¹ Fitzpatrick, *The British Empire in Australia*, p. 73.

colonies, there was also a marked contraction of demand for fossil fuels, meaning that demand was dropping just as substitute energy sources were becoming more plentiful.⁹²

And yet, Hobsbawm offers us a suggestive world-systemic comment on this particular moment of crisis for British capital: 'the age of crisis for textile industrialism was the age of breakthrough for coal and iron, the age of railway construction.'⁹³ Much of what Hobsbawm is referring to here is the shift of British financial capital into domestic industrialization. While often 'irrational' in terms of price efficiency, a series of 'manias' saw huge investment in railway corporations.⁹⁴ The turmoil this created led the Bank of England to increase the discount rate, leading to a contraction of investment in the colonies.⁹⁵ Of course, the causal story of this crisis is strongly contested.⁹⁶ Nevertheless, through the early-mid 1840s, there *was* a depression in the colony of New South Wales, and there *was* significant expansion of steam, coal, and iron in Britain. In this decade, British exports diversified away from textiles, toward manufactured goods and the British political ecology became defined by fossil capital; 'In effect, by 1850 the basic English railway network was already more or less in existence.'⁹⁷ This meant a strengthening of the commitment to the ideology of steam. It also meant the creation of historical 'cheapness' in energy in Britain. This world-historical context is important: the political economy and the political ecology of the world had changed significantly between the colony of New South Wales entering a depression in 1839, and emerging from it around 1845.

⁹² King to Court of Directors, 5 August and 7 November (1843), AACR.

⁹³ E. Hobsbawm, *Industry and Empire: An economic history of Britain since 1750*, London: The History Book Club with Penguin Books (1968) p. 88.

⁹⁴ Malm, *Fossil Capital*, pp. 77-97; Hobsbawm, *Industry and Empire*, p. 90.

⁹⁵ Fitzpatrick, *The British Empire in Australia*, p. 73.

⁹⁶ For example, N. Butlin, *Foundations of the Australian monetary system, 1788-1851*, Sydney: Sydney University Press (1968), p. 318.

⁹⁷ Hobsbawm, *Industry and Empire*, p. 89.

Despite a collapse in price and demand during the early 1840s, the socioecological relations of coal mining were not stagnant. An important shift during the 1840s in this regard was the end of the AACo's monopoly on coal mining, and the emergence of competition. Despite its monopoly being granted by British Parliament, it was never absolute. In 1831 a mine was opened by J.L. Platt at Iron Bark Hill, also on the Hunter river. Rather than attempt to enforce the AACo monopoly through the courts, Commissioner Dumaresq decided to purchase this property for £6,000 to secure their monopoly.⁹⁸ Ever the mouthpiece for capital, *The Australian* newspaper questioned the legal strength of the monopoly in 1840:

distinct opinions have been had from no less than four of the most eminent lawyers in England twelve months since and they have each and all determined in the most unqualified manner, that the clause in the charter referred to [the monopoly clause] is altogether untenable and valueless.⁹⁹

In the same year, motivated by the then high price on coals maintained by the AACo, the Australian Mining Company formed – however, without assigned labour, nor having sufficient capital to sink shafts, the AMC collapsed.¹⁰⁰ These early contestations of the monopoly culminated in an appeal to the Supreme Court by Commissioner King in 1844, when a mine at Four Mile Creek was opened by James Brown, who won a contract with the newly-established Hunter River Navigation Company to provide 4,000 tons of fuel per annum.¹⁰¹ The Attorney-General shot down the AACo's case, finding that the Company 'possessed no more monopoly than any other grantee whose grant had been issued previous to the last twenty years.'¹⁰² That is to say, the state was crystalizing under a new balance of class forces, opening up the possibility for other fossil capitals to emerge. With this legal position established, and the colonial depression easing, the scene was set for the boom of the coal commodity frontier to truly begin.

⁹⁸ Dumaresq to Court of Directors, 26 April 1836, AACo Records. It seems that Dumaresq thought the land could be profitable for the company, while also being aware that this course of action would avoid needing to challenge Platt's mining activities through legal recourse.

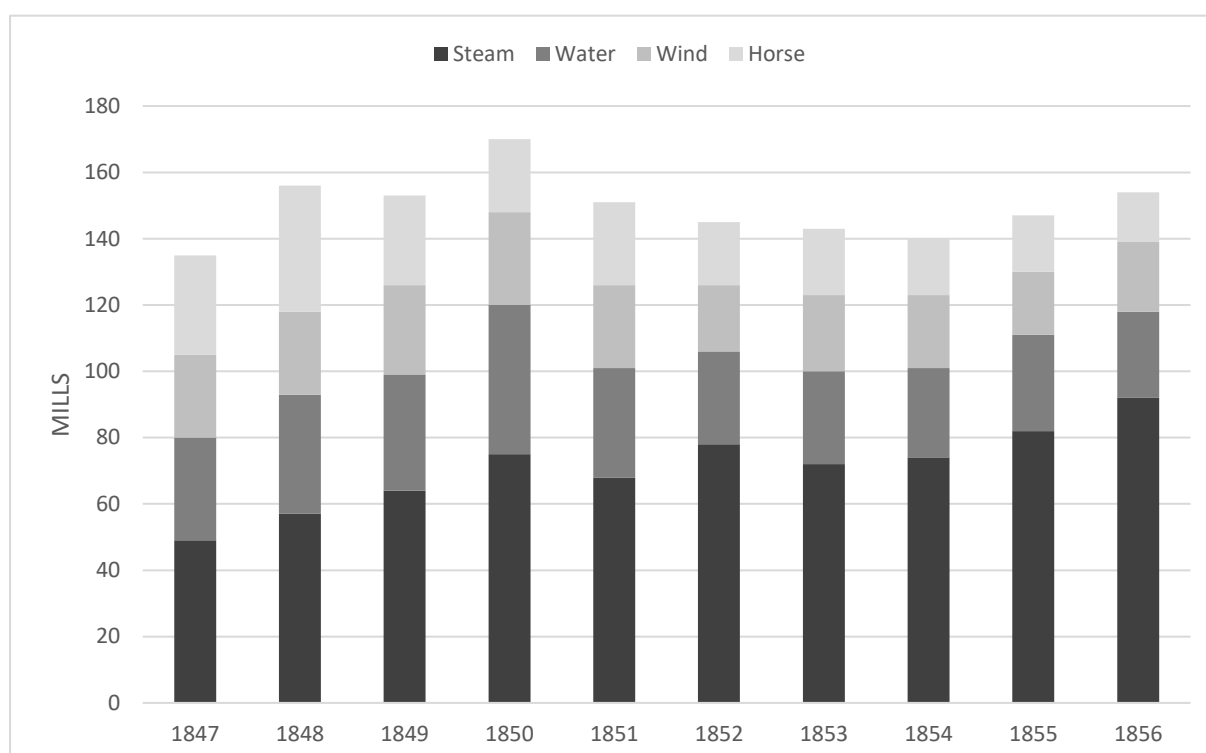
⁹⁹ Editor, *The Australian*, 10 July (1840).

¹⁰⁰ Turner, *Coal mining in Newcastle*, p. 46.

¹⁰¹ J. Turner, *James and Alexander Brown, 1843-77*, Newcastle history monographs, no. 4, Newcastle: Newcastle Public Library (1968).

¹⁰² J.G. Legge, *A selection of Supreme Court cases in New South Wales from 1823 to 1882*, vol. 1, Sydney: Government Printers (1896), pp. 312-5.

Figure 5.3 - Sources of Mill Energy in NSW, 1847-1856¹⁰³



As noted above, a comprehensive energy history of Australia and its preceding colonies is yet to be articulated. Yet, we can make some comment here as to the emerging salience of coal for energy in a colony that was still driven largely by organic energy.¹⁰⁴ Between 1830 and 1842, for example, we can show that coal use rose not just extensively, but intensively as well. In this period, population grew from 44,588 persons to 162,317, while coals raised rose from approximately 4,000 tons to 39,000 tons.¹⁰⁵ Exports were still a minor fraction of coals raised, meaning most of these coals were burned within the colonies. As a result, coals raised per person were roughly 90 kilograms in 1830 but had risen to almost 250 kg per person in 1842. This is not to say, of course, that coals were distributed in this way, but it does show that the increase in fossil capital cannot be explained away simply as a function of population growth: more fossil

¹⁰³ Colonial Secretary, *Returns of the Colony of New South Wales*, London: Colonial Office, (1856), p. 997.

¹⁰⁴ E.A. Wrigley, *Energy and the English Industrial Revolution*, Cambridge, UK: Cambridge University Press (2015), pp. 7-9.

¹⁰⁵ Australian Bureau of Statistics, *Australian Historical Population Statistics*, cat. no. 3105.0.65.001, Canberra: ABS (2006), Table 1; Coghlan, *The Wealth and Progress of New South Wales*, p. 92.

energy was being applied to *do work* in the colony, fossil capital as a socioecological relation was emerging. Part of this can be explained by high rates of urbanization – a well-documented characteristic of the settlement/invasion of Australia,¹⁰⁶ which is an incredibly energy-intensive form of settlement.¹⁰⁷ But as Malm would remind us, the adoption of fossil fuels across the spectrum of commodity production is socially and politically determined. Importantly, these coals were not just being burnt in hearths for heat and domestic energy. They were being increasingly burnt by other capitalists in the colony, in their own detour through production *en route* to surplus value. By 1852, steam had become the predominant form of industrial horsepower (Figure 5.3). This before Australia's own rail boom – and interestingly twenty years before the same socioecological milestone was reached in North America.¹⁰⁸

In another ten years to 1862, output had grown almost tenfold (Figure 5.4), and the coal-intensity of the colonial political economy had doubled to more than 500kg per person per annum. Newcastle coals were being shipped between the colonies, providing the steam for Victorian mills, including: 22 agricultural implement factories, 30 tanneries, 42 breweries, 53 brickyards, 46 saw-mills, 19 iron, brass and copper foundries, 14 soap and candle works, 5 gas-works, and 1 sugar refinery.¹⁰⁹ At this stage, with the circuit of the primitive accumulation of fossil capital, coal begins to take on that quality noted by Marx, where its production 'can be significantly increased in a very short period of time' beginning to lead to the situation where 'the portion of constant capital that consists of fixed capital, machinery, etc. [including coal], may run significantly ahead of the portion consisting of organic raw materials.'¹¹⁰ This is the significance of this decade, of this

¹⁰⁶ For example, Butlin, *Australian domestic product, investment and foreign borrowing*; R. Connell and T.H. Irving, *Class Structure in Australian History: Documents, narrative and argument*, Melbourne: Longman Cheshire (1982).

¹⁰⁷ Wrigley, *Energy and the Industrial Revolution*, pp. 88-90.

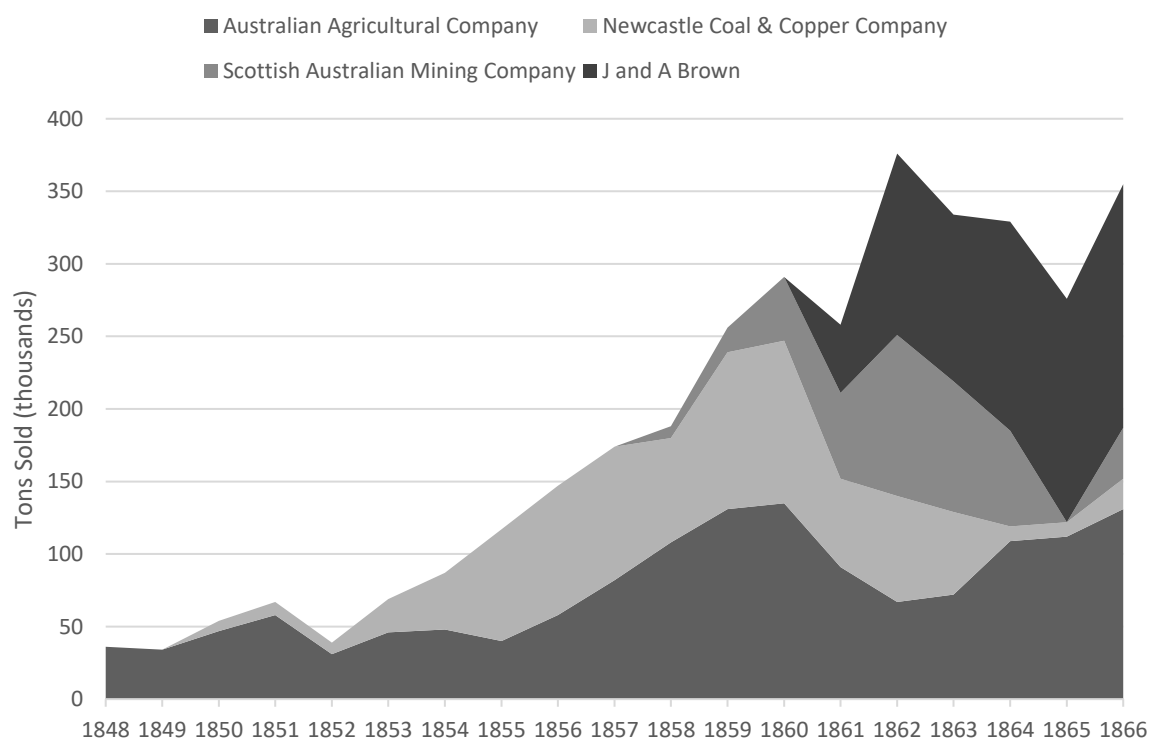
¹⁰⁸ Malone, *Waterpower in Lowell*, p. 221.

¹⁰⁹ T.A. Coghlan, *Labour and Industry: From the first settlement in 1788 to the establishment of the Commonwealth in 1901*, vol. 2, Sydney: Macmillan (1919; Reissued 1969), p. 685.

¹¹⁰ K. Marx, *Capital: Volume III*, New York: International Publishers (1959), p. 215.

contingent working out of the coal commodity frontier. With conditions of cheapness ensured through the construction of a coal commodity frontier, the broader socioecological totality of capitalism could begin to mediate its other frontiers and contradictions – especially here crises of cheap labour, unfolded below – through the ready application of cheap energy.

Figure 5.4 - Production of Hunter Coal Mines, 1848-1866¹¹¹



The decade from 1852 was a pivotal one for the development of fossil capital for another reason: gold. The story of the gold rushes has been told many times, and we do not look to survey that literature here. But in the words of Wells, the discovery of gold in the colonies ‘had lasting effects on most aspects of colonial and political activity. Throughout the 1850s and well into the 1860s gold provided the single most important export of the Australian colonies, temporarily eclipsing

¹¹¹ W. Keene, 'Our Coalfields,' *Australian almanac and country directory*, Sydney: Sherriff and Browning (1863), p. 52-53. See Table 5, Appendix I, for detail.

wool.’¹¹² McLean goes further still, ‘as the favorable impact of the gold rush on prosperity persisted for several decades, it is appropriate to treat the period from 1851 to 1890 as a single era of economic expansion, rapidly increasing population, and rising incomes.’¹¹³ The gold rushes saw an explosion in the settler populations of the colonies, further compounding the existing trend toward a concentrated urban form. Indeed, it is striking that two of the most rapid urban booms of the nineteenth century – the expansions of Sydney and Melbourne¹¹⁴ – have not yet prompted a serious engagement with the contingent energy history that underpinned this process. For this new commodity frontier of gold relied upon a twin frontier – one that had only come to be through decades of political struggle, by the colonial state, the imperial state, and British financial capital. The frontier of gold, and the concomitant shifts in the socioecology of the Australian colonies, had to be – and was – supported by the mobilization of vast energies, of fossil capital.¹¹⁵

The gold rushes saw a pivotal shift in the labour relations of the colony, finally ending the long depression of the 1840s. Almost overnight coal went from competing with cheap timber to supply a meagre demand, to furnishing exploding demand in the absence of all competition from timber-getters. Why would you chop timber on the outskirts of Sydney, when the promise of gold might allow you to exit the working class entirely? In this sense, the character of gold as a frontier was shaped by British social relations of class. As put by Blainey, ‘to win gold was the only honest chance millions of people [in Europe and Australia] had of bettering themselves, gaining independence, of storing money for old age or sickness, of teaching their children to read and

¹¹² A. Wells, *Constructing capitalism: An economic history of Eastern Australia, 1788-1901*, Sydney: Allen and Unwin Press (1989), p. 111. See also Butlin, *Australian domestic product, investment and foreign borrowing*, pp. 410-11.

¹¹³ I. McLean, *Why Australia Prospered: The shifting sources of economic growth*, Princeton, NJ: Princeton University Press (2013), p. 82.

¹¹⁴ Belich, *Replenishing the Earth*, pp. 356-372.

¹¹⁵ Urbanisation, among other socioecological impacts, also demanded refrigeration: see Wilkenfeld, *The electrification of the Sydney energy system*, p. 71.

write.¹¹⁶ The issue now facing the AACo was a shortage of labour to meet this rapidly increasing demand. This first became apparent a year before the gold rushes started, in 1850, because of the opening of *another* world-ecological frontier – the Californian gold rush. A Reverend J.D. Lang commented while visiting Newcastle from Sydney, the Port of Newcastle was changing: ‘formerly, like the Dead Sea, no sign of life upon its still waters, except when a solitary streamer was passing to and fro between Hunter’s River and the capital: now, full of motion, flaunting with stars and stripes.’¹¹⁷ The situation was articulated clearly by the *Maitland Mercury*, a local newspaper: ‘the demand for Hunter River Coal, both foreign and local, has lately so much increased that every miner is employed and the mines of Newcastle do not produce nearly enough (from want of hands) to supply that demand.’¹¹⁸ Appreciating their powerful position within the socioecological relations of the colony, the AACo miners struck in 1850, culminating in the gaoling of the leader of the strike, John Dryer.¹¹⁹ The struggle between the Directors of the AACo and its workers was only just beginning, however, for 1851 would heighten these tensions significantly.

Across the colony, even indentured workers were leaving their posts for the gold fields, risking the consequences of breaking their contracts of hire for the chance of class exit through gold.¹²⁰ The AACo increased wages to discourage the flight of their workers, but this failed to solve the issue – those who remained bargained to increase their wages further. Thus, despite increasing demand and output, the profitability of the company dropped from 59.7% in 1852 down to 22.7% in 1854. In 1855 the company only just broke even, with a profit rate of 2.5%.¹²¹ These challenges also led the Company to abandon their policy of price-suppression, raising prices from 6s. 6d. in

¹¹⁶ Blainey, *The Rush that never ended*, cited in H. McQueen, *A New Britannia: An argument concerning the social origins of Australian radicalism and nationalism*, second edition, Ringwood: Penguin Books (1980), p. 145.

¹¹⁷ J.D. Lang, *An historical and statistical account of New South Wales*, 3rd edition, vol. 2, A.J. Valpy: London (1852), p. 196.

¹¹⁸ Editor, *Maitland Mercury*, July 17 (1850), p. 1.

¹¹⁹ G. Engstrom, *Australian Agricultural Company: Twenty-seventh Annual Report*, London: John James Metcalfe Printers (1851), pp. 10-11, AACR.

¹²⁰ *Maitland Mercury*, 7 June (1851), p. 1.

¹²¹ *Australian Agricultural Company Annual Reports*, London: J.J. Metcalfe Printing (1857-63), AACR.

1850 up to 20s. 2d. in 1854.¹²² These high prices led to some capitals opting to import British coals instead, while also encouraging other producers to enter the market. The Directors of the AACo commented on this in exasperation:

the high cost of labour, in conjunction with the spirit of the times, assisted to induce such extravagant prices for Coal throughout the Autumn of 1853, and part of 1854, that it very shortly recoiling upon the Coal Proprietors, having tended to reduce the consumption of the Public in general, but of the Steam Navigation Interests in particular, both Ocean and Inter-Colonial: the high rates have also further paralysed [sic.] the trade, by stimulating over production through the opening of fresh Collieries, and the extension of the operations of old ones, and further by inducing the considerable Importations of Coal and Patent Fuel into the Colony from England... The pressure of such various circumstances soon brought about a diminution in the demand, and a consequent dropping in the price of coal [to 12s. per ton].¹²³

Of course, looking at Figure 5.4, we see that the coal market was largely a duopoly until 1857 – but this masks the frequent attempts by others to enter the market, which the AACo and Newcastle Coal and Copper Company (NCC) would variously block, such as the NCC buying out a small colliery at Burwood in 1855.¹²⁴ Also, with competition from overseas, and for fear of further encouraging new entrants, the AACo and NCC agreed to fix prices for the first time in 1855.¹²⁵ To make this point clear: the circuit of the primitive accumulation of fossil capital was *so fragile and politically arbitrary*, that within six years of a second private producer entering the market, prices had to be fixed through combination. Further, highlighting the specifically capitalist nature of this production, the AACo pursued two other strategies to restore profitability – wage suppression and further mechanization.

Captain Brownrigg, the manager of the AACo mines at the time, reduced the per piece rate in August 1855, but this was of limited impact as wages had risen so much in the three years

¹²² Coughlan, *The Wealth and Progress of New South Wales*, p. 92

¹²³ G. Engstrom, *Australian Agricultural Company: Thirty-first Annual Report*, London: John James Metcalfe Printers (1855), pp. 22-23, AACR.

¹²⁴ *Sydney Morning Herald*, 21 November (1855).

¹²⁵ Turner, *Coal mining in Newcastle*, p. 64.

previous.¹²⁶ The longer-term solution, of course, would be to substitute capital for labour. Let us consider the Directors at length on this:

An increased out-turn of Coal is in colliery management an element much to be desired, the general charges of the establishment, which can be but little reduced, falling as a light per centage on the larger quantity... The arrival in the Colony of the engines and machinery dispatched for the purpose of concentrating the Newcastle Collieries, placing them in efficient working order, and economizing labour, where such high rates of wages obtain, has been reported. Great however as may have been the expense attending the accomplishment of this object, it is satisfactory to find the adventure has been made, as the Company's competitors in the trade have not been behind-hand in making the like preparations, and their engines and machinery were shortly expected.¹²⁷

We can observe clearly here the structural force of value compelling the agents of the AACo to deepen class antagonisms, to expand production to ensure profitability and to realize the value trapped in its fixed capital. Not only did the socioecology of an urbanized and capitalist colony demand its Cheap Energy in the form of coal – indeed, without it the relations of the colony would necessarily have taken on a different shape – but the logic of capital within the production of coal also propelled the expansion of fossil capital. This really cannot be emphasized enough. The argument here is that not only did (does) the socioecology of capitalism demand Cheap Energy, but that the relations of production within the circuit of capital whose object is the provision of that same Cheap Energy themselves compound that necessity with their own: fossil capital must expand to pay for itself.

So, by the time land had been commodified by the Robertson land acts, the colonial political economies were also already defined by fossil capital. And yet, there is more to tell in the history of the *primitive accumulation* of fossil capital. So far, in our brief history of the nineteenth century of Australian coal production we have traced production from rude state production, through a period of monopoly and mechanization, and finally arrived at the emergence of a competitive market for coals. With the world-ecological categories of cheap nature, commodity frontiers, and the environment-making state in our minds, what stories emerge from the second half of the

¹²⁶ Secretary, *Australian Agricultural Company: Thirty-Third Annual Report*, London: J.J. Metcalfe Printers (1857), p. 20.

¹²⁷ *Ibid.*, p. 22.

nineteenth century? Interestingly, the crisis of the 1840s was not the only – or even the most challenging – for this emerging circuit of capital. Nor was the crisis of the 1850s, when rising demand was obfuscated by the antagonisms of labour. Rather, competition itself presented the real crisis, eventually to be resolved through combination and price-fixing, emerging toward the end of the 1850s. Can Nature be ‘too’ cheap? We turn to this now.

Overproduction and entanglement, 1856-1900

In 1854, the coals raised in Newcastle totalled 117,000 tons. In 1866, this figure had risen to 774,000. By 1873, the total tonnage of coals raised exceeded one million tons.¹²⁸ The colony of New South Wales entered the twentieth century with 5,507,497 tons of coal raised in the year 1900.¹²⁹ Despite the population of the colonies expanding rapidly during the gold boom, and the second pastoral boom, coal usage continued to grow intensively, as well as extensively (increasing coal raised per person).¹³⁰ Indeed, the way in which the spatial and class character of capitalist production demanded the adoption of fossil capital across the spectrum of commodity production was not just a recent observation by Malm, but perceived by Jevons at the time:

carrying the work to the power, not the power to the work, is a disadvantage in water power, and wholly prevents that concentration of works in one neighbourhood which is highly advantageous to the perfection of our mechanical system.¹³¹

But with coal, we have an apparent contradiction: while its uses are obviously many – and as we have seen, they are also socioecologically necessary to capital – the mining of coal seems fraught. Commenting on Newcastle coal production in the nineteenth century, Metcalfe points to one recurring issue:

¹²⁸ Colonial Secretary, *Returns of the Colony of New South Wales*; New South Wales Government, ‘Return of coal mines’, *N.S.W. Statistical Registers*, 1866, 1874.

¹²⁹ T.A. Coghlan, *The Wealth and Progress of New South Wales*, 1900-01, Issue 13, Government Printers: Sydney (1902), p. 409; see also Figure 5.5

¹³⁰ ABS, *Australian Historical Population Statistics*, Table 1.

¹³¹ Jevons, *The Coal Question*, p. 151.

the NSW coal industry had suffered chronic overcapacity. In economically buoyant periods of the nineteenth century, it 'artificially' protected high prices from overcompetition with a succession of coal owners vends, but whenever the market declined the vends and the coal price collapsed in the scramble for sales.¹³²

Above we noted the first example of price-fixing by coal producers, in 1856. This was the beginning of an enduring trend. While these fixes may have been fragile, as Metcalfe notes, they offer a revealing window into the logic of capital and Cheap Nature.

During the second half of the 1850s labour continued to be a barrier to profitability for fossil capitalists, despite their best efforts to reduce the labour content of their production. After many years of informal, and localized struggle by colliers, a formal union was finally created in 1860 – the Coal Miners' Association (CMA).¹³³ In response to the power of a union spanning all of the Newcastle collieries, the superintendent of the AACo, Arthur Hodgson, formed an association of all mine owners in the colony.¹³⁴ In 1861, the CMA managed to organize across the entire industry, and call a general strike over pay and conditions, with particular emphasis placed on the need for better ventilation in the mines. While some victories were won by the CMA, including succeeding in electing a representative to the state parliament, the proprietors managed to break the strike through importing hundreds of British colliers, seriously impeding the operations of the union for some years. The history of this period of struggle is worth study in its own right; our concern here, however, is to note the emergence of the mine owners' association, the Associated Northern Collieries (ANC). It was this institutional response to struggle by labour that facilitated the determination of price in the face of a crisis of overproduction: 'For a time the association was preoccupied with the struggle with the miners' union but the need for price maintenance was soon to be resurrected for it, not labour relations, was the dominant issue facing the coal industry in the nineteenth century.'¹³⁵ And perhaps we should not be surprised by this. After all, attempts

¹³² A. Metcalfe, *For Freedom and Dignity: Historical Agency and Class Structures in the Coalfields of NSW*, Sydney: Allen and Unwin Publishers (1988), p. 22.

¹³³ Turner, *Coal Mining in Newcastle*, p. 68.

¹³⁴ Associated Northern Collieries (A N.C.) A N.C. Minutes. I Aug. and 11 Oct. 1861. AACR.

¹³⁵ Tuner, *Coal Mining in Newcastle*, p. 71.

to fix prices by producers had been prevalent in the British coal industry since the seventeenth century.¹³⁶ Especially interesting for historical materialists is that the leading proponent of the 'monopoly capitalism' approach, Paul Sweezy, wrote his doctorate on combination in the British coal trade.¹³⁷ And so, much of the history of the second half of the nineteenth century in Australian coal production is characterized by either vends, price-fixing, or collusion in union-busting. The most successful example of this collaboration was, however, the 1874 coal vend. Far from the halting solution suggested by Metcalfe, this durable regime represented a collaboration between both the colliery proprietors *and* the coal unions, maintaining prices until 1880, and sustaining an expansion of output of fifty percent during those six years.¹³⁸

The history of coal production in the remainder of the nineteenth century is an important story, well told by Turner.¹³⁹ Collaboration around the coal vends of the 1870s collapsed, but rising demand saw production continue to expand, and further entrants joined the market (Figure 5.4). With competition came price volatility, but also rapidly increasing output (Figure 5.5). The crash of the early 1890s saw a deep depression, but the colony was pulled from this slump by an export-led recovery, especially including wheat and frozen meat – which itself required cheap energy.¹⁴⁰ By Federation, 1901, the colonies domestic manufacturing, agricultural, pastoral, and mineral exports were all deeply reliant on fossil fuels. Orthodox economic historians might bicker as to whether the continuing success of Australian capitalism (on its terms, at least¹⁴¹) was export-driven, or a story of urban agglomeration. That each of these orthodox narratives fails to incorporate energy in their analysis shows unequivocally the importance of embracing

¹³⁶ J. U. Nef, *The Rise of the British Coal Industry*, volume 2, Oxford, UK: Frank Cass and Co. (1966), pp. 110-119.

¹³⁷ Later published as P. Sweezy, *Monopoly and Competition in the English Coal Trade, 1550-1850*, Cambridge, MA: Harvard University Press (1938).

¹³⁸ Coghlan, *The Wealth and Progress of NSW, 1900-1901*, p. 409.

¹³⁹ Turner, *Coal Mining in Newcastle*, pp. 99-119.

¹⁴⁰ Belich, *Replenishing the Earth*, pp. 364-365; Woods, *The Herds Shot Round the World*, pp. 119-121.

¹⁴¹ Cf. K. Buckley & E. Wheelwright, *No paradise for workers: Capitalism and the common people in Australia, 1788-1914*, Melbourne: Oxford University Press (1988).

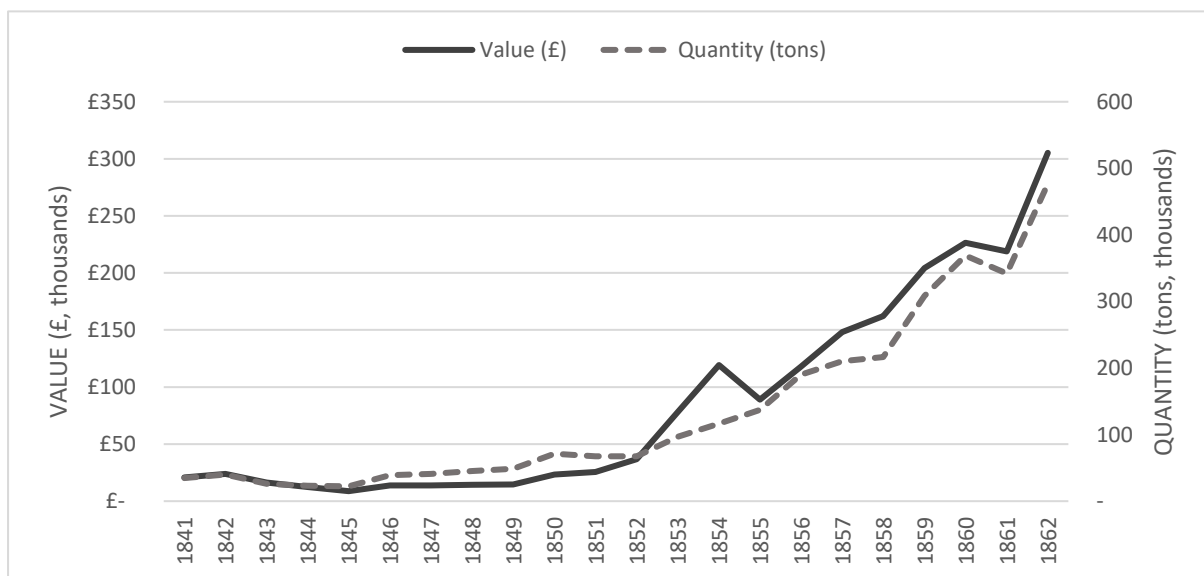
approaches that take energy seriously. Once again, the perspectives of world-ecology and eco-socialism are central – but retelling these stories from these perspectives is a lacuna of the literature on Australian history. Despite multiple calls for doing history relevant to the current conjuncture,¹⁴² energy history is yet to emerge as a field of study in Australia.¹⁴³ This thesis makes a novel contribution to this gap through its focus on the mines of the AACo, but this a starting point for much further work. It is striking that even orthodox approaches have neglected energy, as from a comparative perspective, successful mining of domestic coal supplies was not achieved in all British colonies. To put this orthodox statement into the frame of world ecology: the establishment of a circuit of primitive accumulation of fossil capital meant that Cheap Energy was assured across the spectrum of commodity production. This is especially significant in a colony that is generally characterized as labour scarce. The exploitation of Indigenous Australians on the pastoral frontier, for domestic and stock work, was crucial to the historical cheapness of the woollen commodity frontier. Generally speaking, Australia did not have Cheap Labour (and Lives) in the way that the plantation socioecologies of cotton did – the major exception to this was the creation of a sugar plantation frontier in Queensland through strategies of racialisation and indenture, which we will explore in the following chapter. Rather, as we see one commodity frontier after another open through the late-nineteenth and early-twentieth centuries, Cheap Energy plays a key role. That Cheap Energy relied upon capitalists who saw mining coal as a path toward money-prime. The very fact that the industry became defined by crises of overproduction reveals that those capitalists appreciated the world-ecological significance of coal, and continued to throw their money into the production of fossil fuels – even if this led to crisis, in a classic fallacy of composition. In this way, we see that coal operates differently as a commodity than

¹⁴² Y. Rees and B. Huf, 'Doing History in urgent times: forum introduction,' *History Australia*, 17(2): 225-229 (2020); B. Huf, Y. Rees, M. Beggs, N. Brown, F. Flanagan S. Palmer and S. Ville, 'Capitalism in Australia: New Histories for a Reimagined Future,' *Thesis Eleven*, 160:1 (2020); H. Forsythe and S. Loy-Wilson, 'Introduction: Political implications for the New History of Capitalism,' *Labour History*, 121 (2021); ' J. McIntyre, 'Nature, Labour and Agriculture: Towards common ground in new histories of capitalism,' *Labour History*, 121: 73-98 (2021).

¹⁴³ Andre Brett's focus on rail is a welcome recent exception, but falls short of a comprehensive history. See A. Brett, "The exceptional circumstances under which we are working': railways and water in Australasia, 1870s to 1914,' *History Australia*, 17(3): 489-509 (2020); A. Brett, 'Railways and the Exploitation of Victoria's Forests, 1880s-1920s,' *Australian Economic History Review*, 59(2): 159-180 (2018).

wool, or most others. Unfortunately, a deeper understanding of how coal, under capitalism comes to underpin the generalisation of value relations, is beyond us here.¹⁴⁴ Rather, let us step out of the ‘hidden abode’ of production, climb out of the mine shafts of Newcastle, and return to the contingent conditions that determine the production of cheap nature at the commodity frontier.

Figure 5.5 – Coals raised in New South Wales, 1841-1861¹⁴⁵



Before moving on, however, we cannot speak of coal and nineteenth-century frontiers without considering rail. As put by Wilkenfeld, ‘the most significant event in NSW transportation technology in the 40 years to 1881 was the introduction of the railway in 1855. It affected almost every aspect of the colony’s economic and administrative development...’.¹⁴⁶ Rail also brings the environment-making state back into view. While there were speculative bubbles of private interest in rail ventures around the world during the nineteenth century, the Australian colonies

¹⁴⁴ See Collins, *Possession vis-a-vis power*.

¹⁴⁵ T.A. Coghlan, *The Wealth and Progress of New South Wales*(v. 2), 8th edition, Sydney: NSW Government Printer (1896) p. 92.

¹⁴⁶ Wilkenfeld, *The electrification of the Sydney energy system*, p. 73.

saw little of this investment. A few private lines were created (between mines and docks, for example), but the vast majority of rail investment in Australia was pursued by colonial states. This was a novel development, as the colonial governments had not before ventured into bond markets. Indeed, through to 1891, 78 percent of Victorian government spending went toward rail development.¹⁴⁷ From 1860 to 1880, rail represented almost 60 percent of gross public sector capital formation.¹⁴⁸ Connell and Irving note the significance that the institutionalization of government departments began with rail, in the 1850s.¹⁴⁹ Thinking back to our earlier exploration of the state as environment-maker, we can see rail as a central project of state formation, facilitating state legibility of and control over its territory to a level not previously achieved. It also worked to compress space through the application of time-saturated fossil fuels.¹⁵⁰ Hand in hand with the expansion of rail was the emergence of agriculture, which itself relied upon significant borrowing by the colonial states to finance irrigation projects.¹⁵¹ Early, faulting attempts by the state to encourage agriculture – largely thwarted by the obfuscation of land reform by the squatting class – became more concerted in the 1880s: ‘In the eastern colonies, the agricultural frontier was beginning to stabilize by the 1880s as selectors consolidated their hold on the land... the railway followed the agricultural frontier and consolidated it.’¹⁵² Not that rail necessarily challenged pastoral capital, as it was seen that railway construction would drive land values and help facilitate the expansion of the wool trade.¹⁵³ It is worth considering McMichael at length here:

In world-economic terms, railways intensified Australia’s primary-producing contribution to the world division of labour, because the resulting national debt linked government policy to the encouragement of export commodity production. Public expenditure thus forged a nexus between the developing colonial landed economy and a London capital market that required alternative fields of investment from the traditional, and now saturated, fields in Europe.¹⁵⁴

¹⁴⁷ Fitzpatrick, *The British Empire in Australia*, p. 158.

¹⁴⁸ N. Butlin, *Australian domestic product, investment and foreign borrowing*, p. 348.

¹⁴⁹ Connell and Irving, *Class Structure in Australian History*, p. 110.

¹⁵⁰ See D. Harvey, *The Condition of Post-Modernity: An enquiry into the origins of cultural change*, Oxford: Basil Blackwell Publishers (1989), p. 264.

¹⁵¹ Fitzpatrick, *The British Empire in Australia*, p. 159.

¹⁵² McMichael, *Settlers and the Agrarian Question*, p. 223.

¹⁵³ P. N. Lamb, ‘Crown Land Policy and Government Finance in New South Wales, 1850-1900’, *Australian Economic History Review*, 7 (1967), p. 47.

¹⁵⁴ McMichael, *Settlers and the Agrarian Question*, p. 236.

Plate 5.2 – Coal Loading at The Dyke with Number 15 crane, Newcastle Harbour, 1906, Ralph Snowball.¹⁵⁵



Here we have a striking image of the socioecology of fossil capital at work. Developed some way from the early plane used by the AACo, by the close of the 19th century more than 3 million tons of coal were being mined in Newcastle every year, worth more than a million pounds.¹⁵⁶

The burning of Newcastle coals for steam to power rail locomotion was not the only, or even the primary use of fossil fuels in the colony during this period. But here we see why the colonial state was so enamoured with the ideology of steam, back in the first decades of the 1800s: the power of coal to produce the kind of abstract space so desired by both the state and capital was immense. And the state, when the opportunity came to pursue that goal through rail in the second half of

¹⁵⁵ University of Newcastle, <https://livinghistories.newcastle.edu.au/nodes/view/45027>

¹⁵⁶ Turner, *Coal Mining in Newcastle*, p. 100.

the nineteenth century, became more deeply entangled in British finance than ever in order to achieve it. In doing so, all of this expenditure on transport served to cheapen nature for capital, across both the pastoral and agricultural commodity frontiers. Here we find the germ of McMichael's later development of incorporated comparison in his work on the pastoral frontier – these apparently distinct commodity frontiers are in fact a 'self-forming' whole.¹⁵⁷ The breadth of the totality goes beyond the frontier, however. Fossil capital was not just demanded by the anarchy of capitalist production: it also drove the formation of the modern state. These deeply world-ecological entanglements, of finance, states, and commodity frontiers are animated by Cheap Energy, here in the form of Fossil Capital. In colonial Australia, the commodity frontier of wool is in this way internally related with the mining of coals at Newcastle. The history of those mines, delving into the hidden abode of their coal production, reveals the machinations of capital, state, labour and nature necessary to cheapen nature in a historical sense.

From here, we might consider lighting, refrigeration, smelting, salt and lime production, or electrification. Steam was applied throughout New South Wales, and exported to the other colonies. Even the *Sydney Morning Herald* relied upon steam from 1853, when its installation of the first steam-powered press in the colony facilitated its daily run to increase from 1,000 to 6,000 papers.¹⁵⁸ In 1841 there were 12 stationary steam engines in NSW, and in Sydney all but one were used for milling grain; 'by 1881 there were over 130 powered factories in Sydney. Only 12 of these were flour mills, a further 36 were sawmills, and the rest in a range of industries from baking to printing.'¹⁵⁹ Wilkenfeld goes on to note the explosion of steam navigation, as 'the number of steam vessels registered at Sydney rose from 15 in 1841 to 270 in 1881.'¹⁶⁰ Reading the history of Sydney's energy system, detailed in Wilkenfeld's doctoral thesis, it is astounding to

¹⁵⁷ McMichael, 'World-systems analysis, globalization, and incorporated comparison,' p. 198.

¹⁵⁸ M. Cannon, *Life in the Cities: Australia in the Victorian Age*, volume 3, Melbourne: Nelson Press (1973), p. 125.

¹⁵⁹ Wilkenfeld, *The Electrification of the Sydney energy system*, p. 76.

¹⁶⁰ *Ibid.*, p. 78.

think that so many historians have taken Blainey at his word, that ‘the timber cutter was more important than the coalminer.’¹⁶¹

Coal was the dominant fuel in every sector of the Sydney energy system except the residential, where firewood and lighting oils still held much of the market. Coal and coke supplied the heat and power for industry and transport; coal gas supplied most commercial and street lighting energy. It is likely that Sydney’s citizens only became aware of their dependence on coal during interruptions in the supply.¹⁶²

By the end of the nineteenth century, Australian capitalism was indeed defined by fossil capital (Plate 5.2). This broad-based adoption of fossilized energy across the colonies ought to be read world-ecologically: these shifts had the result of lowering the socially necessary labour time of commodity production for all capitals. The pastoral commodity frontier drew on nature cheapened through the appropriation of thousands of years of Indigenous care for country. The vertical frontier of the Hunter valley coal mines further cheapened nature across the spectrum of commodities being produced in the colony, through the application of *millions* of years of non-human lives, now compressed into fossilized vegetative matter, dense in energy beyond the imaginings of an organic socioecology.

Conclusion

The question this thesis is engaged with is how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? In answering this question, the thesis also demonstrates how eco-socialist theory, and in particular the world-ecology framework, can provide critical insights into the constitution of the Australian political economy and its current state of socioecological crisis. Among the terrors of the present, the climate crisis looms large; and although land use contributes significantly to rising atmospheric concentrations of greenhouse gases, the story of fossil capital is obviously central. It defines our energy systems, spanning transport, housing, heating, and especially commodity production. The specific form that fossil capital has taken in Australia is coal from the Hunter valley, which initially drove urbanisation

¹⁶¹ Blainey, ‘Riding Australia’s big dipper’, p. 129

¹⁶² *Ibid.*, p. 84.

and industrialisation, and then from the late twentieth century, an immense export boom. In 2017, the then-Treasurer, Scott Morrison, held a lump of coal aloft at the dispatch box, proclaiming ‘this is coal.’¹⁶³ He went on to argue that this coal,

dug up by men and women who work and live in the electorates of th[e Labor Party] – from the Hunter Valley... has ensured for over 100 years that Australia has enjoyed an energy-competitive advantage that has delivered prosperity to Australian businesses and has ensured that Australian industry has been able to remain competitive in a global market.¹⁶⁴

If anything, Morrison was understating the historic significance of coal mining in Australia – these relations go back two hundred years. But he does appreciate the way that business and industry had come to rely on this particular form of cheap nature, of cheap energy. These socioecological relations have been captured by Malm as ‘Fossil Capital’, and, as noted by Bonneuil and Fressoz at the beginning of this chapter, ‘This political reading of energy history is particularly important in the present climate context...’.¹⁶⁵ This chapter has attempted to move beyond existing fractures in eco-socialist thought to show that – at least in this history – the frameworks of world-ecology and fossil capital are commensurate. The relations of Cheap Nature, the commodity frontier, and of the environment-making state explored throughout this thesis – first theoretically, then historically through the processes of invasion and the spread of the pastoral frontier – are seen again here: first in the emergence of a circuit of the primitive accumulation of fossil capital, and then in the generalization of fossil capital production. Or, put differently:

$$M - C(L+MP(F)) \dots P^{(CO_2)} \dots C' - M'^{166}$$

Taking Malm again,

At a certain stage in the historical development of capital, fossil fuels become a necessary material substratum for the production of surplus value. But they are not merely necessary as leather for boots, raw cotton for textiles or iron ore for machines: they are utilized *across the spectrum of commodity production* as the material that sets it in motion.¹⁶⁷

¹⁶³ S. Morrison, Australian Commonwealth, *Parliamentary Debates*, House of Representatives, Thursday 9 February (2017), p. 536.

¹⁶⁴ *Ibid.*, p. 536.

¹⁶⁵ Bonneuil and Fressoz, *The Shock of the Anthropocene*, p. 107.

¹⁶⁶ L = Labour, MP = Means of production, CO₂ = carbon emissions through production.

¹⁶⁷ Malm, *Fossil Capital*, p. 288.

Perhaps we can see here why Moore might initially recoil from this formulation. Surely, capitalism requires Cheap Nature. Cheap Energy might take the form of fossil fuels in some instances, but in the absence of Cheap Energy, capital might find new frontiers that historically cheapen work, or lives, or other materiel for production. The idea that fossil fuels might become necessary, and somehow change the existing socioecological relations of capitalism grates, and the periodization it suggests might obscure the origins of those same relations. This thesis does not look to adjudicate these debates, but rather draws from each as they are useful to understand historically this specific commodity frontier: coal in the Hunter Valley.

This thesis traces the internal relations of the commodity frontier, showing how cheap energy as fossil fuels became necessary in a historically specific way, within the socioecological relations of Australian capitalism. In this we see the utility of the method of incorporated comparison, and its insistence to comparators as co-constitutive, rather than analytically sealed. The establishment of cheap energy was a contingent historical process, but was set in motion by the same relations that have defined the invasion of this continent since 1788. The invasion/settlement of Australia was not defined by fossil capital, but rather the socioecological relations of capitalism. It was through those world-ecological relations, however, that coals were raised and burnt. White Australia has always been in the Capitalocene. The relations of empire and capital and knowledge and power that constitute the Capitalocene were in confluence with the very invasion of this continent. We should be careful, however, of flattening the history of the Capitalocene, for fear of obscuring uneven development. It is for this reason that we have explored the contingent emergence of fossil capital from the relations of the commodity frontier, and the formation of the environment-making state. But as noted above, cheap energy is especially important when lives and labour cannot be made cheap. After the end of convict assignment and with the onset of the gold rushes, the crisis of cheap labour pushed Australian capital into fossil capital. But this was not universally so – these relations are revealed again *as totality* through the method of

incorporated comparison. By moving to consider the exception, where lives and labour *were* cheap, much is revealed. And so, in the final chapter of this thesis, we move through one last moment of Cheap Nature in Australian capitalism: sugar, and the plantation frontier of colonial Queensland.

Chapter 6 – ‘A great many of them die’: Sugar, race, and cheapness in colonial Queensland

A great many of our boys are of poor physique and under-age; the consequence is that a great many of them die. Out of one lot of seventy-eight boys that we got last year, twenty-three were dead within ten months after they came. That, of course, is a very heavy loss to us. We lost their labour and what we had to pay for them in the beginning.¹

[T]he plantation system... was the key to the constitution of modern capitalism.²

Depending on supplies of uncommodified land, sugar planters under capitalist market pressures were forced to commodify and as a consequence degrade the land, thus setting the stage for further expansion... The case of the sugar commodity frontier serves to clarify and specify the ways that capitalist specialization, under conditions of increasingly generalized commodity production and the imperative of ceaseless capital accumulation, destabilizes local ecosystems.³

Introduction

For the final time, this thesis returns to the central research question: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? Throughout the thesis it has been shown how the commodity frontier is driven by dialectics of cheapness and of great cost, of commodification and of non-commodification. These socioecologies are seen as constitutive of Australian capitalism, patterned by processes of class and state formation, of empire, science, and of gendered difference. In the case of the Indigenous stockman and concubine it was shown that unpaid labour and energies are central to valourising capital, and these deep wells provide the historic cheapness of the frontier. Here we return to race – a central category in understanding

¹ E. Drysdale, *Queensland Votes and Proceedings (Q.V.P.)*, IV (1889), Q. 5157.

² A. Mbembe, *Critique of Black Reason*, Durham, NC.: Duke University Press (2017), p. 47.

³ J.W. Moore, ‘Sugar and the Expansion of the Early World-Economy’, *Review: Ferdinand Braudel Centre*, 23(3), (2000), p. 428-9.

Australian capitalism – this time at the sugar commodity frontier. We turn to the history of the ‘Kanakas.’

It has been estimated that between 1870 and 1900 the population of the New Hebrides Pacific islands fell from 650,000 to as low as 100,000.⁴ The main determinant of this demographic collapse was the removal of Pacific Islanders from their homes, transported for the purpose of working sugar cane and cotton, largely in Queensland and Fiji. This practice was known as ‘Blackbirding.’ Estimates vary, but this process brought at around 60,000 workers to Queensland between 1866 and 1904.⁵ Those communities that mourned the abduction and removal of so many were then left to suffer further through disease and death, mirroring previous moments in the uneven expansion of world (and Australian) capitalism. And while the Australian Prime Minister might have asserted in 2020 that ‘there was no slavery in Australia,’⁶ any apparent freedom for ‘Kanakas’ labour was illusory: they were employed on three-year contracts for meagre wages, bound by law to stay on the plantation, forced to work with such intensity, and with such limited provisions, that mortality was incredibly high. How could labour under these conditions be considered ‘free’? In an enquiry in 1889, the Queensland registrar general estimated that at least one fifth of people transported from 1868 had died in the course of their work, while also acknowledging that the real figure was likely higher, masked by limited reporting.⁷ Similarly obscured is the prevalence of kidnapping by ‘Blackbirders,’ or those agents who travelled the Pacific to fill orders for kanakas placed by the planters. While some South Sea Islanders may have been engaged willingly, many were forcibly stolen from their home islands.

⁴ N. Randell, *The White Headhunter: The Story of a 19th Century Sailor Who Survived a South Seas Heart of Darkness*, New York: Carroll and Graf (2003), p. 168.

⁵ G. Horne, *The White Pacific: U.S. Imperialism and Black Slavery in the South Seas after the Civil War*, Hawaii: University of Hawaii Press (2007), p. 33.

⁶ S. Morrison, ‘Interview with Ben Fordham, 2GB’, transcript, 11 June (2020), accessed at: <https://www.pm.gov.au/media/interview-ben-fordham-2gb-4>

⁷ “Kanakan Statistics”, *Q. V. P.* (1889): 225–228.

The wage-labour contract is never truly entered freely, but the idea that Kanakas were free labourers stretches this façade beyond its limits.

But this period of sugar production in Queensland by unfree, indentured labour fits uncomfortably with our conventional periodisations. Slavery was ostensibly abolished within the British Empire in the early 19th century. The transportation of convicts to Australia ceased in the early 1840s, and from there their use as (unfree) assigned labour ramped down.⁸ The Thirteenth Amendment abolished slavery in the United States in 1865.⁹ And yet, the development of the Queensland sugar industry, on the northern frontier of White Australia, rested entirely on unfree, racialized, cheap labour, through into the early twentieth century. It is through the categories of world-ecology that this moment in the history of capitalism in Australia is rendered legible. Further, through exploring the socioecology of the plantation, much is revealed about the character of capitalism more broadly. Again, we can see the commodity frontier at work, producing landscapes, crises, and profits through relations of cheapness: cheap nature, cheap land, cheap work, and cheap lives. From wool, to coal, and now to sugar – we see again that it is precisely through the socioecological relations of cheap nature and the commodity frontier that the totality of uneven capitalist development is best explained. We see how cheapness is constructed, here again through the efforts of the state as well as capital, especially by the vehicle of racialization: rendering workers as coloured, and therefore within nature, and outside of the sphere of value.¹⁰ The role of race as a condition of cheapness at the commodity frontier is further specified through the method of incorporated comparison, which shows that relations of cheap energy through fossil fuels and cheap labour and lives through the extirpation of Indigenous

⁸ A. Woollacott, *Settler Society in the Australian Colonies: Self-government and imperial culture*, Oxford: Oxford University Press (2015), pp. 67-9.

⁹ E.E. Baptist, *The Half Has Never Been Told: Slavery and the making of American capitalism*, New York: Basic Books (2014), p. 403.

¹⁰ M. Mies, *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labour*, London: Zed Books (1986), p. 77.

Australians *and* the unfreedom of the Kanaka are each part of the same self-forming whole, the same totality of socioecological relations.

In telling this story, we will first situate the world-ecology of sugar and the plantation within the world history of capitalism. Second, through tracing the movement of the frontier, and the role of the state in creating cheap nature, we will account for the emergence of a sugar industry in Queensland. Third, we will follow the development of the sugar industry: the nineteenth century sugar frontier would go through three cycles of expansion and crisis, the final cycle of which would see the end of the Pacific slave trade, and the establishment of the White Australia Policy. Just as the pastoral and fossil frontiers were produced by relations of cheapness, so too was the frontier of sweetness, of sugar. Crucially, this story demonstrates the power of race to condition value in a material way – something that continues to define the Capitalocene, the contradictions of which traverse socioecologies of race, class, state, and capital. In this final historical chapter, we return again to our central question: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? Might the tools of historical materialism, eco-socialism and world-ecology render this history explicable? By placing this story alongside those of invasion, pastoralism, and fossil capital – or, rather, conceived of as being internally related, articulated through incorporated comparison – the *totality* of capitalism as a socioecology might begin to be appreciated. And it is only through this realization that we might begin to transcend this conjuncture of converging, concatenating socioecological crises. Our theory of capitalism must be able to account for the role of race in cheapness, or the socioecology of capital will find spaces where these old strategies can be deployed for profit – indeed, a defining characteristic of much agriculture in Australia today relies on cheap, immigrant labour.¹¹ World-ecology reveals the

¹¹ I. Campbell, ‘Harvest Labour Markets in Australia: Alleged labour shortages and employer demand for temporary migrant workers’, *Journal of Australian Political Economy*, 84: 46-88 (2019).

origins of this reliance and shows the way such strategies emerge from relations of Cheap Nature, conditioning the expansion of the commodity frontier.

Sweetness and Capital

It has long been appreciated that sugar, the institution of the plantation, and the emergence of capitalism are closely related. This historical observation has been a source of theoretical contention; many historical materialists define capitalism by the wage relation.¹² The historical association between sugar and slavery might, at first blush, put the sugar colonies outside the totality of capital. Eric Williams argued, however, that slavery, and the commodities it produced, were crucial to fuel the development of metropolitan capitalism, generating vast amounts of capital that might be ploughed back into expanded reproduction.¹³ In this view, ‘without slavery there is no sugar, and without sugar, there is no industrialization.’¹⁴ Sidney Mintz saw plantations not only as an engine of primitive accumulation, but also as a labouratory of modernity, pioneering a proto-industrial organization of production, as well as the distinct temporality of capitalist production.¹⁵ From a world-systemic perspective, too, plantations have long been seen as an important example of the logic of capitalism, with Braudel declaring them as ‘capitalist creations *par excellence*: money, credit, trade and exchange tied them to the east side of the Atlantic.’¹⁶ Mbembe, as in the above epigraph, summarizes these perspectives clearly: ‘The complex of Atlantic slavery, centred around the plantation system in the Caribbean, Brazil, and the United States, was key to the constitution of modern capitalism.’¹⁷ Of course, many investors and plantation owners putting Atlantic slaves to work in the fields used a material detour through

¹² For example, E.M Wood, *The origin of Capitalism: a longer view*, Verso: London (2002).

¹³ E. Williams, *Capitalism and Slavery*, Chapel Hill, NC: University of North Carolina Press (1944), pp. 163-166.

¹⁴ J.R. Eichen, ‘Cheapness and (labour-)power: The role of early modern Brazilian sugar plantations in the racializing Capitalocene, *EPD: Society and Space*, 38(1):35-52, (2020), p. 39.

¹⁵ S. Mintz, *Sweetness and Power: The place of sugar in modern history*, New York: Penguin Books (1986), p. 47.

¹⁶ Braudel, *Civilisation and Capitalism, 15th-18th Century*, pp. 272-273.

¹⁷ Mbembe, *Critique of Black Reason*, p. 47.

the biophysical world of production other than that of sugar: cotton, coffee, tea, cocoa, opium, and rubber were just some alternatives. Each represents historically-specific conditions of the commodity frontier. Since the 'long sixteenth century', they each represent the messy historical expression of the imperatives of cheap nature, and the searching, experimental, speculative search by capital for profit. That said, Jason W. Moore sees sugar as a particularly powerful example of the 'commodity frontier' of Cheap Nature at work, as 'few commodity frontiers have contained such expansionary and environmentally transformative logic as sugar.'¹⁸ Following that assertion, this chapter attempts to follow those logics through to their deployment in Australia.

That sugar cane was historically grown on tropical plantations, worked by coloured, un-free labour emerges from the collision of the law of value with the particular ecology of the cane. The first thing to understand about sugar cane is that it dries rapidly when cut, and so must be milled within a maximum 48 hours, though ideally 24. After the cane has been milled, the juice must be processed immediately, as fermentation will prevent crystallization.¹⁹ Due to this, plantations developed as a highly rationalized, time-disciplined, and vertically-integrated form of production. While there was certainly variation in the method and labour regime of sugar across time and space, Eichen gives a useful, typical overview of production, drawn from Brazilian production in the seventeenth and eighteenth centuries:

First, between two- and three-dozen pairs, often a man and a woman, were given a daily quota of 4200 canes to be cut and bound, with the man cutting and the woman binding the cane. The cane was then taken by oxen cart or boat to the mill to be ground to release the juice. The juice went into a container in a boiling house. Next, sugar workers boiled and carefully tended the juice to prevent burning and caramelization. The sugar master decided when the boiling concentrate was ready to be "stuck". Workers then poured the sugar crystals into another vessel and took them to a purging house. The crystals were placed into barrels or earthenware cones, prepared by enslaved women, with a hole for molasses to drain out, leaving only the "purged" crystals. After two months,

¹⁸ Moore, 'Sugar and the Expansion of the Early World-Economy', p. 413.

¹⁹ J.H. Galloway, *The Sugar Cane Industry: An historical geography from its origins to 1914*, Cambridge, UK: Cambridge University Press (1989), pp. 16, 105.

the sugar was removed from the molds onto a raised platform... The loaves were then separated into various grades of sugar and prepared for shipment.²⁰

All of this was organized around the biophysical realities of the sugar cane plant, so as to maximize productivity. Harvests were essentially continuous, with workers expected to function on four hours sleep, working around the clock. 'This exhausting pace lasted Monday through Saturday, continuing for 8-10 months.'²¹ The centrality of boiling to processing meant that mills (and therefore plantations) had to be located near the coast or a river, and also required the rapacious harvesting of forests as a source of thermal energy. Some estimates suggest that, in Brazil, every acre of sugar cane required between one and a half and two times as much forest.²² In this way, land had to be cheap for the sugar commodity frontier to expand, and, dialectically, expansion was necessary due to rapid deforestation.

This tendency toward rapid deforestation is observable from the outset. Take Iberian sugar production in Madeira: we see 'the first signs of the modern sugar-slave nexus in Madeira, whose rise and decline (1452-1520s) turned on rapid deforestation.'²³ Compounding the centripetal force of deforestation, a consistent characteristic of cane was its depletion of the soil – in the words of Williams, 'from the standpoint of the grower, the greatest defect of slavery lies in the fact that it quickly exhausts the soil.'²⁴ From Madeira in the fifteenth century, the commodity frontier of sugar continued to search for places where Cheap Natures were available in the right combinations to allow for the insatiable hunger of the 'plantation machine'²⁵ to consume ecosystems, communities, and lives:

²⁰ Eichen, 'Cheapness and (labour-)power', pp. 39-40. See also S.B. Schwartz, 'Colonial Brazil, c.1580-c.1750: Plantations and peripheries' in L. Bethell (ed.) *The Cambridge History of Latin America*, Cambridge, UK: Cambridge University Press (1984), pp. 432-433.

²¹ *Ibid.*, p. 40.

²² S. B. Schwartz, *Sugar Plantations in the Formation of Brazilian Society: Bahia, 1550-1835*, Cambridge, UK: Cambridge University Press (1985), p. 170.

²³ J.W. Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), p. 183.

²⁴ Williams, *Capitalism and Slavery*, p. 7.

²⁵ To borrow the apt title, T. Burnard & J. Garrigus, *The Plantation Machine: Atlantic capitalism in French Saint-Domingue and British Jamaica*, Philadelphia: University of Pennsylvania Press (2016).

In the late sixteenth and early seventeenth centuries, production shifted again, to coastal Brazil. By the middle of the seventeenth century, the Caribbean, especially Barbados, became the center of world sugar production; Cuba and Jamaica became preeminent by the late eighteenth and early nineteenth century. And by the late nineteenth century, sugar production was truly globalized.²⁶

This world-history of shifting centres of primary commodity production help to explain the uneven development of capitalism, propelled by relations of socioecological crisis. As Moore goes on to summarize,

Depending on supplies of uncommodified land, sugar planters under capitalist market pressures were forced to commodify and as a consequence degrade the land, thus setting the stage for further expansion... The case of the sugar commodity frontier serves to clarify and specify the ways that capitalist specialization, under conditions of increasingly generalized commodity production and the imperative of ceaseless capital accumulation, destabilizes local ecosystems.²⁷

Cheap, exhaustible land and forests ready to fell might be one feature of the sugar frontier. But what of labour and lives? How might we understand the relation between free and unfree labour, the horrors of the slave trade, and the tendency of plantations to consume bodies in what has been described as a 'necropolitical ecology'?²⁸ We turn now to race and cheap labour on the sugar frontier.

How we ought to conceive of race and labour under capitalism is contentious.²⁹ When looking at the commodity frontier of sugar, from the perspective of world-ecology, however, the category is obviously central, and deeply material. As C.L.R. James emphasized, 'the race question is subsidiary to the class question in politics, and to think of imperialism in terms of race is disastrous. But to neglect the racial factor as merely incidental is an error only less grave than to make it fundamental.'³⁰ And yet, in the eyes of some, this has been excluded from view by European – and Eurocentric – Marxists. This criticism is forcefully put by Cedric Robinson, who

²⁶ Moore, 'Sugar and the Early Modern Economy', p. 414.

²⁷ *Ibid.*, pp. 428-9.

²⁸ Eichen, 'Cheapness and (labour-)power', pp. 47-48.

²⁹ For a brief example of the debate on unfree labour, see this exchange between Tom Brass and Jairus Banaji: J. Banaji, 'The Fictions of Free Labour: Contract, coercion, and So-Called Unfree Labour', *Historical Materialism*, 11(3): 69-95 (2003); T. Brass, 'Why Unfree Labour is Not 'So-Called': The fictions of Jairus Banaji', *The Journal of Peasant Studies*, 31(1): 101-136, (2003).

³⁰ C.L.R. James, *The Black Jacobins: Toussaint L'Ouverture and the San Domingo Revolution*, 2nd edition, New York: Vintage Books (1963), p. 283

argued that 'European Marxists have presumed more frequently than not that their project is identical with world-historical development.'³¹ Some of the tension between narrow definitions of capitalism which wholly exclude slavery from analysis, and the arguments emerging out of the Black Radical Tradition such as James, might be eased by thinking about the organizing questions Marx was pursuing in *Capital*. This is the view of Mintz, who suggested that 'it was never Marx's sole or explicit intention... to draw an orderly contrast between slaves and proletarians in order to endow these terms with definitions that could become eternal verities.'³² Indeed, in correspondence Marx acknowledges precisely this, that his categories might be organized differently if the articulation of free and unfree labour (and the materiality of race in constructing unfree labour) under the capitalist mode of production was the principle question:

Freedom and slavery constitute an antagonism... We are not dealing with indirect slavery, the slavery of the proletariat, but with direct slavery, the slavery of the black races in Surinam, in Brazil, in the southern states of North America. Direct slavery is as much the pivot of our industrialism today as machinery, credit, etc. Without slavery, no cotton; without cotton no modern industry. Slavery has given their value to the colonies; the colonies have created world trade; world trade is the necessary condition of large-scale machine industry. Before the traffic in Negroes began the colonies supplied the Old World with very few products and made no visible change in the face of the earth. Thus slavery is an economic category of the highest importance.³³

Here Marx elevates the significance of slavery alongside those he wrote far more about – machinery, credit, and commodity production. He also acknowledges a fundamental point: that slavery has historically been racialized. Indeed, going back to the Crusades, racialization as a governing technic has been central to facilitating the institution of slavery.³⁴ In the specific case of plantation slavery, across commodity frontiers, a consistent argument by planters themselves is that such work would be impossible for White labour. The racialization of Black labour placed workers on the other side of the Cartesian dualism, as part of Nature. World-ecology, and the value-theoretical category of Cheap Nature, is closely attuned to the material significance of this

³¹ C. Robinson, *Black Marxism: The making of the Black Radical tradition*, Chapel Hill, NC: University of North Carolina Press (1983/2000), p. 2.

³² S. Mintz, 'Was the Plantation Slave a Proletarian?', *Review (Fernand Braudel Center)*, 2(1): 81-98, (1978), p. 83.

³³ K. Marx, 'Letter of Karl Marx to P. V. Annenkov, December 28, 1846', in *Karl Marx & Frederick Engels: Selected Works*, New York: International Publishers (1968), pp. 13-14.

³⁴ R. Patel and J.W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*, Berkely: University of California Press (2017), pp. 180-185.

this process. Following Maria Mies, capitalist accumulation by exploitation is seen as resting on a larger – and growing – base of appropriation of ‘women, nature, and colonies.’³⁵ As Marx noted above, unfree, racialized labour was a central pillar in the origins of capitalism. Likely Marx would have explained this importance through the category of ‘primitive accumulation,’ but we might frame it in the categories of ecosocialism and world-ecology: cheap nature, and the commodity frontier.

In the struggle to comprehend our current planetary socioecological crisis, and properly account for its origins, world-ecology has offered the ‘Capitalocene’ as a superior analytic to the widespread use of ‘Anthropocene.’³⁶ Others have been more specific, articulating the ‘Plantationocene’ as a characterisation of this period. In this view, it is the logic of the plantation which explains those socioecological relations that have produced this conjuncture and continue to define it.³⁷ Without wading into the sea of proliferating geological-periodical neologisms too far, the concept of the Plantationocene does usefully bring our attention to key historical and current dynamics of capitalist socioecology. It brings together an appreciation of racialization as a state strategy, rationalization of landscapes and ecologies in the service of the commodity frontier, and the overwhelming force of the search for Cheap Nature:

Over and over, combinations of expropriation, overwork, and disease cleared the native peoples from the land, reordering it, and turning trees into fields and fuels. Enslaved, isolated Africans were introduced for planting, harvesting, and processing a single, isolated crop: sugar... Not only was this plantation formula of labour replacement and carbon usage repeated across the Americas, but... it was later scaled up and transformed into industrial organization, and... provided the racializing violence and proto-spatialities of modernity.³⁸

³⁵ Mies, *Patriarchy and Accumulation on a World Scale*.

³⁶ See J. W. Moore (ed.) *Anthropocene or Capitalocene? Nature, history, and the crisis of capitalism*, Oakland, CA: PM Press (2016).

³⁷ A.L. Tsing, *The Mushroom at the end of the World: On the possibility of life in capitalist ruins*, Princeton: Princeton University Press (2015); D.J. Haraway, *Staying with the Trouble: Making kin in the Chthulucene*, London: Duke University Press (2016); J. Davis, A.A. Moulton, L. Van Sant, and B. Williams, ‘Anthropocene, Capitalocene, ... Plantationocene?: A manifesto for ecological justice in an age of global crises’, *Geography Compass*, 13:e12438 (2019); M. Barua, ‘Plantationocene: A vegetal geography’, *Annals of the American Association of Geographers*, OnlineAccess (2022).

³⁸ Eichen, ‘Cheapness and (labour-)power’, p. 42.

Here Eichen synthesises the plantationocene with the Capitalocene. In their formulation of the 'racial Capitalocene' produced on the plantation, Eichen reformulates Mbembe's 'necropolitics'³⁹ as 'necropolitical economy, a political economy (or ecology) of calculated death.'⁴⁰ This captures the horror of equivalency under the law of value, which saw calculations made over and over, across 500 years of slavery, as to the worth of slave mortality and mutilation: how long do our slaves need to survive, and labour, to ensure the 'constant capital' they represent is recouped? Is it cheaper to stop the mill to disentangle a slave's limb, or simply to keep a machete on hand for the overseer? Or the infamous example, of how many slaves might be squeezed onto one ship, accepting the *cost* of lives lost through overcrowding.⁴¹

The history of sugar in many ways is the history of capitalism. Its particular ecology led to highly time-disciplined and rationalized production processes, which, when brought together with the exigencies of the capitalist search for profit, and with the institution of slavery, leads to the formation of the plantation. The history of sugar is capitalist because it follows the logics of cheap nature and the commodity frontier. The plantation was Cheap Nature at work, and through deforestation and exhaustion it drove the commodity frontier of sugar around the globe, devastating landscapes, cultures and peoples as it went. This cheapness was manifold:

On both sides of the Atlantic, labour produced outside the circuits of capital lowered the price of sugar. Labour reproduced outside of wage relations lowered the price of sugar. Food produced outside the wage relation lowered the price of sugar... Land appropriated from outside the circuits of capital lowered the price of sugar. These were all Cheap Nature.⁴²

All of this was made possible – and legal – by ongoing strategies of racialization, which made *lives* cheap for capital to consume. Racialization was used as a strategy to de-value the lives of some

³⁹ A. Mbembe, 'Necropolitics', *Public Culture*, 15(1): 11-40 (2003).

⁴⁰ Eichen, 'Cheapness and (labour-)power', p. 47.

⁴¹ For examples, see: P.D. Curtin, *The Rise and Fall of the Plantation Complex: Essays in Atlantic history*, Cambridge, UK: Cambridge University Press (1998), p. 52; S.B. Schwartz, 'Brazilian sugar planters as aristocratic managers. 1550-1825', in P. Janssens and B. Yun Casalilla (eds) *European Aristocracy and Colonial Elites: Patrimonial management schemes and economic development*, Burlington, VT: Ashgate (2005), p. 243; Burnard & Garrigus, *The Plantation Machine*; 'Decks of a Slaving Vessel, 1823-24', *The Illustrated London News*, April 26 (1848), p. 123.

⁴² Eichen, 'Cheapness and (labour-)power', p. 47.

vis a vis others. Seeing as the plantation had been such a successful capitalist socioecology for hundreds of years, it is perhaps not surprising that there were attempts to establish a plantation economy in the colonies of Australia, despite its incongruences with supposed contemporary liberal feeling. After all, settler-colonial Australia was already deeply racialized, as we have seen throughout this thesis, with the violence of the frontier turning on race, if driven by value; prospective planters were more concerned with the availability and possibility of Cheap Nature, than with supposedly shifting cultural norms in the metropole. And so, as we move now to explore the history of the sugar commodity frontier in Queensland, we do so attentive to historical cheapness and its construction by state and capital.

The Roots of Cane: Cheapness and racialization

The development of plantation sugar production in the colonies that would become Australia was not a simple reproduction of Atlantic chattel slavery or Brazilian plantation systems. The multitude of institutional differences aside, it involved different people, in a different time, in a different place. This matters. As put by Emma Christopher, ‘there are evident problems with an essentially imperial perspective that ignore[s] the myriad worldviews of [Pacific] islanders themselves, lumping them together notionally with all Africans as if they were an undistinguishable brown mass.’⁴³ It is the purpose of world-ecological thinking to show how both similarities and differences between these distinct instances and spatio-temporalities can be explained through the socioecological relations of capital. But even without recourse to such theory, Christopher goes on to show the important agential and institutional connections that bind Australian sugar to the British Atlantic slave complex. These connections show that despite their obvious differences to our eyes, many capitalists in nineteenth-century Australia *did* see racialized bodies as an ‘undistinguishable brown mass:’ they brought with them imperial

⁴³ E. Christopher, ‘An Illegitimate Offspring: South Sea Islanders, Queensland sugar, and the heirs of the British Atlantic slave complex’, *History Workshop Journal*, 90: 233-252 (2020).

subjectivities which assumed the racialization of African slaves, and applied this logic of cheapness to all coloured peoples in Australasia and Oceania. An example of this is in the story of James Williams, the first person to successfully cultivate sugar cane on the Australian continent.

Although rarely recognized for his pioneering role, Williams was the first to grow cane, and also the first to process it into sugar and rum. Despite this, the *Australian Dictionary of Biography* credits Thomas Alison Scott with this historic development.⁴⁴ This historical, historiographic error is perhaps explained by the racialized context of contemporary documentary evidence – Williams was Black, whereas Scott was white. Indeed, while we know much of Scott’s familial history – born in Glasgow, Scott moved from the West Indies to Antigua aged 20 to manage his father’s sugar plantation – Williams’ story is far patchier. That said, it is fairly clear that his knowledge of sugar cultivation and processing was gained from a childhood and young-adulthood as a slave: ‘Hard labour at the cane break was not an occupation free men generally chose.’⁴⁵ Whether he gained his freedom legitimately, or escaped, we know that in July 1819 he was given a sentence of seven years’ transportation.⁴⁶ Whether Williams was treated more-harshly than white convicts, or whether he railed against colonial authority for understandable injustices, within six months of arriving in Sydney he had been sent north to Newcastle for further crimes. Little more than a year later, he was transported again, this time to Port Macquarie – the newly-founded penal settlement for those the state could not control.⁴⁷ But at Port Macquarie, Williams’ relationship with authority improved enough for him to procure through his captors as proxy 8 joins of cane, which he used to raise the first sugar crop in Australia, early in 1822, using the “knowledge of the growth of that Plant’ he had gained in his Caribbean homeland.’⁴⁸ Williams

⁴⁴ V. Parsons, ‘Scott, Thomas Alison (1777-1881)’, *Australian Dictionary of Biography*, volume 2, Melbourne: Melbourne University Press (1967).

⁴⁵ Christopher, ‘An Illegitimate Offspring’, p. 235.

⁴⁶ C. Roderick, ‘T.A. Scott at Port Macquarie’, *Royal Australian Historical Society* 44(1): 1-48 (1958).

⁴⁷ Christopher, ‘An Illegitimate Offspring’, p. 236; R. Hughes, *The Fatal Shore: The epic of Australia’s founding*, London: Vintage, Random House Books (1986/2003), p. 518.

⁴⁸ Christopher, ‘An Illegitimate Offspring’, p. 236, quoting Port Macquarie & Districts Family History Society, *Sweet, sweet sugar: the men and the first years of the sugar industry at Port Macquarie* (2006), p. 10.

continued to cultivate the cane for several years, but despite efforts of his prison overseers to have his work recognized in Sydney, Thomas Alison Scott - arriving in Port Macquarie in November 1823 - quickly took the credit for this agricultural innovation. While Scott would be recorded for more than a century as the pioneer of this crop, an ex-Caribbean planter protested this at the time: 'How many times did you try and make sugar at the settlement before you made anything like it? What you made yourself was not fit for dogs to eat before the poor black man shewed [sic] you the way.'⁴⁹ Through this emblematic story, we begin to see the historical connections between British Atlantic slavery, earlier sugar commodity frontiers, and Australia.

The experimentation with cane cultivation around Port Macquarie faltered when a fire destroyed the crop. It would be several decades before this early development would become commodified, however; rather, it would be in the new colony of Queensland that sugar would finally constitute a commodity frontier within the colony. From a world-ecology perspective, the commodity frontier of sugar was still consuming bodies, forests and soil elsewhere. Up until 1860, the frontiers of pastoralism had pushed into the northern part of New South Wales, but this settlement was sparse compared with the more-fertile south, and state control over space also lagged. Sugar had been planted in small patches around Brisbane from 1825, but despite repeated arguments by politicians and prospective planters, that a plantation industry would be suitable in the north, the conditions were not yet ripe.⁵⁰ When Queensland became a separate colony, however, the historical cheapness of nature shifted - globally and locally - fostering the emergence of this new frontier. Specifically, in 1863, the Crown introduced the *Sugar and Coffee Regulations* within the colony, based on the 1861 *Cotton Regulations* act. The purpose of these new Acts was to consolidate the frontier by bringing capital to bear in the production of space and nature. Under these regulations, planters could

⁴⁹ Roderick, 'T.A. Scott', p. 29.

⁵⁰ P. Griggs, 'Sugar Plantations in Queensland, 1864-1912: Origins, Characteristics, Distribution, and Decline', *Agricultural History*, 74(3): 609-647 (2000), p. 616.

lease one block of land between 320 and 1280 acres, limited to within ten miles of the coast or any navigable river. Once the lessee had convinced the government that one twentieth of the block had been cultivated with either sugar or coffee and that a sum of twenty shillings or more for each acre leased had been spent on improvements, the freehold title to the block was transferred to the planter.⁵¹

Once again, we see the environment-making state at work, consolidating state space and buttressing the invasion of indigenous lands with the interests of capital. These acts began the cheapening of nature, specifically by providing uncommodified land to planters, conditional on an injection of capital, and producing the socioecology of sugar (or coffee, or cotton). These land grants were of a significant size, considering that the average size of plantations in Jamaica, the Lesser Antilles, and Natal were between 185 and 350 acres in this period.⁵² Having such large grants – which could be even larger, due to the practice of dummying,⁵³ which we also saw on the pastoral frontier – was important, due to the rapacious socioecology of sugar: while not all of the land was necessarily under cane, these grants often included timbered areas for fuel, as well as rotation options for exhausted soil.⁵⁴

The land grants to sugar planters were successful for the state, and for capital. The industry saw rapid expansion through to 1874, by which time 14,600 acres were under cane.⁵⁵ This first ‘boom’ of the sugar commodity frontier saw the establishment of forty-five plantations. Their average size was 514 acres, with five plantations exceeding 2,000 acres in size.⁵⁶ These early plantations seized the most desirable river frontages, providing rich soils, ease of transport, and a ready supply of water for the boilers.⁵⁷ These plantations were a vehicle to continue the kinds of

⁵¹ *Ibid.*, p. 616.

⁵² W. Green, ‘The Planter Class and British West Indian Sugar Production, before and after Emancipation,’ *Economic History*, 26(3) (1973), p. 461.

⁵³ J. Kerr, *Pioneer Pageant: a history of the Pioneer Shire*, Mackay, QLD: Pioneer Shire Council (1980), pp. 27, 32.

⁵⁴ P. Griggs, ‘Deforestation and Sugar Cane Growing in Eastern Australia, 1860-1995,’ *Environment and History*, 13(3): 255-293 (2007); P. Griggs, ‘“Rust” Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880,’ *Agricultural History*, 69(3): 413-437, (1995), p. 419.

⁵⁵ Griggs, ‘Sugar Plantations in Queensland, 1864-1912,’ p. 617.

⁵⁶ *Ibid.*, Appendix 1, pp. 644-645.

⁵⁷ S. Hillard, ‘Site Characteristics and Spatial Stability of the Louisiana Sugarcane Industry,’ *Agricultural History*, 53 (1979), pp. 256-58.

accumulation pursued by imperial capital for centuries, with many of the early planters coming 'from a wealthy or aristocratic background.'⁵⁸ Interestingly, many plantations were formed with capital accumulated through the pastoral frontier.⁵⁹ Unlike the pastoral frontier, however, the early waves of which did not require significant investment, sugar was very capital intensive, meaning financial capital was entwined with the sugar frontier from the outset.⁶⁰ So again, at the commodity frontier we see a collision of existing class relations coalescing in the search for Cheap Nature – here, cheap land especially. And yet, fertile land, no matter how cheap it is, does not cultivate and process sugar cane by itself. As Marx reminds us, 'a thing can be a use-value without being a value. This is the case whenever its utility to man is not mediated through labour.'⁶¹ Going further, labour is not only necessary for the production of value; the specific dynamism of the commodity frontier is driven by the confluence of historical cheapness, in many forms. Queensland sugar was cheap in this way, not only due to free land (cleared of and secured against indigenous inhabitants by the state,⁶² except where Indigenous Australians might be brought back onto that land to work cane), but also due to its particular, racialized labour regime. It was cheapened through 'Blackbirding', and the toil and death of the Kanakas. In the contemporaneous words of Rev. Oscar Michelson, 'the margin of profit for the planters lies between what the Kanakas are able to bear, and what they are not able to bear, but are made to do... [profit is] proportionate to the number of Kanakas worked to death.'⁶³

⁵⁸ Griggs, 'Sugar Plantations in Queensland, 1864-1912', p. 623.

⁵⁹ *Ibid.*, p. 624.

⁶⁰ H. Nunn (ed.), *National Australia Bank Ltd.: Select Documents of the Nineteenth Century*, volume 2, Melbourne: National Australia Bank Ltd. (1988), p. 343.

⁶¹ K. Marx, *Capital*, volume 1, trans. B. Fowkes, London: Penguin (1867/1976), p. 131.

⁶² T. Bottoms & R. Evans, *Conspiracy of silence: Queensland's frontier killing-times*, Sydney: Allen & Unwin (2013); H. Burke, B. Barker, N. Cole, L.A. Wallis, E. Hatte, I. Davidson and K. Lowe, 'The Queensland Native Policy and Strategies of Recruitment on the Queensland Frontier, 1849-1901,' *Journal of Australian Studies*, 42(3): 297-313 (2018).

⁶³ O. Michelson, *Cannibals won for Christ: a story of missionary perils and triumphs in Tongoa, New Hebrides*, London: Morgan & Scott (1898), pp. 155-156.

Plate 6.1 – *Cotton Picking, Captain Towns' Plantation, c. 1864, anon.*⁶⁴



This is believed to be the first image of Kanakas at work in colonial Australia. Townes first enterprise with indentured workers was cotton cultivation, as seen here, but sugar soon became the more-profitable choice for the prospective planter.

On August 15 1863, the schooner *Don Juan* docked in Brisbane, carrying a cargo of seventy-three South Sea Islanders. One of these men died the following day, apparently exhausted from sea sickness. As announced by *The Courier*, 'She [the *Don Juan*] brings a number of the natives of those islands to be employed as labourers by Captain Towns on his cotton plantation, on the Logan River, at the remuneration of 10s. per month, with rations, as is currently reported.'⁶⁵ These workers are seen above (Plate 6.1). Towns – a wealthy capitalist, and the later namesake of Townsville – had taken up much land on the Queensland pastoral frontier. Wishing to diversify into cotton, made more appealing due to the world-ecological ramifications of the civil war in the United States, Towns was convinced, however, that this enterprise 'would never pay 'with labour at the rate of Colonial Wages.'⁶⁶ And with this arrival, organised by Towns, the period of 'Blackbirding' began – the recruitment, inducement, and outright kidnap of South Sea Islanders,

⁶⁴ Noel Butlin Centre, Australian National University, N305/D1-0-1-2-5.

⁶⁵ *The Courier*, Tuesday 18 August (1863), p. 5.

⁶⁶ D. Shinberg, 'Towns, Robert (1794-1873)', *Australian Dictionary of Biography*, Canberra, ACT: National Centre of Biography, Australian National University, <https://adb.anu.edu.au/biography/towns-robert-4741/text7873>, published first in hardcopy 1976, accessed online 18 February 2022.

to be brought to Queensland to cut cane. While there was an element of the urban liberal bourgeoisie in Brisbane, and in the other colonies, who opposed this practice, the balance of class forces fell heavily toward the pastoralist and emerging planter classes.⁶⁷

But the commitment to unfree, coloured labour in the colony of Queensland did not pivot solely on Towns' concern with the high rate of 'Colonial Wages'. Through the long history of slavery in the history of sugar, a commitment to the idea that hard physical labour in the tropics would be impossible for white men was consistent:

Queensland possessed a sub-tropical physical environment where British labour seemed to them [pastoralists and planters] to be neither economically nor racially feasible. Therefore, in order to establish profitable industries, particularly sugar cane and cotton cultivation, it was deemed necessary to introduce the classical plantation system.⁶⁸

Tasked with developing the industries of the newly independent colony of Queensland, the governor George Ferguson Bowen, articulated this very commitment, to 'the utility and profitability of non-European servile labour for the tropical regions within the Empire.'⁶⁹ Robert Gray, a wealthy pastoralist and former planter shared these views, but also spoke of the shortage of white labour in the northern colony: 'owing to the difficulty of obtaining white labour, I had obtained a few South Sea Islanders, whom I had indented when down in Bowen. They were from Lifu and Tanna. During the time they were with me they were very useful and were fairly good at lambing and bush work.'⁷⁰ And while Gray was a pastoralist – an industry marked by a very mixed and contingent labour regime, which also employed many Chinese immigrants and Indigenous Australians – the main destination of these newly recruited Kanakas was the cane field: 'The Queensland planters from the outset relied heavily on indentured Melanesian labourers recruited mostly from Vanuatu and the Solomon Islands. Melanesians cost less to employ than Europeans,

⁶⁷ 'Select Committee Enquiry into Immigration', *Queensland Votes and Proceedings of the Legislative Assembly* (1861).

⁶⁸ K. Saunders, 'The Workers' Paradox: Indentured labour in the Queensland sugar industry to 1920', in K. Saunders (ed.), *Indentured Labour in the British Empire, 1834-1920*, London: Routledge (1984), p. 219.

⁶⁹ *Ibid.*; see also S. Lane-Poole (ed.), *Thirty Years of Colonial Government: A selection of the despatches [sic.] and letters of the Right Hon. Sir G.F. Bowen*, London: Longmans Press (1889).

⁷⁰ R. Gray, *Reminiscences of India and North Queensland, 1857-1912*, London: Constable Press (1913), p. 117.

but it was also widely believed that Europeans were incapable of labouring in the tropics.⁷¹ With this racialized labour regime in place, the plantation political economy was established (Plate 6.2). To take one more example of this central argument, consider Clark:

The planters argued for coloured labour very much as the squatters had argued for convict labour in the period before the discovery of gold. They argued that Polynesian or some such description of cheap labour was essential to the successful working of sugar or other estates; they argued that without such a class of labour a serious loss to the colony would accrue...⁷²

And so, with the birth of Blackbirding, and the introduction of unfree Kanakas labour, the historical cheapness of the sugar frontier was compounded: cheap land and cheap lives were brought together on rich, alluvial soil in a world-ecological context where the sugar frontier elsewhere had founded in crisis. Again, we see the commodity frontier in motion, the uneven development of capitalism and the production of nature patterned by the search for Cheap Nature.

Plate 6.2 – *Kanakas tending field, 1885, Colonial Sugar Refining Company.*⁷³



This image of Pacific Islanders at work in Queensland fields is more reminiscent of the Antebellum South, than colonial Australia. It is a powerful illustration of the sugar commodity frontier at work.

⁷¹ Griggs, 'Sugar Plantations in Queensland, 1864-1912', p. 636.

⁷² C.M.H. Clark, *A History of Australia, IV: The earth abideth forever, 1851-1888*, Melbourne: Melbourne University Press (1978), p. 355.

⁷³ Noel Butlin Centre, Australian National University, 142-3850-7, <https://openresearch-repository.anu.edu.au/handle/1885/149460>

It is worth noting that Blackbirding was itself an industry, a commodity frontier in its own right; captains taking their ships around the south Pacific, 'recruiting' islanders, were *paid* by the planters. Indeed, the upfront cost of purchasing the contract of indenture from the blackbirder was the 'largest single component of the planters' labour overheads.'⁷⁴ Although prices were subject to change over time, one analysis puts them at these levels: 'Prices for attractive women were highest, about 13 pounds per head; for men, between 9 and 12 pounds; for boys and girls, from 5-7 pounds.'⁷⁵ These prices encouraged many ships to make these journeys. Reverend J. Copeland was living on the Pacific island of Fortuna as a missionary, and noted that in 1870 fifty one vessels either called at the island, or passed by, all engaged in the labour trade. The social and demographic impact on the islands was marked, with the population of Fortuna reducing from 900 to 150 in a few years:

The traffic disorganizes society... Husbands are left without their wives; more frequently wives are left without their husbands; children without their fathers, parents without their children... [Blackbirding was] depopulating the island.'⁷⁶

In this way, we see that the cheapness of the Queensland sugar frontier was due to the appropriation of lives, the appropriation of the social reproduction of these islander communities and socioecologies. Indeed, the exhaustion of this frontier would play a significant role in the shift away from plantation production toward the end of the nineteenth century, when recruitment prices rose to as much as 30 pounds per worker by the late 1880s.⁷⁷ This, due to the need for the frontier of appropriation to expand relative to the growth of commodified exploitation; there were simply not enough Islanders for the sugar frontier to expand indefinitely. We shall return to this point further on, however. At this stage we can say simply that the first 'boom' of sugar production in Queensland began in 1863, with the confluence of cheap labour and cheap land.

⁷⁴ A.A. Graves, 'The Abolition of the Queensland Labour Trade: Politics or profits', in E.L. Wheelwright and K.D. Buckley (eds) *Essays in the political economy of Australian capitalism*, volume 4, Brookvale: Australia and New Zealand Book Company (1980), p. 44.

⁷⁵ Horne, *The White Pacific*, p. 34. See also A. Ross, *New Zealand Aspirations in the Pacific in the Nineteenth Century*, Oxford: Clarendon Press (1964), 71–72.

⁷⁶ J. Copeland, "Remarks," in J. Cay (ed.) *The Slave Trade in the New Hebrides, Being Papers Read at the Annual Meeting of the New Hebrides Mission Held at Aniwa*, Edinburgh: Edmonston & Douglas (1872).

⁷⁷ P. Fletcher, *The Sugar Industry in Queensland*, London: William Clowes and Sons (1886), p. 5.

The cheapness of labour was created in part through the incomplete commodification of labour, but also through the racialization of these workers. While South Sea Islanders were not the same as the African slaves who worked Brazilian or Caribbean plantations, in the racializing eyes of the pastoralist and planter, they were: 'white men with West Indian backgrounds sometimes glossed 'blacks' into one indiscernible mass when it suited them to do so.'⁷⁸ In the search of cheapness at the frontier, it certainly did suit them to do so – for the Nindaroo Planters Association, 'the total amount paid to Europeans in 1888... for wages and supplies [was] at the rate of £9 for every £1 paid direct to kanakas.'⁷⁹ Fuelled by cheapness of bodies, lives, soil, and stolen Indigenous land, this period of expansion would continue until it was checked in 1874 – this first crisis being especially *socio-ecological*. During the early 1870s, a crop disease known as 'rust' began to emerge.

Cycles of Sugar: Crisis, Incorporation, Crisis

As we have seen above, the new colonial state of Queensland saw the promotion of sugar as a route to populating its vast territory, as well as bringing significant capital investment. As Griggs notes, 'unlike cotton, maize, or fodder crops, sugar cane led to settlement and capital investment in the unoccupied, northern parts of the colony. The sugar plantation was an institution of the frontier.'⁸⁰ The state was bound up with this commodity frontier not only in the provision of cheap land, and the creation of the legal framework that facilitated unfree kanakas labour – the state provided scientific knowledge, and access to genetic material. By 1863, the Director of the Brisbane Botanic Gardens, Walter Hill, established 'a sugar cane plot comprised of several new varieties of cane newly introduced from the South Sea Islands and Mauritius. Hill had also begun distributing cane plants from this plot among intending cane growers.'⁸¹ In this way the capitalist

⁷⁸ Christopher, 'An Illegitimate Offspring', p. 234.

⁷⁹ W. Paget, "Report of the Royal Commission Appointed to Inquire... Sugar Industry', *Queensland Votes and Proceedings* (1889): 270.

⁸⁰ Griggs, "'Rust" Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880', p. 417.

⁸¹ *Ibid.*, p. 418.

or pastoralist keen on driving their money-prime with the plantation machine did not have to send off to far-away islands *via* ship to receive cuttings that might start their cropping: one could simply write to Brisbane and get fresh cane cuttings directly from the state. And while there were sixteen varieties on offer by 1869, the logic of capital gravitated to one, just as it had in other sugar frontiers: Bourbon cane.⁸²

Bourbon, since 1800, had become the universal favorite of planters throughout sugar-growing countries. It was quick to mature and required little cultivation, but after the first richness of the soil had been exhausted by continued planting, production rapidly decreased. Moreover, it was susceptible to disease. In one sugar-growing country after another, disease epidemics devastated the sugar industries and led to the abandonment of Bourbon.⁸³

The Queensland sugar planters in many cases had direct experience of growing in other countries, especially the British colonies in the Caribbean. Despite this experience, planters chose to rely on monocultures of the Bourbon sugar variety despite its character, because of the socioecology of capital: exhaustion and disease were long-term issues that the search for cheapness and profit could choose to ignore, especially when land and labour were so easily had. We ought not be surprised, then, that the socioecology of capital led directly to the first crisis of the sugar frontier.

Early reports of 'rust' began to emerge in the early 1870s. The disease was poorly understood, however: rather than being a fungal disease as the name suggests, this was actually caused by infestations of a mite. For the first few years, individual planters had outbreaks and suffered significant losses, but the issue had not yet become a generalized issue, either for the frontier, or for the regional ecology. Also, the expansion of the frontier, with more plantations beginning production, served to mask the emerging crisis in the aggregate statistics; while the total production of the colony increased from 7,986 to 12,098 tons between 1873-4, a contemporaneous account argued that this output would have been as high as 16,000 tons in

⁸² W.R. Johnson, *Brisbane: The first thirty years*, Brisbane: Boolarong Press (1988), pp. 66-67.

⁸³ Griggs, "'Rust' Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880", p. 419.

1874 without crop losses to 'rust'.⁸⁴ But by 1875, rains and flooding led to further spread of the mite, reaching pandemic levels and creating a deep crisis for the industry. Production halved to 6,322 tons, and stayed low in 1876 as well.⁸⁵ While production growth regained its previous trajectory by 1879, regionally the story is more complex, with the southern region abandoning cane for less profitable but more stable crops, such as maize and potatoes.⁸⁶ Even regions that recovered more quickly saw a significant contraction of capital investment, with the speculative nature of the first boom cooling interest and excitement in this particular commodity frontier; this socioecological crisis had impacted the historical cheapness of money at the frontier, as banks stopped issuing credit.⁸⁷ 'Planter insolvencies and mill closures caused by the disease brought capital investment in the colony's sugar plantations to a halt and cost the Queensland economy approximately £115,000 in lost earnings from reduced exports of rum and raw and refined sugar.'⁸⁸

⁸⁴ *Queensland Votes and Proceedings; Queenslander*, 26 April 1879; Griggs, "'Rust" Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880', p. 432.

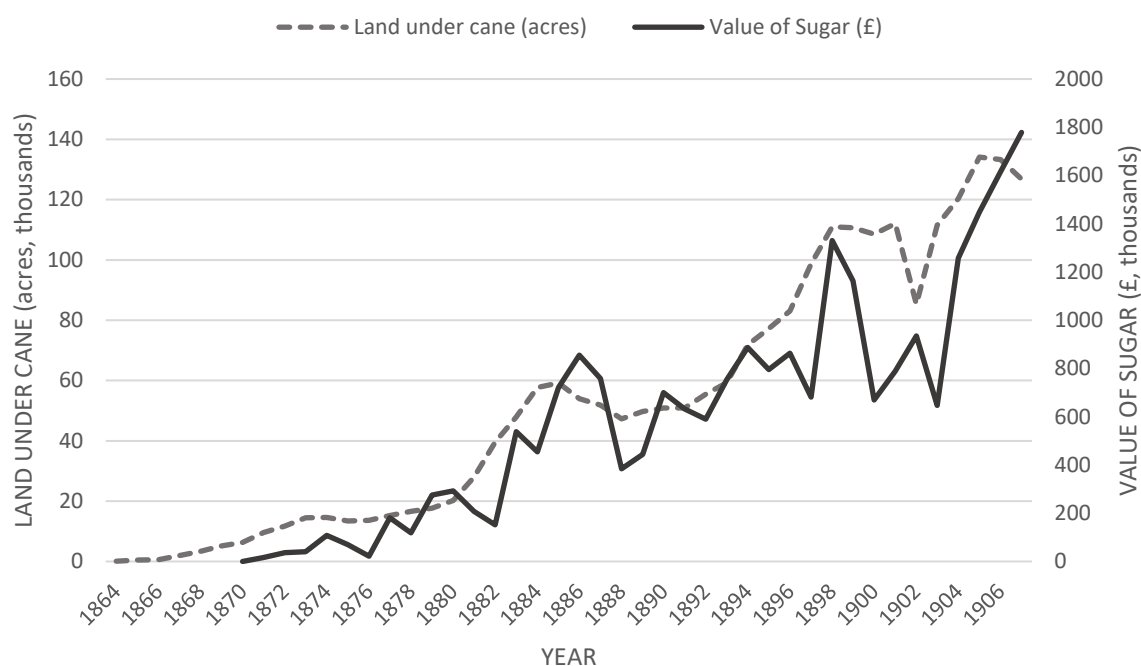
⁸⁵ Griggs, "'Rust" Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880', p. 432.

⁸⁶ *Ibid.*, p. 433.

⁸⁷ C. Moore, *Kanaka: A history of Melanesian Mackay*, Port Moresby: Institute of Papua New Guinea Studies and University of Papua New Guinea (1985), p. 109.

⁸⁸ Griggs, "'Rust" Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880', p. 437.

Figure 6.1 – Queensland sugar production, 1864-1907⁸⁹



Those planters that pushed on to try and re-establish the conditions of cheap nature that drove the commodity frontier eventually shifted to different, lower-yielding varieties. This was facilitated again by the efforts of the state to resolve this crisis. The Queensland Board of Inquiry into the Causes Affecting Livestock and Plants arranged the procurement of new varieties, especially from America. Those new varieties were quickly planted by Walter Hill, the chief Brisbane botanist, to see which would best suit the climate and the needs of the planters.⁹⁰ With reports that new varieties were ending the epidemic of rust, the colonial government also opened up new regions to the north of Cardwell for plantation land grants. These new lands also offered more cheap nature in the form of virgin alluvial soil, one of the ‘cheaps’ that drove the first phase of expansion.⁹¹ The shift to new varieties, and the expansion of cheap land, led to the restoration

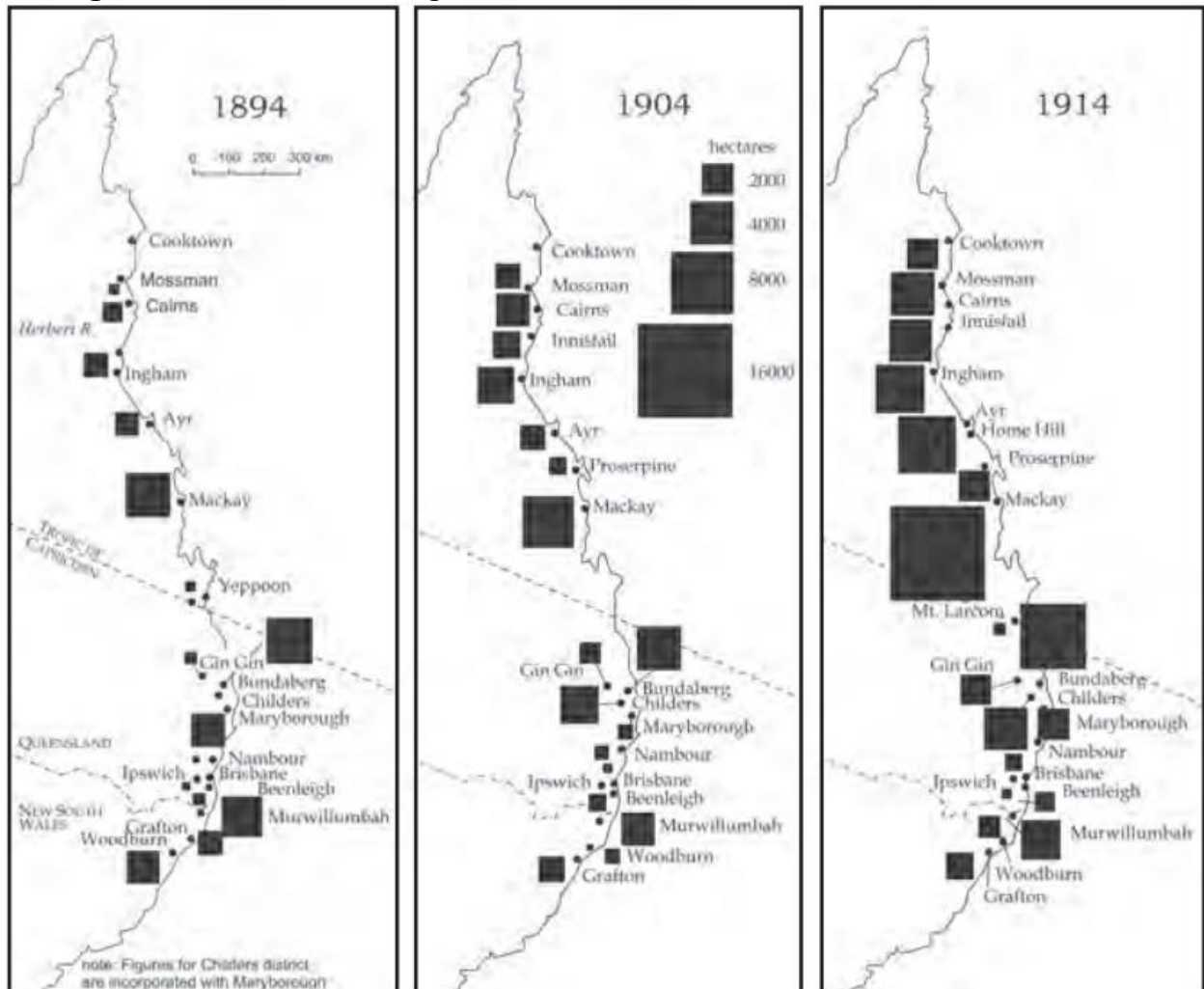
⁸⁹ A. Graves, *Cane and Labour: The Political Economy of the Queensland Sugar Industry, 1862-1906*, Edinburgh: Edinburgh Press (1993), pp. 236-237

⁹⁰ A.C. Gregory, ‘Second Annual Report of the Board Appointed to Inquire into Causes of Diseases Affecting Livestock and Plants’, *Queensland Votes and Proceedings*, vol. 3 (1877), 1037-38.

⁹¹ Griggs, ‘Sugar Plantations in Queensland, 1864-1912’, p. 627

of production totals – 18,714 tons in 1879 – saw this crisis ‘fixed’, and the commodity frontier roared back to life (Figure 6.1, 6.2). It was not, however, unchanged.

Figure 6.2 - Distribution of sugar cane cultivation in Australia, 1894, 1904 and 1914.⁹²



The crisis had manifold impacts, but a significant one for our interests here is that the losses and insolvencies experienced by many planters during the ‘rust’ outbreak led to a shift in the class

⁹² P. Griggs, *Global Industry, Local Innovation: The history of cane sugar production in Australia, 1820-1995*, Bern: Peter Lang (2011), p. 57.

composition – and therefore socioecology – of the sugar frontier during its subsequent recovery and the second phase of its rapid expansion:

[From 1880, t]he Queensland sugar industry entered a second phase of rapid growth in which there was a considerable expansion in cane cultivation as the crop was planted throughout new districts in the north of the colony. During the 1880s, propriety companies, often financed in Victoria, invested heavily in Queensland sugar plantations, displacing small scale capitalists as plantation and mill owners.⁹³

The pioneering planters of the first phase of expansion had demonstrated that the plantation model was profitable in the north of the Australian continent. With the sugar frontier's first crisis resolved – even if that resolution meant lower yields per acre – the historical cheapness drew the attention of bigger capitals. With the development of urban financial capital in the southern colonies, off the back of other commodity frontiers, the many frontiers of Australian capitalism became further entwined. As with other frontier stories through this thesis, and in line with the theorization of world-ecology, the socioecological crises of Cheap Nature are often 'fixed' through deepening commodification and expanding appropriation. So too here do we see much greater investment in mechanized production, as well as a more expansive search for racialized labour to appropriate. The second phase of the sugar boom was being 'incorporated'.

Plantations during the first phase of expansion required more capital than other comparable frontier industries, but not more than could be brought to bear by families and individuals. By the 1880s, however, increasing mechanization and rising labour costs meant large amounts of capital investment were required. As a result, the second phase of sugar expansion generally attracted companies rather than families. Indeed, in 1884 more than six million pounds were invested in sugar plantations across Queensland, far outstripping pastoral investment.⁹⁴ This expansion in size and capitalization also led to more rationalized production, incorporating greater economies

⁹³ Griggs, "'Rust' Disease Outbreaks and Their Impact on the Queensland Sugar Industry, 1870-1880', p. 437.

⁹⁴ T. Parsons, 'Melbourne Money and Queensland Sugar. The Experience of Swallow and Ariell in the 1880s,' *Victorian Historical Magazine* 44 (1973), p. 33.

of scale.⁹⁵ Perhaps the best example of this new phase of plantation sugar production by larger, incorporated capital is the Colonial Sugar Refining Company (CSR). The CSR was founded in 1855, taking over the assets of the embattled Australasian Sugar Company. The company was directed by Edward Knox, who provided a third of the £150,000 of capital the company incorporated with.⁹⁶ The CSR was initially involved with milling on the north coast of New South Wales,⁹⁷ but with the rising importance of Queensland as a sugar frontier, CSR was anxious to expand into the northern colony. With the new lands available to the north, Knox instructed his officers find and acquire suitable land with good water frontage.⁹⁸ Successful in their search, the company founded three Queensland plantations in the 1870s, at a cost of £600,000.⁹⁹ As we have seen so many times, this investment of capital demanded that production not only break even, but deliver profits to facilitate dividend payments; CSR as capital demanded a socioecology of profit, and that profit turned on Cheap Nature. Indeed, the company continued to articulate the necessity for indentured labour in order to meet these commitments:

the company employed an economic rationale, based on accounting numbers, to justify the employment of Pacific island labourers: first in cutting labour costs in order to ensure high profits and dividends for its shareholders; second, in promoting an economic argument to lobby for legislation that would ensure access to indentured labour; and third in motivating managers to improve profitability by keeping the cost of labour low.¹⁰⁰

The employment of cheap, unfree, racialized labour on its Queensland plantations was driven by the search for cheapness – and it was successful. Although records are incomplete, the company was consistently profitable during the resurgence of the frontier, post-‘rust’.¹⁰¹ CSR was noted for paying much higher dividends than many other companies in the period, and by 1888 the

⁹⁵ Griggs, ‘Sugar Plantations in Queensland, 1864-1912’, pp. 632-633.

⁹⁶ H. Irvine, ‘A genealogy of calculations at an early Queensland sugar mill’, *Accounting History*, 17(2): 193-219 (2012), p. 199.

⁹⁷ This chapter does not engage with the smaller case of NSW sugar production, which generally did not use the plantation system.

⁹⁸ E. Knox to A. Fairgrieve, 26 May 1881, 142/2339, Colonial Sugar Refining Company (CSR) Records, Noel Butlin Archives Centre, Australian National University, Canberra.

⁹⁹ V.J. Robertson, *The History of Colonial Sugar Refinery's Goondi Mill: 1881 to 1987*, Innisfail: Innisfail & District Historical Society (1991), pp. 3-11; E.W. Knox, ‘Minutes of evidence given to the Royal Commission into the Sugar Industry in Queensland’, 13 March 1889, Noel Butlin Centre, N260/44.

¹⁰⁰ Irvine, ‘A genealogy of calculations at an early Queensland sugar mill’, p. 200.

¹⁰¹ E.W. Knox, ‘Annual report to shareholders, Colonial Sugar Refining Company,’ Colonial Sugar Refining Company (CSR) Records, Noel Butlin Archives Centre Australia. NBAC, 142/3527 (1889).

company was making an annual profit of £125,000.¹⁰² Such high profits allowed the company to pay out high dividends *and* invest in expanded reproduction. In 1882, through direct lobbying of the Queensland government, the company secured a special Act of Parliament, giving CSR additional land grants, on the condition that CSR would spend '£200,000 within five years on the clearing and cultivation of that land and erection of plant.'¹⁰³ The company chose a 5,000 acre piece of land, eight miles upstream of Geraldton (now Innisfail), and dismantled plant from one of its NSW mills, which was then transported to the new site, named 'Goondi'.¹⁰⁴ Note here that deeper investment into expanded reproduction, as well as the appropriation of new lands, were being deployed to propel the frontier further and continue the historical cheapness of sugar, produced by unfree hands.

Just as at CSR's other plantations, this profitable commodity frontier rested on the shoulders of indentured labour. The company initially chartered blackbirding ships to bring South Sea Islanders to their plantations, and eventually purchased their own ship for this purpose.¹⁰⁵ But racialization was a broad strategy to cheapen labour, whether from the South Sea islands, or elsewhere: 'In 1888, the workforce at Goondi comprised 175 Europeans, 50 Chinese, 70 Aborigines, 325 Melanesians and 50 others, including Malays and Javanese.'¹⁰⁶ Indeed, we might even read this breadth of cheap labour as being patterned by an emerging trend within the Kanakas trade. By 1888, the historical cheapness of labour at the Queensland sugar frontier was beginning to tighten. There was a 'great rise' in the cost of recruitment, 'because of demand for kanakas.'¹⁰⁷ The company estimated that the cost of acquiring Kanakas labour between £25-35

¹⁰² *Ibid.*

¹⁰³ E.W. Docker, *The Blackbirders: The recruiting of South Sea labour for Queensland, 1863-1907*, Angus and Robertson: Sydney (1970), p. 99.

¹⁰⁴ Irvine, 'A genealogy of calculations at an early Queensland sugar mill', p. 202.

¹⁰⁵ Robertson, *The History of Colonial Sugar Refinery's Goondi Mill*, p. 9.

¹⁰⁶ Irvine, 'A genealogy of calculations at an early Queensland sugar mill', p. 203.

¹⁰⁷ E.B. Forrest, 'Minutes of evidence given to the Royal Commission into the Sugar Industry in Queensland,' 13 March 1889, Noel Butlin Centre, N260/44.

per head, and that the annual cost of keeping (reproducing) that labour was £26.¹⁰⁸ These figures correspond to those offered by Graves, who noted that ‘costs rose from approximately £5 per recruit in the early years of the labour trade to as much as £30 per recruit by the late 1880s.’¹⁰⁹ The availability of credit, the entrance of incorporated capital, and the expansion of land grants for plantations contributed to an explosive period of growth, especially between 1879 and 1885: ‘this speculative phase was marked by a quadrupling of cane acreage over the period and increase in the number of operational mills from 68... to 166..., and the consolidation and extension of the plantation system.’¹¹⁰ But this period of growth was quickly checked by the socioecological contradictions set in motion by the reliance on racialized, indentured labour. This led to a period of crisis and contestation in the late 1880s and early 1890s. Deepening this crisis further was unfolding soil exhaustion: ‘In Queensland, a condition of agriculture so crude as to have led to the relative exhaustion of the soils is combined with a rate of compensation for field labour which has no parallel in any other sugar-growing country.’¹¹¹ Indeed, in the Herbert region by the late 1880s, yields had dropped from 40 to 12 tons per acre.¹¹² The Queensland sugar frontier had relied on cheap land, money, labour and lives from its beginnings. Planters and politicians alike argued that without coloured labour, the sugar industry could not exist. And yet by 1906 the Pacific labour trade was ended, and 1907 saw the repatriation of most remaining Kanakas workers. How might we account for this? And what might this crisis reveal about the socioecology of capital? We turn now to the second crisis of Cheap Nature on the Queensland sugar commodity frontier: the crisis of cheap labour.

¹⁰⁸ *Ibid.*; ‘The cost of Kanakas’, Letter to the Editor, *The Sugar Journal and Tropical Cultivator*, 15 April, 3(3), (1894), p. 53.

¹⁰⁹ Graves, ‘The Abolition of the Queensland Labour Trade’, p. 44.

¹¹⁰ *Ibid.*

¹¹¹ W. Maxwell, ‘A Report upon some factors relating to the Cane Sugar Industry of Australia’, 1901, Noel Butlin Centre, N306/14.

¹¹² *Ibid.*

White Australian Capitalism

The sugar commodity frontier, fuelled by Cheap Nature – especially lives, land and money – had spread up the northern coast of the new Queensland colony, and along its rivers. It had deforested as it went,¹¹³ it had stolen land from Indigenous peoples, it had depleted soil,¹¹⁴ brought disease,¹¹⁵ and consumed bodies¹¹⁶ – all in the service of Cheap Nature and profit. In this way, the case of Queensland closely follows the patterns of the world-ecological sugar frontier, going back centuries, all the way to the Iberian Madeira. As in those other cases, it had relied on racialized, unfree labour; as put by Christopher above, ‘hard labour at the cane break was not an occupation free men generally chose.’¹¹⁷ And yet, those familiar with the political history of settler-colonial Australia know what is on the horizon for the British colonies ‘down under’: Federation, and the White Australia Policy. This political outcome would be predicated on the end of the Pacific Island labour trade, and the end of the Kanaka labour regime. Is this history simply one of the planter fraction of capital losing out to stronger fractions down south? Or should this transition be explained by reference to either the racism or the rational self-interest of the white working class? Against a purely political or discursive reading of this period of crisis and change, world-ecology again offers an alternative explanation: the crisis of this particular commodity frontier was not externally imposed, but emerged from the socioecology of Cheap Nature, ‘so rendering all the sound and fury of planter and moralizer as irrelevant as most arguments about what is good and fair and just.’¹¹⁸

In 1884, the world sugar price fell by a third, caused in part by European governments beginning to subsidize the export of beet sugar; these subsidies would continue for two decades, keeping

¹¹³ Griggs, ‘Deforestation and Sugar Cane Growing in Eastern Australia, 1860-1995,’ T. Steel, ‘Sugar Manufacture in Australia’, 1895, Noel Butlin Centre, N306/18.

¹¹⁴ Maxwell, ‘Report upon some factors relating to the Cane Sugar Industry of Australia’.

¹¹⁵ Letter from E.W. Knox to E.B. Forrest, 8th Feb 1884, Noel Butlin Centre, N305/B2-0-2-6

¹¹⁶ Letter from E.W. Knox to Immigration Agent, Kangaroo Point, 26 October 1897, Noel Butlin Centre, N305/B3-0-3.

¹¹⁷ Christopher, ‘An Illegitimate Offspring’, p. 235.

¹¹⁸ Clark, *A History of Australia*, IV, p. 356.

sugar prices low.¹¹⁹ This price squeeze compounded the larger crisis for plantation sugar production in Queensland: rising labour costs. As we have seen above, 'recruitment' costs had been steadily rising since the inception of the industry. Blackbirders were sailing further and further afield to meet the demands of the planters. The expansion of the sugar frontier, and the expanded reproduction of existing enterprises meant that sugar capital needed greater and greater throughputs – and in this grim circumstance, the key throughput for this circuit was racialized, unfree bodies. Less Kanakas were being brought to Queensland, just as the demand for them expanded, which led to increased costs for the planter. In some regions, planters even colluded to set a maximum price for labour, to counteract this.¹²⁰ Further, Blackbirders were bringing younger and frailer workers, which increased the risk that they would not realize the full value of their cost. Planter E. Drysdale, quoted in the first epigraph of this chapter, complained that 'the class of Kanakas is not as good as it ought to be, nor can we get sufficient supply of them... A great many of our boys are of poor physique and under-age; the consequence is that a great many of them die.'¹²¹ Faced with these constraints, many planters reduced the already meagre conditions Kanakas were provided with, cutting back on clothing, accommodation, medical care and food.¹²² Interestingly, one of the reasons this was at all effective was the role of 'Kanakas gardens' in buttressing the social reproduction of the Kanakas workers; land was often left aside on the plantation for the Kanakas to grow their own food, supplementing the (insufficient) rations the planter was legally obliged to provide.¹²³ Put another way, commodity frontiers were supported by frontiers of appropriation, relying on the social reproduction of Islander communities, whether back at home, or on the plantation itself. Nevertheless, in many cases these survival strategies were insufficient, and Kanakas were worked to death. In an enquiry in 1889, the Queensland registrar general estimated that at least one fifth of people transported from 1868

¹¹⁹ Griggs, 'Sugar Plantations in Queensland, 1864-1912', p. 637.

¹²⁰ *Cairns Morning Post*, 25 January (1897).

¹²¹ Drysdale, *Queensland Votes and Proceedings*.

¹²² Graves, *Cane and Labour*, pp. 99-110.

¹²³ Robertson, *The History of Colonial Sugar Refinery's Goondi Mill*, p. 10.

had died in the course of their work, while also acknowledging that the real figure was likely higher, masked by limited reporting.¹²⁴ The crisis of cheap labour further cheapened lives.

Labour costs were rising, and availability of new Kanakas recruits insufficient. One response to this tightening crisis of cheap labour was to induce those workers who had finished their term of indenture to continue on. Up until the 1880s, the vast majority of workers were 'first contract' workers, but increasingly there was a reliance on 'time expired' workers, who were employed for another three year period: 'At the beginning of the decade, 'time expireds' comprised approximately 10 per cent of the workforce whereas by 1888 the numbers within the two categories of immigrant labour were about equal.'¹²⁵ In some areas, there was an increased reliance on Indigenous labour, or 'coolies'. All of these factors, together with the collapse of the world sugar price, put the industry in a distinct depression. This was heightened by the debt burden of the previous expansion phase – the rapid expansion of the late 1870s, and the entrance of larger entities, with larger land grants, meant that the industry was highly indebted. Many mills closed and production stalled: overall acreage contracted by 10,000 between 1884 and 1888.¹²⁶

The industry would not collapse entirely, and some plantations continued operating on the model of unfree labour through to 1906. The conditions of Cheap Nature had, however, been exhausted in little more than two decades from the emergence of this commodity frontier. This material reality has direct bearing on our explanation of the end of the Pacific labour trade, and also our understanding of racialization and racism across planter, urban capital, and white working classes. For most of the plantation period, 'organized opposition to the Islanders in Queensland

¹²⁴ "Kanaka Statistics", *Q. V. P.* (1889): 225–228.

¹²⁵ Graves, "The Abolition of the Queensland Labour Trade", p. 45; *QVP*, I (1883), p. 1447; *QVP*, IV (1889), p. 244.

¹²⁶ W.H. Irving, 'Royal Commission on the Sugar Industry: Appendix 26: Sugar Plantations, Farms and Mills in Queensland, 1888,' Brisbane: Government Printer (1888), CSR Records, Noel Butlin Centre, NBC N305/D1-0-1-15.

was confined to periods of high unemployment in the sugar districts.’¹²⁷ Explanations for the racial determination of working class movements, and the co-evolution of the Australian Labour Party and the White Australia Policy, need to account for this period of silence – indeed, it has been noted that urban liberal humanitarians were perplexed by the general apathy of the white working classes during much of the nineteenth century.¹²⁸ Accounting for this history, Graves argues the case for a material explanation:

But why... did organized labour’s antagonism to the labour trade become so concerted and effective after 1890...? The evidence suggests that the fervour, organization, specific goals and expression of trade union opposition to Pacific Island workers, articulated directly with the transformation of the sugar industry from plantation production to the farm-based central-milling system.¹²⁹

That is, during the plantation period, white workers were happy to accept the racialized hierarchy of the planters’ ideology, which rested on the belief that white workers could not do hard labour in the tropics. But with the emergence of a central-milling system, and a greater number of white workers having a stake in land and the profitability of the industry, it became increasingly in their interests to organize, and struggle to ensure the plantation system would come to an end. Further, mechanization was changing the nature of work, with ‘changes in the methods of sugar production, the introduction of machinery for the clearing and ploughing of the land, and the hoeing and transport of the crop, were gradually making it possible for the planters to use white labour.’¹³⁰ But what do we mean by ‘central milling’, and an increased stake for white workers in the profitability of sugar? Let us turn now to see how cheapness was restored for the sugar frontier, and the changing socioecological relations of class and race that resulted.

The 1890s and early 1900s were a period of crisis, contestation and change in the Queensland sugar industry, with that struggle becoming entwined with political change – especially

¹²⁷ Graves, ‘The Abolition of the Queensland Labour Trade’, p. 49.

¹²⁸ R. Connolly, *John Drysdale and the Burdekin*, Sydney: Allen and Unwin (1964), p. 43; *Brisbane Courier*, 9 March (1869).

¹²⁹ Graves, ‘The Abolition of the Queensland Labour Trade’, p. 50.

¹³⁰ Clark, *A History of Australia*, IV, p. 356.

Federation. A full account of this period is beyond us here, but we can give some comment to the new sugar regime that emerged from this period. The strategies adopted by Queensland sugar planters were diverse: their options were to 'do nothing; continue growing sugarcane, but secure alternative labour; change to another crop or agricultural pursuit; substitute machinery for workers; or shift cane cultivation to small-scale farmers via sharecropping or subdividing the estates.'¹³¹ It was especially through the latter of these approaches that the next phase of sugar production was to emerge. Driving the shift toward small-scale farming was significant subsidy by the state. The first step taken by the state supporting this response was the financing of central, co-operative mills. Between 1894 and 1897, the Crown provided £500,000 toward the construction of central mills throughout the state.¹³² This wave of mill construction encouraged more and more plantation owners to attempt to dispose of their lands to prospective small farmers. Most plantations would also accept cane grown nearby by farmers, which they would mill privately, meaning they could still realise some of the investment in their plant. The state further supported this transition by collating and advertising the listings of planter leases on behalf of planters.¹³³ Conversely, however, some planters took this period of uncertainty as an opportunity to concentrate production, by buying up struggling neighbouring plantations, as was the case with CSR's Goondi operations.¹³⁴

While much of the industry was shifting to small-scale production, this did not, however, remove the need for cheap Melanesian labour. Unlike small production in Trinidad, where blocks were around three to five acres in the same period, these new lessees were operating blocks between 20 and 100 acres.¹³⁵ As such, many of these smaller farmers still needed to hire additional labour.

¹³¹ Griggs, 'Sugar Plantations in Queensland, 1864-1912', p. 638.

¹³² P. Griggs, 'The origins and early development of the small cane farming system in Queensland, 1870-1915', *Journal of Historical Geography*, 23(1): 46-61 (1997), p. 52.

¹³³ *Ibid.*

¹³⁴ J. Kerr, *Southern Sugar Saga: A History of the Industry in the Bundaberg District*, Bundaberg: Bundaberg Sugar Company (1983), p. 34, 78, 84.

¹³⁵ R. Ward, 'Plus ca change . . . plantations, tenants, proletarians or peasants in Fiji', in J. Jennings and G. Linge (eds) *Of Time and Place: Essays In Honour Of OHK Spate*, Canberra: Australian University Press (1980),

Arguably it was this practice, however, that really drew the ire of the union movement: with the Queensland sugar frontier now becoming populated by more whites than ever, and a much-expanding labour market for the white working class, it was *these* jobs that the unions did not want to compete with cheaper, racialized labour. Questions of causation – or attempts to characterize the racism of the white labour movement – aside, the most significant impact of Federation was the enactment of the White Australia Policy. Tied up with this, from 1906 the vast majority of South Sea Islanders were repatriated.¹³⁶ Perhaps concerned that there was some truth to the old planter line, that sugar production could not be achieved without coloured labour, the state gave significant assistance to the industry at this time:

To protect the country's sugar industry from cheap imports, a protective duty of £6 per ton was placed on all sugar imports. Growers of sugar cane were encouraged to use European workers by the award of a £2 per ton rebate to those who used 'whites' to grow and harvest sugar cane. The funds for this rebate were raised by the imposition of a £3 per ton excise on all sugar consumed in Australia.¹³⁷

These supports facilitated a third phase of expansion on the sugar frontier. In 1893 there were only 366 small cane farmers, whereas this figure had grown to 3,300 in 1906, and up to 4,328 in 1911.¹³⁸ This was also the most rapid spatial increase in terms of cane acreage seen yet on the commodity frontier, from a peak of around 60,000 acres in 1884, to more than 150,000 acres by 1913.¹³⁹ In this way, the plantation period came to an end, as did the reliance on cheap, unfree, racialized labour for profit. The regime of small cane farming supported by centralized milling continued for the entire twentieth century.¹⁴⁰

This history of the Queensland sugar commodity frontier has largely focused on production and supply. It has used the eco-socialist formulation of the commodity frontier to consider the ways

pp. 142–143; Griggs, 'The origins and early development of the small cane farming system in Queensland', p. 54.

¹³⁶ Griggs, 'Sugar Plantations in Queensland, 1864-1912', p. 642.

¹³⁷ Griggs, 'The origins and early development of the small cane farming system in Queensland', p. 56.

¹³⁸ *Queensland Votes and Proceedings*, III (1893), p. 917; *Queensland Parliamentary Papers (QPP)*, II (1906), p. 898; *QPP*, III (1912), p. 318.

¹³⁹ Griggs, 'The origins and early development of the small cane farming system in Queensland', p. 52.

¹⁴⁰ *Ibid.*, p. 57

in which lives and ecosystems were cheapened to condition the possibilities of value and accumulation. But we might also briefly make a comment about demand for and consumption of sugar, for it feeds into capitalist world-ecology in important ways. With the wool frontier, cheap wool had the effect of lowering the socially necessary labour time of social reproduction, through its thermal qualities. Coal as fossil capital radically reduced the energy costs for commodity production across the board. Sugar too can be thought of in the way it relates to social reproduction. Food, when processed through the metabolism of the worker, becomes energy to be capitalised through commodity production. Under conditions of urbanisation and proletarianization, there is a 'drive for cheap food to feed urban workers and their families not just to prevent riots but also to keep work cheap... maintaining a system of wage work is expensive and becomes more so over time. Cheap food enables that expensive system to yield riches.'¹⁴¹ Sugar plays an interesting role in cheap food, as for so long it was an incredibly expensive source of calories, used largely as a spice by feudal elites, in Western Europe at least.¹⁴² But through the violent cheapening of the commodity frontier, sugar shifted from a treat for the ruling class to mass fuel for workers. Not only did the cost of sugar go down, but preferences for foods that required no fuel and took little time led to a broad reliance on carbohydrates in general, and sugar in particular.¹⁴³ And yet, while Great Britain and the US were primary markets for sugar, due to its availability and world-ecological, cheapening appeal, the Australian colonies *consumed more sugar per head than any other place* (Table 6.1). In this sense, a food history of the Australian colonies is incomplete without an account of the sugar commodity frontier – and a history of class, urbanisation or industrialisation in Australian is incomplete without an account of the food systems that underpin these processes. Thus, while a complete history of this process is beyond us, it is interesting to note the significance of sugar to the history of other Australian frontiers,

¹⁴¹ Patel and Moore, *A History of the World in Seven Cheap Things*, p. 140.

¹⁴² Mintz, *Sweetness and Power*, pp. 79-83.

¹⁴³ *Ibid.*, p. 130.

from the sweetness of the anzac biscuit,¹⁴⁴ to the sugar rations given in lieu of wages to Indigenous stockmen on the Wave Hill station.¹⁴⁵

Table 6.1 – Sugar consumption per capita (kg) for selected countries, 1874, 1887, and 1909.¹⁴⁶

Country	1874	1887	1909
Great Britain	28.5*	32.0	46.3
France	7.0	12.3	20.0
German	7.5	8.6	19.5
United States of America	17.1	27.7	38.1
Netherlands	11.3	10.5	17.2
Austria-Hungary	6.8	5.5	10.4
Russia	2.5	4.0	6.4
Australia	38.9	40.4#	51.7

Notes: * figure is for 1875, # figure is for 1889.

Conclusion

This thesis has set out to consider how ‘commodity frontiers’ have shaped the socioecology of Australian capitalism. This has necessitated an articulation of eco-socialist theory, and in particular the world-ecology framework, providing critical insights into the constitution of the Australian political economy and its current state of socioecological crisis. Approaching this question, Moore asks us to ‘consider capitalism as a *world-ecology*, joining the accumulation of capital, the pursuit of power, and the co-production of nature in dialectical unity.’¹⁴⁷ Moore’s contribution here helps us to answer our central question, and encourages us to think in ways

¹⁴⁴ Australian War Memorial, ‘Anzac biscuits,’ *Australian War Memorial*, 22 April (2008), available at <https://www.awm.gov.au/articles/blog/anzac-biscuits>

¹⁴⁵ C. Ward, *A Handful of Sand: The Gurindji struggle, after the walk-off*, Melbourne: Monash University Press (2016).

¹⁴⁶ Griggs, *Global Industry, Local Innovation*, p. 232; T. Coghlan, *The Wealth and Progress of New South Wales*, p. 331; *The Sugar Cane*, 1 October (1888), p. 503; C. Lock, G. Wigner, and R. Harland, *Sugar Growing and Refining*, London: E.&F.N. Spoon (1882), p. 694.

¹⁴⁷ Moore, *Capitalism in the Web of Life*, p. 3, emphasis in original.

that span power, knowledge and capital. This can be achieved through a commitment to totality and the concomitant method of incorporated comparison – here illustrated through wool, coal, and sugar. Capitalism is best conceived of as the socioecological relations of Cheap Nature, but that this relation sits within a broader totality, including projects of territoriality, imperialism, racialization, epistemologies, and more. By considering the commodity frontier of sugar within the colony of Queensland, we see the motion of the socioecological contradictions that have pushed sugar around the world, over a period of some five hundred years. The Australian case is not some unchanged, functional continuation of those relations, of course – as Christopher suggests, in many ways the Queensland sugar frontier was the ‘illegitimate offspring’ of those earlier confluences of cheap lives, land, nature and money.¹⁴⁸ But it is worth seeing those connections, using the theoretical tools of world-ecology to attend to the way racialization was weaponized in the search for Cheap Nature. More than connections of discrete entities, these commodity frontiers should be conceived of as internally related, each emerging from socioecological relations which form an emerging totality. It is in this way that the generalised adoption of coal across the colonial political economy can be seen as internally related with the localised adoption of unfree labour on the Queensland sugar plantation frontier. These two commodity frontiers themselves emerge from the same relations that drove the frontier of wool, which demonstrated dialectics of extirpation and exploitation, in its violent collision with Indigenous socioecologies. Following the structuring power of value, of cheap nature, these commodity frontiers have each worked through the contingent construction of cheapness in and through ecological, class, state, and race relations.

The Queensland sugar commodity frontier was a horrific example of the way the structuring power of the value form consumed whole islands – their peoples, cultures, and lives. And while much of the story of Queensland sugar in the nineteenth century *can* be explained by reference

¹⁴⁸ Christopher, ‘An Illegitimate Offspring’.

to the categories of 'commodity frontier' and 'Cheap Nature', do these categories explain all of Australia's sugar history? Or, by extension, do they offer the kind of theoretical 'master key' to all history that Ralph Miliband cautioned us against?¹⁴⁹ Not necessarily. While much of the history of Australian capitalism *can* be explained in this way, there are absolutely times when nature is not cheap. Here we might invoke a controversial element of Moore's world-ecology: *the tendency for the world-ecological surplus to fall*.

Value is encoded simultaneously through the *exploitation* of labour-power in commodity production, and through the *appropriation* of nature's life-making capabilities... When capitalists set in motion *small* amounts of capital and appropriate *large* volumes of unpaid work/energy, the costs of production fall and the rate of profit rises. In these situations, there is a high *world-ecological surplus*... [However] the ecological surplus declines over the course of every long wave of accumulation... Marx's general law of underproduction may be formulated as a tendency for the rate of accumulation to decline as the mass of capitalized nature rises.¹⁵⁰

The world-history of sugar is one of exhaustion and a necropolitical ecology of death. For centuries, it demonstrated the socioecology of capital precisely because of this: because here more than almost anywhere the demand for appropriation to run ahead of exploitation was apparent. Those relations gave the sugar frontier its dynamism, its spatial and temporal velocity. But can these contradictions be fixed indefinitely?

That global movement of capitalist sugar production through Cheap Nature eventually threw it out to the antipodes, to Queensland, where it demonstrated those qualities all over again. It demanded cheap lives and land to exist, bringing back effective slavery in a period where this appeared as a historical anomaly. While the planters might have insisted that their workers were paid a wage, Clark rejects that mean definition. The Kanakas were working

for wages so small that they were scarcely wages at all only served to gloss over the enormity of their recruitment, the desolation of their homes, the ransacking and burning of villages, the drunkenness, fraud and dishonest artifices to procure these men, and their being carried like cattle to the sugar ports of Queensland where they were sold like merchandise to the planters.¹⁵¹

¹⁴⁹ R. Miliband, *Class War, Conservatism, and other essays: Introduction by Tariq Ali*, London: Verso (2015), p. 52.

¹⁵⁰ Moore, *Capitalism in the Web of Life*, pp. 94-97, emphasis in original.

¹⁵¹ Clark, *A History of Australia*, IV, p. 355.

As cheap as they were, cheapness is historically constituted; it is as much social as it is ecological (and hence the two must be conceived of in dialectical unity). The first phase of the Queensland sugar frontier drew on several 'cheaps': cheap land, violently seized from the indigenous inhabitants; cheap nature, with virgin alluvial soils so quickly stripped by Bourbon cane; and of course, cheap labour and lives, with sugar from the outset relying on unfree, racialized Kanakas labour. That first phase exhausted much of this cheapness, stripping soil, and consuming the bodies and lives of those early Kanaka recruits. The expansion of the frontier was checked by disease, in the form of "rust", which demanded a shift toward a lower-yielding cane. The second phase of expansion was also powered by cheap money, and further horizons of cheap land, as the state opened more land for lease, and financial capital became entangled more consistently in production. Scales increased, and as such frontiers of appropriation had to expand apace of this new capitalization: Blackbirders went further afield, bringing more and more indentured "recruits", but already the ability of the unpaid social reproduction of Islander communities were being themselves exhausted. This brought a crisis of profitability – a crisis of *Cheap Nature* – to the frontier, which ultimately saw the end of the plantation model. Not only were sufficient 'first contract' workers unavailable, but through the contestation of the white working class, racialization no longer offered the kind of historical cheapness that it once did to planter capital.

Emerging from this crisis of Cheap Nature was a new organization of production – small farms, increasingly reliant on European labour, working with central, co-operative, or old plantation, mills to produce sugar. But the ecological surplus on offer was radically different to what it was just forty years previous. If the 'commodity frontier' is the site where nature is available cheaply, expanding through accumulation by appropriation, then Queensland sugar production was less and less that kind of historical moment. Indeed, as the small-holder model spread, sugar came to take on a similar form to much of Australian agriculture. As put by McIntyre, 'it is a feature of capitalist production in Australia that the tenacity of "yeoman" or family farming as a model for

Australian market-based agriculture did not exploit labour.’¹⁵² This lack of cheapness is often expressed as crisis, as from the early 1900s, ‘small cane farmers throughout Queensland complained they could not make a satisfactory living from their yearly crops.’¹⁵³ If there was any profitability to be had in the industry, it was through concentration – CSR continued to do well, having a geographical monopoly on milling in much of Queensland, much to the chagrin of the neighboring small farmers. On top of the existing supports offered by the state, from 1915 the Queensland government even established local boards to fix prices and formalize crushing arrangements.¹⁵⁴ Put plainly, the crisis of Cheap Nature had resulted in the effective socialization of production. Capitalism is a socioecology of Cheap Nature, of exhaustion, and of crisis – absent Cheap Nature, can capital survive? In this instance, apparently not. Here an array of questions emerge, regarding crisis and the limitations of cheapness, which ought to be at the centre of Australian eco-socialist research.

This chapter has attempted to show the specificities of the sugar commodity frontier, while also situating this history in incorporated comparison with other commodity frontiers. While the period in question only lasted a few decades, the argument of this thesis is that the socioecological relations of capitalism – of Cheap Nature and the commodity frontier – form the *emerging totality of settler-colonial Australia*. This is not to say that there have not been moments of relations over this period, across that territory, that were defined by alternative socioecologies. Indeed, ongoing Indigenous resistance to invasion and colonization are obvious examples of other-than-capitalist relations. But the argument is that the forces that have driven and shaped colonization are the structuring power of the value form, and the capitalistic colonial state. They have established specifically capitalist socioecological relations. Those relations are the only way to convincingly

¹⁵² J. McIntyre, ‘Nature, Labour and Agriculture: Towards common ground in new histories of capitalism,’ *Labour History*, 121: 73-98 (2021), p. 73.

¹⁵³ Griggs, ‘The origins and early development of the small cane farming system in Queensland,’ p. 57.

¹⁵⁴ D. Shogren, ‘Agriculture,’ in D. Murphy, R. Joyce, and C. Hughes (eds), *Labour in Power: The Labour Party and governments in Queensland, 1915-1957*, Brisbane: University of Queensland Press (1980), p. 183.

account for the origins, path, and trajectory of the multitude of socioecological crises that confront us today: species extinction, water loss, soil degradation, proliferating zoonotic diseases, and climate change. We have stepped through histories of invasion, pastoralism, fossil capital, and sugar plantations to illustrate the broad explanatory power of world-ecology and eco-socialist thought, across the history of White Australia. In these stories are the roots of contemporary crises: of fire, of land-use, of water, of soil, and of emissions. But also included in view is the human cost of Cheap Nature – especially through the continued reliance of capital to achieve surplus value production through racialized and gendered categories of ‘other’. Not only does world-ecology offer a theory that can explain the histories explored in this thesis – it also offers a politics far more powerful than that of the ‘Anthropocene,’ by revealing the internal relations that bind resistance of all kinds: anti-colonial struggles, struggles that define the nature (and value) of work, struggles of commodified and uncommodified workers all. It is a theory that allows those groups to identify all the forces arrayed against them: not just capital, but also the capitalistic state, the material condensation of the balance of class forces – two distinct socioecological relations that must never be isolated from each other in the final analysis.

Conclusion

This thesis has set out to consider how ‘commodity frontiers’ have shaped the socioecology of Australian capitalism. In grappling with this question historically and theoretically, the approaches of eco-socialism and world-ecology have been seen to illuminate the dialectics of the commodity frontier, with capitalism defined as a socioecology of cheap nature, the structuring power of value, and the production of nature for exchange. This driving question has been animated through an incorporated, relational comparison of three commodity frontiers, seeing these frontiers as constitutive of an emerging totality of capitalist socioecological relations on the continent of Australia, in the nineteenth century. To reiterate this central argument, ‘commodity frontiers’ are places and times where the stuff of accumulation can be got for less. In some instances, this means socionatures are yet to be commodified, and thus can be seized – through violence, through enclosure, through projects of empire, state formation, racialization or gendering. In other times and places there will be a dialectic of commodification, decommodification, and crisis at work, as the capitals and states struggle against socioecological contradiction to re-articulate the frontier. What is important here is that ‘cheapness’ is defined historically:

Cheap Nature is “cheap” in a historically specific sense, defined by the periodic, and radical, reduction in the socially necessary labour-time of these Big Four inputs: food, labour-power, energy, and raw materials. Cheap Nature, as an accumulation strategy, works by reducing the value composition – but increasing the technical composition – of capital as a whole; by opening new opportunities for investment; and, in its qualitative dimension, by allowing technologies and new kinds of nature to transform extant structures of capital accumulation and world power. In all this, *commodity frontiers* – frontiers of appropriation – are central.¹

Here we continue to rise through different levels of abstraction, and arrive at a central organizing concept that begins to suggest a method for comprehending socioecologies of crisis. The logic of capital sees that accumulation is tied to appropriation in a dialectical unity. The claim being made is that commodity frontiers, or frontiers of appropriation, are of world-historical and world-

¹ Moore, *Capitalism in the Web of Life: Ecology and the accumulation of capital*, London: Verso Books (2015), p. 54.

ecological significance. They bring our attention to the historical movement of capital and help us to think with a socioecological totality in mind.

To develop a history of commodity frontiers on the continent of Australia, three such frontiers have been situated in incorporated comparison: wool, coal, and sugar. Incorporated comparison is not merely a methodology, however – it is also a politics. For McMichael, it offers a form of comparison

which makes no prior assumptions about the units of comparison, viewing such units as constructed precisely *through* comparison, since socio-political domains are inter-related, rather than separately distinct. In this sense, comparison is *incorporated in and through relations forming* the very units compared. This is where its key significance lies.²

This is carried further by Hart, who argued ‘that the focus of relational comparison is on *how* key processes are constituted in relation to one another through power-laden practices in the multiple, interconnected arenas of everyday life,’³ and that ‘clarifying these connections and mutual processes of constitution – as well as slippages, openings and contradictions – helps to generate new understandings of the possibilities for social change.’⁴ So what are the politics here? First is the clear and ringing call to characterize our contemporary socioecological crises as *specifically capitalist*. Going further, there is a need to recognize that these apparently separate crises – of water, of soil, of fire, of disease, of inequality, of extinction, of finance, of poverty, of health, of democracy – are manifestations of a *singular crisis*, in that they all emerge from the relations that constitute capitalism. So, this method, and the historical work of this thesis, look to identify the sociogenic source of climate change (and other facets of the crisis) as capitalist, leading to a necessarily anti-capitalist politics.

² P. McMichael, ‘Incorporating Comparison in Ontological Encounters,’ *Revista de Historia Comparada*, 13(1): 209-237 (2019), p. 211, emphasis in original.

³ G. Hart, ‘Relational comparison revisited: Marxist postcolonial geographies in practice,’ *Progress in Human Geography*, 42(3): 371-394 (2016), pp. 374-375.

⁴ G. Hart, ‘Denaturalizing dispossession: Critical ethnography in the age of resurgent imperialism,’ *Antipode*, 38(5): 977-1004 (2006), p. 996.

Through the theory of capitalism developed here, a contribution to political strategy is also offered: if the relations of the commodity frontier, and Cheap Nature, are constitutive of capitalism, and emerge from the structuring power of the value form, then challenging the cheapening of nature at the frontier holds material power. These struggles constitute *value struggles*.⁵ In this way, theoretical-historical work is done to inform a sufficient politics for the Capitalocene. This thesis addresses a pressing political and historical lacuna: the absence of historical materialist, eco-socialist histories of Australian capitalism. Through this, a contribution is made through the novel combination of theory and history.

Again, let us return to our central, organising question: how have ‘commodity frontiers’ shaped the socioecology of Australian capitalism? This question has involved a radical rethinking of Australian history, through the lenses of historical materialism, eco-socialism, and world-ecology. Attending to this question, the structure of this thesis followed the method of Marx, who insisted on the importance of ‘rising from the abstract to the concrete.’⁶ Chapter 1 began by articulating a theory of capitalism from the vantage point of socioecological crisis. Unlike Beckert *et al*’s apolitical formulation of the ‘commodity frontier,’ the critique of capital was the starting point. Moving through ontology, epistemology and method, an appreciation of the nature of the object under consideration emerged, as did conceptual the tools to grapple with it. The argument here was that capitalism is best understood as a totality of socioecological relations, necessitating a philosophy of internal relations. These theoretical moves require historical specification, which was precisely the purpose of this thesis; with commodity frontiers an historical entry-point was found.

⁵ M. De Angelis, *The Beginning of History: Value struggles and global capital*, London: Pluto Press (2007).

⁶ K. Marx, *Grundrisse: Foundations of the critique of political economy (rough draft)*, trans. M. Nicolaus, London: Penguin Books (1993 [1973]), p. 101.

Chapter 2 followed on from the critique of capitalism developed in the first chapter to consider the nature of the state. Specifically, it grappled with the idea of the ‘environment-making state,’ for cheapness at the commodity frontier often has to be *created*. This contingent process of valuation is rarely determined simply by a collision of capital, nature, and labour. Even (or perhaps especially) in contexts of imperialism and invasion, more is going on than simply adding in Indigenous and peasant resistance. To grapple with the commodity frontier, theoretically or historically, we need to take the state seriously. Here we found a relational shift from general processes of state formation – which revolve around securing, opening, and knowing nature – toward the specific imperatives of the state under capitalism. The state has been found to be an ongoing project, and the crystallisation of the balance of class forces – a processual and relational ‘object’ that is necessarily bound up in the production of nature, and the commodity frontier.

Chapter 3 began the movement from the abstract to the concrete, through an interrogation of the invasion of the Australian continent by British settlers. The specificity of capitalist socioecological relations was first established through a characterization of the relations that preceded them: Indigenous socioecologies of Dreaming, of care for country, of burning. The purpose was not to homogenise or romanticize Indigenous societies pre-1788, but to take examples to illustrate difference – although there are doubtless lessons to be learnt here, if capitalist Australia can learn them. By telling the story of invasion, we begin to see the dialectical nature of the commodity frontier – and capitalism more generally – in the uneasy relationship between exploitation and extirpation. It was shown that primitive accumulation usefully nuances dominant conceptions of settler-colonialism, rendering legible the frontier.

Chapter 4 brought our attention to the *commodity* of the ‘commodity frontier,’ specifically by considering the expansion of capitalist socioecologies through the production of wool. In telling a brief history of the nineteenth century, we captured in view the rise and fall of the commodity

frontier as a site of cheapness and of crisis. Through three successive booms, nature was cheapened and exhausted, through dialectics of appropriation and commodification. Wool was initially cheapened through thousands of years of Indigenous labour, embodied in carefully-produced grasslands – the ‘biggest estate on earth’⁷ – which were greedily devoured by the colonists’ sheep. The exhaustion of this socioecological niche occurred rapidly, setting in train the contested reproduction of the frontier through processes of class and state formation.

Chapter 5 shifted from the rapidly expanding horizontal frontier of pastoralism and wool, to unearth the ‘hidden abode’ of fossil capital, underground. It narrated a history of coal mining as it emerged in colonial New South Wales, at Newcastle, noting the heavy lifting done by the imperial and colonial states to establish a circuit of fossil capital production. This contingent conditioning of ‘cheap energy’ unleashed possibilities for capital throughout the colony, especially in urbanization and industrialization. In this, the thesis presented an example of how an apparently distinct commodity frontier emerged from those same socioecological relations seen on the pastoral frontier – indeed, that the two are co-constituting, conditioning the emerging totality of capitalist socioecological relations in Australia.

Chapter 6 located the commodity frontier in the proliferation of sugar plantations northward from Brisbane, in the newly established colony of Queensland. Crucially, from its inception, this commodity frontier relied on the labour of unfree, racialized workers, variously recruited, and kidnapped from across the Pacific Islands – known then as ‘Kanakas.’ Again, we found the socioecology of capitalism at work, here in the mortality of the Kanakas, in diseased cane, and the rapid exhaustion of soil. As with wool, the socioecological crises emerging from those relations of cheapness and value drove forward dialectics of expansion, commodification, and

⁷ B. Gammage, *The Biggest Estate on Earth: How Aborigines made Australia*, Sydney: Allen & Unwin (2012).

financialization. Class and state formation moved through the socioecology of the frontier, hinging on race as a material category of difference, defining cheapness. The plantation model did not last into the twentieth century, but rather than being undone by liberal politics, it was undermined by its own contradictory and exhaustive relations.

The argument made here is that these commodity frontiers were internally related, emerging out of the socioecological relations of capitalism – of cheap nature, of exploitation and appropriation, of death and disease and profits. Driven forward by crisis and contradiction, this socioecology was not stable, but shifted around through fragile fixes. The formation of class, state, race and gender expanded across the continent of Australia, doing immense and enduring violence to the original peoples of this land. These connexions between the violence of dispossession, of accumulation, and the apocalypse of the Capitalocene are drawn together well by Peter Linebaugh:

Coal replaced wood as fuel for fires, the fires burned to produce steam, and the steam-powered machines spelled the ruin of a whole mode of life. This occurred during war, when the ground of Europe was drenched in blood, and the blood of the chained bodies of the slaves coloured the Atlantic crimson. The blood has not ceased to flow nor the fire to burn, red round globe hot burning.⁸

We might push Linebaugh's causal chain further back still, to capture the way in which wood was felled and land cleared by the Squatters and selectors – that is, that coal was burned because relations of Cheap Nature were already expanding around the world, *via* the vehicle of the commodity frontier. Linebaugh does, however, fully capture the violence of that process, to Indigenous peoples and to bodies made unfree by the exigencies of value. Here I would like to conclude the argument by quoting Anaiwan historian and linguist Callum Clayton-Dixon at length:

By the end of the 1860s, the New England tribes found themselves in a set of circumstances very different from those of 1831, before the invasion began. The southern half of the district alone swarmed with close to ten thousand colonists, vastly outnumbering the indigenous inhabitants, whose population had been reduced to roughly half its original size owing to the ravages of frontier violence and disease. Homelands were arbitrarily divided up into more than 160 pastoral stations,

⁸ P. Linebaugh, *Red Round Globe Hot Burning: A tale at the crossroads of commons and closure, of love and terror, of race and class, and of Kate and Ned Despard*, Oakland, CA: University of California Press (2019), p. 4.

and pockmarked with a number of towns, villages, and other settlements, all nodes in a branching network of colonial power and enterprise. The Tableland's natural ecosystems, within which the tribes were deeply embedded, had already suffered enormously, devastated by millions of sheep and cattle, mining, and expanding cropping operations. Nor would it be too long before extensive ringbarking laid waste to much of the region's woodlands... Increasingly intensive exploitation of Aboriginal lands and lives, under the guise of the colonizer's ecocidal and ethnocidal 'civilising' project, brought with it the shattering of culture, language, tradition, and social cohesion... Our people fought a fierce war of resistance against such overwhelming odds, and survived through the most disruptive and violent phase of the apocalypse.⁹

These are the processes that conditioned the production of nature across the lands and landscapes of my childhood home. Massacres of the traditional owners of these lands are still branded across the Tablelands in street signs and place names. The historic *Uluru: Statement From The Heart* calls for a process of 'truth-telling about our history' – for in no other way can the ongoing violence to Indigenous lives on this continent be ended.¹⁰ I hope that this thesis might be my contribution to truth telling. And in that contribution, the historical consideration of *capitalism* as the driving force for the processes outlined above by Clayton-Dixon is central. Indeed, he captures the internal relations of class and state formation across colonial space by characterising stations, towns and villages as nodes of 'colonial power and enterprise,'¹¹ and that these frontiers reshaped the socioecologies of care for country toward ecocide. In this way, Clayton-Dixon is thinking with world-ecology, joining 'the accumulation of capital, the pursuit of power, and the co-production of nature in dialectical unity.'¹² This thesis is a call for the embrace of this approach to the study of Australian capitalism.

But beyond this central contention, the historical narrative of this thesis has made several additional contributions to various literatures. First, while exploring the invasion of the Australian continent, we have developed a critique of the dominant framing of settler-colonial studies. The attention of this approach has been to the immense violence of colonialism, and as

⁹ C. Clayton-Dixon, *Surviving New England: A history of aboriginal resistance & resilience through the first forty years of colonial apocalypse*, Armidale: Anaiwan Language Revival Program (2019), p. 132.

¹⁰ First Nations National Constitutional Convention, *Uluru: statement from the heart*, Alice Springs, NT: Central Land Council Library (2017), p.1.

¹¹ Clayton-Dixon, *Surviving New England*, p. 132.

¹² Moore, *Capitalism in the Web of Life*, p. 3.

such it has emphasized the “logic of elimination.” While a powerful contribution to the history of Australia, and other settler colonies, this has left settler-colonial studies ill-equipped to explain places and times where exploitation is favored over extirpation – such as the significance of Black stockmen and concubines to the ‘cheapness’ of the pastoral commodity frontier in the late 19th century. Through the lens of ‘primitive accumulation,’ we see more clearly the structuring power of value to determine this unevenness.

Second, this thesis has contributed to environmental and economic history by drawing out the significance of Indigenous production of nature for the expansion of capitalist value in Australia. Recent developments in Australian historiography – especially Pascoe and Gammage¹³ – have had broad political and social ramifications, but little attention has been given to the distributive implications of how these native socioecologies were directly appropriated at the frontier by settlers, through the voraciousness of their sheep. The expansion of the pastoral commodity frontier in Australia, so deeply mythologized, did not ride just on the sheep’s back. It grew from soils and grasses gently tended for thousands of years by Indigenous Australians.

Third, this thesis has presented novel archival research toward an energy history of the Australian colonies. In the context of the Capitalocene, much historical work has been done to unearth the contingency of energy transitions, and to show that processes of industrialization and urbanization rely entirely on a shift from organic to fossil energy. And yet, there is yet to be a concerted attempt to account for the energy history of Australia, White or Black. Perhaps Scott Morrison’s ‘coal speech’¹⁴ might be read as an example of the latent assumption by Australian capital, that access to cheap energy as coal is a given in this settler colony? This is a much larger

¹³ B. Pascoe, *Dark Emu: Aboriginal Australia and the birth of agriculture*, 2nd ed., Broome, WA: Magabala Books Aboriginal Corporation (2018); B. Gammage, *The Biggest Estate on Earth: How Aborigines made Australia*, Crows Nest, NSW: Allen & Unwin (2012).

¹⁴ S. Morrison, Australian Commonwealth, *Parliamentary Debates*, House of Representatives, Thursday 9 February (2017), p. 536.

project than one thesis, let alone a single chapter – but through a history of the Australian Agricultural Company's mines at Newcastle, we have a beginning. Establishing a circuit of primitive accumulation of fossil capital relied on the state providing a monopoly and monopsony for coals raised in the colony, ensuring coal mining would continue to develop despite the end of convict assignment, and the loss of labour to the gold fields. These processes set in train cheapening across all commodity production in the colony, and began Australia's contribution to anthropogenic climate change.

Fourth, this thesis has added to the global history of the sugar commodity frontier, and its characteristic reliance on the plantation model of production, through a history of cheap nature and cheap lives along the coast of Queensland. New histories of capitalism have focused especially on the role of unfree labour at the commodity frontier. This has contributed to a resurgence of interest in Black Radicalism, and the articulation of 'racial capitalism,' the 'racial Capitalocene,' and even the 'plantationocene.' These histories have tended to focus on the Atlantic slave trade, and sugar production in the Americas and the Caribbean. Australia ought to be included in these global conversations, where the sugar frontier relied for so long on the labour and lives of the 'Kanakas.'

With wool, coal, and sugar, we have seen how these frontiers have unfolded through dialectics of appropriation and commodification, extirpation, and exploitation, through death, disease, exhaustion, and cheapness. These socioecological relations of class formation, state formation, gendered and racial difference, and of the production of nature for exchange have dialectically set in motion the crises that define the Capitalocene. Without an account for the origins of these crises, we fail to understand their true nature – it is for that reason that this thesis hopes to be a beginning of widespread engagement between world-ecology, environmental history, and histories of Australian capitalism. This thesis has been limited in spatial and temporal scope, and

has only considered three commodity frontiers – what might this approach unveil if applied to the history of the twentieth and twenty-first centuries, or through a closer attention to cheapness in other forms? Possible future directions include, but are not limited to: deeper exploration of the commodity frontiers begun here, taking in greater spatial and/or temporal scope – how did the cattle pastoral frontier expand across the northern Australia? How did the frontier of cheap energy, established by the AACo, lead to frontiers of urbanization and industrialization? More materialist work might consider the Pacific phosphates trade, and how this commodity frontier articulated with the contradictions of settler agriculture in Australia; or bring attention to how the agrarian question was fixed through the twentieth century, with a particular combination of land grants and price fixing, through soldier resettlement policies and ‘agrarian socialism.’¹⁵ World-ecological perspectives on food systems might extend the analysis here on sugar, to consider the development of irrigation and agriculture in the Murray-Darling basin. Important work in these areas offers a beginning – Katerina Teaiwa’s work on phosphate imperialism,¹⁶ for example – but, as argued by McIntyre, ‘Australian historians of labour and environment do not participate in international debates about whether or how to consider the historical intersection of nature and labour, or, indeed, nature, labour, and capitalism.’¹⁷ The expansion of the ‘new histories of capitalism’ literature into the antipodes offers to bring a useful denaturalisation of Australian capitalism to bear on local historiographies, but a commodity frontier research agenda threatens to sever history from theory, and from politics. It is hoped this agenda might follow the theoretical openings presented in this thesis.

¹⁵ See C. Baker, ‘The nation-building state retreats: An Australian case study in the changing role of the state,’ *Journal of Rural Studies*, 62:146-155 (2018); C. Baker, *A Sociology of Place in Australia: Farming, change and lived experience*, Singapore: Palgrave Macmillan (2021).

¹⁶ K. Teaiwa, ‘Ruining Pacific Islands: Australia’s Phosphate Imperialism,’ *Australian Historical Studies*, 46, 374-391 (2015).

¹⁷ McIntyre, ‘Nature, Labour and Agriculture: Towards common ground in new histories of capitalism,’ p. 73.

Through an incorporated comparison of wool, coal, and sugar, this thesis has sought to argue for the centrality of eco-socialist and world-ecological approaches to explicating the origins and character of our contemporary socioecological crises. To briefly gesture toward the contemporary political stakes of this argument, consider ‘regenerative agriculture.’ In his important book, *Call of the Reed Warbler*, Charles Massey finds the origins of the Anthropocene in the ‘mechanical mind,’ and sees the way out of the agricultural and pastoral crises of soil, water, and biodiversity in ‘becoming ecologically literate.’¹⁸ Massey’s work is inspiring, and he is certainly right – but without an account of the material barriers to a different agriculture, or a collective politics to confront those barriers, the fundamental relations of cheap nature, class, and state will continue to produce crisis. Indeed, a new commodity frontier is emerging, threatening to co-opt these regenerative practices, and ought to be contested – that of negative carbon, and land-use carbon credits.¹⁹ The histories of energy transition engaged with through this thesis²⁰ demonstrate the political nature of these processes – where cheapness and profitability are in such contradiction, always threatening crises of overproduction. Renewable energies threaten this too, possibly more so.²¹ How might we contest this transition toward a de-commodified, democratized energy regime, which doesn’t threaten climatic collapse? And in an age of fire,²² how might we return to socioecologies of care for country which utilise burning, when the Australian climate has already warmed by 1.47 degrees?²³ I would argue that these pressing contemporary questions demand eco-socialist consideration. That consideration cannot proceed

¹⁸ C. Massey, *Call of the Reed Warbler: A new agriculture, a new earth*, Brisbane: University of Queensland Press (2017), p. 491.

¹⁹ For an entry into the origins and contradictions at play here, see W. Carton, A. Asiyanbi, S. Beck, H. Buck and J.F. Lund, ‘Negative emissions and the long history of carbon removal,’ *WIREs: Climate Change*, 11:e671 (2020).

²⁰ P. Sweezy, *Monopoly and Competition in the English Coal Trade, 1550-1850*, Cambridge, MA: Harvard University Press (1938); T. Mitchell, *Carbon Democracy: Political power in the age of oil*, London: Verso Books (2013); E.A. Wrigley, *Energy and the English Industrial Revolution*, Cambridge, UK: Cambridge University Press (2015); A. Malm, *Fossil Capital: The rise of steam power and the roots of global warming*, London: Verso Books (2016).

²¹ See the special issue of *Environment and Planning E: Nature and Space* introduced by N. Luke and M.T. Huber, ‘Introduction: Uneven geographies of electricity capital,’ *Environment and Planning E*, 5(4): 1699-1715 (2022).

²² S.J. Pyne, *The Pyrocene: How we created an age of fire, and what happens next*, Oakland, CA: University of California Press (2021).

²³ Bureau of Meteorology, *State of the Climate 2022*, Canberra: Bureau of Meteorology (2022), p. 2.

without an historical and theoretical account of how commodity frontiers have conditioned the production of nature and crisis that define Australian capitalism as an emerging socioecological totality. Armed with the truth-telling of such a history, divisions between Indigenous, environmental, and class-based movements might be transcended, a strategy built to challenge the violent relations of capital, and a new world won.

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