Imagined Food Safeties:

An Australian Cultural History

by

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Declaration of Originality

I certify that the intellectual content of this thesis is the product of my own work and that all assistance received in preparing this thesis and sources have been acknowledged, nor has this thesis been submitted for any degree or other purposes.

Authority of Access

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This thesis was professionally copy-edited.

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Abstract

The ideas, practices, structures, and material artefacts of food safety have long and telling histories. While usually understood as natural and unchanging, food safety, this thesis argues, is cultural, shifting in time, and differing between places and peoples: it is the product of particular historical processes. This study examines the various ways understandings of food safety have manifested in Australian history.

People's beliefs and actions often diverge significantly from science. I am interested here in why and how we choose to eat – or not eat – what we do. I am interested in the anxieties people have around food and how these concerns are managed. The thesis explores relationships between individuals, private organisations, communities and governments in the production and dissemination of knowledge. It shows food safety in Australian history to be the product of global anxieties and discourses, as well as local conditions. It is not a story of Australian exceptionalism, but of consumption practices and choices that connect individuals to, and underpin, large historical forces and processes, such as imperialism, industrialisation and capitalism. It is a story of ideas of race, class and gender, including identity and the construction of national narratives. Food safety can tell us much about Australian culture.

This is, first and foremost, a study of representations and discourses exploring popular knowledges and norms. Source materials reflect this, with popular print media forming the body of evidence, including from advertisements, articles and letters in newspapers and other periodicals, to colonial travel accounts and prescriptive health literature, but also legislation, trade journals and government investigations. Structured temporally and thematically into overlapping time periods, the study begins with the arrival of print culture in Australia in the late 18th century and ends in the mid-1960s. Rather than an exhaustive study of food safety in Australian history, the thesis seeks to open up new avenues for research through case studies examining particular manifestations of food safety.

I begin by examining encounters of food in the contact zone of colonial Australia. Food itself was a contact zone, a method of communication, encouraging encounters and signalling boundaries of trust; but it also created and maintained distance and conflict between cultures. Turning to the international food systems supplying the 19th century Australian colonies, I argue that place of origin advertising was a semiotic device communicating culturally contingent meanings of food safety and quality to Australians. The

problem of food adulteration in the period 1850s to c.1912 is explored alongside the introduction of Australia's first broad food safety laws. Here, the relationship between taste and safety demonstrates how discourses of empire, class and race coalesced around food products such as tea and beer, and remind us of the enmeshed nature of power operating at the intersection of the colonial state and capitalism. Functioning both materially and semiotically, packaging protected foods through the 19^{th} and 20^{th} centuries, increasingly streamlined production and transport, and allowed businesses to attach certain meanings to a product. Case studies demonstrate how food safety knowledges shifted, particularly in introducing changed sensory regimes and new food safety fears.

Emerging knowledges of germs and nutrition were not only scientific, but cultural too; utilised to reinforce social hierarchies of class, race and gender in the 20^{th} century. Food safety was increasingly institutionalised through the implementation of regulations, manifesting in new food authorities, and in educational discourses and interventions. Commercially driven information was represented as objective scientific knowledge, and brands were framed as a guarantee of safety as companies sought trust and repeat sales. The study concludes by examining technologies of cold. If we accept cold technologies as a natural progression of food safety, then we miss critical elements of their development and cease to see them as the construction of capitalist concerns. Rather than necessities, ice and refrigeration were long perceived as luxuries in Australia.

The temperature of our refrigerators, the taste of our beer, and our breakfast choices are all socially produced and have histories deeply embedded in food safety. As a critical feature of daily life for people everywhere, food safety is more than its science and more than the physical experience of compromised food. Food safety shapes, and is shaped by, the lived experience of people everywhere, every day.

I wish to acknowledge I live and study on the unceded lands of *lutruwita*, and pay my respects to the muwinina and palawa/pakana peoples, past, present and future.

A Note on Nomenclature

Where possible, I have attempted to use the cultural-linguistic group name to identify the continent's original inhabitants, following Zane Ma Rhea and other scholars' work to 'unthink colonization in the language' we use.[1] Palawa/ Pakana are collective names for the 8–12 cultural-linguistic groups of Indigenous Tasmanians.[2] Recognising colonial accounts to be partial and/or flawed, cultural-linguistic group names from these sources have been cross-referenced with geographical locations and current sources, such as the AIATSIS Map of Indigenous Australia.[3] For the sake of clarity and flow, 'Indigenous' is used for Australian Indigenous peoples hereafter.[4] 'Locals' has also been used. Quotes follow original nomenclature; 'Indigenous' is always capitalised when discussing people, and the term is not used for endemic or *endogenous* flora or fauna.

Unless otherwise stated, current names of places are used also for clarity, rather than historical names. For instance, the Northern Territory was part of South Australia from 1863 until 1911; Tasmania is used rather than Van Diemen's Land. References follow the stated names of places on historical documents such as legislation.

[1] Zane Ma Rhea, *Frontiers of Taste: Food Sovereignty, Sustainability, and Indigenous-Settler Relations in Australia* (Singapore: Springer, 2017), 6-7.
[2] Zoe Rimmer and Theresa Sainty, "Palawa Kani: Expressing the Power of Language in Art and the Museum Context," *Artlink* 40, no. 2 (2020): 32-35.
[3] David Horton, "The AIATSIS Map of Indigenous Australia".
[4] Ma Rhea, *Frontiers*, 6-7.

Introduction

The people of colonial Hobart stopped eating fish in the autumn of 1850. Against this locally abundant 'hitherto favourite supply of food' now prevailed a prejudice, according to the *Colonial Times*: 'an impression that causes exist or have existed to affect their safety in using fish at all'.[1] What had begun as an outcry in Tasmanian newspapers against a 'slave ship' anchored in local waters, quickly became a food safety issue.[2] On 16 April, the newspaper related the arrival of the *Lady Montagu* which had departed Canton, China some months previous, 'with an entire cargo of men, called Chinese Hill Coolies'.[3] Bound for Lima, the men began dying, first from 'a sort of despair' and suicide, and then from disease. 'Putrid' fish given to the men caused dysentery, and by the time the 'The Pestilent Ship' had arrived in Derwent Estuary, 194 of the 503 men aboard had died. Port authorities quarantined the vessel until medical inspections took place; after declaring the disease 'NOT contagious', ship officers were permitted ashore.

The labour contracts of those onboard were discussed by several local newspapers, with one questioning 'if this is not a specimen of the slave trade transferred from the African to the Asiatic shore, we know not what to call it'.[4] In paternalistic and raced language, the newspapers condemned the treatment of the men – 'scarcely intelligent human beings...taken from a state of primitive simplicity' – 'it is an appalling circumstance, we are sorry it is the British flag that protects this covert slave trade'. Local representatives of the British government were called on to act, and outrage expressed at the 'cupidity' of commercial interests that participated in the trade of food and goods produced by the slave labour of such men.[5]

In the weeks that followed, the episode was reported across the Australian colonies, and others added their voices to the outrage, calling for intervention to free the indentured

[1] *Colonial Times,* 10 May 1850, 1.
[2] Tasmania was then Van Diemen's Land.
[3] *Colonial Times,* 16 April 1850, 2; *Colonial Times*, 30 April 1850, 2.
[4] The contracts were for five years at 12 pounds a year. *Colonial Times,* 16 April 1850, 2.
[5] Ibid.

men, and posing broader questions about the nature of labour and punishment.[6] The lack of action by the government, said the *Hobart Town Britannia*, was 'monstrous and abominable'.[7] 'The Tyrannical and Obnoxious Slaver' hosted 'the most repulsive and outrageous coercion which human cruelty or human turpitude can devise'; 'constant flogging' of men was perpetrated without the permission of a British consul, protested the *Hobarton Guardian*.[8] The very identity and morality of the colonists was at stake: 'British justice, British honor, British feeling, demand that this course of things should cease'.[9] But when the ship sailed on the 29th of April, without intervention, the episode did not end there for the people of Hobart.[10] Bodies of dead Chinese men had been disposed of in the Derwent Estuary, with one washing ashore to the east of Hobart, 'half devoured' by sea creatures.[11]

On 10 May, a notice from 'The Fishermen of the Derwent' appeared on the front page of the *Colonial Times*. They claimed they had been 'deprived of their means of living' by the release of a coroner's report in which the recent death of a woman, Margaret Lock, had been attributed to 'the effect of eating fish'. The fishermen disputed this statement, clarifying that the woman, 'fell a victim to eating CHEAP, and consequently BAD fish': it had been bought 'late at night from some of the many stands which sell stale fish...that which cannot be sold during the day', from 'unprincipled persons who vend bad and unwholesome food'. Thus, it was not justified to condemn 'the whole finny race'.[12] 'An impression now prevails', a *Colonial Times* editorial explained, 'that the fish actually alive in the river are tainted, by having had access to the bodies of the unfortunate Coolies that were thrown overboard from the slave ship'.[13] Circumstances had coalesced to generate a fear and avoidance of local fish so powerful that local livelihoods were impacted. The fish consumed by Lock, according to this logic, had eaten the diseased bodies of the Chinese men thrown into the Derwent Estuary. In turn, the slave had likely died from eating 'putrid' fish, caught and processed thousands of miles away. The fish of the Derwent then, were contaminated by a slave trade that connected people, places and ideas in unexpected and affective ways.

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[6] *Argus*, 7 May 1850, 2*; Moreton Bay Courier*, 11 May 1850, 2; *Sydney Morning Herald*, 14 May 1850, 2*; Shipping Gazette*, 18 May 1850, 142; *South Australian Gazette*, 18 May 1850, 3.
[7] *Hobart Town Britannia*, 2 May 1850, 2.
[8] *Hobarton Guardian*, 1 May 1850, 2.
[9] Ibid.
[10] *Colonial Times*, 30 April 1850, 2.
[11] *Courier*, 1 May 1850, 2.
[12] *Colonial Times,* 10 May 1850, 1.
[13] Ibid., 2.

The public avoidance of fish around this 1850 incident locates this study in an imperial space, operating within an international trade network. In this episode, a number of concerns about food safety – in various guises – are evident. It demonstrates a growing idea in the 19th century that the state had a role of responsibility to its citizens, particularly in ensuring a safe food supply and in protecting commerce. The *Colonial Times* editorial encouraged fishermen to apply for financial support, 'for having been the cause of destroying their resources'. The government, it said, should have intervened and prevented the disposal of diseased bodies in local waters.[14] It highlights the tension between official, scientific advice and popular beliefs: while danger of contagion may not have been proven, it was no less powerful in generating ideas and motivating Hobartians to abstain from fish. It was 'of utmost seriousness' to those involved in 1850, and so it is treated as such in order to understand historical constructions of food safety.[15] Food safety in Australia was produced and operated woven in a network of international and local conditions, discourses, peoples and goods.

The ideas, practices and material artefacts of food safety have long and telling histories. Food scares are revealing of what cultures consider acceptable and unacceptable. People manage food safety interests everyday. Failures can have drastic implications for individuals, communities, businesses and relations between countries. Food poisoning affects millions of individuals globally: it costs lives, money and health.[16] Scares regularly punctuate the press, reflecting anxieties over the most basic of human needs. I argue that food safety is cultural and contingent, shifting in time and differing between places and peoples. While often understood as natural and unchanging, this study shows food safety to be contingent and disputed. This thesis examines the various ways understandings of food safety have manifested in discourses, material artifacts, structures and practises in Australian history. Food safety shines an original and revealing light on Australian culture. This thesis works to unpack what food safety is. In using a cultural frame, it offers new ways to think about food safety, making an important contribution to food history and food studies more broadly.

[14] Ibid.
[15] Following Ken Albala, *Eating Right in the Renaissance* (Berkeley: University of California Press, 2002).
[16] In Australia, there are 5.4 million cases of food-borne illness a year, costing AUD$1.2 Billion. OzFoodNet Working Group, "Monitoring the Incidence and Causes of Disease Potentially Transmitted by Food in Australia: Annual Report of The OzFoodNet, 2010," 36 No. 3 (2012).

Locating Food Safety: Methodology

This thesis is structured temporally and thematically into overlapping time periods, working from the beginnings of colonial contact and print culture in Australia in the late 18th century through to the 1960s via a series of case studies exemplifying themes and key arguments. This expansive time frame allows us to see the emergence of food safety trends, to observe that food safety changes, and how these changes occur. I ask: how have people feared getting sick from food, and how have these fears been managed? Have popular understandings followed the science of food safety? How have ideas of food safety been constructed and communicated? Who defines what safe food is, and who determines regimes of food safety? How has food safety manifested discursively, in practices, and materially? How has food safety changed over time? And, how have ideas of food safety informed what Australians eat, and what can this tell us about Australian culture?

Using a cultural history frame, this study goes beyond the experience and prevention of physical illness because food safety is much more than that. Further, people's beliefs and actions often diverge significantly from the science. As Marion Nestle explains, 'safety is relative; it is not an inherent biological characteristic of a food…we can define a safe food as one that does not exceed an *acceptable* level of risk'.[17] There is no simply binary of safe or unsafe: safety is relative and varying. I am interested in why and how we choose to eat – or not eat – what we do. I am interested in the anxieties people have around food, and how these concerns are managed. Safety is a useful and telling lens to make sense of the cultural work performed when we categorise food as safe or unsafe. Because, in the words of Aaron Bobrow-Strain, 'we need a vision of food safety aware of its own social collusions and attentive, first and foremost, to the complex power relations flowing through our food system'.[18]

Australian food culture is studied in a novel way in this thesis, showing concerns over the safety of comestibles to have played a critical role in our food culture's continuing evolution. Food safety has been examined in various ways in different global sites, but not in the Australian context. This is not a story of Australian exceptionalism; it is both like and unlike other sites, but the similarities and differences are revealing. The study of food safety connects Australia to the British Empire and beyond, showing webs of anxieties and deceits.

[17] Marion Nestle, *Safe Food: The Politics of Food Safety* (Berkeley: University of California Press, 2003 reprint 2010), 16.
[18] Aaron Bobrow-Strain, *White Bread: A Social History of the Store-Bought Loaf* (Boston: Beacon Press, 2012), 50.

It shows food safety in Australia to be the product of global anxieties and discourses, *and* local conditions. Food safety in Australia simultaneously shaped and was shaped by the history of the nation.

The thesis explores relationships between individuals, private organisations, communities and governments in the production and dissemination of knowledge. I show how food safety manifests in ways much broader than previously thought; that many apparently disparate discourses around food are in fact grounded in food safety, and conversely, that many discourses of food safety are in fact grounded in culture and the active delineation of culture. The thesis scrutinises consumption practices and choices which connect individuals to, and underpin, large historical forces and processes, such as imperialism, industrialisation and capitalism, as well as ideas of race, class and gender identities, and the construction of national narratives.

'The things that we eat and consider edible', Jaclyn Rohel has written, 'are products of particular histories, technologies of power, and institutions of knowledge'.[19] For Helen Zoe Veit, the study of food in history 'forces us to confront some of our most basic human beliefs about what is normal, what is right, what is disgusting, and what is natural'. Here we can insert 'safety' after food: 'because food can seem like an intimately familiar–even a transhistoricaltopic, putting food in historical context underlines the fragility of any casual assumptions about the beliefs and motivations of people in the past'.[20] Food safety has histories, and this thesis seeks to explore these. I follow the approach of Allen S. Weiss in asking what it means for a dish to appear at a certain time and place, and extend the question out, asking what does it mean for a piece of food safety advice, a technology, or scandal to occur in a specific moment of history?[21]

Ideas of 'good', 'tasty' or 'safe' food are imbued with ideas of purity, boundaries and control. They are connected to particular ontologies which 'fix the world into particular categories or "essences." And such categories then become naturalised'.[22] Seemingly innate features, practices and concepts of everyday life have been shown to have been social constructs: the products of particular historical processes. Roland Barthes sought to

[19] Jaclyn Rohel, "Introduction: Genealogies of Edibility in Global Culture," *Global Food History* 3, no. 2 (2017): 105-10.
[20] Helen Zoe Veit, *Modern Food, Moral Food: Self-Control, Science, and the Rise of Modern American Eating in the Early Twentieth Century* (Chapel Hill: University of North Carolina Press, 2013), 10.
[21] Allen S. Weiss, "Authenticity." *Gastronomica* 11, no. 4 (2011): 74-7.
[22] E. Melanie DuPuis, *Dangerous Digestion: The Politics of American Dietary Advice* (Berkeley: University of California Press, 2015), 6.

deconstruct the cultural work, or 'ideological abuses', such discourses perform.[23] Much of this study is concerned with the mental shortcuts and leaps we make to help us make sense of the world and the safety of the food we eat. We look for signs and cues that relieve us of the work of thoroughly assessing what is safe, good and appropriate to eat. To know every aspect of the food we eat – what it is, where it comes from, who grew it, processed it, transported it, sold it, and so forth – is impossible. We thus, knowingly or not, look for shortcuts to help us make these relentless decisions.

For some consumers, these shortcuts are 'trustmarks', such as brands or certifying bodies, used in advertising a food. To use contemporary examples, safe trustmarks could perhaps be ethical (say Patagonia or Fairtrade), religious (Halal or Kosher), health (Heart Foundation Tick), or a combination (say, NASAA Organics, ethics and health).[24] Words may be cues for other consumers: Australian, natural, fresh, organic, paleo, or fodmap. Materialities and technologies might also help: tins may say danger to some; food contained within plastic may raise issues of hygiene or unsustainability, refrigerated foods may lack freshness. We might out-source our decisions to shops – wine brought from this shop must be ethical and sustainable if *they* sell it. Or purchasing a vegetable box from a local organisation means we are buying local, fresh, healthy and sustainable. These mental leaps are perhaps necessary, but we need to be able to understand the reasons and implications for these decisions, and the commercial intent that works to shape meanings around the foods we eat.

This thesis is a study of representations and discourses examining popular knowledges and norms. Food safety concerns are often not named as 'food safety'. This research follows scholars such as E. Melanie DuPuis, who characterises her work as 'normative', unpacking the history of 'normal' eating, and asking who gets to define what 'normal' and 'safe' foods are.[25] The research recognises, of course, that there was no single or monolithic Australian culture, nor did people 'dumbly accept prescriptive literature'.[26] As Peter Scholliers has put it, 'people do not just experience these influences' and changes, 'they co-create them by their expectation, language and expenditures'.[27] Australians

[23] Roland Barthes, *Mythologies*, trans. Annette Lavers (London: Vintage, 1957, reprint 2000), 11; Roland Barthes, "The Discourse of History," in *The Postmodern History Reader,* ed. Keith Jenkins (London: Routledge, 1997), 120-3.
[24] Johan Fischer, "Branding Halal: A Photographic Essay on Global Muslim Markets," *Anthropology Today* 28, no. 4 (2012): 18-21.
[25] DuPuis, *Dangerous Digestion*, x.
[26] Kristin L. Hoganson, *Consumers' Imperium: The Global Production of American Domesticity, 1865-1920* (Chapel Hill: University of North Carolina Press, 2007), 8.
[27] Peter Scholliers, "Novelty and Tradition: The New Landscape for Gastronomy," in *Food: The History of Taste*, ed. Paul Freedman (Berkeley: University of California, 2007), 334.

were 'consomacteurs', to use Alexia Moyer's phrase, critical in producing, interpreting or rejecting food safety knowledges and practices.[28] Discourse, as a concept, is used broadly in this thesis, describing the body of information around a subject, even when it is not explicitly named as such.

In Michel Foucault's formulation, power and knowledge are deeply connected, and generated and expressed through discourse.[29] Prescriptive literature (as in the food safety advice utilised here) Ken Albala has said, should be read as such, 'taken as an ideal aspiration', rather than an actual practice or experience. But, as he continued, 'the ideal is in many ways more interesting than a simple record of what people ate because it encapsulates everything a culture values'.[30] I follow scholars such as Elaine Stratford, who has pointed out, 'how problematic it is to assume that actions trump ideas, concerns or aspirations. Thinking, writing, and reading *are* acts, and matching ideas and idealizations against real domestic activities may be a fruitful labour but should not be seen as compulsory'.[31] Further, as Eileen Cleere argued, 'cultural change emanates from the strength of certain discourses…but also from the dynamic, and unpredictable collaborations among discourses'.[32]

Sources

The focus of this study is on popular understandings, and thus popular media forms the body of evidence. Following the evidence found in Australian textual sources, I began by looking broadly at historical texts, paying attention to discursive representations of food. This thesis draws on a wide range of sources, varied in kind and date. I scrutinised the textual accounts of those implicated in the British Imperial project of settling the Australian continent: British explorers, government officials and settlers. While inherently problematic, these accounts allow the scrutiny of European perspectives and ideologies, and hint at Indigenous Australian experiences. These texts, as Foucault reminds us, are sites that produce power.

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[28] Alexia Moyer, "'All Kinds of Dirty': Supermarkets, Markets, and Shifting Cultures of Clean," *Cuizine* 2, no. 1 (2009).
[29] Michel Foucault, *The History of Sexuality. Vol. 1: The Will to Knowledge.* Trans. Robert Hurley (London: Penguin, 1976, reprint 1998), 11, 92-7; Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977* (Brighton, Harvester Press, 1980).
[30] Albala, *Eating*, 4.
[31] Elaine Stratford, *Home, Nature, and the Feminine Ideal: Geographies of the Interior and of Empire* (London: Rowman & Littlefield International 2019), 6; Margaret Dorey, "Unwholesome for Man's Body?: Concerns About Food Quality and Regulation in London c1600 – c1740" (PhD thesis: University of Western Australia, 2011), 18-19.
[32] Eileen Cleere, *The Sanitary Arts: Aesthetic Culture and the Victorian Cleanliness Campaigns* (Columbus: Ohio State University Press, 2014), 12.

It is critical to unpack these discourses as they informed and reinforced power and racial hierarchies into the future. Rupert Gerritsen has described the 'paradigm blindness' that ensured Australian Indigenous agriculture was overlooked and discounted by earlier scholars: in the repetition of narratives, historical sources and subsequent scholars made 'over generalisations', ignoring regional differences, 'in spite of contradictory evidence', and sometimes, even within their own observations.[33] I focus on personal journals and travelogues above ethnographic-style accounts of Australian Indigenous cultures, as the former is more about particular moments and encounters. Because they are less directly concerned with food than with the surrounding events, I believe the representations of food and food practices provide valuable insights into agency and subtle expressions of power.

Print culture informed and shaped society.[34] This is particularly true of 19th century Australia where printed material provided vital communications between government and people and worked to establish markets and demands for commodities.[35] Stuart Macintyre has argued the 'power of the press' was 'unmistakable' in colonial Australia.[36] As a space of public forums, newspapers united large communities of readers, 'connected through a shared imaginary world, as represented in that newspaper', remembering, of course, the capital and individual motives that underpinned publication.[37] They were 'part of an imperial cultural space', and later hosted nationalist debates.[38] From the mid-19th century, periodicals became increasingly accessible in price, distribution and content.[39] Newspaper readerships extended through class divides in the Australian colonies, with 'almost universal literacy by the 1880s'; print culture rapidly expanded during the 1890s.[40] By the beginning of the new century, designated women's columns were established in many newspapers. Featuring prescriptive

[33] Rupert Gerritsen, *Australia and the Origins of Agriculture* (Oxford: British Archaeological Reports Limited, 2008), 55-7, 161-65.
[34] Robert Darnton, *The Great Cat Massacre and Other Episodes in French Cultural History* (New York: Basic Books, 1984); Ted Striphas, *The Late Age of Print: Everyday Book Culture from Consumerism to Control* (New York: Columbia University Press, 2009).
[35] Henry Mayer, *The Press in Australia* (Melbourne: Lansdowne Press, 1964), 16; John Arnold, "Newspapers and Daily Reading," in *A History of the Book in Australia 1891-1945: A National Culture in a Colonised Market*, ed. John Arnold and Martyn Lyons, (St Lucia, Qld: University of Queensland Press, 2001), 255.
[36] Stuart Macintyre, *A Concise History of Australia.* fourth ed. (Port Melbourne: Cambridge University Press, 1999 reprint 2016), 123.
[37] Ann Curthoys, "Histories of Journalism," in *Journalism: Print, Politics and Popular Culture*, ed. Ann Curthoys and Julianne Schultz (St. Lucia, Qld: University of Queensland Press, 1999), 1; Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1983); Robin Jeffrey, "Testing Concepts About Print, Newspapers, and Politics: Kerala, India, 1800–2009," *The Journal of Asian Studies* 68, no. 2 (2009): 465-89.
[38] Martyn Lyons, "Britain's Largest Export Market," in *History of the Book*, 22.
[39] Colin Bannerman, *The People's Cuisine: Origins of Australia's Cookery* (Fremantle: Vivid Publishing, 2019), 125-99.
[40] Deana Heath, "Literary Censorship, Imperialism and the White Australia Policy," in *History of the Book,* 72.

domestic advice aimed at 'an imagined readership of middle-class housewives', these spaces also included readers' letters, asking questions and sharing hints and recipes.[41] Ideas from overseas fed local knowledge, with articles reprinted verbatim from other newspapers and journals across the world.[42] Articles, editorials, letters, market reports and advertisements in the press were discursive practices that constructed meanings of food safety.

Advertising, a distinct form of print culture, offers a rich source for historical analysis. Scholars are divided as to the extent advertising is a reflection, or an agent, of societies. Advertisements are ultimately intended to sell commodities or ideas. While only one of many cultural influences, their growing ubiquity and pervasiveness from the late 19th century is notable: David Ciarlo suggests advertisements had far greater reach and dissemination than 'any institution'.[43] Anne McClintock argued commercial interests found 'that by manipulating the semiotic space around the commodity, the unconscious as a public space could also be manipulated'.[44] These signs 'form part of the process through which... ideologies are produced', and can suggest the preoccupations and ideals of their social contexts.[45] Jackson Lears tells us that advertisements are 'more than static symbols', which work to 'sanction or subvert existing structures of economic and political power'.[46] Although scholars such as Robert Crawford and Jackie Dickenson have looked at historical advertising in the Australian context, Susie Khamis's work – and this study's – shows there is more to be learnt from examinations of commercial promotions in Australia.[47] This thesis does not look

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[41] Andrew Junor, "The Meat and Veg Complex: Food and National Progress in Australian Print Media, 1930–1965," *History Australia* 13, no. 4 (2016): 477.
[42] Nicole Tarulevicz, "Discursively Globalized: Singapore and Food Safety," *Food, Culture & Society* 23, no. 2 (2020): 193-208.
[43] David Ciarlo, *Advertising Empire: Race and Visual Culture in Imperial Germany* (London: Harvard University Press, 2011), 5, 14, 3.
[44] Anne McClintock, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (London: Routledge, 1995), 33, 62, 213.
[45] Juliann Sivulka, *Soap, Sex, and Cigarettes: A Cultural History of American Advertising* (Belmont, CA: Wadsworth, 1998); Anandi Ramamurthy, *Imperial Persuaders: Images of Africa and Asia in British Advertising* (Manchester: Manchester University Press, 2003), 1; Liz McFall, *Advertising: A Cultural Economy* (London: SAGE, 2004); Katherine J. Parkin, *Food Is Love: Food Advertising and Gender Roles in Modern America* (Philadelphia: University of Pennsylvania Press, 2006); Jessamyn Neuhaus, *Housework and Housewives in Modern American Advertising: Married to the Mop* (New York: Palgrave Macmillan, 2011); Felicity Barnes, "Bringing Another Empire Alive? The Empire Marketing Board and the Construction of Dominion Identity, 1926–33," *The Journal of Imperial and Commonwealth History* 42, no. 1 (2013): 61-85; Alana Toulin, "'Old Methods Not up to New Ways': The Strategic Use of Advertising in the Fight for Pure Food after 1906," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 461-79; Donica Belisle, "Eating Clean: Anti-Chinese Sugar Advertising and the Making of White Racial Purity in the Canadian Pacific," *Global Food History* (2020): 41-59.
[46] Jackson Lears, *Fables of Abundance: A Cultural History of Advertising in America* (New York: Basic Books, 1994), 1-13, 172-74.
[47] Robert Crawford, "Selling or Buying American Dreams?: Americanization and Australia's Interwar Advertising Industry," *Comparative American Studies*, 3.2 (2005), 213-236; Robert Crawford, *But Wait, There's More...: A History*

at the records of advertisers, instead reading the representations that people of the period would have seen, and the potential meanings that could be made from these. We do not know how people responded to specific advertising discourse, but these cultural artifacts are read alongside a range of sources embedded in a broader cultural landscape.

Periodicals with a domestic focus, such as *Australia Home Beautiful* (*AHB*; aimed at women and men), and the *Australian Women's Weekly* (*AWW*) were also important. Appearing in the first three decades of the 20th century, these enduring publications were recognised cultural mediators with popular impact. During the 1960s, for example, one in four Australian households received the *AWW*.[48] These discursive sources were part of, to use Jeffry Pilcher's term, a 'culinary infrastructure' that produced knowledges of food safety.[49] Other sources are drawn from state, commercial, and community sources, including pedagogical and prescriptive guides such as cookbooks, nutrition and health manuals, legislation and government investigations.[50] Archival research, prematurely curtailed by the COVID-19 pandemic, nevertheless provides additional texture to the popular print media focus, as found in industry journals, market reports, commercial ephemera such as refrigerator manuals, material culture, and personal letters sharing food preservation methods. Selection of sources and periodisation are bound in this approach to research, driven by wanting to tell a broad story through granular detail, showing historical trends and moments of change.

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of Australian Advertising, 1900-2000 (Melbourne: MUP, 2008); Jackie Dickenson, "Global Advertising Histories: An Australian Perspective," *History Compass* 12, no. 4 (2014): 321-32; Susie Khamis, "'It Only Takes a Jiffy to Make': Nestlé, Australia and the Convenience of Instant Coffee," *Food, Culture & Society* 12, no. 2 (2009): 217-33; Tanja Schneider and Teresa Davis, "Advertising Food in Australia: Between Antinomies and Gastro-Anomy," *Consumption, Markets and Culture* 13, no. 1 (2010): 31-41; Juan Diego Sanín Santamaría, "Branding Australia: The Commercial Construction of Australianness," (PhD thesis: Monash University, 2015); Susie Khamis, "The Ironic Marketing of Heritage and Nostalgia: The Branding of Bushells Tea, 1983-C.1990," *Journal of Historical Research in Marketing* 8.3 (2016), 358-74; Amanda Scardamaglia, "Expanding Empire: The Unsettling Portrayal of Settler History in Australian Advertising," *Griffith Law Review* 28, no. 4 (2019): 380-405.

[48] Susan Sheridan, "Eating the Other: Food and Cultural Difference in the *Australian Women's Weekly* in the 1960s," *Journal of Intercultural Studies* 21 no.3 (2000), 320, 323.

[49] Jeffrey M. Pilcher, "Culinary Infrastructure: How Facilities and Technologies Create Value and Meaning around Food," *Global Food History* 2, no. 2 (2016): 105-31.

[50] Barbara Ketcham Wheaton, "Cookbooks as Resources for Social History," in *Food In Time and Place: The American Historical Association Companion to Food History,* ed. Paul Freedman, Ken Albala, and Joyce E. Chaplin (Berkeley: University of California Press, 2014), 276; Arjun Appardurai, "How to Make a National Cuisine: Cookbooks in Contemporary India," *Comparative Studies in Society and History* 30 no.1 (1988), 3-24; Colin Bannerman, "Recipes Come From Kitchens: Food Cultures Come From Printing Presses," in *Culinary History*, ed. A. Lynn Martin and Barbara Santich (Adelaide: East Street Publications, 2004), 107-14; Nicola Humble, *Culinary Pleasures: Cook Books and the Transformation of British Food* (London: Faber and Faber, 2005), 2-3; Henry Notaker, *The History of Cookbooks: From Kitchen to Page over Seven Centuries* (Berkeley: University of California, 2017).

Time Frame

Utilising accounts of British imperialists and colonists, the study commences with a moment of encounter between cultures in 1770. I was reluctant to begin this thesis with another account of Captain James Cook as Australian histories have long positioned Cook as the 'founder' of the continent and the starting point of 'Australian history', thus ignoring tens of thousands of years of Indigenous Australian history.[51] But I want to unpack popular narratives, and the accounts of Cook and Banks did critically shape Australia's colonisation, practically and discursively. Christopher Mayes also positions this moment as setting the tone for settler colonisation, and likewise uses it to 'unsettle' conventional histories.[52]

In seeking to establish an endpoint for my thesis, I selected 1964, the point when 94% of Australian homes were said to have had a refrigerator. The moment when refrigeration – a technology so critical to food safety – became ubiquitous, struck me as a natural endpoint. But the story is, as one might expect, more complex. The most commonly quoted 1964 date appears to have been a mistake and should read 1960, as cited in the original academic article which referenced a McNair survey.[53] The only McNair report published around this date is *A Study of Women's Magazine Audiences*, which took place in 1959 and was not a national survey but confined to the Sydney Metropolitan Area.[54] Further, the statistics regarding 'Household Characteristics' including refrigeration dealt with only households that included at least one female over 16 years.[55] A single statistic demonstrates the complicated, messy reality of repeated historical narratives, differences in understandings, and how such 'knowledge' and our food safety beliefs more broadly have specific and traceable histories. The 1960s also marks a shift to a less Anglo-dominated and more outward looking Australian culture.[56] 1964 is thus something of a palimpsest, maybe not the point when refrigeration became ubiquitous, but a moment of social and cultural change nonetheless.

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[51] Alison Bashford, "World History and the Tasman Sea," *American Historical Review* 126, no. 3 (2021): 922-48.
[52] Christopher Mayes, *Unsettling Food Politics: Agriculture, Dispossession and Sovereignty in Australia* (London: Roman and Littlefield, 2018).
[53] C. Smith, "Domestic Refrigeration & Refrigerators," Museums Victoria (2005); Jan O'Connell, "1923 First Australian domestic refrigerator," *Australian Food Timeline* (Accessed 5 December 2021); Anthony Dingle, "Electrifying the Kitchen in Interwar Victoria," *Journal of Australian Studies* 22, no. 57 (1998): 119-27.
[54] McNair Survey Pty. Ltd., *A Study of Women's Magazine Audiences* (Australia: *AWW*, 1960), 11.
[55] Ibid., 72.
[56] Tanja Luckins and Seamus O'Hanlon. *Go! Melbourne in the Sixties* (Melbourne: Melbourne Publishing Group, 2005); Michelle Arrow, *The Seventies: The Personal, the Political and the Making of Modern Australia* (Sydney: NewSouth Publishing, 2019).

Historical Background

The Australian context is different to other sites of food safety studies. Australia has a relatively small population on a large continent, initially a conglomerate of colonies seemingly remote from the Empire's metropole, yet surprisingly deeply interwoven in an international food system. The continent is described as hot, flat and dry: in national narratives, a sunburnt country of bushfires and drought. Stretching from approximately ten to forty-three degrees south of the equator, climate varies considerably, as do landscapes.[57] Colonisation took place unevenly across the continent. While Sydney and Hobart were established in 1788 and 1804, Darwin did not feature a permanent, official British settlement until 1869, and other northern and inland regions took far longer to claim and occupy.[58] Populations since colonisation have been concentrated on the south-eastern seaboard, and have been predominately urban.[59] From colonisation, Australia's population doubled itself every ten years for seven decades, from 2000 in 1790 to approximately 1.1 million in 1860.[60] In 1901, the population stood at 4 million, and by 1964, it was 11.2 million.[61]

Pre-colonisation, it is estimated that over 200 Indigenous language groups and 650 dialects existed, constituting many different cultures: there was no such thing as a 'pan-Aboriginal' culture.[62] Population estimates vary from 350 000 to one million people; 750 000 is commonly cited.[63] Early British explorers of the 17th century were preceded and accompanied by other European explorers. Well before British arrival, Macassans from southern Sulawesi visited the northern coast of Australia seasonally for several hundred years, collecting trepang, a food and medicinal resource. Exchanges and relationships were established with the local people, some of whom travelled with the visitors to their homelands.[64] Tangible and living evidence of the Macassans' visits include tamarind trees. I mention this because too often Australian Indigenous cultures are conceived of as isolated

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[57] Geoscience Australia, "Continental Extremities".
[58] Claire Lowrie, *Masters and Servants: Cultures of Empire in the Tropics* (Manchester: Manchester University Press, 2016), 16-19.
[59] Macintyre, *Concise History*, 54, 82; Two-thirds of Australians lived in urban environments by 1891. Milton J. Lewis, *The People's Health: Public Health in Australia, 1788-1950* (London: Praeger, 2003), 51-2.
[60] Graeme Davison, "Population," in *The Oxford Companion to Australian History*, ed. Davison, Graeme, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 520-2.
[61] Australian Bureau of Statistics, "Historical Population," (2019).
[62] Anna Haebich, "The Battlefields of Aboriginal History," in *Australia's History: Themes and Debates,* ed. Martyn Lyons and Penny Russell (Sydney: UNSWP, 2005), 3.
[63] Australian Bureau of Statistics, "Aboriginal and Torres Strait Islander Population," (2008).
[64] Denise Russell, "Aboriginal-Makassan Interactions in the Eighteenth and Nineteenth Centuries in Northern Australia and Contemporary Sea Rights Claims," *Australian Aboriginal Studies* 1 (2004), 3.

and unchanging, but the Macassan tamarind trees speak of earlier exchanges of food and culture.[65]

The colonisation of Australia was relatively late in global terms. The British arrived with first and second-hand knowledge of colonial encounters elsewhere that framed the invasion and colonisation of the continent. There are aspects of food that are specific to the space of settler colonialism.[66] Food constantly connects humans to the environment. No matter how detached from the source, food physically binds people to geographical space through consumption *and* in expelling waste – a food safety issue beyond the scope of this study. The planting and production of food crops by British colonists claimed and remade Indigenous Australians' food landscapes.[67] Food itself came to occupy the land. Food was, of course, present before, sustaining Indigenous Australians for thousands of years. But it was, for the most part, not recognised or deemed suitable or appropriate for European purposes. Conversely, John Conner has argued that Indigenous peoples used food gathering as 'a form of warfare', raiding farms and houses for meat, flour and vegetables, recognising the precariousness of the new arrivals' situation.[68] Now, inscribed with hoof-marks of imported animals, monocrops of wheat, fences that seek to keep out the appetites of native animals, grids of wine grapes for global export, fish-farms dotting coastlines, factories and supermarkets, settler colonialism reproduces its claim to land, its power, and its safety, with the production of food.

Industrialisation coincided with, and contributed to, expansions of global trade. Technologies were brought with colonists to Australia from an increasingly industrialised and urbanised Britain. The industrialisation of food systems and technologies was, of course, a gradual process, and one that was enabled by a confluence of factors encompassing innovations in agriculture, transportation, factory and, later, cold chain technologies and scientific knowledge of bacteria. The late 19th and early 20th centuries have been framed as the period that saw the most dramatic shifts in everyday foods.[69] Mechanisation enabled the mass production and standardisation of food products, and diminished seasonality. A

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[65] Frieda Moran, "Encounters of Food and Power in the Australian Colonial Contact Zone," in *Food and Power: Proceedings of the Oxford Symposium of Food and Cookery 2019*, ed. Mark McWilliams, (London: Prospect, 2020), 211-20; Bashford, "World History", 938-40.
[66] Tracey Banivanua Mar and Penelope Edmonds, "Introduction: Making Space in Settler Colonies," in *Making Settler Colonial Space*, (London: Palgrave Macmillan, 2010), 1-23.
[67] Mayes, *Unsettling Food Politics*, 2, 5.
[68] John Connor, *The Australian Frontier Wars, 1788-1838* (Sydney: UNSWP, 2002), 20-21.
[69] Olive R. Jones, "Commercial Foods, 1740–1820," *Historical Archaeology* 27, no. 2 (1993): 25-41.

heightened demand for food due to population growth was not only met, but exceeded; more people had access to an increasing range of foods.[70] Industrialisation was hoped to 'render the superfluities of one land available to others', as an 1858 newspaper article on 'canister food' put it.[71]

Culinary infrastructure radically changed. The breeding of plant crops for monoculture, greenhouses, canning, chemical additives and so forth allowed foods to be grown and eaten out of season. Food kept longer, and was transported across vast distances in its 'fresh' form.[72] Irrigation began to transform Australian landscapes from 1887.[73] The ability to keep produce cool, first with ice and later with refrigerated transport, was particularly critical in industrialised food systems.[74] Although commodity chains were lengthened, food processing was increasingly centralised in place and under large companies, and thus often removed from the raw ingredients' origins. Fresh meat, for example, could be consumed over increasingly large distances – not just across regions, but continents also – from where the beast was raised and killed.[75] Such dramatic changes led to anxieties. While identifying and solving many food safety problems, the science and technologies associated with industrialisation simultaneously produced new safety issues.

Primary production has been of critical importance to Australia's economy and to its sense of national identity. British colonists relied on agricultural production, and in the first half of the 20th century it became key to Australia's export economy, accounting for 70-80% of exports, and 'around a quarter of the nation's output'.[76] This economic reliance on agriculture has lessened since the 1960s, yet the iconography of the pastoralist and wheat

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70 Katherine Leonard Turner, *How the Other Half Ate: A History of Working-Class Meals at the Turn of the Century* (Berkeley: University of California Press, 2014), 28; Yves Segers, Jan Bieleman, and Erik Buyst, eds., *Exploring the Food Chain: Food Production and Food Consumption in Western Europe, 1850-1990* (Turnhout, Belgium: Brepols Publishers, 2009), 13.

71 *Sydney Morning Herald*, 25 February 1858, 2.

72 Susanne Freidberg, *Fresh: A Perishable History* (London: Belknap Press, 2009).

73 Tim Flannery, *The Future Eaters: An Ecological History of the Australasian Lands and People* (Sydney: New Holland Publishers, 1994), 357.

74 Jonathan Rees, *Refrigeration Nation: A History of Ice, Appliances, and Enterprise in America* (Baltimore: John Hopkins University Press, 2013).

75 Joshua Specht, *Red Meat Republic: A Hoof-to-Table History of How Beef Changed America* (Princeton: Princeton University Press, 2019), 191-209; Harvey Levenstein, *Revolution at the Table: The Transformation of the American Diet* (Berkeley: University of California Press, 2003), 34, 30-43; Roger Horowitz, *Putting Meat on the American Table: Taste, Technology, Transformation* (Baltimore: JHU Press, 2006), 26-42; Jeffrey M. Pilcher, *The Sausage Rebellion: Public Health, Private Enterprise and Meat in Mexico City, 1890-1917* (Albuquerque: University of New Mexico Press, 2006).

76 Susan Marguerite Chant, "A History of Local Food in Australia 1788-2015," (PhD thesis: University of Adelaide, 2016), 70; Australian Government Productivity Commission, "Trends in Australian Agriculture," (Canberra, 2005), xvii.

farmer continued to be writ large in the Australian psyche.[77] Some south-eastern Australian landscapes have physically and politically been defined by the 'squattocracy': the illegal and unplanned settlement in the 19th century of large tracts of Crown land such as Port Phillip. Those men of 'good character' acquired 'virtually free land', and became legitimised and legal landholders, forming a powerful social class of their own.[78]

From the nation-forming bonds of the 1899-1902 Boer War in South Africa, World War One consolidated Australia's masculine identity, an imaginary born of war, loyalty to Empire and mateship.[79] These international conflicts echoed the colonisation of the Australian continent through occupation of territory and violence. The bushman, digger, Anzac, 'battler', and larrikin, were promulgated and romanticised through the writings of, among others, Banjo Patterson and Henry Lawson, and in the lyrics of the official national anthem – and the unofficial anthem 'Waltzing Matilda'.[80] This thesis contributes to the work of the many scholars who have offered another way to see Australian history.

Although Australia is often held to be an egalitarian society, there are, and always has been significant disparity and social stratification.[81] Australia has not been classed identically to other sites, such as Britain, but differences have been pronounced, particularly in the 19th century. Class divisions have been bounded with the division of labour: free and unfree, with ideas of racial alterity, religion (especially Catholic versus Protestant), and with capital: those with the correct prerequisites, connections and sufficient finances received large land grants and other privileges.[82] Race too was important: the Australian colonies were Federated as an explicitly 'white' nation.[83] It was not until the 1960s that Australian Indigenous peoples were counted in the census, afforded citizenship and permitted to vote in federal and all state elections. Other government strictures also enabled governments to control the movements,

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[77] Graeme Davison, "Introduction," in *Struggle Country: The Rural Ideal in Twentieth Century Australia*, ed. Marc Brodie, and Graeme Davison (Clayton, Vic: Monash University ePress, 2005), ix.

[78] Iain Stuart, "Cultural Landscapes as an Analytical Tool: Analysing Squatting Landscapes," *Historic Environment* 13, no. 3-4 (1997): 23-4; David Denholm, "Squatting," in *The Oxford Companion to Australian History*, ed. Davison, Graeme, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 610-11.

[79] Australia was 'almost exclusively depicted as a woman', before its masculine identity was cemented as the 20th century progressed. Kate Darian-Smith, "Images of Empire: Gender and Nationhood in Australia at the Time of Federation," in *Britishness Abroad: Transnational Movements and Imperial Cultures*, ed. Kate Darian-Smith, Patricia Grimshaw, Kiera Lindsey and Stuart Mcintyre (Melbourne: Melbourne University Publications, 2007), 154, 158.

[80] Australian Government," Australian National Anthem; Melissa Harper and Richard White, ed. *Symbols of Australia: Uncovering the Stories Behind the Myths* (Sydney: UNSWP, 2010), 1-12.

[81] Stuart Macintyre and Anna Clark, *The History Wars* (Melbourne: MUP, 2013), 1-13.

[82] Sean Scalmer, "Imagining Class: Intellectuals in the 1950s and Insights into the Present," *Overland*, no. 146 (1997): 21-25.

[83] Marilyn Lake and Henry Reynolds, *Drawing the Global Colour Line: White Men's Countries and the Question of Racial Equality* (Melbourne: MUP, 2008)

bodies and lives of Indigenous peoples.[84] White women received the vote in the decade after Federation.[85] A significant gender imbalance across ethnic groups – largely reflecting penal-settlement origins and male immigration – gradually lessened.[86] Food can be read as the cultural and material manifestation of social processes, and reflective of environments.[87] That billy tea and vegemite are national symbols is no accident: these foods have specific and telling histories.

Waves of migration from different international regions brought varied cultures to Australia, remembering, of course, that the Australian colonies were earlier and more culturally diverse than often conceived.[88] After post-World War Two, mass migration brought flows of non-British European peoples. From the 1950s, the nation heightened engagement with its geographical neighbours through schemes such as the Colombo Plan. Into the 1960s, the Vietnam War stimulated associated migrations, and later tourism to Asia and the Pacific became increasingly common.[89] While these events are often used as defining markers of historical periods, this thesis provides opportunities for alternative periodisation of Australian history, in which food safety is a lens through which we can see both the broad and common historical sweeps, and complicated engagements with trade, goods, peoples, and technology. Further, food, through the global pantry, was a site of cultural interaction beyond conventional pairings of Indigenous-British, British-European, Australian-Asian. The case study chapters of this thesis connect to broader themes, making contributions to understandings of global connections and local conditions. These themes include the place of food in cultural encounters, the rise of branding and advertising, distance and transport, material technologies of food preservation, environment, public health and nutrition from the late 19th century onwards, and, of course, food regulation.

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[84] John Chesterman and Brian Galligan, *Citizens without Rights: Aborigines and Australian Citizenship* (Cambridge: Cambridge University Press, 1997); Shurlee Swain, Julie Evans, David Phillips, and Patricia Grimshaw. *Equal Subjects, Unequal Rights: Indigenous People in British Settler Colonies, 1830-1910* (Manchester: Manchester University Press, 2003), 134-153.
[85] Darian-Smith, "Images of Empire", 157.
[86] Anne Summers (1975), *Damned Whores and God's Police: The Colonisation of Women in Australia* (Sydney: NewSouth, 1994), 410; Kate Bagnall, "Rewriting the History of Chinese Families in Nineteenth-Century Australia," *Australian Historical Studies* 42, no. 1 (2011): 65.
[87] Megan Edwards, "Virginia Ham: The Local and Global of Colonial Foodways," *Food and Foodways* 19, no. 1 (2011): 60.
[88] Kristyn Harman, *Aboriginal Convicts: Australian, Khoisan and Māori Exiles* (Sydney: UNSWP, 2012).
[89] Jean Duruz, "From Malacca to Adelaide...: Fragments Toward a Biography of Cooking, Yearning and Laksa," in *Food and Foodways in Asia: Resource, Tradition and Cooking*, ed. Sidney C. H. Cheung and Tan Chee-Beng (London: Routledge, 2007), 191.

Australia Food Studies

The study of food safety builds on, connects with and contributes to Australian food studies more broadly. Ethics and sustainability are strong themes of the field, with meat and its consumption receiving particular attention from Jane Dixon, Rachel Ankeny, and Kelly Donati.[90] Works from Michelle Phillipov, Fred Gale, and Alana Mann have analysed communication and representation, including political regulation of food.[91] Legal studies focusing on food fraud and food standards from Janine Currl for example, speak to my interest in codified expressions of food safety.[92] Food is the vehicle through which Elspeth Probyn explores other issues, such as intersections between bodies, identities, sex and the alimentary, and human relationships with the ocean.[93] Most recently, she has aimed 'to get at the thickness, the complex and deeply unequal distribution of matter in which we are always differently related', discussing the effects of a 'white American middle-class' taste for bland, white fish, born in the early 20th century of commercial interests.[94] Although these scholars focus on contemporary contexts, themes of food choice, media depictions, government intervention and identity connect with this thesis.

While histories of Australian food culture have been dominated by culinary histories and searches for a national cuisine – reflecting questions of identity – the field, in the words of Cecilia Leong-Salobir, has been 'spreading out'.[95] Foundational national histories have tended to be aimed at general readerships: Barbara Santich's work has attempted to redeem the nation's culinary preferences from the scathing legacy of Michael Symon's *One Continuous Picnic*, and Paul Van Reyk has produced a more recent history emphasising

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[90] Jane Dixon, *The Changing Chicken: Chooks, Cooks and Culinary Culture* (Sydney: UNSWP, 2002); Kelly Donati, "The Pleasure of Diversity in Slow Food's Ethics of Taste," *Food, Culture & Society* 8, no. 2 (2005): 227-42; Rachel A. Ankeny, "The Moral Economy of Red Meat in Australia," in *Food and Morality: Proceedings of the Oxford Symposium on Food and Cookery*, ed. Susan R. Friedland (Totnes, Devon: Prospect Books, 2007), 20-28; : Kerry Wilkinson, Beverly Muhlhausler, Crystal Motley, Anna Crump, Heather Bray, and Rachel Ankeny, "Australian Consumers' Awareness and Acceptance of Insects as Food," *Insects* 9, no. 2 (2018): 1-11.

[91] Alana Mann, "Communication as Resistance in Food Politics," *The Political Economy of Communication* 6, no. 1 (2018): 36-58; Michelle Phillipov and Fred Gale, "Celebrity Chefs, Consumption Politics and Food Labelling: Exploring the Contradictions," *Journal of Consumer Culture* 20, no. 4 (2020): 400-18.

[92] Janine Maree Curll, "The Significance of Food Fraud in Australia," *Australian Business Law Review* 43, no. 4 (2015): 270-302; Jenny Claire Kaldor, "What's Wrong with Mandatory Nutrient Limits? Rethinking Dietary Freedom, Free Markets and Food Reformulation," *Public Health Ethics* 11, no. 1 (2018): 54-68; Janine Maree Curll, "Food Fraud and the Tools for Combat: Food Labelling Regulation and the Protection of Food Safety and Public Health in Australia," (PhD thesis: Monash University, 2019).

[93] Elspeth Probyn, *Carnal Appetites: Foodsexidentities* (London: Routledge, 2003); Elspeth Probyn. *Eating the Ocean* (Duke University Press, 2016).

[94] Elspeth Probyn, "When Fish Is Meat: Transnational Entanglements," in *Meat!*, ed. Sushmita Chatterjee and Banu Subramaniam (Durham, North Carolina: Duke University Press, 2021) 17-38.

[95] Cecilia Leong-Salobir, "Spreading Out: A Review of Food History/ Studies in Australia and New Zealand, 2017-19," *Food and History* 18, no. 1-2 (2020): 241-49.

Australian Indigenous people's underappreciated role in within the production of food and food culture.[96]

This work takes up the challenge set by Zane Ma Rhea for scholars to delve deeper into how food in colonial encounters contributed to the settler-colonial project. Robert Foster, Timothy Rowse, and Peggy Brock, anticipated this call, showing rationing to be a tool of colonial governance, and Wilson et al. have highlighted the importance of accurate narratives of historical Indigenous food practices to contemporary nutritional outcomes.[97] Studies from, for example, Christopher Mayes and Shannon Woodcock have described the role of food production in the exercising of sovereignty, while others have looked at hunger and food security, and conflict over food resources.[98] The extent to which Europeans consumed Indigenous Australian foods has been debated, with scholars now agreeing experimentation and appropriation occurred more often and in differing ways than popularly conceived.[99] Cultural encounters and Indigenous-British relations, more broadly than food, have been explored by Australian scholars, most famously by Henry Reynolds who argued the contact was more complex and varied than conventionally represented.[100] This thesis speaks to

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[96] Barbara Santich, *Bold Palates: Australia's Gastronomic Heritage* (Kent Town: Wakefield Press, 2012); Paul van Reyk, *True to the Land: A History of Food in Australia* (London: Reaktion Books, 2021); See also: Anne Gollan, *The Tradition of Australian Cooking* (Canberra: Australian National University Press, 1978); Michael Symons, *One Continuous Picnic: A History of Eating in Australia* (Adelaide: Duck Press, 1982); Richard Beckett, *Convicted Tastes: Food in Australia* (Sydney: Allen and Unwin, 1984); Colin Bannerman, *Acquired Tastes: Celebrating Australia's Culinary History* (Canberra: National Library of Australian, 1998); Charmaine O'Brian, *The Colonial Kitchen: Australia 1788-1901* (London: Rowman and Littlefield, 2016); John Newton, *The Getting of Garlic: Australian Food from Bland to Brilliant, with Recipes Old and New* (Sydney: NewSouth Publishing, 2018).

[97] Tim Rowse, *White Flour, White Power: From Rations to Citizenship in Central Australia* (Cambridge: Cambridge University Press, 1998); Robert Foster, "Rations, Coexistence, and the Colonisation of Aboriginal Labour in the South Australian Pastoral Industry, 1860–1911," *Aboriginal History* 24 (2000): 1-26; Peggy Brock "Two-Way Food: Bush Tucker and Whitefella's Food," *Journal of Australian Studies* 32, no. 1 (2008): 19-32; Annabelle Wilson, et. al., "Resetting the Narrative in Australian Aboriginal and Torres Strait Islander Nutrition Research," *Current Developments in Nutrition* 4, no. 5 (2020): 1-5

[98] Shannon Woodcock, "Biting the Hand That Feeds: Australian Cuisine and Aboriginal Sovereignty in the Great Sandy Strait," *Feminist Review* 114, no. 1 (2016): 33-47; Angela Heuzenroeder, "European Food Meets Aboriginal Food: To What Extent Did Aboriginal Food Cultures Influence Early German-Speaking Settlers in South Australia?," *Limina* 12 (2006): 30-9; Julie McIntyre, "'Bannelong Sat Down to Dinner with Governor Phillip, and Drank His Wine and Coffee as Usual' Aborigines and Wine in Early New South Wales," *History Australia* 5, no. 2 (2008): 39.1-39.14; Greg Blyton, "Hungry Times: Food as a Source of Conflict between Aboriginal People and British Colonists in New South Wales 1804–1846," *AlterNative: An International Journal of Indigenous Peoples* 11, no. 3 (2015): 299-310; Tamara J. Levi, *Food, Control, and Resistance: Rationing of Indigenous Peoples in the United States and South Australia* (Lubbock: Texas Tech University Press, 2016).

[99] Barbara Santich, "Nineteenth-Century Experimentation and the Role of Indigenous Foods in Australian Food Culture," *Australian Humanities Review* 51 (2011): 65-78; Charlotte Craw, "Gustatory Redemption?: Colonial Appetites, Historical Tales and the Contemporary Consumption of Australian Native Foods," *International journal of Critical Indigenous Studies* 5, no. 2 (2012): 13-24.

[100] Henry Reynolds, *The Other Side of the Frontier: Aboriginal Resistance to the European Invasion of Australia* (Sydney: UNSWP, 2006), 81; Richard Broome, *Aboriginal Australians: Black responses to White Dominance 1788–2001* (Crow's Nest, NSW: Allen and Unwin, 2002), 42; John Gascoigne, "Cross-Cultural Knowledge Exchange in the

nuanced studies of food and taste in early colonial contexts, including those from Nancy Cushing and Jacqui Newling.[101] Archaeological works have developed our understandings of material food cultures.[102] Agriculture, food production and labour have received attention, and my focus on the cultural aspects of preservation technologies, such as refrigeration and canning, has built on Keith Farrer's work on food science.[103]

Australian food histories have been driven by sources. In granular detail, Colin Bannerman has examined the construction of Australia culinary culture through print media.[104] Cookbooks have been recognised as valuable historical evidence: Donna Lee Brian and Adele Wessell have argued these prescriptive texts can shed light on everyday lived experience and the creation and reproduction of communities.[105] The *AWW* is the focus of Lauren Samuelsson's recent work, exploring the role of the popular woman's magazine in Australian food culture.[106] Significant to this study are women's and feminist histories,

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Age of the Enlightenment," in *Indigenous Intermediaries: New Perspectives on Exploration Archives*, ed. Shino Konishi, Maria Nugent and Tiffany Shellam (Canberra: ANU Press, 2015), 131-46.

[101] Nancy Cushing "The Mysterious Disappearance of Maize: Food Compulsion and Food Choice in Colonial New South Wales," *Food, Culture & Society* 10, no. 1 (2007): 109-30; Nancy Cushing, "The Interspecies Entanglements of Eating Kangaroo, 1788–1850," *History Australia* 13, no. 2 (2016): 286-99; Jacqueline Newling, "First Fleet Fare: Food & Food Security in the Founding of Colonial New South Wales, 1788-1790," (PhD thesis: University of Sydney, 2021).

[102] Grace Karskens, *The Rocks: Life in Early Sydney* (Melbourne: MUP, 1997); Susan Lawrence, "Foodways on Two Colonial Whaling Stations: Archaeological and Historical Evidence for Diet in Nineteenth-Century Tasmania," *Journal of the Royal Australian Historical Society* 87, no. 2 (2001): 209-29; Iain Stuart, "Bottles for Jam? An Example of Recycling from a Post-Contact Archaeological Site," *Australian Archaeology* 36, no. 1 (1993): 17-21.

[103] Andrea Gaynor, *Harvest of the Suburbs: An Environmental History of Growing Food in Australian Cities* (Perth: University of Western Australia, 2006); Bill Gammage, *The Biggest Estate on Earth: How Aborigines Made Australia* (Crow's Nest, NSW: Allen and Unwin, 2011); Bruce Pascoe, *Dark Emu Black Seeds: Agriculture or Accident?* (Broome: Magabala Books, 2014); Stefanie Affeldt, *Consuming Whiteness: Australian Racism and the 'White Sugar' Campaign* (Münster: LIT Verlag, 2014); Julie McIntyre, Maggie Brady and Jillian Barnes, "'They Are among the Best Workers, Learning the Ways of a Vineyard Quickly': Aboriginal People, Drinking, and Labor in the Early Australian Wine Industry," *Global Food History* 5 no.1-2 (2019): 1-22; Keith Farrer, *To Feed a Nation: A History of Australian Food Science and Technology* (Collingwood: CSIRO Publishing, 2005).

[104] Bannerman, *The People's Cuisine*.

[105] Donna Lee Brien and Adele Wessell, "Cookbooks: Writing, Reading and Publishing Culinary Literature in Australasia," *Text* 24 (2013); See also: Bette R. Austin, *A Bibliography of Australian Cookery Books Published Prior to 1941* (Melbourne: RMIT, 1987); Colin Bannerman, "Indigenous Food and Cookery Books: Redefining Aboriginal Cuisine," *Journal of Australian Studies* 30, no. 87 (2006): 19-36; Sian Supski, "Aunty Sylvie's Sponge: Foodmaking, Cookbooks and Nostalgia," *Cultural Studies Review* 19, no. 1 (2013): 28-49; Blake Singley, *Recipes for a Nation: Cookbooks and Australian Culture to 1939* (PhD thesis: Australian National University, 2013); Carmel Cedro, "Sugar and Spice and Everything Nice: An Exploration of the Relationship between Representations of Femininity and Different Depictions of Baking, Cake, and Sweet Food in Contemporary Australian Cookbooks," (PhD thesis: Auckland University of Technology, 2019); Peter Williams, "Advice and Recipes for Invalid and Convalescent Cookery in Australian Cookbooks 1860–1950," *Nutrition & Dietetics* 76, no. 1 (2019): 75-81; Jillian Adams and Donna Lee Brien, "Tête-Á-Tête: Popular Representations of the Romantic Dinner in Post-War Australia." *Australasian Journal of Popular Culture* 9, no. 1 (2020): 55-66.

[106] Lauren Samuelsson, "The Imitation Game: Mock Foods in the Australian Women's Weekly, 1933–82," *Australian Historical Studies* 51, no. 4 (2020): 477-93; Tanja Schneider and Teresa Davis, "Fostering a Hunger for Health: Food and the Self in 'the Australian Women's Weekly'," *Health Sociology Review* 19, no. 3 (2010): 285-303.

studies of domesticity, domestic spaces and science, as from Kerreen Reiger, Kate Darian-Smith, and Elaine Stratford, which, like this study, argue for the importance of the everyday and the influence of larger political forces on individual lives.[107] Beverley Kingston's work on shopping and Kim Humphery's on supermarkets, although not specifically about food, have provided insight into consumer Australia.[108] The meanings attached to 'local' foods have been explored by Susan M. Chant, who argued the term to be contextually dependant. Her broad study (1788-2015), shares many themes of this thesis including industrialisation, and she touches on themes of food marketing, such as purity and health, discussed here.[109]

Australia's cuisine and tastes have been shaped by waves of migration as scholars have explored the influence and experience of migrants.[110] This work follows the lead of Jean Duruz and Cecilia Leong-Salobir in recognising connections and outside influences on Australian food culture.[111] The novel food experiences of Australians engaged in wars abroad varied from disgust to appreciation, but, Raynaud and Raynaud argue, had little impact on domestic culinary culture.[112] Although with a more contemporary focus, scrutiny of

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[107] Kerreen M. Reiger, *The Disenchantment of the Home: Modernizing the Australian Family, 1880-1940* (Oxford: Oxford University Press, 1985); Anne Summers, *Damned Whores and God's Police: The Colonisation of Women in Australia* (Sydney: NewSouth, 1975, reprint 1994); Kimberley Webber, "Romancing the Machine: The Enchantment of Domestic Technology in the Australian Home, 1850-1914," (PhD thesis: University of Sydney, 1996); Sian Supski, *It Was Another Skin: The Kitchen in 1950s Western Australia* (Bern: Peter Lang, 2007); Kate Darian-Smith, *On the Home Front* (Melbourne: MUP, 2009).

[108] Beverley Kingston *Basket, Bag, and Trolley: A History of Shopping in Australia* (Melbourne: Oxford University Press, 1994); Kim Humphery, *Shelf Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998); Robert Crawford, Judith Smart and Kim Humphery, *Consumer Australia: Historical Perspectives* (Newcastle upon Tyne: Cambridge Scholars Publishing, 2010); Jackie Dickenson, "The Woman's Budget Bureau: Friendship and Consumption in Australia," *Journal of Historical Research in Marketing* 8, no. 3 (2016): 434-51.

[109] Chant, "Local Food", 47-90.

[110] Adele Wessell, "There's No Taste Like Home: The Food of Empire," in *Exploring the British World: Identity, Cultural Production, Institutions* ed. Kate Darian-Smith, Patricia Grimshaw, Kiera Lindsey and Stuart Macintyre (Melbourne: RMIT Publishing, 2004): 811-21; Catherine A. Link, "Challenges to Flavour: Influences on the Cultural Identity of Cuisines in the Australian Foodscape," (PhD thesis, University of Western Sydney, 2012); Tania Cammarano, "Ideas of Italy and the Nature of Ethnicity: A History of Italian Food in Australia with Case Studies," (PhD thesis: University of Adelaide, 2018); Christine Knight and Jessica Shipman, "Food in Contemporary Migration Experiences between Britain and Australia: A Duoethnographic Exploration," *Food and Foodways* 29, no. 1 (2020): 24-43; Alison Vincent, "Learning to Cook the Chinese Way: Australian Chinese Cookbooks of the 1950s," *Australasian Journal of Popular Culture* 9, no. 1 (2020): 39-54.

[111] Jean Duruz, "Eating at the Borders: Culinary Journeys," *Environment and Planning D: Society and Space* 23, no. 1 (2005): 51-69; Cecilia Leong-Salobir, *Urban Food Culture: Sydney, Shanghai and Singapore in the Twentieth Century*, (London: Palgrave Macmillan, 2019); Jean Duruz, "Geographies of Fusion: Re-Imagining Singaporean and Malaysian Food in Global Cities of the West," in *Routledge Handbook of Food in Asia*, ed. Cecilia Leong-Salobir (London: Routledge, 2019), 13-28; See also: Kathleen Burke, "The 'Pleasures of the Garden:' the Mobility of Plants, People, and Power in the Dutch Indian Ocean Empire," *Crossroads* 19, no. 1 (2020): 34-51.

[112] Heather Merle Benbow, Kate Darian-Smith, and Véronique Duché-Gavet, "Beyond Bully Beef: Soldiers, Food and Transcultural Interactions in World War I," *Food, Culture & Society* 24, no. 3 (2021): 390-405; Heather Merle Benbow, "Commensality and Conflict: Food, Drink and Intercultural Encounters in the Battle of Timor," *Journal of*

multiculturalism narratives using food and identity politics have been informative, particularly in understanding Australian ideas of race.[113] Critical nutrition and public health studies from Gygory Scrinis, John Coveney, Christopher Mayes and Donald Thompson, and Alison Bashford, have been influential, and are discussed in detail below.[114] Through the frame of food safety, this work contributes to Australian food history *and* studies by drawing together discursive representations and understandings of production, consumption, preservation, industrialisation, commercial interests, material culture and health. Australia is a small but growing area in the global field of food studies.

Literature Review

In recent decades, food studies, as many scholars have detailed, has developed from an emergent to an established field in which food history is a subfield.[115] This is a historical work, but as the literature review indicates, one that is located in the broader field of food studies. This survey is dominated by American scholarship, reflecting contributions to, and the development of, the field of food studies in the American context. As studies of food are interdisciplinary, scholars have not been identified by disciplines, recognising many of them do not fit neatly into these categories. I have chosen to integrate my theoretical approaches into the literature review, reflecting practices in food studies and in the category of food safety itself. As will be discussed, influential theories include power, emotion, affect and

Intercultural Studies 39, no. 1 (2018): 35-49; Daniel Reynaud and Emanuela Reynaud, "A Broader Palate? The New and Exotic Food Experiences of the Australian Imperial Force 1914–1918," *Food and Foodways* 29, no. 2 (2021): 184-203.

[113] Danielle Gallegos and Felicity Newman "What About the Women? Food, Migration and Mythology," *M/C Journal* 2, no. 7 (1999); Ien Ang, "Between Asia and the West: The Cultural Politics of Food," *Life Writing* 1, no. 1 (2004): 147-54; Alan Han, "'Can I Tell You What We Have to Put up With?': Stinky Fish and Offensive Durian," *Continuum* 21, no. 3 (2007): 361-77; Rick Flowers and Elaine Swan, "Eating the Asian Other?: Pedagogies of Food Multiculturalism in Australia," *PORTAL* 9, no. 2 (2012): 1-30; Lara Anderson and Heather Merle Benbow, "Cultural Indigestion in Multicultural Australia," *Gastronomica* 15, no. 1 (2015): 34-43; Sukhmani Khorana, *The Tastes and Politics of Intercultural Food in Australia* (London: Roman and Littlefield, 2018); Elisha P. Renne, "All Right, Vegemite! The Everyday Constitution of an Australian National Identity," *Visual Anthropology* 6 (1993), 139-55; Karen Agutter and Rachel A. Ankeny, "Food and the Challenge to Identity for Post-War Refugee Women in Australia," *The History of the Family* 22, no. 4 (2017): 531-53; Catie Gressier, *Illness, Identity, and Taboo among Australian Paleo Dieters* (Cham, Switzerland: Springer, 2017).

[114] Gyorgy Scrinis, *Nutritionism: The Science and Politics of Dietary Advice* (New York: Columbia University Press, 2013); John Coveney, *Food, Morals, and Meaning: The Pleasure and Anxiety of Eating* (London: Routledge, 2000); Christopher R. Mayes and Donald B. Thompson, "What Should We Eat? Biopolitics, Ethics, and Nutritional Scientism," *Journal of Bioethical Inquiry* 12, no. 4 (2015): 587-99; Alison Bashford, *Imperial Hygiene: A Critical History of Colonialism, Nationalism and Public Health* (New York: Palgrave Macmillan, 2004).

[115] Fabio Parasecoli and Peter Scholliers, eds., *A Cultural History of Food* (London: Berg, 2012), (six volumes); Paul Freedman, Joyce E. Chaplin and Ken Albala, *Food in Time and Place: The American Historical Association Companion to Food History* (Berkeley: University of California Press, 2014); Alan Davidson, *The Oxford Companion to Food* (Oxford: Oxford University Press, 2014); Jeffrey M. Pilcher, "The Whole Enchilada: A Full Plate of Food History," *Journal of American History* 103, no. 3 (2016): 694-96.

culinary infrastructures. Although technology is omnipresent in this thesis, this is not a history of technology, but rather a cultural history. Food is a thing, an embodied experience and a semiotic device. Received knowledges shape our understandings of food, and food safety marries all of these aspects of food. Relevant literature is not easy to divide into discrete categories, reflecting how food touches many facets of life and history. Nor does all pertinent literature concern food.

Food as Experience

Food is experienced by individuals through bodily senses. Flavour, Pilcher points out, 'comprises a gestalt of inputs of all five senses, filtered through memories'.[116] How we experience food is informed by sight, smell, touch, hearing, and taste; the senses bleed into one another.[117] But sensory experience is more than biological. Taste operates to and from the known: familiar flavours are reassuring, our food preferences are enculturated. Amy Trubek argues that because the experience of taste 'can never be physiologically shared', it 'remains profoundly subjective'.[118] Further, senses 'turn cultural' when we attempt to communicate our experience: we sort out sensory impressions through language and social memory, and thus records of sensory experiences have been an important tool for cultural historians.[119] Scholars have argued that sensory perception is biological, psychological, cultural; the result of histories both individual and shared, and sometimes reflective of state structures.[120]

Odours, for example, 'are invested with cultural values and employed by societies as a means of and model for defining and interacting with the world'; they are 'essential cues in

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[116] Jeffrey M. Pilcher, "The Embodied Imagination in Recent Writings on Food History," *AHR* 121, no. 3 (2016): 861-87.

[117] Carolyn Korsmeyer and David Sutton "The Sensory Experience of Food," *Food, Culture & Society* 14, no. 4 (2011): 470; Carolyn Korsmeyer, *Making Sense of Taste* (London: Cornell University Press, 2015).

[118] Amy B. Trubek, *The Taste of Place: A Cultural Journey into Terroir* (Berkeley: University of California Press, 2008), 6-8.

[119] Jakko Suominen, Antti Silvast and Tuomas Harviainen, "Smelling Machine History: Olfactory Experiences of Information Technology," *Technology and culture* 59, no. 2 (2018): 316; Andrew J. Rotter, *Empires of the Senses: Bodily Encounters in Imperial India and the Philippines* (Oxford: Oxford University Press, 2019); Martin Bruegel, "An Equation of the Senses?: A Puzzle in Food Historiography," in *Food History: A Feast of the Senses in Europe, 1750 to the Present*, ed. Sylvie Vabre, Martin Bruegel and Peter J. Atkins (London: Routledge, 2021), 8-22.

[120] Alain Corbin, *The Foul and the Fragrant: Odor and the French Social Imagination* (Cambridge, MA: Harvard University Press, 1986); Alessandro Stanziani, "Negotiating Innovation in a Market Economy: Foodstuffs and Beverages Adulteration in Nineteenth-Century France," *Enterprise & Society* 8, no. 2 (2007): 391; Mark M. Smith, *Sensory History* (Oxford: Berg, 2007); David Howes and Constance Classen, *Ways of Sensing: Understanding the Senses in Society* (London: Routledge, 2013); Nadia Berenstein, "Designing Flavors for Mass Consumption," *The Senses and Society* 13, no. 1 (2018): 19-40; Bruce Buchan, "The Civil Noise of Empire," in *Sound, Space and Civility in the British World, 1700–1850*, ed. Peter Denney, Bruce Buchan, David Ellison, Karen Crawley (London: Routledge, 2018), 203-25.

social bonding', in a 'deeply personal way'.[121] These arguments are applicable to other senses too. Perspectives of food textures, for example, are valued differently between cultures: a 'viscous' okra to one might be 'slimy' to another.[122] Hierarchies of value ordering the senses have also changed with time. Smell was deemed a 'lower' sense during Enlightenment-era Europe, associated with 'madness and savagery', but Cleere showed it rose to prominence in the Victorian era, as 'sanitarians privileged smell as the most prophylactic and hygienic of the senses'.[123] Many sensory impressions are fleeting and difficult to grasp. The senses are critical to cultural studies of food safety. Not only is the goodness of food assessed using the senses, but the sensory regimes of food safety changed over the period under examination in telling ways.

Emotions associated and induced by foods and eating are powerful. Flavour and scent are particularly potent here, and can be transportive. The smell of boiling potatoes might take one back to childhood, to hazy memories of grandma's house; the sweetness of a sun-warmed peach, joyous; the warmth of a cup of tea clasped in hands, deeply comforting, or the briny silkiness of an oyster instantly invoking the sea. While perhaps a cliché, Proust's madeleine expressed the affective potential of food in his description of the transcendence and memories induced by the crumbs of a madeleine soaked in lime-blossom tea.[124] Following David Sutton and Lisa Heldke, memory can be thought of as another kind of sense, creating 'channels of communication *between* past and present moments...spur[ring] future actions'.[125] This approach, described as 'gustemological', recognises that food and food safety can be material, sensorily experienced, and/or used semiotically.[126] But food is not always pleasurable, and sensory impressions of food can invoke emotions more disturbing. As we will see in chapter one, disgust is important to a study of anxieties and fears people have around foods. With a forceful physical reaction, it can be difficult to recognise repulsion as anything less than

[121] Constance Classen, David Howes and Anthony Synnott, *Aroma: The Cultural History of Smell* (London: Routledge, 2002), 2-4; Alain Corbin, "Charting the Cultural History of the Senses," in *Empire of the Senses*, ed. David Howes (London: Routledge, 2005), 128-39; Connie Y. Chiang, "The Nose Knows: The Sense of Smell in American History," *The Journal of American History* 95, no. 2 (2008): 405-16.
[122] Joel Dickau, "Bad to Chew: A Commentary on the Taste of Texture," *Food, Culture & Society* 22, no. 5 (2019): 566-75.
[123] Cleere, *Sanitary Arts*, 5-9.
[124] Marcel Proust, *In Search of Lost Time*, trans. C.K. Scott Moncrieff & Terence Kilmartin, revised D.J. Enright. (London: Vintage, 1996), 51-55.
[125] Korsmeyer and Sutton, "Sensory Experience," 472; Lisa Heldke, "My Dead Father's Raspberry Patch, My Dead Mother's Piecrust: Understanding Memory as Sense," *Gastronomica* 16, no. 2 (2016): 87-91.
[126] Korsmeyer and Sutton, "Sensory Experience," 474.

innate and natural. Scholars have, nonetheless, identified it as such and scrutinised the cultural work performed by it.[127]

Affect theory is also relevant here, notably Kathleen Stewart's work on the 'ordinary', that is, the importance of the everyday and the banal in affecting, shaping and constituting lives.[128] She argues: 'the ordinary is a shifting assemblage of practices and practical knowledges...things that happen...in impulses, sensations, expectations, daydreams, encounters, and habits of relating', that matter because they 'exert a pull on us', promote intense feelings and compel actions. Structural power is not dismissed; Stewart only seeks to shift focus onto the experience of ordinary people and recognises that affect can contribute to structures. Historians discussing fear observe a gap between information given by science and by states, and the beliefs and actions of people.[129] This is evident with food safety too. Stewart looks at moments that fracture the ordinary, and in doing so, reveal habits and norms.[130] Food safety scandals can be read in this way.

Ben Highmore, applying affect theory to food, argued for the examination of the material body with affects, senses and feelings, because they blend into each other and are inseparable.[131] 'Every flavour', he points out, 'has an emotional resonance': language straddles the physical and immaterial.[132] Srirupa Prasad has said: 'Affect, feeling, and sentiment were...important in the production of the knowledges and practices of hygiene' in India between 1890 and 1940; 'disgust, fear, anxiety, and pain, for example, were (and continue to be) important markers in defining health and wellbeing'.[133] These ideas underscore the importance of studying food, precisely for its everydayness, and reminding us of the emotional potency of the experience of food and eating.

Food as Material

Food is a material thing, and, as a commodity, food has been shaped by, and shaped, large historical processes: Karl Marx's ideas of commodities and commodity fetishism have

[127] Sara Ahmed, *The Cultural Politics of Emotion* (London: Routledge, 2004), 85-100.
[128] Kathleen Stewart, *Ordinary Affects* (Durham: Duke University Press, 2007); Susan Willis, *A Primer for Daily Life* (London: Routledge, 1991).
[129] Margaret Humphreys, "No Safe Place: Disease and Panic in American History," *American Literary History* 14, no. 4 (2002): 845-57; Joanna Bourke, *Fear: A Cultural History* (London: Virago, 2005).
[130] Stewart, *Ordinary Affects*, 1.
[131] Ben Highmore, "Bitter after Taste: Affect, Food, and Social Aesthetics," in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 119-120.
[132] Ibid.; William Ian Miller, 'Darwin's Disgust,' in *Empire of the Senses: The Sensual Culture Reader*, ed. David Howes (Oxford: Berg Publishers, 2005), 336.
[133] Srirupa Prasad, *Cultural Politics of Hygiene in India, 1890-1940: Contagions of Feeling* (Basingstoke, Hampshire: Palgrave Macmillan, 2015), 5.

influenced a long line of scholars.[134] Food studies, foreshadowed by Alfred Crosby's work, grew from interdisciplinary fields, including agricultural, rural and environmental studies with interest in production and trade.[135] Sidney Mintz's 1985 ground-breaking scholarship on sugar paved the way for studies of food systems and food 'biographies', following 'the dynamic linkages between production and consumption', connecting consumables to processes including (and connecting) imperialism, industrialisation, globalisation and capitalism.[136] Mintz showed the role of sugar, not only in transporting millions of enslaved people across oceans, but its importance to Britain's industrialisation. Foodstuffs, as Erica Rappaport has argued in relation to tea, are 'carriers of meaning, sites of contestation, and lenses through which we can see the making and unmaking of imperial, subimperial and transimperial relationships'.[137] This can be extended beyond the imperial, but colonisation has been a particularly compelling force in the Australian context.

Commodities have 'social lives', as Arjun Appadurai pointed out, linking individuals and places in constellations of relationships.[138] By tracing the paths of foods and goods, these relationships can be revealed. Igor Kopytoff showed how 'commodities must not only be produced materially as things, but also culturally marked as being a certain kind of thing'.[139] Advertising and branding have been potent in imbuing things with meaning.[140] How foods have historically been 'marked' as safe or otherwise is telling of cultural contexts. Anne McClintock argued that domestic commodities were not only symbols of empires, but became the '*agents* of history itself', performing the 'civilizing work of empire'.[141] In this

[134] Karl Marx, *Capital: A Critique of Political* Economy, trans. Samuel Moore and Edward Aveling (New York: International Publishers, 1867 reprint 1967), 35-84.
[135]Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, Connecticut: Greenwood Press, 1972).
[136] Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking Penguin, 1985); Sarah Besky, *Tasting Qualities: The Past and Future of Tea* (Berkeley: University of California Press, 2020), 13; William Thomas Okie, "The Thin Ripe Line: Watermelons, Pushcarts, Distribution, and Decay," in *Acquired Tastes: Stories About the Origins of Modern Food*, ed. Benjamin R. Cohen, Michael S. Kideckel and Anna Zeide (Cambridge, MA: MIT Press, 2021), 65-78.
[137] Erika Rappaport, *A Thirst for Empire: How Tea Shaped the Modern World* (Princeton: Princeton University Press, 2017), 13.
[138] Arjun Appadurai, ed., *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1988).
[139] Igor Kopytoff (1988), "The Cultural Biography of Things: Commoditization as a Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 2008), 64-94.
[140] Richard Wilk, "Bottled Water: The Pure Commodity in the Age of Branding," *Journal of Consumer Culture* 6, no. 3 (2006): 303-25.
[141] McClintock, *Imperial Leather*, 62, 220-222; Catherine Hall, "Going a-Trolloping: Imperial Man Travels the Empire," in *Gender and Imperialism*, ed., Claire Midgley (Manchester: Manchester University Press, 1998), 180-99;

thesis, we see how food commodities, such as tea, dried fruits, coffee and beer, through food safety, were entangled with conceptions of identity.

Food is embedded in food systems, travelling through complex 'webs of empire', industry and trade; processed, transformed and repackaged at multiple sites, generating 'a new set of relationships which changed what was grown, made and consumed in each part of the world'.[142] Tony Ballantyne and Alan Lester have argued for the replacement of a 'metrocentric' conception of imperial history, with a more nuanced understanding of the 'complex system of overlapping and interwoven institutions, organizations, ideologies, and discourses'.[143] Food and food safety discourses travelled to – and from – Australia from multiple international 'nodes', but knowledges developed according to the site's 'own possibilities and conditions of knowledge'.[144] Rebecca Earle explained, 'global processes of imperialism and trade, and the emergence of new political languages, are always articulated locally...never mere echoes of events elsewhere, but rather possess their own dynamics and internal logics'.[145]

Food and food safety knowledges were also shaped and informed by historical forces of industrialisation and capitalism in an increasingly globalised world.[146] Industrialisation and the science and technologies that underpinned it, changed the material qualities of foods, and

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Catherine Hall, and Sonya O. Rose, *At Home with the Empire: Metropolitan Culture and the Imperial World* (Cambridge: Cambridge University Press, 2006).

[142] Tony Ballantyne, "Rereading the Archive and Opening up the Nation-State: Colonial Knowledge in South Asia (and Beyond)," in *After the Imperial Turn: Thinking With and Though the Nation*, ed. Antoinette Burton (London, Duke University Press, 2003), 104, 113; Miles Ogborn, "Historical Geographies of Globalisation, c. 1500-1800," in *Modern Historical Geographies*, ed. Brian Graham and Catherine Nash (London: Pearson Longman, 2000), 43-69; Warren Belasco and Roger Horowitz, *Food Chains: From Farmyard to Shopping Cart* (Philadelphia: University of Pennsylvania Press, 2011); Troy Bickham, "Eating the Empire: Intersections of Food, Cookery and Imperialism in Eighteenth-Century Britain," *Past & Present* 198 (2008): 71-109; Blake Smith, "Starch Wars: Rice, Bread and South Asian Difference in the French Enlightenment," *French Cultural Studies* 26, no. 2 (2015): 130-39; Nicholas Tošaj, "Finding France in Flour: Communicating Colonialism in French Indochina through Bread," in *Routledge Handbook of Food in Asia*, ed. Cecilia Leong-Salobir (London: Routledge, 2019), 29-38.

[143] Ballantyne, "Rereading", 104, 113; Alan Lester, *Imperial Networks: Creating Identities in Nineteenth-Century South Africa and Britain* (London: Routledge, 2001), 5.

[144] Lester, *Imperial Networks*, 5,

[145] Rebecca Earle, *Feeding the People: The Politics of the Potato* (Cambridge: Cambridge University Press, 2020), 130.

[146] Warren Belasco, *Appetite for change* (Ithaca: Cornell University Press, 1989 reprint 2014); Susan Strasser, *Waste and Want: A Social History of Trash* (Oxford: Berg, 1992); Susan Strasser, *Satisfaction Guaranteed: The Making of the American Mass Market* (Washington, DC: Smithsonian Institution Press, 1995); Raj Patel and Jason W. Moore, *A History of the World in Seven Cheap Things* (Berkeley: University of California Press, 2017): Kenneth F. Kiple, *A Moveable Feast: Ten Millennia of Food Globalization* (New York: Cambridge University Press, 2007); Alexander Nützenadel, and Frank Trentmann, eds., *Food and Globalization: Consumption, Markets and Politics in the Modern World* (Oxford: Berg, 2008); Krishnendu Ray and Tulasi Srinivas, *Curried Cultures: Globalization, Food, and South Asia* (Berkeley: University of California Press, 2012).

how they were produced, transported and consumed.[147] Gerald Sasges has developed these ideas, exploring 'how globalization emerged from the entanglements of science, capitalism, and empire', using the identification, isolation and commercialisation of two moulds in the late 19th and early 20th centuries.[148] Sasges's work is important for its recognition of circulations of people, things and knowledge; he details how the moulds (knowledge of, and the material mould) travelled along mycelium-like networks of and across, empires, nations and capital. Like Fredrick Cooper, Sasges reminds us, 'the costs and benefits of globalization were – and are – unequally distributed'.[149] Food as a commodity relies on human labour and environmental extraction, hidden by many layers of production, transportation and packaging, as scholars have sought to unravel.[150]

Food is not only biological matter or a singular, tradeable good, but reflective of the technologies around it. From the most fundamental technologies, such as knives or an earthenware bowl, to complex pasteurisation machines, food production, distribution, preservation and consumption has long relied on material technologies.[151] Cooking relies on the capturing or control of temperature, standardly through technologies and material culture. As Science and Technology Studies scholars have shown, technologies are cultural products, simultaneously informing and influenced by social change: Ruth Schwartz Cowan, for example, notably examined the intersection of gender and household technologies.[152]

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[147] E. Melanie Dupuis, *Nature's Perfect Food: How Milk Became America's Drink* (New York: New York University Press, 2002); Mona Domosh, "Pickles and Purity: Discourses of Food, Empire and Work in Turn-of-the-Century USA," *Social & Cultural Geography* 4, no. 1 (2003): 7-26; Jeffrey M. Pilcher, "Empire of the 'Jungle' the Rise of an Atlantic Refrigerated Beef Industry, 1880–1920," *Food, Culture & Society* 7, no. 2 (2004): 63-78; Gabriella M. Petrick, "The Arbiters of Taste: Producers, Consumers and the Industrialization of Taste in America, 1900–1960," (PhD thesis, University of Delaware, 2007); Carys E. Bennett, et. al. "The Broiler Chicken as a Signal of a Human Reconfigured Biosphere," *Royal Society Open Science* 5, no. 12 (2018): 1-11.

[148] Gerard Sasges, "Mold's Dominion: Science, Empire, and Capitalism in a Globalizing World," *The American Historical Review* 126, no. 1 (2021): 84.

[149] Sasges, "Mold's Dominion", 108; Frederick Cooper, "What Is the Concept of Globalization Good For? An African Historian's Perspective," *African Affairs* 100, no. 399 (2001): 189-213.

[150] Rachel Kurian, "Labor, Race, and Gender on the Coffee Plantations in Ceylon (Sri Lanka), 1834-1880," in *The Global Coffee Economy in Africa, Asia, and Latin America, 1500–1989*, ed. William Gervase Clarence-Smith and Steven Topik, (Cambridge: Cambridge University Press, 2003), 173-90; Sarah Besky, *The Darjeeling Distinction: Labor and Justice on Fair-Trade Tea Plantations in India* (Berkeley: University of California Press, 2013).

[151] Diana Twede, "History of Packaging," in *The Routledge Companion to Marketing History*, ed., D. G. Brian Jones and Mark Tadajewski (London: Routledge, 2016), 115-29.

[152] Ruth Schwartz Cowan, "The 'Industrial Revolution' in the Home: Household Technology and Social Change in the Twentieth Century," *Technology and Culture* 17, no. 1 (1976): 1-23; Ruth Schwartz Cowan, "How the Refrigerator Got Its Hum," in *The Social Shaping of Technology: How the Refrigerator Got Its Hum*, ed. Donald MacKenzie and Judy Wajcman (Milton Keynes: Open University Press, 1985), 181-218; Wiebe E. Bijker, Thomas Parke Hughes and Trevor J. Pinch, *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, MA: MIT press, 1989); Ruth Oldenziel and Karin Zachmann, *Cold War Kitchen: Americanization, Technology, and European Users* (Cambridge, MA: MIT press, 2009).

This study is closely informed by Pilcher's aforementioned concept of 'culinary infrastructure'. While infrastructure is a term commonly used to describe material culture, Pilcher expands this to describe the various technologies, groups and media that convey food *and* food knowledge, enabling production and consumption, 'but without having those transformations as a direct goal'.[153] The material aspects of this infrastructure, for example, include transportation networks and refrigeration technologies; the 'immaterial or embodied expressions of knowledge', cookbooks, advertisements and health regulations.[154] Culinary infrastructure is useful for understanding the bounded nature of the material and immaterial aspects of food, and most particularly here, food safety. Tastes, like commodities, have values.

Food as Semiotic Device

In the 1960s and 1970s, Claude Levi-Strauss and Mary Douglas attempted to use structural anthropology to analyse and explain the 'grammar' and significance of food and eating in a range of contexts, spurring on scholarly debates.[155] This thesis is grounded in the idea that food, as a fundamental need of life, is loaded with cultural and individual meanings. Food can illuminate where we have come from and who we want to be: it is central to identities. Food is used to signal and assess affinity and belonging, but equally, 'eating habits both symbolize and mark the boundaries of cultures'.[156] Comestibles signal shared values and identities, but also difference. Food violates delineations between self and other, and between the outside world and the corporal body. The term 'taste' articulates identification and divides between individuals.

Taste is used to describe the sense, the experienced, embodied flavour of food, *and* the discernment of what is good and appropriate; it is another kind of sense, a conscious perception of quality. The concept of taste is useful in thinking about culture and food safety. Expressions of taste and quality are often rooted in emotions of belonging and security or

[153] Pilcher, "Culinary Infrastructure", 105-31.
[154] Ibid.
[155] Claude Levi-Strauss, "Culinary Triangle," *New Society* 8, no. 221 (1966): 937-40; Claude Levi-Strauss, *The Raw and the Cooked,* trans. John and Doreen Weightman (New York: Harper and Row, 1969); Mary Douglas, "Deciphering a Meal," *Daedalus* 101, no. 1 (1972): 61-81; Mary Douglas (1966), *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (Harmondsworth, Middlesex: Penguin, 1970); Marvin Harris, *The Sacred Cow and the Abominable Pig: Riddles of Food and Culture* (New York: Simon & Schuster, 1987).
[156] Donna R. Gabaccia, *We Are What We Eat: Ethnic Food and the Making of Americans* (Cambridge, MA: Harvard University Press, 1998), 8; Lucy M. Long, ed., *Culinary Tourism* (Lexington: University Press of Kentucky, 2004); food can also mark the liminal spaces where these delineations break down, Frieda Moran, "Ordinary and Exotic: A Cultural History of Curry in Australia," (Honours thesis: University of Tasmania, 2017), 26; Emiko Ohnuki-Tierney, *Rice as Self: Japanese Identities through Time* (Princeton: Princeton University Press, 1993).

discomfort and fear: there is a taste of safety. Superior food is equated with superior people. 'The quality of food' is often used 'metaphorically', to define certain qualities in certain groups of people, such as 'the moral quality of national groups'.[157] Taste judgements are suffused with our own values, whether discussing flavours, morals or aesthetics: 'the tasting body is socially embedded', and is fundamental in expressing and assessing who we are and who they are.[158]

In asking who gets to define good taste, scholars have shown the connections between taste, discourse and power. Pierre Bourdieu, Jack Goody, and Stephen Mennell famously connected taste to socially performative displays of status and class.[159] Katharina Vester explains, drawing on Foucault's ideas of knowledge/power, that food discourses – such as taste guides and food safety advice – 'generate knowledge in which power relations are inscribed and produced', becoming embedded and producing subject identities/ positions.[160] Intersections of taste, power, knowledge with imperialism, race, class, and gender have shown how taste underpins and justifies social hierarchies.[161] But as Krishnendu Ray has critically pointed out, while taste is often raced and classed, it is not always defined by the elites, reminding us of Foucault's reasoning that power flows in multiple directions.[162]

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[157] Benbow, Darian-Smith and Duché-Gavet, "Bully Beef", 393.

[158] Annemarie Mol, "Good taste: The Embodied Normativity of the Consumer-Citizen," *Journal of Cultural Economy* 2, no. 3 (2009): 278.

[159] Pierre Bourdieu, *Distinction: A Social Critique of the Judgment of Taste,* trans. Richard Nice (New York: Routledge & Kegan Paul, 1984); Jack Goody, *Cooking, Cuisine and Class: A Study in Comparative Sociology* (Cambridge University Press, 1982); Stephen Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present* (Chicago: University of Illinois Press, 1985 reprinted 1996).

[160] Katharina Vester, *A Taste of Power: Food and American Identities* (Berkeley: University of California Press, 2015), 2.

[161] Jeremy Rich, *A Workman is Worthy of His Meat: Food and Colonialism in the Gabon Estuary* (Lincoln: University of Nebraska Press, 2007); Deborah Gewertz and Frederick Errington, *Cheap Meat: Flap Food Nations in the Pacific Islands* (Berkeley: University of California Press, 2010); Shannon Lee Dawdy "'A Wild Taste': Food and Colonialism in Eighteenth-Century Louisiana," *Ethnohistory* 57, no. 3 (2010): 389-414; Cecilia Leong-Salobir, *Food Culture in Colonial Asia: A Taste of Empire* (London: Routledge, 2011); Megan J. Elias, "The Palate of Power: Americans, Food and the Philippines after the Spanish-American War," *Material Culture* 46, no. 1 (2014): 44-57; Lauren Janes, *Colonial Food in Interwar Paris: The Taste of Empire* (London: Bloomsbury, 2016); René Alexander D. Orquiza, *Taste of Control: Food and the Filipino Colonial Mentality under American Rule* (New Brunswick, NJ: Rutgers University Press, 2020); Martin Bruegel, "How the French Learned to Eat Canned Foods: 1809-1930," in *Food Nations: Selling Taste in Consumer Societies*, ed. Warren Belasco and Philip Scranton (New York: Routledge, 2002), 113-30; Gabriella M. Petrick, "Larding the Larder: Designing Taste for the Modern Age," *The Senses and Society* 5, no. 3 (2010): 382-87; Amy Bentley, *Inventing Baby Food: Taste, Health, and the Industrialization of the American Diet* (Berkeley: University of California Press, 2014); S. Margot Finn, *Discriminating Taste: How Class Anxiety Created the American Food Revolution* (New Brunswick, NJ: Rutgers University Press, 2017); Pysche A. Williams-Forson, *Building Houses Out of Chicken Legs: Black Women, Food, and Power* (Chapel Hill: University of North Carolina Press, 2006; Angela Jill Cooley, *To Live and Dine in Dixie: The Evolution of Urban Food Culture in the Jim Crow South* (Athens, GA: University of Georgia Press, 2015).

[162] Krishnendu Ray, *The Ethnic Restaurateur* (New York: Bloomsbury Publishing, 2016), 189; Foucault, *Will to Knowledge*, 92-93, 97, 95; Novelty, convenience, science/ technology, and commercial interests are also important

Taste and food safety knowledges can, to draw on Sarah Besky, 'make historical, political, and geographic differences engendered by colonialism and capitalism appear natural'.[163] Parama Roy has described how 'the alimentary tract is a boundary, a fiercely policed but also a contested and hotly trafficked one'. Food is defining: 'who eats and with whom, who starves, and what is rejected as food are fundamental to colonial and post-colonial making and unmaking'.[164] These processes are critically expressed through taste and distaste – Hobart has shown 'the interlocking logics of taste and territory'.[165]

Power is not, of course, always connected to taste or food, and categories of race, class, gender have been productively examined through other frames influential to this study.[166] And as McClintock points out, these categories 'come into being in historical relation to each other and emerge only in dynamic interdependence'. They are not the 'structural equivalent of each other' but 'converge, merge and overdetermine each other in intricate and often contradictory ways'.[167]

Regimes of Knowledge

How we make sense of and categorise the world matters. When ideas become shared and accepted knowledges, they inform and justify actions beyond the individual. Shared food

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in taste formation; Jeffrey M. Pilcher, *Que Vivan Los Tamales!: Food and the Making of Mexican Identity* (Albuquerque: University of New Mexico Press, 1998); Paul Freedman, *Food: The History of Taste* (Berkeley: University of California Press, 2007; Jacob Lahne and Christy Spackman, "Introduction to Accounting for Taste," *The Senses and Society* 13, no. 1 (2018): 1-5; Warren Belasco and Philip Scranton, *Food Nations: Selling Taste in Consumer Societies* (London: Routledge, 2014); Gerard J. Fitzgerald and Gabriella M. Petrick, "In Good Taste: Rethinking American History with Our Palates," *The Journal of American History* 95, no. 2 (2008): 392-404.

163 Besky, *Tasting* Qualities, 30.

164 Parama Roy, *Alimentary Tracts: Appetites, Aversions, and the Postcolonial* (Durham: Duke University Press, 2010), 24.

165 Hi'ilei Julia Hobart, "A 'Queer-Looking Compound': Race, Abjection, and the Politics of Hawaiian Poi," *Global Food History* 3, no. 2 (2017): 139.

166 Eric Hobsbawm and Terence Ranger, eds., *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983 reprint 1993), 1-14; Priscilla Parkhurst Ferguson, *Accounting for Taste: The Triumph of French Cuisine* (Chicago: University of Chicago Press, 2004); Shapiro, Laura. *Perfection Salad: Women and Cooking at the Turn of the Century* (Berkeley: University of California Press, 2008); Zoe Anderson, "One 'Body/Nation': Pathology and Cultural Citizenship in Australia," *Cultural Studies Review* 15, no. 1 (2009): 110-29; Susan Strasser, *Never Done: A History of American Housework* (New York: Pantheon Books, 1982); Caroline Walker Bynum, *Holy Feast and Holy Fast* (Berkeley: University of California Press, 1988); Tracey Deutsch, *Building a Housewife's Paradise: Gender, Politics, and American Grocery Stores in the Twentieth Century* (Chapel Hill: University of North Carolina Press, 2010); Edward Said (1978), *Orientalism: Western Representations of the Orient* (London: Penguin, 1995); Ann Laura Stoler and Frederick Cooper, "Between Metropole and Colony," in *Tensions of Empire: Colonial Cultures in a Bourgeois World*, ed. Ann Laura Stoler and Frederick Cooper (Berkeley: University of California, 1997), 1-56; Warwick Anderson (2002), *The Cultivation of Whiteness: Science, Health, and Racial Destiny in Australia* (Carlton: Melbourne University Press, 2005); Chin Jou, "Let Them Eat Beans? Class and American Food Discourse During the Progressive Era," *Global Food History* 6, no. 1 (2020): 60-80.

167 McClintock, *Imperial Leather*, 62; Sherrie Inness, *Secret Ingredients: Race, Gender, and Class at the Dinner Table* (New York: Springer, 2005).

safeties are regimes of knowledge, 'linguistic and embodied', with implications for individuals and communities, but also informed by other identifiable ideas.[168] Rebecca Earle dislodged assertions that early modern colonial encounters in the Americas resulted in ideas of 'racial fixity', using ideas of food to show instead that Spanish colonisers believed bodies were malleable, constructed by food.[169] Diets then, were critical to the categorisation of 'Spanish' and 'Indian'.[170] Humoral theory underpinned these ideas, but the anxious project of colonisation called into question 'the reliability of existing knowledges', and accounts of food reveal colonial ideology as inherently paradoxical, relying 'on a dream of unity combined with an insistence on distance': it 'aimed simultaneously to homogenize and to differentiate'.[171] We can see similarities and differences in the Australian colonial context.

In Australia today, we are still deconstructing the ideas and legacies associated with the European 'Enlightenment', most notably Lockean ideals of agriculture and cultivation of the land (discussed in chapter one).[172] The emphasis and value placed on rationality and science is enduring and important. Science has proven immensely illuminating, powerful and life-saving, but should not go unquestioned. This is not to undermine the value of science, but to recognise that it was culturally informed, sometimes had unintended consequences, and had been used to justify harmful ends. To return to race, developing and partial sciences and pseudoscience shifted in the first half of the 19th century. As scholars such as Rappaport have described: 'the emergence of racial science as a reputable discipline contributed to such beliefs and made race a fixed characteristic rather than a cultural attribute'.[173] Thinking critically about science and its uses contributes to improving and forwarding the science itself. As we will see in this study, the gradual and nonlinear shift in racial thinking, miasma to germ theories, and the rise of nutrition, were scientific and social developments that created social change.

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168 Besky, *Tasting Qualities*, 5.

169 Rebecca Earle, *The Body of the Conquistador: Food, Race and the Colonial Experience in Spanish America, 1492 – 1700* (Cambridge: Cambridge University Press, 2012), 2-3; Trudy Eden, "Food, Assimilation, and the Malleability of the Human Body in Early Virginia," in *A Centre of Wonders: The Body in Early America* ed. Janet Moore Lindman and Michele Lise Tarter (Ithaca: Cornell University, 2001), 29-42; Trudy Eden, *The Early American Table: Food and Society in the New World* (DeKalb: Northern Illinois University Press, 2008), 3.

170 Rebecca Earle, "'If You Eat Their Food…': Diets and Bodies in Early Colonial Spanish America," *The American Historical Review* 115, no. 3 (2010): 688.

171 Ibid., 712; Marcy Norton, *Sacred Gifts, Profane, Pleasures* (Ithaca: Cornell University Press, 2008); Alison Norman, "'Fit for the Table of the Most Fastidious Epicure': Culinary Colonialism in the Upper Canadian Contact Zone," in *Edible Histories, Cultural Politics: Towards a Canadian Food History*, ed. Marlene Epp, Franca Iacovetta and Valerie J. Korinek (Toronto: Toronto University Press, 2012), 31-51.

172 Bruce Buchan and Annemarie McLaren, "Edinburgh's Enlightenment Abroad: Navigating Humanity as a Physician, Merchant, Natural Historian and Settler-Colonist," *Intellectual History Review* (2020): 1-23.

173 Rappaport, *Thirst*, 126.

Foucault's framework of biopower and biopolitics – 'the set of mechanisms through which the basic biological features of the human species became the object of a political strategy' – has been critical to understanding state interventions regarding food, hygiene, nutrition and health.[174] We can also draw on biopower to inform our reading of food in the colonial contact zone. Rationing, for example, was an institutional intervention. The consumption of appropriate (safe, that is) European food, would assertedly lead to an improvement of the Australian Aboriginal 'race'. Biopolitics is particularly relevant to the rise of nutritional science. Nutrition has defined ideal and standardised diets, bodies and ideas of health. And while ostensibly strictly scientific and rational, nutrition is also cultural.[175] Commercial interests, among other actors, have co-opted the science of nutrition and deployed it in simplistic and sometimes misleading or inaccurate ways, 'to justify cultural or ideological views about food and health'.[176]

Today, biopower critically operates through 'the idea of choice'; we can trace the history of this framing through ideas of health and safety, notably in the first half of the 20th century: 'to avoid the call to health was to act against the state'.[177] There is then, a 'moral imperative' to food choice: 'lessons in eating right have...functioned as a pedagogy of good citizenship'.[178] Despite the massive benefits of knowledge of contagion, germ theory and public health, they were sometimes muddied with euthenics and eugenics.[179] Studies of pure food politics have highlighted the connections of nutrition with ideas of health and social bodies; food choices have been used to create and reinforce social hierarchies.[180] Nutrition has been used by imperial and nationalist regimes in producing subjectivities and relations of

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[174] Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France, 1977-78* (New York: Palgrave Macmillan, 2009), 1; Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège De France, 1978-1979.* Trans. Graham Burchell (New York: Palgrave Macmillan, 2008).

[175] Charlotte Biltekoff, *Eating Right in America: The Cultural Politics of Food and Health* (Durham, North Carolina: Duke University Press, 2013); Shun-Nan Chiang, "Transecting the Fall and Rise of Brown Rice—the Historic Encounters of the Global Food System, Nutrition Science, and Malnutrition in the Philippines," *Food, Culture & Society* 23, no. 2 (2020): 229-48; Alexandra Widmer, "Locating Low-Protein Life: Post-War Colonial Nutrition Science, Subsistence Metabolisms and Food Cultures in the South-Western Pacific Islands," *Food, Culture & Society* (2021): 1-18.

[176] Mayes and Thompson, "Biopolitics," 587.

[177] Ibid.; Stratford, *Feminine Ideal*, 186; Fabio Parasecoli, "Eating Power: Food, Culture, and Politics," in *Discourse, Culture and Organization*, ed. Tomas Marttila (London: Palgrave Macmillan, 2019), 129-53.

[178] Coveney, *Food, Morals*, vi, 92; Biltekoff, *Eating Right,* 9; Veit, *Modern Food,* 4.

[179] Deborah Lupton, *The Imperative of Health: Public Health and the Regulated Body* (London: Sage, 1995); Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1999).

[180] Aaron Bobrow-Strain, "White Bread Bio-Politics: Purity, Health, and the Triumph of Industrial Baking," *Cultural Geographies* 15, no. 1 (2008): 19, 35; Julie Guthman, "Introducing Critical Nutrition: A Special Issue on Dietary Advice and Its Discontents," *Gastronomica* 14, no. 3 (2014): 1-4.

power.[181] In the German context, Alice Weinreb explored the relationship between the state and food with ideas of race, bodies and identity, arguing that food played a central role in the German state and the two World Wars. Food systems were an expression of state power, but human agency, expressed through taste, was a problem government struggled to control.[182] Utsa Ray argued that the rhetoric and deployment of nutrition in Colonial Bengal, as in Australia, 'was possible because the 'scientific' definition of nutrition itself was always left partial and relative in the project of colonial modernity'.[183]

Food Safety

Studies of food safety are both the product of, and contribute to, this body of literature. Food safety has been somewhat under historicised. That is, often when we think about food safety in the past, we do not think about it historically. As this study shows however, food safety shifts and transmogrifies with time and place, culture and individual experience. Existing literature has contributed to this work, but there are still gaps in how we think about food safety. This study recognises two scholarly camps that have characterised studies of this area of food: those, such as Nicole Tarulevicz and Susanne Freidberg, who have positioned the perceived qualities of foods as of a particular cultural moment, which shifts or has the potential to shift, with cultural change; and those, more common, such as Marion Nestle and Alison Blay Palmer, who emphasise the issue of food safety as a problem that can be managed through governmental regulation.[184] Appreciating that the two are intertwined, the focus here is located in the former camp.

Food safety studies have looked at relationships of trust and fear with food, the causes behind the concerns, and responses to issues of food safety. All agree that concerns reflect – and are thus telling of – the conditions and cultures from which they emerge, as Peter

[181] Ian Mosby, "Administering Colonial Science: Nutrition Research and Human Biomedical Experimentation in Aboriginal Communities and Residential Schools, 1942–1952," *Histoire sociale/Social history* 46, no. 1 (2013): 145-172; Soo Kyeong Hong, "Food as Medicine: The Cultural Politics of 'Eating Right' in Modern Japan, 1905-1945," (PhD thesis: Cornell University, 2017); Jessica Mudry, "Introduction: Nutritional Science in Historical Perspective," *Global Food History* 4, no. 2 (2018): 109-11; Hilary A. Smith, "Skipping Breakfast to Save the Nation: A Different Kind of Dietary Determinism in Early Twentieth-Century China," *Global Food History* 4, no. 2 (2018): 152-167; Jonathan E. Robins, "'Food Comes First': The Development of Colonial Nutritional Policy in Ghana, 1900–1950," *Global Food History* 4, no. 2 (2018): 168-188.
[182] Alice Weinreb, *Modern Hungers: Food and Power in Twentieth-Century Germany* (Oxford: Oxford University Press, 2017), 4-6.
[183] Utsa Ray, "The Body and Its Purity: Dietary Politics in Colonial Bengal," *The Indian Economic & Social History Review* 50, no. 4 (2013): 395-6.
[184] Marion Nestle, *Pet Food Politics: The Chihuahua in the Coal Mine* Berkeley: California University Press, 2008; James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton: Princeton University Press, 1989); Michael French and Jim Phillips, *Cheated Not Poisoned?: Food Regulation in the United Kingdom, 1875-1938* (Manchester: Manchester University Press, 2000).

Scholliers has explained: 'present-day concepts about food safety are the outcome of long-ago and recent historical negotiations, confrontations and decisions. There was and is no universal norm with regard to safe food'.[185] This is not a new idea. In 1957, for example, a Professor Reginald Lovell wrote in a Royal Society journal of health: 'there have always been hazards associated with food consumption and they vary in their incidence and cause and are linked with the social history of a people'.[186] Within a society, 'ontologies of risk' also vary, argue Filip Degreef and Scholliers, with different and competing interpretations of concern between groups and individual actors; between scientific ideas and public understandings.[187] The gap between a scientific reality and public perception has been teased out by Margret Dorey. Using the example of adulteration, she demonstrated how 'perceptions of risk drive calls for action as much as actual risk'; 'food fears and the way they are articulated tell us as much, if not more, about social relations within the society in which they occur as they do about the actual state of food sold'.[188] Like this study, Dorey notes that food safety concerns 'may be invoked for reasons that have little to do with actual food safety or fraud', rather for commercial gain, for the delineation of cultural boundaries, and a 'means of negotiating power'.[189]

Why certain food safety issues appear at particular moments in time has drawn the attention of scholars. Problems of, for instance, adulteration or contamination have been shown to be deeply embedded in their social, political, scientific and economic contexts.[190]

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185 Peter Scholliers, "Defining Food Risks and Food Anxieties through History," *Appetite* 51 (2008), 3-6; See also, Karin Zachmann and Per Østby, "Food, Technology, and Trust: An Introduction," *History and Technology* 27, no. 1 (2011): 3.

186 Reginald Lovell, "Food Poisoning in Man, with Special Reference to Meat and Meat Products," *Journal of the Royal Society for the Promotion of Health* Vol. 77 No. 3 (1957): 85.

187 Filip Degreef and Peter Scholliers, "Trust in Food in the Modern Period," *Food and Foodways* 27, no. 1-2 (2019): 1-13; Carolyn De La Peña, "Risky Food, Risky Lives: The 1977 Saccharin Rebellion," *Gastronomica* 7, no. 3 (2007): 100-05; Stephanie Assmann, "Reassessing Food Safety, Risk and Globalization in China and Japan: An Overview of Emerging Research Trends," *Food, Culture & Society* 16, no. 1 (2013): 7-19; Martin Bruegel, "Research into Food and Trust: A Critique and a Proposal," *Food and Foodways* 27, no. 1-2 (2019): 14-28, see other articles in same *Food and Foodways* special issue; Benjamin Schrager, "Risky but Raw: On (Not) Regulating One of the Most High-Risk Dishes in Japan," *Gastronomica* 21, no. 3 (2021): 32-44.

188 Dorey, "Unwholesome", 11; Benjamin R. Cohen, *Pure Adulteration: Cheating on Nature in the Age of Manufactured Food* (Chicago: University of Chicago Press, 2019), 27.

189 Dorey, "Unwholesome", 9-11; Keir Waddington, "'We Don't Want Any German Sausages Here!' Food, Fear, and the German Nation in Victorian and Edwardian Britain," *Journal of British Studies* 52, no. 4 (2013): 1017-42.

190 Kabita Ray, *Food for Thought: Food Adulteration in Bengal 1836 - 1947* (Calcutta: Paprus, 2003); Prasad, *Contagions of Feeling*; B. A. Almanza, K. S. Byrd, C. Behnke, J. Ma and L. Ge, "Cookbooks in U.S. History: How Do They Reflect Food Safety from 1896 to 2014?, "*Appetite* 116 (2017): 599-609; Carolyn Cobbold, "Adulation or Adulteration? Representing Chemical Dyes in the Victorian Media," *Ambix* 66, no. 1 (2019): 23-50; Lauren Alex O'Hagan, "Pure in Body, Pure in Mind? A Sociohistorical Perspective on the Marketisation of Pure Foods in Great

Studies such as Bee Wilson's *Swindled*, have sought to give accessible overviews of food fraud through time and place, showing how topics such as food adulteration appeal to popular audiences.[191] Ideas of race, for example, are important in Australian history, and Simon Ryan, Louise Edwards, and Stefano Occhipinti have used food poisoning to show how identity politics are reflected in food.[192] Studies of modern food systems have, speaking broadly, argued that industrialisation shifted food production from the home, increased distance in supply chains, and introduced new technologies that shaped the foods we eat, alienating consumers from the origins of food and promoting new fears.[193] In contrast, Collins suggested business ethics and industrialisation improved food safety, arguing 'the higher the technology and the greater the scale, the more standardized were the products and the narrower the scope, technically and financially, for fraudulent practice'.[194] Alison Blay-Palmer used historical food scares to argue for current-day sustainable food production systems.[195] We need to be careful to remember, as Rachel Laudan and others have pointed out, that dichotomies between a wonderful agrarian past and a dangerous industrial present (or vice-versa) are fundamentally flawed.[196] We must also pay attention to local nuances.

Scares and scandals have been useful to scholars in exploring the norms and boundaries of trust in particular moments. Degreef and Scholliers explain, 'a food scandal exists only because society deems a situation to be scandalous'; crises show 'how people make sense of the world and the food they eat'.[197] For Rappaport, food scares are 'examples of revulsion entering public consciousness', showing 'the subtle processes of how tastes

Britain," *Discourse, Context & Media* (2019); Daniel E. Bender, "Dipping in the Common Sauce Pot: Satay Vending and Good Taste Politics in Colonial and Post-Colonial Singapore," *Food, Culture & Society* 24, no. 1 (2021): 66-83.

[191] Bee Wilson, *Swindled: From Poisoned Sweets to Counterfeit Treats – the Dark History of the Food Cheats* (Princeton: Princeton University Press, 2008); Jonathan Rees, *Food Adulteration and Food Fraud* (London: Reaktion Books, 2020).

[192] Simon Ryan, Louise Edwards, and Stefano Occhipinti, "'Must Have Been the Chinese I Ate': Food Poisoning, Migration and National Indigestion," *Continuum: Journal of Media & Cultural Studies* 13, no. 3 (1999): 315-23.

[193] Harvey Levenstein, *Fear of Food: A History of Why We Worry About What We Eat* (London: University of Chicago Press, 2012), 2; Vera Hierholzer, "Food Security and Safety," in *A Cultural History of Food: In the Age of Empire*, ed. Martin Bruegel (London: Berg, 2012), 67-86; Peter Jackson, *Anxious Appetites: Food and Consumer Culture* (London: Bloomsbury Academic, 2015), 1, 194; Raymond A. Jussaume Jr, Hisano Shûji and Taniguchi Yoshimitsu, "Food Safety in Modern Japan," *Japanstudien* 12, no. 1 (2001): 211-28; Benjamin Schrager, "Placing Trust: The Political Ecology of Chicken Meat in Japan," (PhD thesis, University of Hawai'i, 2019).

[194] Edward J. T. Collins, "Food Adulteration and Food Safety in Britain in the 19th and Early 20th Centuries", *Food Policy* (1993): 105.

[195] Alison Blay-Palmer, *Food Fears: From Industrial to Sustainable Food Systems* (Aldershot, Hampshire: Ashgate, 2008).

[196] Rachel Laudan, "A Plea for Culinary Modernism: Why We Should Love New, Fast, Processed Food," *Gastronomica* 1, no. 1 (2001): 36-44.

[197] Degreef and Scholliers "Trust", 7; Catherine Salzman, "The Planta Food Scare (the Netherlands, 1960)," *Food and Foodways* 27, no. 1-2 (2019): 29-48

change' and illuminating 'the connections between the self and the social, the body and the market'.[198] Incidents and food safety failures have shed light on developing scientific knowledges and government interventions internationally.[199] But food fears, Madeleine Ferrieres points out, are not only 'negative or paralysing. They inspire action…woven through with compromise'.[200] Measures range from the individual to organisational and to governmental.[201] Food safety can be productive as this study shows.

Understandings of responsibility for preventing food safety problems, most notably through state regulations, have received a good deal of attention, with many focusing on how and why landmark legislations and monitoring bodies were instituted.[202] James Harvey Young, for example, looked at the how the 1906 American Pure Food Act was enacted, arguing for a 'pluralistic explanation' underpinning the statute's introduction: 'change, complexity, competition, crusading, coalescence, compromise, and catastrophe'.[203] Marion Nestle's critiques of food systems highlight how contemporary commercial interests and

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198 Rappaport, *Thirst*, 121; David F. Smith, "Food Panics in History: Corned Beef, Typhoid and 'Risk Society'," *Journal of Epidemiology & Community Health* 61, no. 7 (2007): 566-70; Charlene Elliott, "Canada's Great Butter Caper: On Law, Fakes and the Biography of Margarine," *Food, Culture & Society* 12, no. 3 (2009): 379-96; Nicolas Sternsdorff-Cisterna, "Food after Fukushima: Risk and Scientific Citizenship in Japan," *American Anthropologist* 117, no. 3 (2015): 455-67.

199 Peter J. Atkins, "White Poison? The Social Consequences of Milk Consumption, 1850-1930," *The Society for the Social History of Medicine* 5, no. 2 (1992): 207-27; Anne Hardy, "Food, Hygiene, and the Laboratory: A Short History of Food Poisoning in Britain, Circa 1850–1950," *Social History of Medicine* 12, no. 2 (1999): 293-311; Edward Geist, "When Ice Cream Was Poisonous: Adulteration, Ptomaines, and Bacteriology in the United States, 1850-1910," *Bulletin of the History of Medicine* 86, no. 3 (2012): 338; Emma-Jayne Abbots and Benjamin Coles, "Horsemeat-Gate: The Discursive Production of a Neoliberal Food Scandal," *Food, Culture & Society* 16, no. 4 (2013): 535-50; Gavin Murphy, "The Snail and the Ginger Beer: The Singular Case of Donoghue V Stevenson," *Commonwealth Law Bulletin* 37 No.1 (2011): 214-15.

200 Madeleine Ferrières, *Sacred Cow, Mad Cow: A History of Food Fears* (New York: Columbia University Press, 2006), 1-8, 325-329.

201 Marsha A. Echols, *Food Safety and the WTO: The Interplay of Culture, Science and Technology* (London: Kluwer Law International, 2001); Peter Scholliers, "Food Fraud and the Big City: Brussels' Responses to Food Anxieties in the 19th Century," in *Food and the City in Europe since 1800*, ed. Peter J. Atkins, Peter Lummel and Derek J Oddy (Aldershot, Hampshire: Ashgate, 2007), 77-90; Derek J. Oddy, "Food Quality in London and the Rise of the Public Analyst, 1870 - 1939," in *Food and the City*, 91-103; Alessandro Stanziani, "Municipal Laboratories and the Anaylsis of Foodstuffs in France under the Third Republic: A Case Study of the Paris Municipal Laboratory, 1878-1907," in *Food and the City*, 105-15; Matthew Morse Booker, "Who Should Be Responsible for Food Safety: Oysters as a Case Study," in *Food Fights: How History Matters to Contemporary Food Debates*, ed. Charles C. Ludington and Matthew Morse Booker (Chapel Hill: University of North Carolina Press, 2019), 145-61; Rachel Berger, "Clarified Commodities: Managing Ghee in Interwar India," *Technology and culture* 60, no. 4 (2019): 1004-26.

202 Philip James, "Setting Food Standards," in *Consuming Passions: Food in the Age of Anxiety*, ed. Sian and Jennifer Wallace Griffiths (Manchester: Mandolin, 1998), 48-57; Richard Lacey, "Mad Cows and Englishmen,"; in *Consuming Passions: Food in the Age of Anxiety*, ed. Sian Griffiths and Jennifer Wallace (Manchester: Mandolin, 1998), 34-40; Hugh Pennington 'Dining with Death,' in *Consuming Passions: Food in the Age of Anxiety*, ed. Sian Griffiths and Jennifer Wallace (Manchester: Mandolin, 1998), 24-33.

203 Young, *Pure Food*, 291, 4.

politics of control influence diets and health.[204] Gergely Baics and Dawn Day Biehler have complicated linear narratives that equated unregulated with unsafe and regulated with safe, drawing attention to historical moments when increased regulation and idealised models of government intervention did not improve living standards, or eliminate food safety issues, but in many cases actually contributed to social inequalities.[205]

Food anxieties are not 'natural' but take on 'culturally specific forms', as Freidberg has observed. By tracing the complex processes taking green beans grown on African farms to consumers in Europe, she has examined the social relationships behind 'safe' and 'certifiably pure' foods on supermarket shelves.[206] The standards used by supermarkets to guarantee the moral and physical safety of their products, she argues, 'embody a kind of imperial knowledge'.[207] The concept of 'fresh' has been explored by Freidberg in a largely American context, investigating the historical discourses surrounding perishable foods, from safety to nutrition to food miles. Ideas of freshness, she argued, are culturally contingent and 'reveal much about our uneasy appetites for modern living…the anxieties and dilemmas borne of industrial capitalism and the culture of mass consumption'. Demand for fresh foods globally has shaped individual lives, economies, power structures and landscapes.[208] This work closely informs my study, not simply because the subjects of our studies are closely linked, but for Freidberg's recognition that apparently natural and timeless qualities of foods, whether freshness or safeness, are in fact socially regulated and contested.[209]

Tarulevicz has provided the most extensive work on cultural food safeties, locating her studies in Singapore, a city-state that, with its reliance on imported foodstuffs, has long anticipated the challenges of the contemporary globalisation of food chains. As Tarulevicz explains, food safety is historically constructed, and often contested, located 'at the intersection of scientific realities, commercial imperatives and community practicalities'; it is

[204] Marion Nestle, *Safe Food*; Marion Nestle, *Food Politics: How the Food Industry Influences Nutrition and Health* (Berkeley: University of California Press, 2013).
[205] Gergely Baics, *Feeding Gotham: The Political Economy and Geography of Food in New York, 1790-1860* (Princeton: Princeton University Press, 2016); Dawn Day Biehler, *Pests in the City: Flies, Bedbugs, Cockroaches, and Rats* (Seattle: University of Washington Press, 2013).
[206] Susanne Freidberg, *Green Beans and Food Scares: Culture and Commerce in an Anxious Age* (Oxford: Oxford University Press, 2004), 220, 5.
[207] Susanne Freidberg, "Supermarkets and Imperial Knowledge," *Cultural Geographies* 14, no. 3 (2007): 321-42; Susanne Freidberg, "Ambiguous Appetites: A Modern History," *Food, Culture & Society* 13, no. 4 (2010): 477-91.
[208] Freidberg, *Fresh*, 11.
[209] Ibid., 2.

experienced physically, expressed symbolically, and manifests materially.[210] Her work has focused particularly on the discursive construction of popular knowledges, arguing them to be ‘a kind of culinary infrastructure’, informed by internationally produced ideas according to local conditions.[211] Institutional endeavours to manage phenomena perceived as food safety threats, such as insects, adulteration and heat, ‘can be understood as part of broader attempts at ordering and clean the city and the citizenry’, and are illuminating in thinking about power.[212] This study gathers these scholarly threads to shine a revealing light on the Australian example.

Thesis Overview

This is not an exhaustive study of food safety in Australian history. Instead, it seeks to open up new avenues for research through case studies of overlapping time periods that look at particular themes of food safety. I begin by examining encounters of food in the contact zone of colonial Australia. ‘Contact zones’ describes the meeting spaces between cultures, and this chapter explores how food, too, is a contact zone.[213] Unpicking accounts of encounters – ranging from 1688 to the 1880s – in the textual records of British colonists shows how cultural and physical food safety contributed to Australian settler-colonial culture. For Indigenous peoples and British colonists, colonisation of the Australian continent propelled them into a strange and anxious world. Food safety is particularly precarious in unfamiliar environments. Food was a method of communication, encouraging encounters and signalling boundaries of trust, but also created and maintained distance and conflict between cultures. The very definition of what constituted ‘food’ was contested, with edibility critically connected to racial categories and sovereignty.

In the second chapter, I turn to the international food systems that supplied the Australian colonies in the 19th century, examining how food safety qualities were communicated before brands became a prominent feature of capitalist societies. In newspapers, foods were commonly identified by their place of origin: for example, Scotch

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[210] Nicole Tarulevicz, “‘I Had No Time to Pick out the Worms’: Food Adulteration in Singapore, 1900-1973,” *Journal of Colonialism and Colonial History* 16, no. 3 (2015): 1; Nicole Tarulevicz, “Sensing Safety in Singapore, 1900–2015,” *Food, Culture & Society* 21, no. 2 (2018): 164; Nicole Tarulevicz, “Untouched by Human Hands: Making and Marketing Milk in Singapore, 1900 – 2007,” in *Routledge Handbook of Food in Asia*, ed. Cecilia Leong-Salobir (New York: Routledge, 2019), 193-206.

[211] Nicole Tarulevicz, “Food Safety as Culinary Infrastructure in Singapore, 1920–1990,” *Global Food History* 2, no. 2 (2016): 132-56.

[212] Nicole Tarulevicz, “Insecta (Class), or One of the Main Drawbacks of Tropical Living,” in *Humans and Other Animals in Singapore, 1942-2020,* ed. Timothy P. Barnard (Singapore: Singapore University Press, forthcoming, 2022).

[213] Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992), 4.

herring, Mauritius sugar, Normandy pippins, Swiss milk, Chilean wheat, and so forth. Place of origin advertising, I argue, was a semiotic device communicating cultural-contingent meanings of food safety and quality to Australians. Places attached to foods meant something to the 19th century consumer, and by examining potential meanings, we can better understand how ideas of food safety informed Australian food choices. Burgeoning global and industrialised food chains fed Australia in the 19th century, and case studies of fish, coffee and dried fruits demonstrate how place labelling spoke to Australians about potential safety concerns around identity, labour, class, race, culinary hierarchies, and new technologies.

The problem of food adulteration in the period 1850s to c.1912 is explored in chapter three, with the consequent establishment of Australia's first broad food safety laws. Reflecting a combination of global anxieties and local conditions, ideas of food adulteration were informed by developing knowledges of germs and the chemical make-up of foods. The chapter pays particular attention to how Australian consumers were discursively constructed as responsible for their own safety in the fight against food adulteration. Case studies explore the relationship between taste and safety, showing how discourses of empire, class and race were generated and consolidated by food products such as tea and beer. The rhetoric of tea businesses in promoting Indian over Chinese tea, remind us of the enmeshed nature of power operating at the intersection of the colonial state and capitalism, and demonstrating how food safety knowledges were actively produced in this space. An 1875 outcry over contested beer adulteration allows us to question who gets to define food adulteration and good taste. Food safety regulations, as codified and structural expressions of food safety, are traced in the second section. Legislation represents the rise of governments being held responsible for the safety of their citizens, as well as state responses to the problem of food fraud and interventions in markets.

Packaging, as an aspect of the material culture of food safety is the subject of the fourth chapter, serving as a chronological interlude, examining the entire timeframe of the thesis. With increasing industrialisation, food packaging changed significantly over the 19th and 20th centuries. From bulk vessels, the rise of 'unit' packaging changed commodity chains and the experience of shopping. It enabled the production of new foods and conveniences, altering everyday life. Packaging functioned both materially and semiotically, protecting foods, streamlining production and transport, and allowing businesses to attach certain meanings to a product. Case studies of tinned foods, cardboard and paper, and plastic demonstrate how food safety knowledges shifted, particularly in introducing new sensory regimes and new food safety fears.

Examining the period from the Federation of Australia in 1901 to 1964, encompassing both World Wars and the Great Depression, chapter five looks at the implications of scientific theories of germs and nutrition. This includes heightened industrial production on food safety in Australia, and how food safety became institutionalised. Health and safety were portrayed as mutually-constitutive in textual sources, and are thus studied together. Ice cream and milk are used as exemplars. Food safety was increasingly systematised through the implementation of regulations, manifested in new food authorities and in educational discourses and interventions. Emerging knowledges were not only scientific, but cultural too, utilised to reinforce social hierarchies of class, race and gender. Understandings of germs and contagion meant that private dirt was of public concern, a potential pollutant to the wellbeing of Australia. Equally, safe and healthy foods were necessary for a healthy nation.

These themes are further developed in chapter six, focusing on how commercial interests utilised and shaped food safety discourses in the same period. Through the themes and tropes of food advertisements of the era, I tease out how food safety and nutrition were entwined and promulgated, and how commercially-driven information was represented as objective scientific knowledge in Australian print media. Ice cream and milk again provide examples in this chapter, and the promotions of one Australian brand – Peter's – is returned to throughout. Brands were framed as a guarantee of safety, as companies sought trust and repeat sales. In using the vocabulary of fortified, enriched and protective foods, delineations between food and medicine were deliberately blurred. Safety is shown to have had a spatial dimension, with certain spaces presented as more dangerous than others. Domestic food production was presented as riskier than factory, as industrial foods production increased. Again, ideas of gender, race and class were evident in the food safety messages of companies.

The study concludes with a chapter spanning the whole period of the thesis, examining food preservation and the use of technologies of cold. At the junction of technology and temperature, we can explore how food safety was changed by the use of cold. If we accept cold technologies as a natural progression of food safety, then we miss critical elements of their development, take them for granted, and cease to see them as the construction of capitalist concerns. The chapter looks at the uptake of ice and refrigeration in Australia, showing that they were perceived as luxuries, rather than necessities. A taste for cold had to be created, and again, commercial interests and emerging health authorities stepped in. Refrigeration discursively promised more than physical safety, offering social safety too. While the need for cold storage in the home was still contested, cold infrastructures permeated and underpinned food supply chains. The progression of cold is traced from natural ice imported from other continents, and the development of mechanical ice in the 19th century, to the emergence, potential hesitations, and adoption of domestic refrigeration up until 1964. Studying these forms of material culture and the meanings attached to them demonstrates how refrigeration gradually changed food safety understandings and altered the movement and taste of people's lives.

This thesis shows food safety in Australia has specific and telling histories, shaped by environmental, social, economic and technological processes. Even before British colonists arrived on the continent they had ideas of what it was and what it would become: there was an idea of Australia before an 'Australia' existed. Setting the scene for this cultural history of food safety, we turn to encounters of food in the contact zone of colonial Australia.

1.

'To Eat at One Table': Food Safety in the Colonial Contact Zone

For Joseph Banks, botanist onboard the *Endeavour* in 1770, the freshness and flavour of Coral Sea turtle was remarkable: 'Our Turtles are certainly far preferable to any I have eat in England'.[1] The taste was so delicious, the desire for it triggered hostilities between the *Endeavour* crew and peoples of the Guugu Yimithirr nation of northern Queensland. This was a foundational episode of conflict: Captain James Cook and his crew were challenged over the taking of turtles, an important food resource for the local people.[2] From the start, food was centre stage in the Australian colonial contact zone. Food and food knowledge were exchanged, refused or disputed as power dynamics were established.

Stranded awaiting ship repairs, Banks recorded the slow development of trust between newcomers and locals through food exchanges and, later, the fracturing of that trust. On 10 July, attempting to gain the goodwill of a group of men, 'Cloth, Nails, Paper, etc.' were offered without success until: 'at last a small fish was by accident thrown to them on which they expressd the greatest joy imaginable'.[3] Evidently, the fish was the deciding factor. The following day the gift was reciprocated with more fish, thus establishing trust and an equilibrium of power.[4] Only a couple of days later, however, the relationship began to shift. On the 12th, Guugu Yimithirr men asserted, through food, that they held power, dictating the circumstances of meeting on their land: they 'had some fish given them. They receivd it with indifference, signd to our people to cook it for them… they eat part and gave the rest to my Bitch'.[5] While the peoples 'became our very good friends', discord followed.[6]

Having observed the British collecting turtles over the weeks of their stay, the Guugu Yimithirr men made no objection. By 19 July, the *Endeavour* had eight or nine turtles on

[1] J. C. Beaglehole, ed., *The Endeavour Journal of Sir Joseph Banks, 1768-1771* (Sydney: Angus and Robertson, 1962), vol. 2, 94; For another interpretation of this episode, see Christopher Mayes, *Unsettling Food Politics: Agriculture, Dispossession and Sovereignty in Australia* (London: Roman and Littlefield, 2018).
[2] The Guugu Yimithirr are a cultural-linguistic group from the Hopevale region of North Queensland, John B. Haviland, 'Guugu Yimithirr Cardinal Directions.' *Ethos* 26 1 (1998): 25-47; Beaglehole, *Endeavour Journal*, 94.
[3] Beaglehole, *Endeavour Journal*, 91.
[4] Ibid., 91-2.
[5] Ibid., 92.
[6] Ibid.

deck. The British were visited by local men bearing spears, who made it clear they wanted one of the turtles: 'They first by signs askd for One and on being refusd shewd great marks of Resentment', leading to a physical altercation.[7] The man who had asked for the animal, 'stamping with his foot pushd me from him with a countenance full of disdain'. A turtle was seized from the British and then taken back; actions that were repeated several times.[8] Onshore, the conflict continued. In Cook's account (more dramatic than Banks' version), one man 'made a large circuit round about us and set fire to the grass… the whole place was in flames'.[9] Cook fired a musket shot, wounding one of the Guugu Yimithirr. Later, an older man made peace with the British, and quiet prevailed until the *Endeavour* departed over a week later.[10]

This confrontation over the control of food and resources reflected different ontologies. The British regarded the animals as theirs because they caught them and did not recognise Indigenous ownership; the Guugu Yimithirr men asserted their rights to the turtles taken from their sea-country. While accepting the newcomer's initial taking of a few turtles, a threshold was exceeded and their political economy violated. The Guugu Yimithirr did not demand all of the British catch, but only a share of the resource they believed theirs. Bearing firearms, the balance of power appeared to be tilted in favour of the British. Banks, however, realised how precarious this control was in this tense contact moment: 'We had great reason to thank our good Fortune that this accident happned so late in our stay'.[11]

A few days later, crew members stumbled upon goods they had given to the Guugu Yimithirr, and Banks appeared to comprehend the value of the food resource denied to them: 'they seemd to set no value upon any thing we had except our turtle'.[12] Both groups understood and appreciated the turtles as a resource for sustenance. Yet the turtles were not critical to survival of either group in this moment, with Cook offering the locals bread, 'which they rejected with scorn as I believe they would anything else excepting turtle'.[13] Here tastes collided, sparking conflict over who had the right to control access to this food.

[7] Ibid., 95-7.
[8] Ibid.
[9] W. J. L. Wharton, ed. (1893), *Captain Cook's Journal: During His First Voyage Round the World, Made in H.M. Bark "Endeavour", 1768-71*, ed. (Adelaide: Libraries Board of South Australia, 1968), 289-90.
[10] Alberta Hornsby and Eric Deeral in Mark McKenna, *From the Edge: Australia's Lost Histories* (Melbourne: Miegunyah Press, 2016), 201-06.
[11] Beaglehole, *Endeavour Journal*, 95-7.
[12] Ibid., 98-9.
[13] Wharton, *Cook's Journal*, 289-90.

From this foundational moment of contact, food was central in the meeting of European and Australian Indigenous cultures. Using this episode as a touchstone, we can explore food safety in the Australian colonial contact zone. Contact zones, as coined by Mary Louise Pratt, refer to 'social spaces where disparate cultures meet, clash and grapple with each other'.[14] Scholars of colonialism have pointed out that although contact zones are generally understood as spatial, bodies were also important sites of contact.[15] Food too, is then a contact zone: a meeting place, binding people in relationships to place and one another, and expressive of power relations.

The safety of food is of particular concern in an unfamiliar environment, engendering anxiety about perceived risks. Food was both essential to safety and a threat to the safety and wellbeing of all involved in the contact zone. For the British, food choice took place not only in a world of unknown – if potentially edible – plants and animals, but outside of familiar food safety markers, protocols and market regulations. For the original peoples of the continent, contact with the British entailed the fracturing of existing social protocols and the introduction of new foods, launching them into a sharply altered world in which the boundaries of food safety had to be reconfigured. This chapter sets the stage for understanding the role of food in Australian settler colonialism. My approach, of considering the cultural and physical concurrently, illuminates how contingent food safety was from the first contact in Australia.

Approach

This chapter examines moments of food encounters taking place between 1688 and the 1880s, although most episodes are drawn from the first few decades of the 19th century. It is primarily about British responses to the foods of Indigenous Australians, and moments are located, in the main, on frontiers as points of cross-cultural contact. I begin by discussing how food very often enabled encounters between cultures, but was also used to signal the limits of trust.[16] I move on to the maintenance, negotiation and fracturing of embodied food safety. Physical illness from unfamiliar foods was often informed by cross-cultural contact, but without the adequate cultural knowledge of safe preparation. From physical illnesses, the

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[14] Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992), 4.
[15] Penelope Edmonds, *Urbanizing Frontiers: Indigenous Peoples and Settlers in 19th-Century Pacific Rim Cities* (Vancouver: University of British Columbia Press, 2010), 16; Lynette Russell, ed., *Colonial Frontiers: Indigenous-European Encounters in Settler Societies* (Manchester: Manchester University Press, 2001), 1.
[16] In other contexts, see, Ritva Maria Kylli, "Bread and Power in the "Land of No Bread"–Low-Carbohydrate Sámi Diet in Transition," *Acta Borealia* 31, no. 2 (2014): 176-197; Leonie Stevens, "Ship's Biscuits: Fuelling Empire, If Not Diplomacy," Monash University Blog.

focus turns to cultural food safety: the policing of cultural boundaries, and how the difference between needs and tastes manifested. Discursive safety is the subject of the next section: how food was symbolically used to designate Indigenous peoples as 'savages', and the work that this discourse performed. The example of rationing shows how safety could be used to make demands. To conclude, I touch on a few ways Australian foods could be made 'edible'.

In my research I deliberately sought embodied experiences of food exchange – for expressions of taste, disgust and appreciation – and was often frustrated by the apparent lack of attention and detail given about the taste and experience of eating Australian foods. I looked for responses to particular foods, which today we are likely to view as challenging but were, in my research, largely unremarked upon. Mutton bird, for example, is appreciated by few today with its strong, gamey, fishy flavour and pungent smell. References to its consumption in colonial Australia were fairly common, but little mention is made of its flavour. This reiterates that 'taste', and what constitutes acceptable food, shifts and changes. Like the other senses, taste 'turns cultural when people express and give meaning to their experiences'.[17]

In this exploration of encounters between groups, it is necessary to broadly differentiate, using the crude designations of 'British' and 'Indigenous', while recognising the people were not monolithic or even necessarily united groups, but were comprised of individuals with varying ambitions and desires. Further, many other cultures participated in and experienced the Australian colonial contact zone and Australian settler-colonial society, such as Māori convicts, American whalers, and South-Asian cameleers and sailors. There was no simple Indigenous/British binary, with sexual relationships resulting in communities and individuals with hybrid cultures and identities, as in the Northern Territory trepang trade and the Bass Strait sealing communities. For the purposes of this thesis, the study will restrict itself to exploring contact between British and Indigenous Australians.[18]

Context

In the scheme of imperial expansion, the Australian invasion occurred late. After initial scouting expeditions, British colonists arrived with the intention of claiming land for the Empire through permanent settlement in 1788. Other European explorers visited the

[17] Jakko Suominen, Antti Silvast, and Tuomas Harviainen, "Smelling Machine History: Olfactory Experiences of Information Technology," *Technology and culture* 59, no. 2 (2018): 316.
[18] Patsy Cameron, *Grease and Ochre: The Blending of Two Cultures at the Colonial Sea Frontier* (Launceston: Fullers Bookshop, 2011).

continent before and after the 'First Fleet' – British dominance was not a given. The Dutch, with trading posts in Java, named the Australian continent New Holland in the mid-17th century, having mapped the west coast of the continent, southern Tasmania, and eastern New Zealand.[19] Spanish and Portuguese explorers were also present in the region. The British sought resources, a foothold in the Asia-Pacific and land, notably to replace their North American penal colony after the Declaration of Independence in 1776. The British Empire was global, with imperial conquests including India, parts of Africa, the Caribbean, and expanding regions of what would later become Canada after the Seven Years War in Europe.[20] France, after the loss of Canadian Territories, continued to compete with Britain for territory and sent scientific expeditions to the region.[21] Australia was the vanguard of British Australasian expansion. British colonists carried knowledge – whether from personal experience or second-hand accounts – of imperial encounters and relationships with other Indigenous peoples and their food cultures. This knowledge shaped the colonisation of Australia. Scholars such as Trudy Eden, Cecilia Leong-Salobir, and Rebecca Earle have detailed the complex and often contradictory role of food in other colonial sites.[22]

Hobart followed Sydney as a penal settlement in 1804, and in the subsequent decades squatters claimed tracts of Victoria and NSW. The settlements which later became colony capitals were mostly established in the 1820s and '30s, but there was no single 'frontier' as settlements and cultural encounters spread across the continent unevenly and gradually. Colonial settlements were primarily connected by the sea, with overland journeys slower and more difficult. Sealers, usually apart from official colonisation, took control in areas of coastal fringes.[23]British populations, concentrated along the south-eastern seaboard, gradually expanded inland, driven largely by pastoral interests. Following the country and paths cultivated by local Indigenous peoples, these expansions stimulated conflicts – well detailed elsewhere.[24]

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[19] Stuart Macintyre, *A Concise History of Australia*, fourth ed. (Port Melbourne: Cambridge University Press, 2016), 22.
[20] Ibid., 19.
[21] Ibid.
[22] Trudy Eden, *The Early American Table: Food and Society in the New World* (DeKalb: Northern Illinois University Press, 2008); Cecilia Leong-Salobir, *Food Culture in Colonial Asia: A Taste of Empire* (London: Routledge, 2011); Rebecca Earle, *Feeding the People: The Politics of the Potato.* Cambridge: Cambridge University Press, 2020).
[23] Patsy Cameron, *Grease and Ochre: The Blending of Two Cultures at the Colonial Sea Frontier* (Launceston: Fullers Bookshop, 2011).
[24] Henry Reynolds, *The Other Side of the Frontier: Aboriginal Resistance to the European Invasion of Australia* (Crow's Nest, NSW: UNSWP, 2006)

British colonists also brought with them British laws as they stood in 1788. Cook's account, which informed invasion of the continent, recognised no sovereign power or land tenure.[25] Discussed further in chapter three, colonial authorities passed ordinances specifying the quantity, quality and cost of many foods. And from the first decade of the 19th century, individual colonial governments passed legislation relating to specific foods. Diet rations of the 'First Fleet' were dictated by Royal Navy Regulations, with the Sydney settlement intended to be self-sufficient in terms of food supply within two years.[26] Legally, Britain formally sanctioned the Australian colonies' right to determine their own laws from 1865.[27]

Edible/Inedible

Notions of what is considered 'edible' or 'food' are largely culturally constructed. As Helen Zoe Viet has observed, 'biological edibility is a bigger category than cultural edibility'.[28] Put another way, of the many foods we can possibly eat, we select relatively few. What is delicious to one is often repulsive to another. Governor of South Australia George Grey made this clear in an observation describing the local peoples of Western Australia during the 1840s:

> If the natives are taunted with eating such a disgusting species of food as these grubs appear to Europeans they invariably retort by accusing us of eating raw oysters, which they regard with perfect horror.[29]

As Grey indicates, the very definition of what constituted food was challenged in the Australian contact zone.[30] What was considered food varied between groups. Jaclyn Rohel has reminded us, 'the things that we eat, and consider edible, are products of particular histories, technologies of power, and institutions of knowledge that have made the foreign familiar'.[31] Deconstructing what the concepts food, safety and edibility meant in the colonial

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[25] Tim Rowse, "*Terra nullius*," in *The Oxford Companion to Australian History*, ed., Graeme Davison, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 643.
[26] Jacqueline Newling, "First Fleet Fare: Food & Food Security in the Founding of Colonial New South Wales, 1788-1790," (PhD thesis: University of Sydney, 2021), 122.
[27] *Colonial Laws Validity Act, 1865* (UK).
[28] Helen Zoe Veit, "Eating Cotton: Cottonseed, Crisco, and Consumer Ignorance," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 397.
[29] George Grey, *Journals of Two Expeditions of Discovery in North-West and Western Australia During the Years 1837, 1838, and 1839* (London: T and W Boone, 1841), n. p.
[30] Damian M. Mosley, "Breaking Bread: The Roles of Taste in Colonialism," *Food, Culture & Society* 7 no.2 (2004): 49-62.
[31] Jaclyn Rohel, "Introduction: Genealogies of Edibility in Global Culture," *Global Food History* 3, no. 2 (2017): 105-10.

contact zone helps tease out what cultural work these ideas performed in the historical moment and into the future.

Classifications of edible and inedible 'strengthened the cohesion' of communities and identities.[32] For Lucy Long, 'the realm of the *edible* consists of cultural categories of what can and cannot be eaten, in the sense that one's humanity is tied to observing such categories'.[33] But these categories are not fixed, with definitions of edibility being contextually dependant, as we will see throughout this chapter. Put another way by a 19th century guide to 'useful' Australian flora: 'the products of many plants, although "eatable," are not "fit to eat," and would never be employed as food except in the direst necessity. Australian indigenous fruits, roots, leaves, and stems are nothing to boast about as eatables'.[34] Sometimes this discrepancy was a matter of physiological taste, but more commonly it was *what* a food was, or *how* it was prepared. Worms or insects fell into a category of culturally inappropriate foods for colonists, whereas the raw oyster reportedly induced disgust in some Indigenous Australian cultures. Delineations between the edible and inedible were often grounded by British colonists in how a food was grown or reared: edibility was implicitly bound to cultivation – a term which assigned foods as correct or proper.[35]

Cook made this relationship explicit: 'The Land naturally produces hardly anything fit for Man to eat, and the Natives know nothing of Cultivation'.[36] Because what was eaten by the Indigenous people Cook encountered did not appear to be cultivated in a recognisable form of agriculture, it could not be 'real' food. By denying Indigenous peoples' foods, British colonists (knowingly or not) rejected Indigenous sovereignty, as Hi'ilei Julia Hobart contends: Indigenous foods were represented 'as a hindrance to the civilizing project, where eating, growing, and political placemaking operate to either affirm or deny one's sovereignty'.[37] Moreover, ideas of what constituted food and Indigenous food practices were used as evidence of difference, and to mark constructed racial divisions and hierarchies.

Foods considered wild and uncultivated were aligned with disorder and unruliness, only fit for subsistence, not progress or civilised society. Moreover the 'inability to

[32] Karin Zachmann and Per Østby, "Food, Technology, and Trust: An Introduction," *History and Technology* vol. 27, no. 1 (2011): 1.
[33] Lucy M. Long, "Culinary Tourism: A Folklorist Perspective on Eating and Otherness," in Lucy M. Long ed., *Culinary Tourism* (Lexington: University of Kentucky Press, 2004), 32-33.
[34] J.H. Maiden, *The Useful Native Plants of Australia (Including Tasmania)* (Sydney: Turner and Henderson, 1889), 1.
[35] Christopher Mayes, *Unsettling Food Politics*.
[36] Wharton, *Cook's Journal*, 318.
[37] Hi'ilei Julia Hobart, "A 'Queer-Looking Compound': Race, Abjection, and the Politics of Hawaiian Poi," *Global Food History* 3, no. 2 (2017): 138.

distinguish between the edible and the inedible was a sure sign of barbarism'.[38] The foods eaten by Indigenous peoples were not really food, but something less. Australian endemic plants were positioned in a 'category of 'un-food' which was consumed only when normal social structures had utterly collapsed'.[39] A European historical example of this would situate foraged and wild foods, like acorns, as a peasant or hunger-time food, not appropriate for upper-classes.[40] The categorisation of foods (in the Foucauldian sense of classification) was important, as fixing meaning to a thing makes it known.[41] Once we know what and where a food fits into our understanding of world, the experience is made less unstable and anxious. Categorisation can make a potential food source 'edible', although not necessarily desirous.

Why Food and Why Safety

From the outset, food was an instrument of colonial power. As Earle has argued, we cannot understand colonialism if we do not pay attention to eating; food 'was central to shaping the colonial space'.[42] European food sources, such as cattle and sheep, damaged the land, critically fracturing the foodways of the original peoples; comestibles were at times deliberately poisoned; control of food supplies were used to control and 'civilise'; and accounts of local food practices were used as evidence supporting racial hierarchies of the time, which in turn were used to justify colonisation.[43] The very legal basis of British colonisation of Australia rested on perceptions of the production of food. The assertion of *terra nullius* or land belonging to no one, was used as justification for British settlement, practiced for a long time before being formally described as legal doctrine.[44]

A central tenet of *terra nullius* was concerned with the production of food and Lockean ideas of property rights gained through the tilling of the land, and through British narrow definitions of agriculture.[45] Cultivated land, Earle points out, was a hallmark of

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[38] Rebecca Earle, *The Body of the Conquistador: Food, Race and the Colonial Experience in Spanish America, 1492 – 1700* (Cambridge: Cambridge University Press, 2012), 121.
[39] Ibid., 119.
[40] Andrea Maraschi, "The Seed of Hope: Acorns from Famine Food to Delicacy in European History," in *Seeds: Proceedings of the Oxford Symposium on Food and Cookery 2018*, ed. Mark McWilliams (London: Prospect Books, 2019), 177-85.
[41] Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences,* trans. Tavistock Publications (London: Tavistock Publications, 1970), 132-35, 161.
[42] Earle, *Conquistador*, 3, 11.
[43] Jane Lydon, "'No Moral Doubt…': Aboriginal Evidence and the Kangaroo Creek Poisoning, 1847-1849," *Aboriginal History* 20 (1996): 151-7.
[44] Stuart Banner, *Possessing the Pacific: Land, Settlers, and Indigenous People from Australia to Alaska* (London: Harvard University Press, 2007), 11-12, 30-32; Virginia Marshall, *Overturning Aqua Nullius: Securing Aboriginal Water Rights* (Canberra: Aboriginal Studies Press, 2017).
[45] John Locke (1690), *Second Treatise of Government*; Rowse, *"Terra nullius"*, 643.

civilisation 'since Aristotle'.[46] The words of Cook both epitomised and undoubtedly informed formative British ideas of Indigenous peoples: 'they seem to have no fixed habitation, but move about from place to place like wild beasts in search of food, and, I believe, depend wholly upon the Success of the present day for their subsistence' . Both Cook and Banks professed admiration in striking similar passages for the 'happiness' of the people. Immediately after such passage from Cook, however, the 1893 editor (Wharton) included the caution: 'the native Australians may be happy in their condition, but they are without doubt among the lowest of mankind. Confirmed cannibals, they lose no opportunity of gratifying their love of human flesh. Mothers will kill and eat their own children'.[47]

Because Indigenous Australians did not cultivate the land in a manner understood by the British, they were perceived to lack a property system, and it was asserted they were inhabitants rather than proprietors.[48] The Indigenous people were portrayed as primitive hunter-gatherers by many settlers, an idea which had to be constantly remade through discursive practices in order to justify colonisation.[49] British agriculture established, in Christopher Mayes's words, 'moral and ontological proprietorship' over the land.[50] *Terra nullius*, as a proclamation of sovereignty, differed strikingly from Britain's other territorial claims, such as the treaties signed in North America.[51] Recent scholarship has increasingly shown that Indigenous Australian peoples were connected to their land in complex ways, practicing many forms of agriculture, such as elaborate aquaculture systems for eel farming, and 'fire-stick farming'.[52]

Food has been central to the construction of ideas of Indigenous peoples, with implications still felt today. Zane Ma Rhea has argued food is an under-appreciated and fundamental aspect 'in explaining the impact of colonization'.[53] Unpacking food safety in the

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[46] Earle, *Conquistador*, 81-3.
[47] Wharton, *Cook's Journal*, 320-3; Beaglehole, *Endeavour Journal*, 130.
[48] Bruce Pascoe, *Dark Emu Black Seeds: Agriculture or Accident?* (Broome: Magabala Books, 2014).
[49] Penny Russell, "Unsettling Settler Society," in *Australia's History: Themes and Debates*, ed. Martyn Lyons and Penny Russell (Sydney: UNSWP 2005), 32.
[50] Mayes, *Unsettling Food Politics*, 5.
[51] Macintyre, *Concise History of Australia*, 35.
[52] Rhys Jones, "Fire-Stick Farming," *Australian Natural History* 16.7 (1969), 224-28; Bill Gammage, *The Biggest Estate on Earth: How Aborigines Made Australia* (Sydney: Allen & Unwin, 2011); David S. Jones and Philip A. Clarke "Aboriginal Culture and Food-Landscape Relationships in Australia: Indigenous Knowledge for Country and Landscape," in *Routledge Handbook of Landscape and Food*, ed. Joshua Zeunert and Tim Waterman (London: Routledge, 2018), 41-60; Rupert Gerritsen, *Australia and the Origins of Agriculture* (Oxford: British Archaeological Reports Limited, 2008).
[53] Zane Ma Rhea. *Frontiers of Taste: Food Sovereignty, Sustainability, and Indigenous-Settler Relations in Australia* (Singapore: Springer, 2017); Adele Wessell, "There's No Taste Like Home: Histories of Native Food on the

contact zone contributes to this work. While Australian scholars may be familiar with the examples utilised, I recast them using a framing of 'safety'. It is important here to differentiate between the concepts of safety and security, while recognising that they overlap and are somewhat inextricable. Here, I define security as *enough* food, whereas safety equals *appropriate* food. Further, security requires *safe* food: food safe from spoilage, contamination and adulteration. As in Eden's terms, safe has meant quantity and quality.[54] Historical depictions of Indigenous peoples as the 'rudest savages' in racial hierarchies must be deconstructed to reveal the cultural work such claims perform. Reading further into primary accounts reveals that derogatory assertions concerning Indigenous Australian food habits often sit alongside many moments of respect and admiration, emphasising how inherited knowledge and discourse clouded imperialists' perspectives and informed power structures for centuries to come.

Food is more subtle, complex and telling, than a straightforward tool of oppression and imperialism. Within the accounts explored in this chapter, there are counter-narratives. Food was (and is), to borrow a phrase from Ross Gibson, a 'space for possibility'.[55] Food enabled encounters, acted as a bridge between cultures, and enacted understandings and exchanges. It was a colonial contact zone, 'both a material place and a phenomenon of the imagination'; a meeting place – intimate, whether caring or violent – and heavy with meanings.[56]

The lens of 'safety' is a useful and productive way to study why certain foods were or were not eaten. Taste is very often grounded in safety, and safety is both discursive and embodied. Taste and safety are duplicitous: physically experienced *and* socially constructed. Ideas of food safety were enacted and given tangible expression in the acceptance and refusal of foods; these same choices were discursively recorded and discussed for and by a wider audience. As many scholars have shown, taste and food choice are often performative ways of symbolically articulating belonging and difference, a way of policing cultural boundaries between 'self' and 'other'.[57] These boundaries of taste, however, are shifting and malleable,

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Changing Tastescape of the Northern Rivers," in *Regional Cultures, Economies, and Creativity: Innovating through Place in Australia and Beyond*, ed. Eduardo De La Fuente and Ariella Van Luyn (New York: Routledge, 2020), 45-66.

[54] Eden, *Early American Table*, 10.

[55] Ross Gibson, "Patyegarang and William Dawes: The Space of Imagination," in *Making Settler Colonial Space*, ed. Tracey Banivanua Mar and Penelope Edmonds (London: Springer, 2010), 250.

[56] Tracey Banivanua Mar and Penelope Edmonds, "Introduction: Making Space in Settler Colonies," in *Making Settler Colonial Space* (London: Springer, 2010), 15.

[57] Edward Said (1978), *Orientalism: Western Representations of the Orient* (London: Penguin, 1995); Donna R. Gabaccia, *We Are What We Eat: Ethnic Food and the Making of Americans* (Harvard University Press, 2009).

according to circumstance and need. What is food and what is considered safe to consume, shifts in time and place. Exploring these subtleties can illuminate the workings of power: food knowledge was power in the contact zone, the right to define what is food is a form of power, and safety is a form of power, a security of being.

Competing Interests

British and Australian Indigenous peoples experienced hunger and want in the first decades of colonisation, although for different reasons and to differing extents.[58] What was abundance for one culture was often scarcity for another. The British found Australian conditions difficult, struggling to establish agriculture in unfamiliar circumstances where inherited knowledge was inappropriate. They were at times inadequately prepared or supplied by imported British goods, and largely perceived local foodways to be impervious and wanting.[59] The British were motivated to supplement stores, experimenting with local foods, sometimes aided by local peoples, sometimes leading to disputes over rights to foodstuffs. Competition for food resources was an increasing issue, with more bodies relying on the land and sea. European hunting dogs and technologies, such as guns and seine fish nets, interrupted existing environmental balances and decreased edible endogenous resources.[60] The introduction of hooved animals compacted the soil, hindering the growth of important vegetable tubers, grains and fruit; fences altered movements of peoples and animals once free to move across the land; and settlements polluted waterways.[61]

Testimonies of the impact on the continent's original peoples are found in colonial writings. In 1828, Governor Arthur of Tasmania (then Van Diemen's Land) reported that the local people 'complain that the white people have taken possession of their country, encroached on their hunting grounds, and destroyed their natural food the kangaroo'.[62] Locals turned to other available food sources present on their country: the cows, sheep and other animals and vegetable crops of the colonisers. In 1841, George Augustus Robinson (the then Chief Protectorate of Port Phillip) reported a 'convened conference' of local Indigenous

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[58] Ma Rhea, *Frontiers of Taste,* 95.
[59] Ibid.; Lois Davey, Margaret MacPherson, and Fred W. Clements, "The Hungry Years: 1788–1792: A Chapter in the History of the Australian and His Diet," *Australian Historical Studies* 3, no. 11 (1945): 187-208; Greg Blyton, "Hungry Times: Food as a Source of Conflict between Aboriginal People and British Colonists in New South Wales 1804–1846," *AlterNative: An International Journal of Indigenous Peoples* 11, no. 3 (2015): 299-310.
[60] Marie Fels, "Culture Contact in the County of Buckinghamshire, Van Diemen's Land 1803-11," *Papers and Proceedings Tasmanian Historical Research Association* 29 no.2 (1982), 48, 58.
[61] Robert Kenny, *The Lamb Enters the Dreaming: Nathanael Pepper & the Ruptured World* (Melbourne: Scribe Publications, 2010), 168-179.
[62] Marie Fels, "Culture Contact," 48, 58.

peoples as stating that a ‘long time ago, they had plenty of kangaroo, parum-pum, tuerercorn’, but with the arrival of white man, ‘Kangaroo all gone, jumbuc (sheep) eat the roots’.[63] They were hungry. British regarded the taking of introduced food sources, such as sheep and corn, as the theft of their property, and conflict and violence became increasingly common. The changes to country were so profound, historian Robert Kenny has argued, that the familiar country was ‘replaced’.[64] Beyond, and because of, hunger and conflict, Indigenous peoples throughout the frontier zone were left susceptible to disease. Violence, power and safety needs conflicted and were negotiated not only in the moment of contact, but in discursive sources also.

Safety and Trust

Many encounters and exchanges between cultures were initiated and aided by the offering of foodstuffs. Food as a contact zone was an enabler, demonstrating goodwill, but also asking the receiver (by eating food prepared outside of their control) to entrust their safety into the hands of the other. As well as a space of exchange, food was also used to signify the limits of trust. As Joseph Banks detailed in the turtle episode, the British visitors only succeeded in initiating meaningful communication after the offering of a fish, and the reciprocation of this gift, establishing a relationship and balance of trust. Preceding the *Endeavour*, William Dampier’s 1688 interactions (the first British voyage to visit Australia) with the Bardi peoples of north-western Australia were either forced or based on the offering of food, with other material items and gifts disregarded: ‘we gave boiled rice and with it turtle and manatee boiled. They did greedily devour what we gave them but took no notice of the ship, or anything in it’.[65]

Exchanges of food were far more important than exchanges of other material goods, not only for the value placed upon it by peoples across the continent, but because it was to be ingested, becoming part of person, requiring a leap of faith by the eater. Wishing to initiate dialogue with a man of the Yuin cultural-linguistic group of south-eastern New South Wales in 1798, Matthew Flinders exchanged sea biscuit (flour, salt and water; baked until dry and hard) for ‘a piece of gristly fat, probably of whale’ which, while not to his taste, he ate:

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[63] parum-pum, tuerercorn were said to be roots. A. S. Kenyon, “The Aboriginal Protectorate of Port Phillip: Report of an Expedition to the Aboriginal Tribes of the Western Interior by the Chief Protector, George Augustus Robinson,” *Victorian Historical Magazine* 12 No. 47 (1928): 159.
[64] Kenny, *Lamb*,168-79.
[65] William Dampier, *A New Voyage Round the World* (London: Adam and Charles Black, 1937).

> This I tasted; but watching an opportunity to spit it out when he should not be looking, I perceived him doing precisely the same thing with our biscuit, whose taste was probably no more agreeable to him, than his whale was to me.[66]

Distaste for the foreign cultures' food offering was diplomatically hidden by both men, recognising the need to accept each other's culture if the relationship was to proceed. Damian Mosley suggests that the 'consumption of unfamiliar foods is prone to trigger some form of aversion, at least initially'.[67] Spitting out the other's food was an action stemming from biological distaste, culturally constructed revulsion, and perhaps fear. The act of eating was risky here: not only could unfamiliar or familiar foods be distasteful, but food was always a potential source of illness and, at the most extreme, could have been poisoned. Consuming food proffered by a foreign culture demanded a degree of trust and the surrendering of personal safety into the other's hands; hence the exchange of food was a symbolically powerful act of goodwill.

In choosing which foods were edible, safe and consumable, individuals defined personal safety, signified the limits of trust, and expressed and dictated power balances through the maintenance of foodways, taste preferences, and both resistance and adoption of European foods and tastes. From 1829 to 1834, Government-backed 'conciliator' George Augustus Robinson was charged with negotiating for the Palawa/ Pakana (Tasmanian Indigenous) peoples to come under government protection from the violence of the Black War (1824 to 1831).[68] Food played a critical role in this mission; Robinson drew on, and later contributed to, 19th century imperial networks of discourse concerning humanitarianism, colonialism and Indigenous peoples.[69] It should be remembered Robinson's journals and Norman Plomley's transcriptions of these are, of course, problematic accounts of Palawa/

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[66] Matthew Flinders (1814), *A Voyage to Terra Australis* (Adelaide: Libraries Board of South Australia, 1966), vol. 1, cxxxix-cxl.

[67] Mosley, 'Breaking Bread', 52.

[68] Nicholas Clements, *The Black War: Fear, Sex and Resistance in Tasmania* (St Lucia: University of Queensland Press, 2014), 1; Norman J. B. Plomley, ed., *Friendly Mission; the Tasmanian Journals and Papers of George Augustus Robinson, 1829-1834* (Kingsgrove, NSW: Halstead Press, 1966).

[69] Penelope Edmonds, "Collecting Looerryminer's 'Testimony': Aboriginal Women, Sealers, and Quaker Humanitarian Anti-Slavery Thought and Action in the Bass Strait Islands," *Australian Historical Studies* 45.1 (2014), 13-33; Alan Lester, "George Augustus Robinson and Imperial Networks," in *Reading Robinson: Companion Essays to Friendly Mission,* ed. Anna Johnston and Mitchell Rolls (Hobart: Quintus, 2008), 31-32.

Pakana culture. Plomley, for example, left out Robinson's sketches and did not consult with Palawa/Pakana peoples.[70]

Time and time again, Robinson recorded foods being discerningly chosen, or rejected: for the most part, 'our luxuries [were held] in the utmost antipathy and contempt'.[71] In meeting a group of the Toogee cultural-linguistic group in the southwest of the island, 'they were highly pleased with the variety of objects', but with what was ingested, they were more cautious ('they would not eat bread, but would eat biscuit; They would not eat oysters'), and often had to be convinced to consume: 'gave them Biscuit: some of them would smell it and give it back again, others at the entreating of the two females [who travelled with Robinson] would eat it'.[72] Here, senses were used to assess the safety of the proffered goods, and other local people mediated the edges of food safety.

In attempting to gain the trust of a Toogee family and a particularly terrified daughter, who had 'doubtless heretofore been betrayed by white men, which made them cautious', Robinson used food.[73] Kangaroo was given and accepted, but European bread rejected. The following day, Robinson suspended his taste preferences by consuming a local shellfish: 'I squatted down beside them and began to converse, partaking of some mutton fish which the female gave me'. Earlier, he had described this shellfish as having a 'strong rancid taste'.[74] The food of the locals was a meeting place, a space from which confidence could be built. But again, the family refused Robinson's proffered bread. Although not prepared by themselves, the known kangaroo was acceptable, but the bread existed outside the family's established food safety knowledges, representing another unknown in an already unstable situation. Trust in the exchange of food only went so far. Food was used to communicate and negotiate boundaries of safety and limits of trust.

Illness and Safety

The need for safe food was a very real and pressing concern in the contact zone: food safety was, of course, experienced physically. Contrary to accounts of the undiscriminating all-consuming 'savage' (discussed in more detail later), in the writings of the colonisers there is much evidence of Indigenous food safety concerns and tactics, suggesting caution in the maintenance of personal safety in relationships with the British. One account from the 1840s

[70] Original manuscripts (throughout this chapter) could not be consulted due to COVID-19 restrictions.
[71] Plomley, *Friendly Mission,* 66-7.
[72] Ibid., 131, 153.
[73] Ibid., 155-6.
[74] Ibid., 119; 79, 155-6. Referring to Abalone (*Haliotis).*

asserted that Indigenous peoples would only eat snake they killed themselves: ‘the reason is obvious; a white man seldom succeeds in killing it with the first blow…[it] inserts its fangs into its own body, and thus diffuses poison through every part of it’.[75]

In another example from the same decade, Daniel Brock of the 1844-1846 Sturt expedition into the interior recorded the apparent higher (than British) standards and method of quality control required of meat and other foods by the local peoples he came across:

> In the character of their food they are very particular. If such should be in the least tainted or flyblown, they throw it away, and on receiving anything from us, they well examine it before they will appropriate it to their own use.[76]

While sensory assessments of food safety beyond sight are uncommon in accounts of British colonisers, accounts of Indigenous peoples across Australia making sensory judgements are far more prevalent. Colonists unquestionably assessed unfamiliar foods based on a range of sensory impressions, but few, particularly in the earlier years of contact, recorded these. This trend is consistent with a Western epistemology that placed the senses in hierarchy, from the ‘lower’ senses of taste, touch and smell (also associated with women), to the ‘higher’, of sight and hearing (associated with men).[77] For colonists, the unfamiliarity of the foods was a pressing issue.

At times, when the food practices of the local peoples were unknown, ignored or misinterpreted, disastrous effects were felt. The fruit or nuts of the *macrozamia* (see figure 1) were a valuable food resource to many Indigenous peoples across Australia, eaten after they were leached in water or buried for months.[78] On numerous occasions British individuals observed local consumption, but not treatment, and consumed these nuts unprocessed, with sometimes fatal effects. On the eastern seaboard, Joseph Banks of the *Endeavour* voyage recorded that having found the nut hulls:

[75] David MacKenzie, *The Emigrant's Guide, or, Ten Years Practical Experience in Australia* (London: W.S. Orr, 1845), 213-14.
[76] Daniel John Brock, *To the Desert with Sturt: A Diary of the 1844 Expedition* (Adelaide: Royal Geographical Society of Australasia, 1975), 194.
[77] Andrew J. Rotter, “Empires of the Senses: How Seeing, Hearing, Smelling, Tasting, and Touching Shaped Imperial Encounters,” *Diplomatic History* 35, no. 1 (2011): 8.
[78] Philip A. Clarke, *Aboriginal Plant Collectors: Botanists and Australian Aboriginal People in the Nineteenth Century* (Kenhurst, NSW: Rosenberg, 2008), 84.

plentifully near the Indian fires we were assurd that these people eat them, and some of our gentlemen tried to do the same, but were deterrd from a second experiment by a hearty fit of vomiting and purging which was the consequence of the first.[79]

There is a tension here between the interpretation of culture and actually knowing how to make ingredients safe: the latter requiring more cultural knowledge and thus a more sustained interaction and communication between cultures. The *Endeavour* men observed only a small element of food culture, here the refuse of the *macrozamia* (see figure 1), isolated from cultural knowledge of processing.

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Figure 1. Macrozamia

At other times, stores of the nuts in the process of being de-toxified were stolen, again leading to severe sickness. In south-western Australia during the 1870s and ’80s, Edith Hassell noted that after processing, the fruit ‘resembles a date but tastes very like an olive’.[81] One of her workers dug up a Wiilman cache and judged it safe, relying on a sensory assessment of touch:

and as it was soft, he thought they were all right and ate a good many. He had not ridden many miles when he was taken so ill…had it not been for a team passing by, I believe he would have died, and he was many weeks before he entirely recovered.[82]

[79] Beaglehole, *Endeavour Journal*, 115.
[80] Robert David Fitzgerald, “Macrozamia sp., family Zamiaceae,” National Library of Australia (circa 1875).
[81] Ethel Hassell, *My Dusky Friends* (East Freemantle: C. W. & W. A. Hassell, 1975), 25.
[82] Ibid.

Having had more extensive interactions with the local Wiilman people and experience of the foodstuff, this man was aware of the necessary process to make the fruit safe, and believed he could judge the edibility of fruit. His failure to gain appropriate cultural knowledge of food safety meant severe consequences.

Food safety incidents sometimes arose from shortages and hunger. A classic example of one group's plenitude being the other's scarcity is the story of Robert Burke, William Wills and their party, who in 1860-61 attempted to cross the interior of the continent from Melbourne to the Gulf of Carpentaria. Several of the party starved or died of nutritional deficiencies in country where the locals thrived. Mishap, but particularly ignorance of the environment and ineffective communication with the numerous local peoples, were the main cause of deaths.[83] For those who lived, local Indigenous peoples were usually critical to their survival.[84] The team divided into smaller groups and ran into difficulties, leaving them desperately short of nutritionally adequate food. On numerous occasions, various members of the expedition recognised that they did not have the appropriate food safety knowledge, as in a report given by a member of one of the relief expeditions Edwin Welch:

> they roasted and ate portions of the snake, after the manner of the blacks, but without their special knowledge of the delicacy as an article of diet…the results were disastrous. Burke was so ill on the following day that he was unable to travel for some hours, and Gray, was almost as bad.[85]

While William Wills and others were more appreciative of local help, Robert Burke, as the expedition leader, spurned the assistance of the Indigenous peoples they came across, on one occasion angrily knocking proffered fish from a local's hand.[86]

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[83] Aaron Paterson, "Introduction: A Yandruwandha Perspective," in *The Aboriginal Story of Burke and Wills: Forgotten Narratives*, ed. Ian Clark and Fred Cahir, (Melbourne: CSIRO, 2013), 16.

[84] Fred Cahir, "Devil Been Walk About Tonight – Not Devil Belonging to Blackfellow, but White Man Devil. Methink Burke and Wills Cry Out tonight 'What for Whitefellow Not Send Horses and Grub?': An Examination of Aboriginal Oral Traditions of Colonial Explorers,' in *The Aboriginal Story of Burke and Wills: Forgotten Narratives*, ed. Ian Clark and Fred Cahir, (Melbourne: CSIRO, 2013), 191.

[85] Edwin Welch, "Journal of Contingent Exploration Party." *Burke and Wills Web*.

[86] Aaron Paterson, "Yandruwandha Perspective", 15; Fred Cahir, "Devil Been", 199.

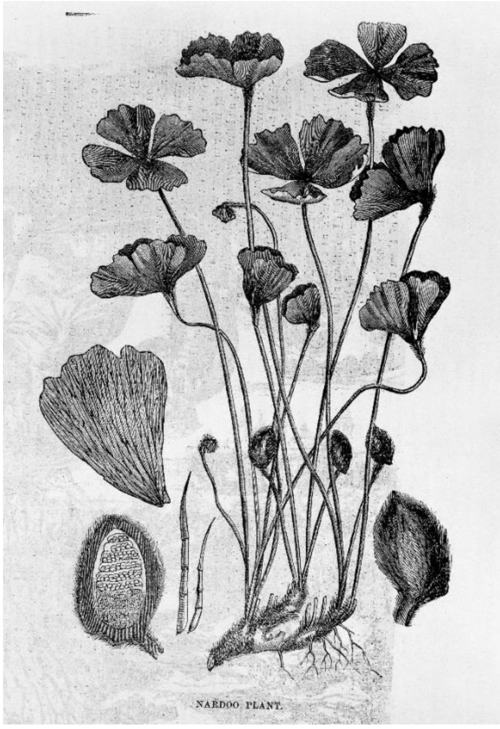

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Figure 2. Nardoo

Suffering from starvation, dehydration, exhaustion, beri-beri and hypothermia, Burke, Wills and John King only survived as long as they did by accepting foods given by locals. These foods included rats, fish and a bread made from nardoo (see figure 2), the sporocarps of a variety of waterferns which grows in drying mudflats.[88] Rendered edible by 'extensive pounding, sluicing and baking', the process rids the sporocarps of thiaminase, an enzyme which blocks thiamine (Vitamin B1) absorption, critical in the prevention of beri-beri.[89] The colonists sought to emulate Indigenous collecting and processing of nardoo, which sated hunger. Only days before his death, Wills wrote, 'I have a good appetite and relish the nardoo much, but it seems to give us no nutriment…but starvation on nardoo is by no means very unpleasant'.[90] Again, these Europeans lacked the cultural knowledge to make this food source safe, whether that was the processing method (leaching the ground nardoo in water), or the need to combine nardoo with other foods to form a more nutritionally adequate diet.[91] After the deaths of Burke and Wills in late June, King attached himself to a group of

[87] Edgar Ray, "Nardoo Plant," *Illustrated Australian Mail*, 22 December 1862.
[88] William Wills, '7 May 1861' in *Starvation in a Land of Plenty: Wills' Diary of the Fateful Burke and Wills Expedition* ed., Michael Cathcart, (Canberra: National Library Australia, 2013), 128-9; Nardoo's botanical name is *Marsilea drummondii*, A. B. & J. W. Cribb (1974), *Wild Food in Australia* (Brisbane: Fontana Books, 1976), 71-2.
[89] Philip A. Clark, "The Use and Abuse of Aboriginal Ecological Knowledge," in *The Aboriginal Story of Burke and Wills: Forgotten Narratives*, ed. Ian Clark and Fred Cahir (Melbourne: CSIRO, 2013), 90-3.
[90] *Gippsland Times* (Vic), 20 November 1861, 2.
[91] Dave Phoenix, "Did Burke and Wills Die Because They Ate Nardoo?," State Library of Victoria.

Yandruwandha people, who provided nourishment for him until a European search party retrieved him in September 1861.[92]

Cultural Safety

Even when local foods did not cause sickness, they were perceived as safety risks. Food safety fears were grounded in cultural concerns, often about the policing of boundaries between cultures. Food was a potential source of cultural contamination: eating the Other's food threatened notions of self and their very Britishness.[93] In these embodied examples, we can see how the differences between needs and tastes manifested. In 1791, a local guide to an exploration party from the First Fleet asserted his taste preferences and power as a critical procurer of food:

> we shot some ducks, which Boladeree refused to swim for when requested, and told us in a surly tone that they swam for what was killed, and had the trouble of fetching it ashore, only for the white men to eat it. This reproof was, I fear, too justly founded; for of the few ducks we had been so fortunate as to procure, little had fallen to their share except the offals, and now and then a half-picked bone. True, indeed, all the crows and hawks which had been shot were given to them; but they plainly told us that the taste of ducks was more agreeable to their palates, and begged they might hereafter partake of them.[94]

As with the *Endeavour* turtle incident, food was the source of dispute, but also reveals complex power at play. Boladeree, a Burramattagal man from the Paramatta River, was treated worse than a servant, given the animal-like work of 'fetching' the dead ducks, which he was not deemed worthy of eating. Ideas of food safety clashed: Boladeree ensured the safety of the British by providing them with food, and in return he was allowed only 'food' considered unfit for British bodies, but safe for the Indigenous body. What was considered food, and who it was appropriate for, was an expression of power: hawks and crows and bones and offal were not good enough for the British, but thought suitable for Indigenous

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[92] Clark, "Aboriginal Ecological Knowledge", 102.
[93] Said, *Orientalism*.
[94] Watkin Tench, "A Complete Account of the Settlement at Port Jackson," in *1788*, ed. Tim Flannery (Melbourne: Text Publishing, 1996), 198; Matthew Fishburn, "The Field of Golgotha: Collecting Human Skulls for Sir Joseph Banks," *Meanjin* 76, no. 1 (2017): 104; Annemarie McLaren, "No Fish, No House, No Melons: The Earliest Aboriginal Guides in Colonial New South Wales," *Aboriginal History* no. 43 (2019): 46-7; Frieda Moran, "Encounters of Food and Power in the Australian Colonial Contact Zone," in *Food and Power: Proceedings of the Oxford Symposium of Food and Cookery 2019*, ed. Mark McWilliams (London: Prospect, 2020), 215.

peoples who received 'all' of the flesh-eating birds and the colonists' discarded refuse. By disputing this distribution, Boladeree exercised and negotiated social safety and argued his equality as the holder of food and country knowledge. Here, British and local taste preferences aligned and caused disagreement.

Bungaree, a man from the Kuring-gai cultural-linguistic group north of Sydney, acted as a mediator or 'go-between' on explorer Matthew Flinders circumnavigation of Australia in 1802-03.[95] Having caught three small skates and a mullet in February 1803, Bungaree sacrificed the 'most delicate' fish to Flinders and voyage artist William Westall, leaving himself hungry. In discussing the food preferences of others, Flinders revealed his own cultural food safety prejudices and detailed the complex relations of power:

> The natives of Port Jackson have a prejudice against all fish of the ray kind, as well as against sharks; and whilst they devour with eager avidity the blubber of a whale or porpoise, a piece of skate would excite disgust.[96]

Flinders implied his own disgust for whale and porpoise fat, a taste which naturalises, for the intended European reader, the later casual designation of Bungaree as a 'savage'.[97] Disgust is, as William Ian Miller has described, 'a moral and social sentiment'.[98] Despite much ridiculing of Bungaree 'for this unaccountable whim', he held fast to his belief – 'he had not been cured' – feigning disinterest.[99] More than repulsive, this type of fish would 'kill' him.[100] Bungaree maintained his health and culture by not eating the designated inappropriate and unsafe skate.

While 'eating habits both symbolize and mark the boundaries of cultures', it should be added that food also marks the liminal spaces where these delineations break down.[101] Both Bungaree and Flinders indicated his own taste boundaries – Bungaree by refusing skate, Flinders in implying his disgust for whale and porpoise fat. Yet it was not only Bungaree, but another sailor, presumably European (as it is not stated otherwise), 'who preferred hunger to

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[95] F.D. McCarthy, "Bungaree (?–1830)," *Australian Dictionary of Biography*.
[96] Flinders, *Terra Australis*, 238.
[97] Nancy Shoemaker, "Whale Meat in American History," *Environmental History* 10, no. 2 (2005): 269-94.
[98] William Ian Miller, "Darwin's Disgust," in *Empire of the Senses: The Sensual Culture Reader,* ed. David Howes (Oxford: Berg Publishers, 2005), 335.
[99] Flinders, *Terra Australis*, 238-9.
[100] Ibid.
[101] Gabaccia, *What We Eat*, 8.

ray-eating!.[102] Flinders attributes the sailor's avoidance as stemming from time spent with local people:

> It might be supposed he had an eye to the mullet; but this was not the case. He had been seven or eight years with me, mostly in New South Wales, had learned many of the native habits, and even imbibed this ridiculous notion respecting rays and sharks; though he could not allege, as Bongaree did, that 'they might be very good for white men, but would kill him'.[103]

Although Flinders marked the cultural differences between Europeans and Indigenous peoples by expressing disgust at their taste preferences, the unnamed sailor's aversion to skate marked the blurring of culture. Food knowledge and culture were exchanged and negotiated in the colonial contact zone, with individuals and groups maintaining and adapting the food habits that signified belonging in different ways. Flinders and Westall insisted on sharing the mullet with Bungaree and the sailor, showing a complex mixture of respect and prejudice for the men and their food preferences. This example speaks of the power and tenacity of food beliefs, as well as exchange, and in some small way, a melding of culture.

George Augustus Robinson implicitly aligned cultivation with 'safe' foods. A devout Christian, his objective was, as he proclaimed, the 'Amelioration of Aborigines of Van Diemen's Land' through civilisation and Christianity.[104] Central to this mission was food, eating and the imposition of taste. 'Amelioration' drew on international humanitarian discourses and entailed maintaining a sedentary population, building huts for habitation, and agriculture – namely potato fields– 'to prevail to them to cook their food after the manner of Europeans, to catch fish to eat with potatoes', and 'to eat at' the titular 'one table'.[105] Potatoes were 'an engine and an indicator of Europeanisation'.[106] For Robinson, reflecting British conceptions of 'civilisation', safety was not only what was eaten, but how food was grown, prepared and consumed.

In a statement that at once admired the food knowledge of the people he had contact with and acknowledged agency, Robinson recorded: 'their resources are indeed prolific when hunger craves and there is a variety of unknown herbs or roots or plants to which they fly

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[102] Flinders, *Terra Australis*, 238-9.
[103] Ibid.
[104] Plomley, *Friendly Mission,* 56; Lester notes Robinson later shifted from using 'amelioration' in favour of 'conciliation': Lester, "Robinson and Imperial Networks", 31-32.
[105] Plomley, *Friendly Mission*, 56.
[106] Earle, *Feeding the People*, 116, 124.

when hunger compels'.[107] This regard for resourcefulness was, however, tempered by his opinion of the type of foods eaten. At a time when many of the people he was in contact with were dying of influenza-like symptoms, presumably viruses brought by Europeans, Robinson connected local diet with illness. Perhaps venting his frustration at being unable to keep his charges safe, Robinson despaired of their 'pernicious obstinacy in rejecting proper nourishment'.[108] This depiction of the Palawa/ Pakana as incompetent was consistent with a trope which, in Greg Lehman's words 'denied the sort of agency that was assumed as a defining quality of European superiority'.[109] Seeking to make sense of the sickness that claimed so many Palawa/ Pakana but not Europeans, Robinson positioned the locals as 'childlike', unable to keep themselves safe and healthy, unable to recognise safe and good foods.[110] While Robinson rationalised the Tasmanians' foods as biologically unsafe – that is, it made them physically ill – we can now recognise that his unfavourable attitude was a culturally conditioned response.

Robinson was conflicted in his attitudes towards local foods, sometimes curiously sampling kelp and fruits without judgement, but also fearing more prolonged consumption of endemic foods. Imported supplies ran out several times on a journey around the island and so Robinson 'resolved to partake of their diet provided my stomach could bear the same'. Familiar foods were more than comfort. Robinson's 'assumed superiority' was not stable, but had to be maintained.[111] Local foods were unsafe if eaten beyond sampling, according to this logic, and were understood to be a threat to his physical wellbeing and all that made him British, Christian, and civilised.

Jumping forward in time and across the continent, Edith Hassell, a settler of the West Australian colony in the 1870s and '80s had mixed success in attempting to incorporate local foods. After experiencing success in using local fruits for jam, she 'got into fearful disgrace on one occasion' using a plant introduced to her by women of the cultural-linguistic Wiilman group of southern West Australia. The plant grew:

> very like a leek…called 'quirting'…I found it taste not unlike a chilli and just as hot…I watch the women smash them up into a slimy looking mass,

[107] Plomley, *Friendly Mission*, 66-7.
[108] Ibid.
[109] Gregory Patrick Lehman, "Regarding the Savages: Visual Representation of Tasmanian Aborigines in the 19th Century," (PhD thesis, University of Tasmania, 2016), 48.
[110] Lynette Russell, *Savage Imaginings: Historical and Contemporary Constructions of Australian Aboriginalities* (Melbourne: Australian Scholarly Publishing, 2001), 12.
[111] Pybus, "A Self Made Man", 104.

> knead them into flat cakes and put into the wood ashes to bake, telling me the fire took a good deal of the heat out of them.[112]

But Hassell failed to follow this process, instead putting 'a little' straight into a stew: 'the heat was as though I had mixed in curry powder and cayenne pepper with a liberal hand. My stew was uneatable'. Hassell's experiments put her in conflict with her husband and brother. While she held the edible to be universal – what was 'good for the natives, good for us' – her men declared 'our digestive powers were different, and flatly declined to allow me to put any of their condiments into my cooking'.[113] As Leong-Salobir has pointed out in relation to India, the British conceptualised their very bodies as different from the bodies of those they colonised, reinforcing notions of Otherness.[114] While Robinson positioned Indigenous Tasmanian foods and diets as a source of illness, creating bodily differences and degeneracy, Hassell's men – around five decades later – held it was that European bodies had different *needs* to Indigenous bodies.[115] It was not the misuse of the quirting vegetable due to a lack of knowledge that was an issue, but that endemic foods were believed inappropriate for British constitutions.

Given Hassell's misuse of the quirting, the British men's reluctance is understandable, but they had refused local foods even before this culinary disaster, despite an absence of familiar vegetables every summer. Here, taste overwhelmed need. Perhaps, as described by Penny Russell, 'anxiety lurked about the "savage" within', and that by consuming local foods, it would be shown that their bodies were not different to the Wiilman, and a local diet would erase differences that set them apart from the locals in this precarious space.[116] This notion was not limited to colonial Australia or even the 19th century, but present in many colonised places through time. Warwick Anderson gives the example of an American military doctor in the early 20th century Philippines who asserted, 'if we eat like the natives…we will become as stupid, frail and worthless as they are'.[117]

Eating was such a precarious act and closely monitored 'precisely because of the body's permeability: it is a frenzied contact zone rather than a sterile barrier between the

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[112] Hassell, *My Dusky Friends*, 9, 22.

[113] Hassell believed 'sound sanitary plan was at the root of many of their customs'. Ibid.

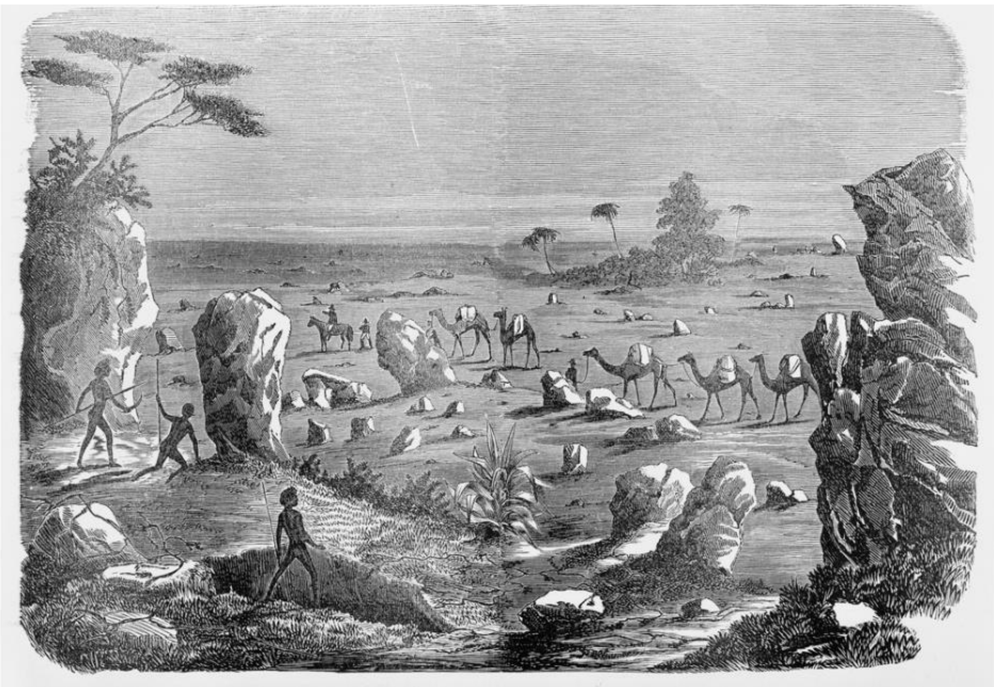
[114] Leong-Salobir, *A Taste of Empire*, 119.

[115] McClintock, Anne, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (London: Routledge, 1995), 46-7.

[116] Russell, "Unsettling Settler Society", 32.

[117] Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (London: Duke University Press, 2006), 43

civilised and the savage', as Hobart has written.[118] Food was more than a symbol of imperial social hierarchies and white superiority, it contributed to them. In Earle's worlds, 'food helped create the bodily differences that underpinned categories of British/Aboriginal'.[119] While Edith Hassell viewed food as a site of exchange, it was a contact zone that the men sought to deny. Using Mary Douglas's canonical ideas of purity and danger, local foods were unknown and thus ambiguous and dangerous to the British men, a potential pollutant that threatened the boundaries of self and other, threatened their sense of what differentiated them from the 'savages'. Hassell, as the food preparer responsible for this contamination, was the 'polluter…[a] wicked object of reprobation…because [she] crossed line and secondly because [she] endangered others'.[120]



THE BURKE AND WILLS EXPEDITION CROSSING THE DESERT.—(SEE PAGE 124.) [121]

Figure 3. An 1862 illustration of the Burke and Wills expedition

Returning to the 1860s Burke and Wills expedition (seen in figure 3), the difference between needs and tastes manifested in compelling ways, allowing us to further unpack the ideas of food safety in the colonial contact zone. Particularly interesting is the expedition's relationship to the potential food source of the native long-haired rat. Tim Bonyhady makes the argument that had expedition members (primarily the group waiting for Burke, Wills and

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[118] Hobart, "Queer-Looking Compound", 139.
[119] Earle, *Conquistador*, 5.
[120] Mary Douglas (1966), *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (Harmondsworth, England: Penguin, 1970), 65, 85.
[121] Edgar Ray, "The Burke and Wills Expedition Crossing the Desert," *Illustrated Australian Mail,* 25 June 1862.

King) made use of this food source, they could have waited longer for their leaders, who would have then survived.[122] Here we can see how what constitutes 'safe' or 'edible' food is unstable and shifts depending on the circumstances. Rats had been present in massive numbers for some time before the events below took place, and the expeditioners were aware that rats were considered a food source in this region. Willingness and unwillingness to eat rats varied between members of the party, and also according to need. Here, the operation of 'un-foods' is demonstrated: when compelled by hunger, rats were appreciated; but when European foods were still available – but nutritionally deficient – the potential food was usually still resisted. Near the end of his life, Wills ate a couple of 'nice fat rats' when given by Yandruwandha peoples and thought them 'most delicious'.[123] Alfred Howitt, leader of the search party who found King, was not compelled by hunger, but pragmatically described eating rats prepared by his Kyejerou guide Tommy: 'the tails were pulled off, and disposed of in a bunch the bodies wore eaten seriatim, very much like biting a sausage'.[124]

In another group that had separated from the main expedition, Herman Beckler, the German physician and botanical collector, insisted rats were a worthy food source, hoping their consumption would improve the condition of 'three mortally ill men' suffering from what he thought was scurvy.[125] Contrary to a more conventional European positioning of rodents as dirty and not an appropriate food, Beckler 'proposed quite seriously to Wright that I prepare some of these animals for eating, as their flesh must be as delicate, tender and fresh as could be found anywhere'; reasoning, 'knowing the cleanly life of these creatures, their harmless, unspoilt food and their abode in the unsullied lap of mother nature, there could be no cause for disgust at all in the absent of prejudice'.[126] Beckler and a few others had personally already eaten rat and resorted to eating snake and deteriorating horse flesh (which 'smelt dreadful'). Perhaps as a natural scientist, Beckler was differentiating between the endemic and imported animals.

Beckler recognised it was a culturally conditioned response that made the men reluctant to consume the animal: a strongly embodied repulse reaction towards the potentially

[122] The species is several Indigenous names, such as *artoka*, *gootanga,* and *yimala*; scientific name *Rattus Villosissimus,* Tim Bonyhady, *The Enchantment of the Long-Haired Rat: A Rodent History of Australia* (Melbourne: Text, 2019), 3, 28, 33.
[123] William John Wills, *Successful Exploration Through the Interior of Australia from Melbourne to the Gulf of Carpentaria: from the Journals and Letters of William John Wills* (London: Richard Bentley, 1863), n.p.
[124] Alfred Howitt, "Diary and Notes," *Burke and Wills Web,* n.p.
[125] Clark, "Aboriginal Ecological Knowledge", 95; Hermann Beckler, *A Journey to Cooper's Creek*, trans. Stephen Jefferies and Michael Kertesz (Melbourne: Miegunyah Press, 1993), 73.
[126] Beckler, *Journey*, 163; For European attitudes to rats see Bonyhady, *Long-Haired Rat*, 6, 31-2.

life-saving food. But he was surprised that the strongest rejection came from John Smith, a man of mixed Indigenous Australian and European heritage, clearly associating their consumption with local peoples: 'it was our half-caste Australian who objected the most and was unable to overcome his disgust…one might reasonably expected him to be willing to eat rat flesh prepared in the European manner'.[127] Contrary to Beckler's marking of rat as 'Indigenous' food, we can read this in another way: those with the most to 'prove' were often the most adamant about the policing of cultural boundaries.[128] Nancy Cushing has observed the desire of settlers to declare their continuing 'allegiance' to the British motherland, seeking familiar foods from 'home', and 'forcing the land to adapt to familiar animals and crops rather than eating what the land readily produced, including endemic foods such as kangaroo and transplanted crops like maize'.[129] Any change in habits to adapt to local conditions, Cushing argues, was perceived as 'a decline, going native'.[130] As with the Hassell men's rejection of local vegetables, Smith's refusal to eat rat can perhaps be read as symbolic: a display of Europeanness.

Preparing a dozen rats, Beckler found to his 'great delight they looked just like a row of little piglets'.[131] Unfortunately, an ensuing confrontation with members of the Karnic cultural-linguistic group saw the rats 'that I had prepared so prettily this morning [lying] on an anthill' and were ruined.[132] No further mention is made of attempts to eat rats. The three ailing men died within days and another few fell ill. Another also died, despite the discovery and consumption of anti-scorbutic plants that Beckler 'knew the natives ate', and appeared to improve the condition of other party members.[133] The necessity of local knowledge in assessing the safety of potential food sources was recognised by Beckler, and unlike those who resisted the rats, but similarly to Hassell, Beckler considered 'food' biologically appropriate for both European and Indigenous Australian bodies. While facing resistance to his proposed rat-cure, Beckler found the consumption of plants was less challenging to the troubled party: 'however little confidence each of them might have had until now, they

[127] Beckler, *Journey,* 163.
[128] Earle, *Conquistador,* 126.
[129] Nancy Cushing, "The Mysterious Disappearance of Maize: Food Compulsion and Food Choice in Colonial New South Wales," *Food, Culture & Society* 10, no. 1 (2007): 111, 118.
[130] Cushing, "Disappearance of Maize", 111, 118.
[131] Beckler, *Journey*, 164-70.
[132] Ibid., Luise Hercus, "Language Notes Connected to the Journey of the Expedition as Far as the Cooper," in *The Aboriginal Story of Burke and Wills: Forgotten Narratives*, ed. Ian Clark and Fred Cahir (Melbourne: CSIRO, 2013), 150-64.
[133] Beckler, *Journey*, 170-80.

nevertheless seized all the new cures I offered them with great willingness and hope'.[134] Bonyhady compellingly argues that in the enquiries and discussion that followed the expedition, no colonists questioned if they made use of rats for food, as rodents were not what 'civilised' men ate.[135]

Discursive Safety

Food and eating habits were central in the construction and remaking of the British idea that Australian Indigenous peoples represented some of lowest forms of a human racial hierarchy, an idea evident in imperial sources. The texts written by European explorers were widely circulated through the Empire and informed many who continued the project of settler-colonialism. The account of Cook's first voyage was, according to Bickham, 'probably the most popular travel account of the century'.[136] Flinders, for instance, was very familiar with the records of previous expeditions to the continent, publishing excerpts of Cook and other European explorers within his own.[137] Governor of South Australia George Grey referenced the *macrozamia* poisoning experienced by Cook's men, discussed earlier, in his 1841 publication of his travels through Western Australia, which extensively detailed the food habits of the local peoples he encountered.[138]

Food habits were used as evidence of the 'inferiority' of a group of people, reinforcing the safety and status of supposed British racial superiority, as with accusations of cannibalism, a topic beyond scope here. The power of culturally dictated disgust response could rob peoples of their humanity, rendering them animal-like. Disgust, like food, 'operates as a contact zone', creating and fracturing borders between self and other, safe and unsafe, tasty and disgusting.[139] Across the continent, the charge of eating raw, half-cooked or scorched meat followed Indigenous peoples, with the raw being equated with savagery; from fish 'thrown' into the fire, and when 'a little warmed they take it off, rub away the scales, and then peal off with their teeth the surface', to 'they are very fond of the entrails which they eat

[134] Ibid., 180.
[135] Bonyhady, *Long-Haired Rat*, 28.
[136] Troy Bickham, *Eating the Empire: Food and Society in Eighteenth-Century Britain* (London: Reaktion Books, 2020), 172; Blake Singley, "'The Uncultivated Taste': Explorer's Accounts of Aboriginal Foodways in Nineteenth Century Australia," in *The Routledge Companion to Literature and Food*, ed. Lorna Piatti-Farnell and Donna Lee Brien, 138-49.
[137] See for example, Cook's depiction of Neunonne peoples of south east Tasmania in Flinders, *Terra Australis*, xc.
[138] Grey, *Two Expeditions of Discovery.*
[139] Sara Ahmed, *The Cultural Politics of Emotion* (New York: Routledge, 2004), 84.

half raw'; and of a successful kangaroo hunt, 'Drank the Blood, eat the guts - & Roasted the remainder'.[140]

Implicit in these accusations was that food prepared this way was unsafe and undesirable, and was thus a positioning of difference and superiority. Repulsive foods tainted those who ate them. The trope of raw-flesh-eating-savages was not confined to this time or place, but as a range of scholars have shown, one that has been present in many geographical locations through time, serving various purposes.[141] Sara Ahmed has pointed out that disgust is a deeply ambivalent emotion, provoking fascination as well as aversion: 'disgusting' food habits of Indigenous peoples were a common feature of ethnographic accounts.[142] In the Australian example, it was colonisation that was being justified.

Relationships to scales of 'civilisation' matter. The perceived lack of, or maladaptation to, civilisation validated British presence and rule of the Australian continent. To appropriate a phrase of Alan Lester, 'British civilisation and culture' was the 'greatest, divinely sanctioned achievement', while the 'savage' food habits of Indigenous peoples posited them on the lowest rungs of a human racial hierarchy.[143] For Alice Weinreb (discussing Nazi Germany, but equally applicable here), dietary differences constituted racial distinctions, in turn, 'offering an ostensible rationale for imperialism'.[144] As Hobart notes, 'taste and territory are profoundly co-produced'.[145] The consumption of snake was cited by one Reverend Samuel Marsden in 1831 NSW as evidence that Indigenous peoples were incapable of 'receiving Christianity'.[146] Snake was not only categorised as not a food, but proof that the people could not advance up the racial hierarchy.

It followed that unsafe food habits were an explanation for declining populations and the inevitability of the 'race' 'dying out'. Mayes frames this as a 'new form of racism' which,

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[140] Claude Levi-Strauss, *The Raw and the Cooked* (New York: Harper & Row 1969), 164; Tench "Port Jackson", 260-1; Plomley, *Friendly Mission*, 59; James Bonwick, *Daily Life and Origin of the Tasmanians* (London: Sampson, Son, Low & Marston, 1870), 17; Philip L. Brown, ed., *Andrew alias William Todd (John Batman's recorder) and his Indented Head Journal, 1835* (Geelong: Geelong Historical Society, 1989), 26.

[141] Brent D. Shaw, "'Eaters of Flesh, Drinkers of Milk": The Ancient Mediterranean Ideology of the Pastoral Nomad," *Ancient Society* 13 (1982): 5-31; Keir Waddington, "'We Don't Want Any German Sausages Here!' Food, Fear, and the German Nation in Victorian and Edwardian Britain," *Journal of British Studies* 52 no.4 (2013): 1017-42; Zona Spray Starks, "Arctic Foodways and Contemporary Cuisine", *Gastronomica* 7 no.1 (2007): 41-49; Blake Singley, "'Hardly Anything Fit for Man to Eat': Food and Colonialism in Australia," *History Australia* 9 no.3 (2012): 33.

[142] Ahmed, *Cultural Politics of Emotion*, 84.

[143] Lester, "Robinson and Imperial Networks", 27-43.

[144] Alice Weinreb, *Modern Hungers: Food and Power in Twentieth-Century Germany* (Oxford: Oxford University Press, 2017), 50.

[145] Hobart, "Queer-Looking Compound", 138.

[146] Jean Woolmington, *Aborigines in Colonial Society: 1788-1850* (Melbourne: Cassell, 1973), ix, 20-1.

working with Foucault's ideas, he calls 'biopolitical racism'.[147] That is, the defining, categorisation and regulation of a population 'via the identification and exclusion of weaker, abnormal or inferior others'; and based on a sweeping 'evolutionary "style of reasoning"' that included a constellation of ideas such as degeneracy, heredity, purity, development, improvement, all of which blur the lines between the biological, moral and political'.[148] Although certainly not the only way cultural difference was highlighted, food was a particularly effective way, because tastes are so ingrained we often consider them innate – and because disgust is a visceral emotion that is powerfully physically experienced. Moreover, 'collective palates are inextricably bound up in colonial histories, in which diet, labour, and race help determine the parameters of what is delicious', or repulsive.[149] Raw foods as understood by British colonists, to draw on Levi-Strauss, were nature unaltered by human culture, and thus not food for civilised people.[150] But of course the designation of 'savagery', as Lehman reminds us, says less about Indigenous Australian peoples, and more about the 'fears and aspirations' of the British themselves.[151]

An 1830 Tasmania Almanac invoked this savagery trope in an account of travel across the island, with the narrator recalling an encounter with a group from the Lairmairrener cultural-linguistic group of central Tasmania: 'a tall fellow overtook us with a bunch of seven fat but strong smelling opossums slung on his back'. The man 'very deliberately chucked' the animals on a fire, 'just as he had caught them'.[152] It detailed the gutting and dehairing of the animals after some cooking, before placed back on the fire, then 'from which it was soon after taken and eaten, without the trouble of knife or fork, in a half raw state'.[153] The sensory impression ('strong smelling') combines with the apparently haphazard and crude cooking style, and the final insult to the cultivated populations, the eating of the opossum without proper implements. Alongside this account, an image of 'An Aboriginal Dinner Party' contrasts with another depicting a British 'Breakfast in the Bush', a few pages later (figures 4 and 5). In the first, ill-defined naked figures crowd around a fire, sitting directly on the earth. The latter presents three pale figures clothed in European long

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[147] Mayes, *Unsettling Food Politics*, 21-3; Russell McGregor, *Imagined Destinies: Aboriginal Australians and the Doomed Race Theory, 1880–1939* (Melbourne: MUP, 1997).
[148] Mayes, *Unsettling Food Politics*, 21-3.
[149] Hobart, "Queer-Looking Compound", 134; Parama Roy, *Alimentary Tracts: Appetites, Aversions, and the Postcolonial* (Durham: Duke University Press, 2010), 14.
[150] Claude Levi-Strauss, "Culinary Triangle," *New Society* 8 no.221 (1966): 937-40.
[151] Lehman, "Regarding the Savages", 37.
[152] James Ross, *The Hobart Town Almanack for the Year 1830* (Hobart Town: James Ross, 1830), 99-101.
[153] Ibid.

pants, jackets – one sporting a hat, also around a fire. But here, one stands, the second half-kneels holding a steaming cup, and the third is perched delicately on a rock, leg crossed and holding a stick with which he attends to a structure on which meat cooks over the fire. The British are physically distanced from the ground, have discernible features, and perhaps most notably, are given tools with which they prepare and consume their food.[154] This image says even when in basic circumstances the British are able to maintain the trappings of civilisation and kept elevated from the earth, thus removed from nature and disorder. The two groups are visually differentiated through their eating habits.

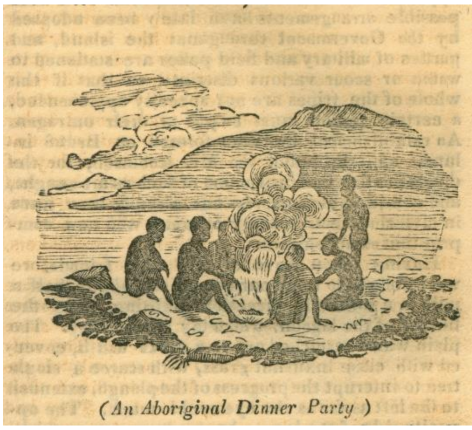

Figure 4. Visual depiction of eating habits

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Figure 5. European breakfast

Assimilation

While food habits were evidence of difference, 'correct' foods could 'improve' Indigenous peoples. As Earle has shown, this colonial ideology is inherently paradoxical, relying 'on a dream of unity combined with an insistence on distance': it 'aimed

[154] Ibid.
[155] Ibid., 101; 112.

simultaneously to homogenize and to differentiate'.[156] Food rationing was a tool on many levels through Australian colonial history, from private settlers to missionaries and government policy. Tim Rowse, discussing the practice in twentieth century Central Australia, observed that rationing occurred for a numerous reasons, 'with a variety of expectations about the mentality and behaviour of recipients'.[157] Under the guise of charity, food rations were a way of achieving the consumption of European culture. For Robinson, rations such as bread and potatoes were central to his mission: he promised the Palawa/ Pakana peoples' physical safety if they accepted his cultural safety. Again connecting the edible to cultivation, food rations were limited, with the intention of making an Indigenous community productive through agriculture. Here, rationing was intended to encourage a European 'productive', and thus 'civilised', way of life.[158] Further, rations were constructed to fit with European gender norms. As 'rewards', Robinson requested rations of sugar, tea for women and tobacco for the men.[159]

As Mosley has argued, Indigenous peoples were instructed which foods were 'correct' and shown that their very 'humanness [was] connected to their palates'.[160] The Palawa/ Pakana people can be seen to have, at various times, rejected, accepted, subverted and/or selectively responded to Robinson's offerings. Robinson, numerous Palawa/ Pakana peoples from across Tasmania, and a few other Europeans, travelled on foot (supported by supplies brought by a boat) around the island for months, encouraging the people to come under his, and thus the British Government's, 'protection'. Bread, which Robinson offered to each group he encountered, illustrates the complex role food played in the colonial mission, and moreover, the very varied power dynamics of each moment. Sharing bread, for Europeans at least, was highly symbolic.[161] For Robinson, bread here was an offering, a gesture of goodwill, but it was also inextricably bound with his mission to civilise.

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[156] Earle, *Conquistador*, 712.

[157] Tim Rowse, *White Flour, White Power: From Rations to Citizenship in Central Australia* (Cambridge: Cambridge University Press, 1998), 3; Peggy Brock, "Two-Way Food: Bush Tucker and Whitefella's Food," *Journal of Australian Studies* 32 no.1 (2008): 19-32; Tamara J. Levi, *Food, Control, and Resistance: Rationing of Indigenous Peoples in the United States and South Australia* (Lubbock: Texas Tech University Press, 2016); Robert Foster, "Rations, Coexistence, and the Colonisation of Aboriginal Labour in the South Australian Pastoral Industry, 1860–1911," *Aboriginal History* 24 (2000): 1-26.

[158] Anne O'Brien, "Hunger and the Humanitarian Frontier," *Aboriginal History* (2015): 124.

[159] Plomley, *Friendly Mission*, 57.

[160] Mosley, "Breaking Bread", 49-62.

[161] Elizabeth David (1977), *English Bread and Yeast Cookery* (London: Grubb Street, 2010); Lauren Janes, *Colonial Food in Interwar Paris: The Taste of Empire* (London: Bloomsbury, 2016).

By getting the Indigenous peoples to consume bread, he was getting them to imbue civilisation and Christianity itself: his mission was 'given a physical expression'.[162] Moreover, it was a performance of Robinson's ability, were they to accept his 'protection', to provide for their (perceived) needs and comfort. Still, the local peoples unfamiliarity with, and/or distrust of, bread was evidence of their lack of civilisation: 'I gave them bread, when they put it to their noses, smelling and looking at it. It appeared to them an object of great curiosity'. One local man, Timemedenene, encouraged them to eat the bread, and 'with some persuasion they ate a little of it, and before I left could [eat] it as well as the natives I had with me.[163] The ability and desire to consume bread was evidence of learning for Robinson, a step towards progress and a 'correct' way of life. For Robinson, who feared the bodily affect of an Indigenous diet, European foods offered safety in three ways: safety from illness for the Palawa/ Pakana, the safety of their souls, and undoubtably the safety of Robinson's position and social standing, as evidence of the success of his 'civilising' mission.

Conclusion

British colonists of Australia certainly ate the food of Indigenous Australian peoples. Unfamiliar foods could be made acceptable and safe by shaping them into a familiar form, or to fit a familiar taste profile. Other Australian scholars have discussed this transformation in terms of the appropriation of endogenous foods.[164] I recast examples through the frame of food safety. In Australia, unfamiliar endemic ingredients could be considered acceptable if transformed in to a recognisable and familiar dish. 'Jugged' kangaroo, for example, replaced hare; samphire was pickled invoking green beans; and parrots were made into pies.[165] Familiar flavours mattered too. Curry, the product of an earlier British colonial contact zone, was an 'agent of transformation': a method and flavour profile used to render the unfamiliar into the familiar, producing culturally acceptable dishes such as 'curried wattlebirds'.[166] Plants and animals could be considered food if shaped into recognisable forms, perhaps distancing and reshaping them from their origins. Most commonly this was driven by need. For the colonists and convicts of the First Fleet, Australian native plants filled a shortage of

[162] Douglas, *Purity and Danger*, 72.
[163] Plomley, *Friendly Mission*, 153.
[164] Barbara Santich, "Nineteenth-Century Experimentation and the Role of Indigenous Foods in Australian Food Culture," *Australian Humanities Review* 51 (2011): 65-78; Charlotte Craw, "Gustatory Redemption?", 13-24.
[165] Jacqueline Newling, "Dining with Strangeness: European Foodways on the Eora Frontier," *Journal of Australian Colonial History* 13 (2011): 34; Shannon Lee Dawdy, "'A Wild Taste': Food and Colonialism in Eighteenth-Century Louisiana," *Ethnohistory* 57, no. 3 (2010): 407.
[166] Margaret J. Pearson, *Australian Cookery: Recipes for the People* (Melbourne: Paragon Printers, 1894), 40.

conventional *camellia sinensis* tea.[167] Philip Clarke has reflected that many common names for Australian plants indicate early British usage: tea tree and coastal sarsaparilla were sources of tea substitutes.[168]

The all-important wheat bread found necessary substitutes also. Bread made by the Bandjalang people of the Richmond River Region of NSW was nostalgically described by Mary Bundock in an 1898 account.[169] Perhaps from the Morton Bay Chestnut or a variety of macrozamia, the ‘nuts’ received extensive treatment: leached for ‘six weeks or so’, the paste was then made into a ‘very appetising’ and ‘very splendid’ bread, similar to ‘arrowroot in smell’.[170] Recognisable as bread, one man described it as ‘eagerly sought after by the whites when rations ran short’.[171] Again, this is about the ability to identify, categorise and name foods, fitting them into an understanding of the world – an act which made them safe but not necessarily desirable. Clinging to the familiar instilled a sense of normalcy and stability.[172] The transformation of ‘un-food’ Australian foods speaks of a desire for cultural safety and the need to maintain a knowable sense of self. In some cases this metamorphosis was so successful that foods and dishes were incorporated into a burgeoning settler colonial cuisine.

Food was not only central to the colonisation of Australia, it was itself a contact zone. In this unfamiliar, unstable and anxious environment, food both enabled exchange and distanced cultures. Food safety concerns manifested culturally, materially and discursively, shaping encounters in the moment and relationships into the future. In this precarious setting, food safety stakes were high. Food was a means of communication, used to express safety limits and the edges of trust. Scrutinising the accounts of imperial agents and colonists, edibility has been shown to be a contested concept and used to perform (and ostensibly physically maintain) racial difference. In the Australian colonial context, edibility was critically tied to sovereignty. Historical actors selectively chose from textual records to further their specific agendas, namely the justification of colonisation, ignoring positive accounts of Indigenous Australian food habits in favour of the negative. From food safety concerns in the meeting of cultures, we turn to the international food supply systems that fed

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[167] Clark, *Plant Collectors*, 35-6; Seaweed was used as a substitute for gelatine, Maiden, *Useful Native Plants of Australia*, 28.
[168] Clark, *Plant Collectors*, 35-6.
[169] Mary E. Bundock, “Notes on the Richmond River Blacks,” in *Records of Times Past: Ethnohistorical Essays on the Culture and Ecology of the New England Tribes*, ed. Isabel McBryde (Canberra: AIATSIS, 1978), 261-66.
[170] Bundock, “Richmond River”, 261-266.
[171] Russell George Pierce, “The Evidence of J. Ainsworth on the Diet and Economy of the Ballina Horde,” in *Records of Times Past,* 117.
[172] Maraschi, “Seed of Hope”, 179.

the British-Australian colonies during the 19^{th} century. The discursive construction and communication of food safety are examined through the marketing of foods by their place of origin.

2.

Place of Origin Marketing: 'More Talked about than Tasted'[1]

Colonial Australian newspaper readers were witness to a dizzying array of available imported foods in the 19th century. These foods were commonly identified by their place of origin, real or imagined: Liverpool salt, English gooseberries, Benares sugar, Westphalia hams, Bussorah almonds, Normandy pippins, Gorgona anchovy paste, Zante currants, Cheshire cheese, Valencia raisins, French capers, Jamaica ginger, Carolina rice, Barcelona nuts, China preserves, Spanish liquorice, Scotch barley, Bombay duck, Isle of France sugar, Double Rose Cork butter, Durham mustard, New Zealand potatoes, Chilean wheat, Aberdeen oatmeal, Bermuda arrowroot, Swiss milk, Danish butter, Java rice, French Imperial plums, Ceylon cinnamon, American crackers, Cape raisins, Italian juice, Shetland ling, Newfoundland cod, Manilla coffee, Russian caviar, Oregon Salmon, Indian chutney, Bologna sausage, Bristol tripe, American 'schrimps', and many more. With time, some place names attached to foods indicated a variety, rather than place of origin. The record, even in the early years of the century, drew together products from an astonishing array of places.

Place of origin foods connected many disparate points of the world, bringing them together on the plates of Australian colonists. As Kirstin L. Hoganson has shown, domestic kitchens were 'places of global encounter…at the cutting edge of globalization'.[2] Places attached to particular foods communicated information to the 19th century consumer, functioning as branding mechanisms, and suggesting safety, quality and consistency. Place instils products with special meanings, but was not necessarily used only for elite goods.[3] Just as brands semiotically communicate manifold layers of meaning to a potential consumer, place of origin transmitted complex culturally contingent meanings with only a few words.[4]

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[1] *Express and Telegraph,* 17 January 1883, 2.
[2] Kristin L. Hoganson, *Consumers' Imperium: The Global Production of American Domesticity, 1865-1920* (Chapel Hill: University of North Carolina Press, 2007), 110-11.
[3] Nicole Tarulevicz, "Untouched by Human Hands: Making and Marketing Milk in Singapore, 1900 – 2007," in *Routledge Handbook of Food in Asia*, ed. Cecilia Leong-Salobir (New York: Routledge, 2018), 197-202.
[4] Paul Manning, "The Semiotics of Brand," *Annual Review of Anthropology* 39, no. 1 (2010): 33-49; Derrek Eberts, "Neolocalism and the Branding and Marketing of Place by Canadian Microbreweries," in *The Geography of Beer: Regions, Environment, and Societies*, ed. Nancy Hoalst-Pullen and Mark Patterson (New York: Springer, 2014), 189-99.

This chapter demonstrates how commercial interests sought to communicate safety and reliability in a period before many features and marks of food safety recognisable today existed. Examining place of origin foods enables us to scrutinise these 'geographical knowledges' working 'within fields of power'.[5] Provenance advertising tapped into a body of shared knowledge and was thus an important 19th century symbol of safety in the Australian colonies. At a time when many foods eaten in Australia were imported, place of origin labelling allowed the impression of connectedness and traceability, an effect equally applicable to current iterations of provenance labelling.[6]

Scholars have observed that the 19th century was a time when consumers perceived themselves more distant – to a greater extent than ever before – from the production of their food, leading to anxieties and mechanisms to counter such fears.[7] The Australian case, however, deviates from the orthodoxy of lengthening supply chains creating radically increased distances between producers and consumers. During the establishment of the colonies, agriculture was slow to establish, given the unfamiliar conditions and the inadequacy of accepted wisdom imported from Europe. For most, if not all, of the 19th century, colonists were not principally supported by local foodways, and thus long commodity chains were the norm for colonists and remained so. This chapter argues that place not only continued to matter with the industrialisation of food in the 19th century, but in Australia, it mattered *more*.

Approach

This chapter asks: what can the attachment of places to foods in 19th century newspaper advertisements tell us? What were the potential meanings of these places? It explores both how place was important to the safety of food, and the cultural work performed by naming origins. Meanings cannot be assumed to remain stable over time. I have avoided projecting ideas circulating in the second half of the century onto placed foods advertised in the first half. Andy Pike, in relation to brands, has observed that 'geographical associations

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[5] Felix Driver, "Geography's Empire: Histories of Geographical Knowledge," *Environment and Planning D: Society and Space* 10, no. 1 (1992): 23; Ian Cook and Philip Crang, "The World on a Plate: Culinary Culture, Displacement and Geographical Knowledges," *Journal of Material Culture* 1, no. 2 (1996): 141.
[6] Colin Bannerman, "Print Media and the Development of an Australian Culture of Food and Eating C. 1850 to C. 1920: The Evidence from Newspapers, Periodical Journals and Cookery Literature," (PhD thesis: University of Canberra, 2001), 297, 301.
[7] Harvey Levenstein, *Fear of Food: A History of Why We Worry About What We Eat* (London: University of Chicago Press, 2012).

are inherently unstable and subject to disruption'.[8] Keeping this in mind, particular foods are used as examples because they show both continuity and change in meaning. Several examples from the early years of the 20th century have been used to demonstrate the continuation of ideas. Fish, coffee and dried fruits were ordinary and common foods – not necessities, but widely consumed – and thus choice was a factor.

Although associations between place and foods continue today, the temporal focus of this chapter is contained to the 19th century. Place of origin labelling was particularly important in the first half of the 19th century, given the scarcity of other safety trust-marks, such as brands. Explanations of how place functioned as a safety mechanism, however, are predominantly found in the second half of the 19th century, reflecting an expansion in print culture, as discussed in the thesis introduction. The expense of print costs and the relative paucity of newspapers and other print media in the Australian colonies during the first half of the 19th century meant that descriptions of food were minimal. The 'Charges for Advertisements' as printed in a March 1803 edition of the *Sydney Gazette,* stood at 2s. for twelve lines or fewer; twelve to twenty lines cost 3s. (for non-subscribers), the equivalent price for a 'full-grown fowl'.[9] One word – here, the name of a place – promoting a food, had to convey a wealth of information, and thus meanings are retrospectively harder to gauge.

There is a substantial body of literature concerned with contemporary manifestations of place of origin advertising, yet the historical roots of this phenomenon have received less attention, particularly in relation to colonial food chains.[10] Ian Cook and Philip Crang's 1996 study of culinary culture and geographical knowledges reinforces that there is much to be learnt by scrutinising the imagined geographies of food both past and present.[11] Hoganson has observed the designation of foods with their provenance in turn of the century America, using them to argue the importance of imported goods to American domesticity. These

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[8] Andy Pike, *Origination: The Geographies of Brands and Branding* (Chichester, West Sussex: Wiley Blackwell, 2015), 21.

[9] *Sydney Gazette*, 5 March 1803, 2-3; Bannerman, "Print Media," 300.

[10] David M. Higgins, *Brands, Geographic Origin, and the Global Economy: A History from the Nineteenth Century to the Present* (Cambridge: Cambridge University Press, 2018); Zachary Nowak, "Against Terroir," *Petits Propos Culinaires* 96 (2012): 92-108; Giovanni Ceccarelli, Alberto Grandi and Stefano Magagnoli, eds., *Typicality in History: Tradition, Innovation, and History*, (Brussels: P.I.E. Peter Lang, 2013); Elizabeth Smythe, "Food Safety, Trade Rules, and the Struggle to Know the Origins of Food," in *Globalization and Food Sovereignty: Global and Local Change in the New Politics of Food*, ed. Peter Andree, Michael J. Bosia and Marie-Josee Massicotte (Toronto: University of Toronto Press, 2014), 288-318; Gail M. Hollander, "Re-Naturalizing Sugar: Narratives of Place, Production and Consumption," *Social & Cultural Geography* 4, no. 1 (2003): 59-74; Marion Demossier, *Burgundy: A Global Anthropology of Place and Taste* (New York: Berghahn Books, 2018); Kevin Morgan, Terry Marsden, and Jonathan Murdoch, *Worlds of Food: Place, Power, and Provenance in the Food Chain* (Oxford: Oxford University Press, 2008).

[11] Cook and Crang, "World on a Plate", 131-53.

foodstuffs formed a part of a middle-class taste for what she has called the 'Consumer's Imperium'; the foreign imports that influenced domestic culture, while paradoxically reinforcing social difference.[12] Similar connections can be made in the context of the British Empire: Troy Bickham, for example, explored the meanings associated with imperial food products, arguing that food played an important and multifaceted role in shaping Britain – economically, politically and culturally – during the long 18th century.[13]

Richard Wilk, examining Belize (then the British Honduras), studied the place of imported foodstuffs as part his study of globalisation and local food culture.[14] Across several works, Wilk recognised and explored the importance of place of origin marketing, packaging of foodstuffs, and the rise of brands. The Belizean example provides an important touchstone for this study, exhibiting similarities and differences with the Australian case. Like Australia, settlers in Belize were reliant on imported goods, but unlike Australia – which was part of complex trade networks – these foods were primarily imported from the metropole. Wilk has focused on how foods – British, European and of the Empire – displayed cultural capital and worked to organise social groupings. This study shows both similarities and differences to Wilk's Belizean example in scrutinising place of origin marketing through the lens of food safety. Places attached to foods meant something to the 19th century consumer, and by examining these meanings, we can better understand how ideas of food safety informed Australian food choices.

Context

Agrarian self-sufficiency was not a feature of colonial Australian food systems: imported foods played an important and on-going role in diets. Until the 20th century, European colonists were 'net importers' of food, becoming 'net exporters' around Federation.[15] Early attempts at subsistence smallholding or agrarian self-sufficiency quickly gave away to individual commodity-focused capitalism, as in the global trade-oriented large-

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[12] Hoganson, *Consumers' Imperium*, 105-152.
[13] Troy Bickham, *Eating the Empire: Food and Society in Eighteenth-Century Britain* (London: Reaktion Books, 2020).
[14] Richard Wilk, "'Real Belizean Food': Building Local Identity in the Transnational Caribbean," *American Anthropologist* 101, no. 2 (1999): 244-55; Richard Wilk, *Home Cooking in the Global Village: Caribbean Food from Buccaneers to Ecotourists* (Oxford: Berg, 2006); Richard Wilk, "Anchovy Sauce and Pickled Tripe: Exporting Civilised Food in the Colonial Atlantic World," in *Food Chains: From Farmyard to Shopping Cart*, ed. Warren Belasco and Roger Horowitz, (Philadelphia: University of Pennsylvania Press, 2009), 87-107.
[15] Susan Marguerite Chant, "A History of Local Food in Australia 1788-2015," (PhD thesis: University of Adelaide, 2016), 70; Myra Stanbury, ed., *The Barque Eglinton--Wrecked Western Australia, 1852: The History of Its Loss, Archaeological Excavation, Artefact Catalogue and Interpretation* (Fremantle: AIMA, 2003), 35-7.

scale pastoralists.[16] Goods were simultaneously exported and imported in international and inter-colonial trade. Surplus wheat was grown in some colonies: Tasmania was the first in around 1816, but NSW took until the end of the century.[17] The urban nature of Australia's population reinforces that Australian colonists were used to long commodity chains: in 1850, forty per cent of Australians lived in urban areas, compared to twelve and fourteen per cent in Canada and the United States respectively.[18] Ships travelling from Britain took around eight months until the 1850s, and after the advent of clippers and then steamships, three months, decreasing as the century progressed.[19] On land, horse and bullock carts and camels were used for transporting people and goods, and railways began being built in the 1850s. In the following decade, colonial governments took over construction outside of the cities. Each colony constructed networks with different gauges, making intercolonial transport problematic. Requiring massive capital, in the 1870s and 1890s half of public investment was spent on railway construction, which has yet to be standardised across the nation.[20]

The establishment of British colonies in Australia was initially funded by British taxpayers and free convict labour. From 1821, free migration was encouraged and private interests were increasingly involved in multiple ways. In the mid-1820s, a 'mixed colonial economy' emerged, with state-supported infrastructure and exploitation of natural resources by private individuals forming the foundations of the Australian economy for the next century and a half. Wool was a critical resource.[21] Economic disasters remind us Australian fortunes were deeply interwoven with international capital: the 1840s slump in wool prices occurred after a surge of British investment and led to failed banks, bankrupt merchants and pastoralists, and 'widespread destitution'.[22]

In the 1850s, the discovery of gold in NSW and Victoria had a profound effect on the Australian colonies. Responsible for over a third of the global output of gold during the 1850s, the gold rushes, of course, had flow-on effects. Imports and local manufacturing grew, introducing a sustained period of prosperity. Gold, also in California, ensured British and American global financial dominance. Raw materials and labour were drawn away from

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[16] Chant, "Local Food", 57.
[17] Ted Henzell, *Australian Agriculture: Its History and Challenges* (Canberra: CSIRO Publishing, 2007), 8, 1.
[18] Lionel Frost, "Urbanisation," in *The Oxford Companion to Australian History*, ed. Graeme Davison, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 664-5.
[19] Bannerman, "Print Media", 301.
[20] Graeme Davison, "Railways," in *Oxford Companion...*, 547-9.
[21] G. D. Snooks, "Economy," in *Oxford Companion...*, 205-7.
[22] Jenny Lee, "Depressions," in *Oxford Companion...*, 183-85.

other industries and regions. People were attracted from across the world: Victoria's population grew from 77 000 to 540 000 between 1851 and 1861. Chinese, numbering approximately forty thousand, were the largest population of non-British arrivals, which also included a mix of Europeans and Americans. The gold rushes fostered nationalism and xenophobia.[23] And while gold stimulated private investment in, and free migration to, the colonies, governments continued to be the biggest contributor of capital formation.[24] The 1890s Depression, similar to the 1840s slump, was caused by over-investment and debt, in addition to inflation of land values and the location of, and investment in, new railways. Without adequate relief and assistance, many experienced poverty, manifesting in falls in birth and marriage rates.[25] The recovery from this depression, however, led to diversification of industry, arguably assisted by the technological developments in the modernisation of food production.[26]

The food technologies transported with the British on colonisation have been described by Keith Farrer as 'village technologies'.[27] Agricultural techniques were intensifying and codifying food production in Britain for much of the 18th century, but industrialisation had not yet overhauled food processing and supply chains. Steam mills, for example, were only emerging in the late 18th century, but it was nearly another century before grain mills commonly became mechanised throughout the production process.[28] While many foods were produced outside of domestic settings throughout the 19th century, they were not what we would today call industrially processed foods. Tin cans, used for canned fish, for example, were constructed by hand by tinsmiths for much of the 19th century. Canning ventures were initiated in Australia in the 1840s after a drop in wool prices, but until at least the 1860s, tinned meat was only intermittently produced, and many canning companies failed.[29] Until the last decades of the 19th century – discussed further in the following chapter – the industrialisation of food in Australia was nascent.

Australia has long been reliant on the agricultural labour of 'non-whites'. After the gold rushes, Chinese migrants very often became market gardeners, filling a space in the

[23] John Fitzgerald, *Big White Lie: Chinese Australians in White Australia* (Sydney: UNSWP, 2007).
[24] G. D. Snooks, "Economy," in *The Oxford Companion to Australian History*, ed. Graeme Davison, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 205-7.
[25] Lee, "Depressions", 183-85.
[26] Ibid.
[27] Keith Farrer, *To Feed a Nation: A History of Australian Food Science and Technology* (Collingwood: CSIRO Publishing, 2005), 17.
[28] Ibid., 9-15, 26.
[29] Ibid., 26, 29-38.

market. From 1863, indentured Pacific Islanders were brought to Australia to work the sugar cane fields.[30] Indigenous Australian labour was important in wine production and the pastoral industry well into the 20th century, as Julie McIntyre and others have highlighted.[31] Despite this reliance, Australia sought to be a 'white' nation. With the colonies declared the Commonwealth of Australia in 1901, the new parliament passed an Act to expel Pacific Islanders, and another – the *Immigration Restriction Act 1901* – became known as the 'White Australia Policy', excluding the future immigration of 'non-whites'.[32] Fitzgerald reminds us that although Australia was not the only jurisdiction to limit Chinese immigration through race-based policies (naming other Pacific Rim settler-colonies as examples), Australia was the only nation to 'constitute [itself] as [a] sovereign state' on the basis of restricting 'non-white' immigration.[33]

Branding

In arguing that place of origin marketing functioned as a branding mechanism, it is useful to establish what a brand is, and how brands function. While often held to be a unique feature of modern capitalist societies, producers of food and goods across the world have used forms of branding for thousands of years.[34] Karl Moore and Susan Reid have argued that evidence of brands and branding can be found as far back as it is 'possible to trace artefacts of human existence'.[35] The word itself comes from the practice of branding cattle: a physical inscription of ownership.[36] Branding, in its broadest sense, has manifested in numerous ways through history, from wax seals to inscriptions on buildings to the tattooing of slaves.[37] They could be a name, a symbol, or an image – something easily recognisable that usually did not presume literacy. The practice sought to differentiate and protect products from imitation, and

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[30] Tracey Banivanua Mar, *Violence and Colonial Dialogue: The Australian-Pacific Indentured Labor Trade* (Honolulu: University of Hawaii Press, 2006, 1.

[31] Julie McIntyre, Maggie Brady and Jillian Barnes, "'They Are among the Best Workers, Learning the Ways of a Vineyard Quickly': Aboriginal People, Drinking, and Labor in the Early Australian Wine Industry," *Global Food History* 5, no. 1-2 (2019): 1-22.

[32] Marilyn Lake and Henry Reynolds, *Drawing the Global Colour Line: White Men's Countries and the Question of Racial Equality* (Melbourne: MUP, 2008), 137.

[33] Fitzgerald, *Big White Lie*, 2.

[34] David Wengrow, "Prehistories of Commodity Branding," *Current Anthropology* 49, no. 1 (2008): 7-34; Liz Moor, *Rise of Brands* (Oxford: Berg, 2007), 15-8.

[35] Karl Moore and Susan Reid, "The Birth of Brand: 4000 Years of Branding," *Business History* 50, no. 4 (2008): 419.

[36] Moore and Reid, "Birth of Brand", 419; Ross D. Petty "A History of Brand Identity Protection and Brand Marketing," in *The Routledge Companion to Marketing History*, ed. D. G. Brian Jones and Mark Tadajewski (London: Routledge, 2016), 97-114; Slađana Starčević, "The Origin and Historical Development of Branding and Advertising in the Old Civilizations of Africa, Asia and Europe," *Marketing* 46, no. 3 (2015): 179-96; Wilson Bastos and Sidney J. Levy, "A History of the Concept of Branding: Practice and Theory," *Journal of Historical Research in Marketing* 4, no. 3 (2012): 347-68.

[37] Starčević, "Historical Development", 179.

to encourage repeat sales.[38] Brands function to condense a wealth of information about place, history and/or a 'social ontology'.[39] At a fundamental level, they are a way of marking or identifying and attaching meaning to a product. Above all, brands can communicate quality, ownership and origin to consumers and various actors along commodity chains.[40]

Brands, in the words of Moore and Reid, are 'multi-dimensional constructs that have become more complex through time'.[41] Brands convey 'specific associations or values', with which individuals and groups can identify with by tapping into 'emotions and desires'.[42] They draw on cultural tropes and values, and at the same time work to reinforce and validate such tropes, values and meanings. Segmented advertising helps brands appeal to specific groups of people. The gradual industrialisation of food enabled and consolidated the rise of private branded companies that could mass-produce foodstuffs which kept long periods, were traded across long distances, were marked through packaging, and identified through advertising across international webs of print culture. Brands have gradually become ubiquitous and today are ascribed a significant role in society.[43] As Philip Kotler has described this conflation, 'everything is a brand…a brand is any label that carries meanings and associations'.[44]

In the 19th century, companies were initially branded with the manufacturer's name and geographic origins, and later, by less specific or constructed labels. The earliest branded food and drink to appear in Australian newspaper advertisements – utilising place and producer names – included Barsac Wine from 1818, Cock's Reading Sauce in 1824, and Fry's Cocoa in 1825.[45] 'Dairymaid' condensed milk provides an example of a constructed brand-name, and consumers were instructed to look for discursive and symbolic cues, 'each label bearing the words, in red letters, "Prepared in Switzerland,"' and 'every tin having a milkmaid with a can on her head imprinted on them, thus showing their genuineness'.[46] Brands became legally regulated and protected through trademarks in the Australian colonies

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38 Petty, "Brand Identity Protection", 99.
39 Manning, "Semiotics", 38.
40 Moore and Susan, "Birth of Brand", 421.
41 Ibid.; Edward F. McQuarrie and Barbara J. Phillips, *Visual Branding: A Rhetorical and Historical Analysis* (Cheltenham: Edward Elgar, 2016), 7.
42 Bastos and Levy, "Concept of Branding", 357; Wengrow, "Commodity Branding", 11.
43 Holly Jarman, "Attack on Australia: Tobacco Industry Challenges to Plain Packaging," *Journal of Public Health Policy* 34, no. 3 (2013): 375-87.
44 Philip Kotler, *Marketing Insights from A to Z: 80 Concepts Every Manager Needs to Know* (Hoboken: John Wiley & Sons, 2011), 8.
45 *Sydney Gazette*, 11 April 1818, 2; *Sydney Gazette*, 9 September 1824, 3; *Australian*, 1 December 1825, 4.
46 *Sydney Morning Herald*, 13 December 1879, 11.

and Britain during the second-half of the 19th century, with Federal legislation superseding State regulations in 1905.[47]

Colonial trade developed in close relationship with branding and packaging forms, often connecting colonists to Britain as 'home'.[48] The packaging of foods, discussed in chapter four, was increasingly critical in the promotion and protection of brands, a site on which markings and meanings could be made. Branding offered producers and other actors along commodity chains new ways to shape the semiotic spaces around foods.[49] Critical to early forms of branding was the naming of the geographical origins of a good: 'knowing the origin helped to remove uncertainty for consumers, thereby reducing risk in purchase decisions and thereby increasing perceived quality'.[50] In the 19th century Australian colonies, place of origin marketing was not a brand, as they were not the constructs of a specific company. Instead, place of origin functioned as a branding mechanism, conveying multiple layers of meaning – most importantly, safety – to potential consumers.

Commodity Chains

Commodity chains refer to the processes and exchanges that produce and transport goods from their origin to their final point of consumption.[51] Chains were not only technological, but human too. Labourers, manufacturers, transporters, grocers, merchants, consumers, and other actors were connected along the way.[52] These chains could be complex and multiple, with foodstuffs made and remade at numerous sites, altering meanings along the way.[53] Ingredients for, say, chocolate or curry, could be sourced in various colonies as far apart as Ceylon and Central America, for example, processed in Britain and packaged in

[47] Moore and Susan, "Birth of Brand", 421; Petty, "Brand Identity Protection", 107; SA was the first colony in Australia to pass a trademark Act in 1863, Amanda Scardamaglia, "Expanding Empire: The Unsettling Portrayal of Settler History in Australian Advertising," *Griffith Law Review* 28, no. 4 (2019): 384; Australian Government, "110 Years of Trade Marks," *Australian Government IP Australia*,

[48] Anne McClintock (1995), *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (London: Routledge, 2015); Jeffrey M. Pilcher, "Culinary Infrastructure: How Facilities and Technologies Create Value and Meaning around Food," *Global Food History* 2, no. 2 (2016): 111.

[49] Igor Kopytoff, "The Cultural Biography of Things: Commoditization as a Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 2008), 64-94; Manning, "Semiotics of Brand", 33-49.

[50] Moore and Susan, "Birth of Brand", 430.

[51] Yves Segers, Jan Bieleman, and Erik Buyst, eds. *Exploring the Food Chain. Food Production and Food Consumption in Western Europe, 1850-1990* (Turnhout, Belgium: Brepols Publishers, 2009); Gilbert M. Joseph and Emily S. Rosenberg, *From Silver to Cocaine: Latin American Commodity Chains and the Building of the World Economy, 1500–2000* (Durham, North Carolina: Duke University Press, 2006).

[52] Kolleen M. Guy, "Selling the French Past, Selling Wine, and Erasing Labor from Terroir," *Global Food History* 5 no. 1-2 (2018): 1-15.

[53] Yves Segers, "Food Systems in the Nineteenth Century," in *A Cultural History of Food: In the Age of Empire*, ed. Martin Bruegel (London: Berg, 2012), 50.

containers from elsewhere before being sent, via the Cape Colony in South Africa perhaps, to the Australian colonies, where they were sold to a grocer who might re-blend and re-package them before selling on to a consumer.[54] Lea & Perrins Worcestershire Sauce is another candidate, utilising spices of diverse origins and produced by an English company.[55] Alternatively, a commodity chain could be as simple as milk being supplied from the local suburban dairy.

Much consumer anxiety in the 19th and 20th centuries has been attributed to the perceived shift from locally produced foods to long distance commodity chains in which there was less transparency and more scope for safety issues to occur.[56] In fact, these types of supply chains (local and international) had existed alongside one another for centuries, although the trend did intensify. In terms of imperial commodity chains, Wilk has asserted that foodstuffs transported across the 19th century British Empire were primarily traded through Britain, where, distanced from the context of their production, raw materials were 'washed' of their origins, becoming 'anonymous and interchangeable substances'.[57] While colonial food chains did, at numerous points, transform the material properties and signification of foods, the history of the Australian colonies presents a significantly different case, countering many assumptions – both popular and scholarly – about past food systems, among these, the fantasy of the local, and that imperial trade flowed only to and from Britain. The chapter shows that the origin of food was an important safety consideration for 19th century colonial Australians.

Distance, transportation and industrialisation in the 19th century amplified food safety concerns, particularly around the origins of food. Colin Bannerman, in analysing food advertisements in colonial newspapers, deemed the Australian food systems in the period 1831-1860 to be characterised by 'cargo culture', a useful label describing how local foodways were critically shaped by international commodity chains.[58] During this period, imported foods were subjected to the perils of long-distance travel.[59] The relative isolation of

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[54] *Kerang Times*, 4 January 1889, 2; Frieda Moran, "Ordinary and Exotic: A Cultural History of Curry in Australia," (Honours thesis: University of Tasmania, 2017), 18.
[55] *Newcastle Morning Herald,* 23 July 1887, 5; *Avoca Mail* 16 February 1883, 4.
[56] See for example: Alison Blay-Palmer, *Food Fears: From Industrial to Sustainable Food Systems* (Aldershot, Hampshire: Ashgate, 2008); Wilk, "Anchovy Sauce", 107.
[57] Wilk, "Anchovy Sauce", 88-90; Richard Wilk, "A Taste of Home: The Cultural and Economic Significance of European Food Exports to the Colonies," in *Food and Globalization: Consumption, Markets and Politics in the Modern World*, ed. Alexander Nutzenadel and Frank Trentmann (Oxford: Berg, 2008), 97.
[58] Bannerman, "Print Media", 297.
[59] Ibid., 301.

Australia meant that closest trading ports were a minimum of several weeks distant.[60] On these journeys, foods could be ridden with pests, contaminated with sea water, or spoiled by the heat of tropical regions. Merchants and consumers negotiated these issues by engaging in mechanisms that signalled information about the safety and quality of goods. Goods were announced as 'salvage from the wreck of…'; tinned sardines and 'Yarmouth Bloaters' were 'more or less damaged by sea water' in an 1869 auction notice.[61] Along with place of origin labelling, the name of the vessel that transported the goods was another regular feature of 19th century advertising. The inclusion of ship names enabled consumers to access information about the age and conditions of travel through extensive shipping news columns. Through columns in various newspapers, the movement of ships across and beyond empire can be traced.

The example of barque ship the *Africaine* shows that in the case of the Australian colonies, the metropole was often bypassed, and that the antipodean colonies were directly connected to the wider British world. Arriving in Hobart in early July 1835 after departing 'the Isle of France' (Mauritius) on 24 May, goods were advertised 'per the Barque *Africaine'*. Alongside 'Real Indian Pickles, &c' were passengers, sugar and other 'sundries'.[62] On 23 July, the Barque sailed for Sydney and arrived less than two weeks later on 4 August.[63] Madras (Chennai) was the ship's next destination. It departed on 15 August 1835.[64] A year later, the *Africaine* was observed by the *Sydney Herald* as being in St. Helena, bound for London, after travelling from Sydney via Singapore.[65] Few ships had regular routes, with speculative cargoes taking advantage of thriving markets and available goods.[66] Although potential consumers in, say, Hobart, would not always have been privy to details of the ship's larger voyage, shipping columns would have at least included from where and when the ship had travelled and if any mishaps had occurred along the way.

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[60] Chant, "Local Food", 72.

[61] *Sydney Gazette*, 5 March 1803, 2; *Adelaide Times*, 19 December 1856, 4; *Evening Journal*, 13 July 1869, 4; *Argus*, 17 May 1882, 6.

[62] *Colonial Times*, 7 July 1835, 4; *Morning Star*, 7 July 1835, 2; *Tasmanian*, 10 July 1835, 3; *Morning Star*, 7 July 1835, 2; and in Launceston: *Cornwall Chronicle*, 18 July 1835, 2.

[63] *True Colonist*, 24 July 1835, 136; *Sydney Monitor*, 5 August 1835, 2.

[64] *Sydney Gazette*, 18 August 1835, 2.

[65] *Sydney Herald*, 15 August 1836, 2.

[66] James Broadbent, Suzanne Rickard and Margaret Steven, *India, China, Australia: Trade and Society 1788-1850* (Sydney: Historic Houses Trust of New South Wales, 2003), 42, 54.

The trading routes of the *Africaine* and other ships support a theoretic conception of empire as a 'web' or interwoven fabric of 'nodes', rather than a centre and periphery model.[67] A 'web' or 'fabric' model articulates how goods and ideas were produced, transported and remade (often several times) across 'nodes' of empire, according to each site's own unique conditions.[68] Britain was one of many trading connections with the distance to the metropole ensuring numerous and varying trade ports within and beyond the Empire.[69] A cursory glance at any *Shipping News* columns in any colonial press, or even at advertisements for foodstuffs, reveals the complex and multiple chains that supplied Australia and connected the colonies to the world. Foods from across the Empire commonly arrived in Australia without ever having crossed Metropolitan shores.

Imported processed foods, such as French plums, Durham mustard and Gorgona anchovies, were probably widely consumed in the 19th century Australian colonies. Bickham and Anne E. McCants have argued, in relation to Britain, that such 'small luxuries' became 'perceived necessities' for many, and were 'almost universally available' across class and geographical differences by the end of the 18th century.[70] Place of origin marketing was not then only used for elite goods.[71] From the first instance of white settlement in Australia, 'global groceries' were supplemented by endogenous and introduced Australian-grown foods.[72] Colonial settlements were scattered across the continent, connected by trade networks within and beyond Australia. After initial shortages, in which NSW and Tasmania struggled to establish agricultural staples and trade ships were in short supply, the colonies were supplied with a vast array of imported foods.[73]

Australian archaeological studies, such as those by Susan Lawrence and Martin Carney, show semi-luxurious goods, such as spiced condiments and bottled fruits, advertised

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[67] Tony Ballantyne, "Rereading the Archive and Opening up the Nation-State: Colonial Knowledge in South Asia (and Beyond)," in *After the Imperial Turn: Thinking with and through the Nation*, ed. Antoinette Burton (London: Duke University Press, 2003), 104, 113; Alan Lester, *Imperial Networks: Creating Identities in Nineteenth-Century South Africa and Britain* (London: Routledge, 2001), 5.
[68] Lester, *Imperial Networks*, 5; Lester drew on Edward Said (1993), *Culture and Imperialism* (London: Vintage, 1994), 60.
[69] Devleena Ghosh, "Under the Radar of Empire: Unregulated Travel in the Indian Ocean," *Journal of Social History* 45, no. 2 (2011): 497-514.
[70] Bickham, "Eating the Empire", 73-81; Anne E. McCants, "Exotic Goods, Popular Consumption, and the Standard of Living: Thinking About Globalization in the Early Modern World," *Journal of World History* 18, no. 4 (2007): 435.
[71] Jeffrey M. Pilcher, "The Embodied Imagination in Recent Writings on Food History," *American Historical Review* 121, no. 3 (2016): 875.
[72] Bannerman, "Print Media", 297-304; Beverley Kingston, *Basket, Bag, and Trolley: A History of Shopping in Australia* (Melbourne: Oxford University Press, 1994).
[73] Jacqueline Newling, "First Fleet Fare: Food & Food Security in the Founding of Colonial New South Wales, 1788-1790," (PhD thesis: University of Sydney, 2021).

in newspapers from the beginning of the 19th century, were widely consumed across geographies and classes.[74] Evidence of foods available to, and consumed by, colonists in the form of condiment bottles (spices and sauces), small earthenware vessels (likely fish pastes, pickled vegetables, mustards and jams), and other glass containers (bottled fruit, oil, vinegar) have been found in convict and ex-convict dwellings, and on remote Tasmanian whaling stations, indicating a 'pervasive desire for sweet, spicy and flavourful food and a willingness to purchase it'.[75] Certainly not all of these imported foods would have been everyday fare for all, but may have been consumed occasionally or in small amounts, even by the less affluent. Carney argued that the working-class consumption of condiments increased significantly after 1845 when changing laws and technologies allowed for much cheaper production.[76] Perhaps more astonishing is the range of international groceries available: one survey site in the Sydney Rocks – a decidedly working-class area – revealed 123 different types of 19th century condiment bottles.[77]

Real or Imagined Ideas of Food Production

Wilk argued that the 'segmentation' in colonial food chains – in terms of distance, communications and agents – effectively made it 'virtually impossible to connect consumers to producers'.[78] Distance from producer, however, does not equate to ignorance of origins, or as Cook and Crang put it, a 'vacuum of meaning'.[79] Jan Lindemann has pointed out that lengthening commodity chains made 'the communication of origin and quality more important'.[80] 18th century British consumers, Bickham argued, were not only likely aware of the colonial origins of their foods, but that 'this knowledge had some detail and accuracy'.[81] Nan Enstad has observed that place of origin markers were 'not simply objective geographical description[s]', in describing another consumable, cigarettes, as being 'world making', shaping ideas of places 'however inaccurate'.[82] Similarly, Hoganson argued that

[74] Susan Lawrence, "Foodways on Two Colonial Whaling Stations: Archaeological and Historical Evidence for Diet in Nineteenth-Century Tasmania," *Journal of the Royal Australian Historical Society* 87, no. 2 (2001): 209-29; Martin Carney, "Glass and Bottle Stopper Artifacts Report," in *The Cumberland/Gloucester Streets Site, the Rocks*, ed. Grace Karskens and Godden Mackay Pty Ltd (Sydney: Sydney Cove Authority, 1999), 15-121.
[75] Peter Davies and Susan Lawrence, *An Archaeology of Australia since 1788* (New York: Springer, 2011), 290-1.
[76] Carney, "Glass and Bottle", 80.
[77] Ibid., 83; Davies and Lawrence, *Archaeology of Australia*, 290-1.
[78] Wilk, "Anchovy Sauce", 107.
[79] Cook and Crang, "World on a Plate", 141.
[80] Jan Lindemann, *The Economy of Brands* (London: Palgrave Macmillan, 2010), 3.
[81] Bickham, "Eating the Empire", 93.
[82] Nan Enstad, *Cigarettes, Inc.: An Intimate History of Corporate Imperialism* (Chicago: University of Chicago Press, 2018), 18-19.

place of origin food marketing was a 'form of popular geography'.[83] Kate Darian-Smith noted how extensive flows of ideas were in reach: 'culturally informative aspects of imperialism were circulated through all forms of high and popular culture'.[84] But this distribution and construction of knowledge was not limited to discussions of empire, and it was assisted in Australia by increasing literacy rates.[85] Consumers would likely have had some idea, real or imagined, of how and where foods were produced.[86]

Discursive evidence attests to consumer awareness and recognises the power of food and place associations. In 1880, a Brisbane newspaper described how elements of everyday life disseminated knowledge, insisting 'in this inquisitive age' it was 'no longer possible to even consume one's daily food in utter ignorance of its origin'.[87] The article emphasised the importance of promoting good and plentiful associations with export foods in order to encourage immigration to Australia, reminding us that ideas of place not only impacted on foods, but conversely, that foods impacted on ideas of place. While ideas of place may not necessarily have been accurate, the ideas nonetheless existed and informed choice. Stuart Hall's infamous daffodil example illustrates the complexities of imperial knowledge:

> When I first got to England in 1951, I looked out and there were Wordsworth's daffodils…That's what I knew about. That is what trees and flowers meant. I didn't know the names of the flowers I'd just left behind in Jamaica.[88]

This example speaks not only of identity or the pervasiveness of knowledge about the colonial metropole, but also illustrates the fragmented nature of knowledge, past and present. It may have been disconnected from its subject, but Hall's knowing of daffodils was knowledge all the same. Before he reached England, Hall's imagined daffodils were as real,

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[83] Hoganson, *Consumers' Imperium*, 111.

[84] Kate Darian-Smith, "Images of Empire: Gender and Nationhood in Australia at the Time of Federation," in *Britishness Abroad: Transnational Movements and Imperial Cultures*, ed. Kate Darian-Smith, Patricia Grimshaw, Kiera Lindsey and Stuart Mcintyre (Melbourne: Melbourne University Publications, 2007), 155.

[85] Deana Heath, "Literary Censorship, Imperialism and the White Australia Policy," in *A History of the Book in Australia 1891-1945: A National Culture in a Colonised Market*, ed. John Arnold and Martyn Lyons, (St Lucia, Qld: University of Queensland Press, 2001), 72.

[86] Laura Prosperi, "The Building of Typicality as Food Pattern (Italy, Xivth - Xvith Centuries)," in *Typicality in History: Tradition, Innovation, and History*, ed. Giovanni Ceccarelli, Alberto Grandi and Stefano Magagnoli (Brussels: P.I.E. Peter Lang, 2013), 89-91; Regis Huguenin, "The Swiss Milk Chocolate: A Typical Image for an Atypical Product," in *Typicality in History…*, 149-63.

[87] *Brisbane Courier*, 16 February 1880, 2.

[88] Stuart Hall, "The Local and the Global: Globalization and Ethinicity," in *Dangerous Liaisons: Gender, Nation, and Postcolonial Perspectives*, ed. Anne McClintock, Aamir Mufti, and Ella Shohat (Minneapolis: University of Minnesota Press, 2002), 176.

if not more real, to him as the unnamed flowers around him. Consumers likewise might not have experienced the Benares, for example, from which the sugar in their pantry came from, but they still knew *of* it, and thus made associations around it.

As Hoganson has acknowledged, recognising that ideas of food geographies may have been flawed and inaccurate 'does not make it any less of a geography'.[89] Edward Said likewise insisted on the validity of what he termed 'imaginative geographies'.[90] Imaginative geographies describes the way ideas, located in the 'region of the imagination…overlay a more tangible geography', as explained by Jon May in exploring the consumption of 'exotic food' in the 1990s.[91] They are important because of the 'cultural politics they provoke': Imaginative geographies 'help shape our attitudes to other places and people…[and] help shape more material geography', such as producing and justifying 'the material practices of imperialism'.[92] Scholars have used the concept to articulate fundamentally racist 'othering', but imagined ideas of place could be more wide-ranging, detailed, and encompass positive ideas also.[93] Origin narratives are central to 'consumer satisfaction', Ceccarelli et al. have argued'.[94] I would add that the consumer may be only subconsciously aware of such ideas or 'myths', and that they may be a simple, singular image, or complex and nuanced. Case studies of fish, coffee and dried fruit demonstrate these ideas.

Fish

In the 19th century Australian colonies, place was an important consideration in the consumption of fish. Historically, fish – particularly tinned – has presented an acute risk of illness. Fish shows how consumer preferences change. Today, fresh, local seafood is central to an Australian culinary identity, but previously it has been more contentious. Australian species were embraced in the early phases of European settlement before falling from favour in preference for imported. The safety of local fish appeared to relate less to any ability to induce sickness than to the ability of imported fish to secure a social 'safety', or to invoke a 'taste of home'.[95] Imported varieties were smoked, salted, dried, potted in oil, pickled or

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[89] Hoganson, *Consumers' Imperium*, 147.
[90] Edward Said (1978), *Orientalism: Western Representations of the Orient* (London: Penguin, 1995), 54-5.
[91] Jon May, "'A Little Taste of Something More Exotic': The Imaginative Geographies of Everyday Life," *Geography* 81 no. 1 (1996): 57.
[92] Cook and Crang, "World on a Plate", 133.
[93] May, "More Exotic"; Sahar Monrreal, "'A Novel, Spicy Delicacy': Tamales, Advertising, and Late 19th-Century Imaginative Geographies of Mexico," C*ultural Geographies* 15, no. 4 (2008): 449-70.
[94] Giovanni Ceccarelli, Alberto Grandi, and Stefano Magagnoli, "Typicality in History: Tracing a Basic Definition," in *Typicality in History…*, 16.
[95] Although cases of 'unwholesome' and 'stale' are also evident.

tinned. Many deaths and sicknesses were attributed to the tinned, a common form of preserved fish.[96] People feared fish had been packed past its best, to have deteriorated within the tin. They feared transportation damage, reactions with, or contamination by, toxic metals used in packaging. Dangers associated with packaging are discussed further in chapter four.[97] The place of origin of tinned fish was discursively promoted as a symbol of safety, and justified through the technology or the quality ingredients used in a particular place.

Australian fish were the 'most immediately acceptable' of endemic foodstuffs, given their similarity to European equivalents.[98] As we saw in the previous chapter, the appropriateness of Australian fish as food led to contestations between settlers and Indigenous peoples. Yet the taste for fresh local seafood rapidly faded in the following decades with increasing choice of foods more generally and the availability of more expensive and socially performative imported preserved fish. The newly arrived Louisa Anne Meredith praised local species in 1839, but was bewildered by colonial tastes. Although 'excellent', they were 'not esteemed a proper dish for a dinner-party—why, I am at a loss to guess; but I never saw any native fish at a Sydney dinner-table'.[99] More appropriate were 'the preserved or cured cod and salmon from England being served instead, at a considerable expense, and, to my taste, it is not comparable with the cheap fresh fish...but being expensive', she reasoned, 'it has become "fashionable," and that circumstance reconciles all things'.[100]

As Meredith indicated, social safety was at play here, with higher prices being associated with prestige. The result was a lack of knowledge about the local: 'I know them only by their common Colonial names, which are frequently misnomers'.[101] Lists of goods from exotic places added novelty and excitement to the everyday for those who could afford them, in Bannerman's view, 'encourag[ing] Sydney residents to value tinned fish over fresh and to equate the consumption of exotic foods with "appreciation" and good taste'.[102] Beyond the financial cost, where the imported product came from was also important: Australian

[96] For example: *Herald*, 16 September 1861, 6; *Kiama Independent*, 24 February 1885, 3; *Bunyip*, 17 January 1879, 2; *New South Wales Government Gazette*, 26 October 1888, 7558; *Goulburn Evening Penny Post*, 9 March 1899, 4.
[97] Anna Zeide, *Canned: The Rise and Fall of Consumer Confidence in the American Food Industry* (Berkeley: University of California Press, 2018), 14-15.
[98] Barbara Santich, *Bold Palates: Australia's Gastronomic Heritage* (Kent Town, South Australia: Wakefield Press, 2012), 33-36.
[99] Louisa Anne Meredith, *Notes and Sketches of New South Wales: During a Residence in That Colony from 1839 to 1844* (London: John Murray, 1844), 43.
[100] Meredith, *Notes and Sketches*, 43.
[101] Ibid.
[102] Bannerman, "Print Media", 299.

species were denigrated in favour of the British. The fresh and cheap endemic product was certainly available, but it was passed over by those who could afford to display (even if only at dinner parties) sophistication through the produce of the mother country. Performative consumption is here connected to the precarious social status of many colonials: many middle- and working-class people would have enjoyed newly found riches in the colonies, but would have likely needed to prove social worth through cultural capital.[103]

The preference for British fish also suggests a desire for known flavours in an alien environment: a 'taste-of-home'.[104] Touched on in the previous chapter, taste is formed and operates in relation to the familiar, and thus the familiar provides a sense of safety to the consumer.[105] Imported sauces and condiments in particular, assisted in making alien foods palatable, covering 'local flavours…with a British cultural blanket'.[106] Perhaps more than an accustomed sensory experience of a product such as cured fish, it was the knowledge that food had been produced at 'home' that made it safe: the reassurance that British hands had made it.

Half a century later, Australian fish products continued to be reported as overlooked in favour of the imported. A representative of the newly formed 'Clarence River Cooperative Canning Company' in NSW wrote: 'there is, however, a tendency to depreciate anything of colonial production, and to conclude from the mere fact that it is colonial that it must be inferior to the imported article' (a theme further explored in chapter three).[107] Reporting on a trial of the Australian company's product, the newspaper journalist concurred, implying that products from overseas were more highly valued – the 'American Style' emphasised by both contributors of the local fish, 'might be easily mistaken for the imported'. There was, however, a 'marked difference…it has a fresh and natural colour, while the flavour would easily lead one to the conclusion that the fish had only just cooked, none of its natural delicacy being destroyed in the process of preservation'.[108] The preference for the imported was not particular to this place or to this moment in time. Whereas this Australian example was more about familiarity and Britishness than exoticness, the preference for the imported

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[103] Stephen Mennell, *All Manner of Foods: Eating and Taste in England and France from the Middle Ages to the Present* (Oxford: Blackwell, 1985), 302-4.
[104] Maura Franchi, "The Contents of Typical Food Products: Tradition, Myth, Memory. Some Notes on Nostalgia Marketing," in *Typicality in History…*, 59-61.
[105] Donna R. Gabaccia, *We Are What We Eat: Ethnic Food and the Making of Americans* (Cambridge, MA: Harvard University Press, 2009), 8.
[106] Wilk, "Anchovy Sauce", 102.
[107] *Molong Express*, 26 October 1889, 3.
[108] Ibid.

was fundamentally rooted in the safety of cultural capital, as noted by the French physician Bruyerin Champier in 1550: 'the desire for all things weakens when their availability is easier'.[109]

Colour and taste contributed to perceptions of freshness and safety, directly invoked in relation to place of origin. A local newspaper reminded readers of anxieties around distance: 'another recommendation is the element of safety, because the source of supply being close at hand, there is less likelihood of the fish remaining in the tin a long time, and consequently the danger of poisoning is reduced to a minimum'.[110] Although canning technologies have been hailed as liberating foods from seasonal availability, freshness and safety continued to be aligned.[111] Place labelling could operate as a marker of time in a period before packing dates, best-before, and use-by dates were common or mandated: for example, the quality of the 'last season' of North American Fraser River salmon was reported on in 1883.[112] Another article recommended Australian tinned fish over foreign imports in 1893, also for safety reasons: it was less likely tins had sat in storage for long periods, or travelled 'through the Red Sea at the hottest season', and because, 'the vendor dare not half poison customers near at hand who could demand reparation'.[113] The shorter the commodity chain and the nearer the producer, the safer.

Tinned sardines available in 19th century Australian markets came from a handful of countries; discussions around these sources illuminate the operation of place of origin marketing. Tinned sardines are an industrial food product, packaged and preserved in small tins that can be kept for long periods and transported across long distances. A tinned sardine could be one of several types of fish and was thus subjected to much contestation locally and internationally.[114] The first advertisement in the Australian press for 'sardines in tin cases' was printed in October 1839.[115] By 1892, the era was hailed by a rural Australian newspaper as the '"tinned fish age" as distinguished from all other geological periods'.[116] France was the first country to tin sardines commercially, with the industry established during the 1820s and

[109] Prosperi, "Building of Typicality, 91.
[110] *Molong Express*, 26 October 1889, 3.
[111] Ziede, *Canned*, 2, 26.
[112] Rosetta Newsome, et. al., "Applications and perceptions of date labeling of food," *Comprehensive Reviews in Food Science and Food Safety* 13, no. 4 (2014): 745-769; *Age,* 6 August 1883, 2.
[113] *Australian Town and Country Journal,* 18 February 1893, 18.
[114] Dave McDermott, "Sardines, Place, and Taste," *Historical Geography* 39 (2011): 209; *Queenslander*, 15 May 1869, 3.
[115] *Sydney Herald*, 11 October 1839, 2.
[116] *Bowral Free Press*, 12 October 1892, 2.

1830s.[117] The American industry began in the early 1870s after shortages due to the Franco-Prussian War; the Portuguese industry was established in the following decades.[118] Cornish, Italian and Spanish sardines were more rare in 19th century Australian market reports, and the Norwegian variety appeared in the 1880s.[119] In the 1890s, the French industry was fished out, but this did not correspond with the disappearance of French sardines from the Australian market, although the depopulation of fish stocks, attributed to the use of nets rather than lines, was noted.[120] Whether this reflected the use of other types of fish for tinned sardines, or straight-out fraud in place of origin labelling, is not clear. Despite evidence of brands from the 1850s, newspaper advertisements persisted in identifying sardines by their provenance, suggesting place of origin communicated important information to a potential purchaser, a more easily identifiable and established trust-mark that tapped into a more common shared knowledge than a brand.[121]

French sardines were the most highly valued from their first appearance in the late 1830s, reflecting the well acknowledged position of the nation as tastemakers.[122] Illustrating how France was perceived as the epitome of taste, two advertisements for the commercial house of J Thomas & Co, published in 1839, dominated the front page of the *Hobart Town Courier.*[123] Almost a mirror image of each other, on the left, the advertisement was in French; on the right, the advertisement was in English. Tasmania was a British colony – dual-language media was not necessary – but using French served to imply the quality of goods. The promotion listed an extensive array of food and clothing available from the brig, *Essex*, 'direct from Tarragona and Marseilles'. Many of the foodstuffs – broth, 'legs of fowls in gravy', 'sweet milk', 'green peas, English fashion' – although only listed as packaged in boxes, were likely tinned. 'Sardines en huile' became 'sprats in oil'.[124] French was, as Alison

[117] Alain Drouard, "The History of the Sardine-Canning Industry in France in the Nineteenth and Twentieth Centuries," in *Exploring the Food Chain...*, 177-90; Susan J. Thompson and J. Tadlock Cowan, "Durable Food Production and Consumption in the World Economy," in *Food and Agrarian Orders in the World Economy*, ed. Philip McMichael (Westport: Praegar, 1995), 42.
[118] McDermott, "Sardines", 209.
[119] *Daily Telegraph*, 17 September 1895, 3.
[120] *Sydney Morning Herald*, 23 July 1887, 9; *Sydney Morning Herald*, 24 March 1890, 11; *Argus*, 12 January 1895, 5; *West Australian*, 28 January 1899, 4.
[121] 'A. Gillet and Co.,' for example, *Sydney Morning Herald*, 6 February 1852, 3; 'Try "Crossed Fish" The Original Norwegian Sardines', *Advertiser*, 17 February 1916, 1.
[122] Priscilla Parkhurst Ferguson, *Accounting for Taste: The Triumph of French Cuisine* (Chicago: University of Chicago Press, 2004).
[123] *Hobart Town Courier*, 26 July 1839, 1; *Tasmanian*, 2 August 1839, 1; *Austral-Asiatic Review,* 6 August 1839, 8; *Colonial Times*, 6 August 1839, 1.
[124] *Hobart Town Courier*, 26 July 1839, 1.

Vincent has stated, 'an important gastronomic signifier'.[125] Evidence from other Australian print media sources reiterates the positioning of France as the paradigm of taste throughout the 19th century. Cookbook recipes and menus were often presented (at least partially) using French nomenclature: The Victorian Acclimatisation Society's 1864 dinner, for instance, 'Le Menu' was offered first in French, with the 'Bill of Fare' printed below. Even on the English menu, many dishes were given French names, such as 'Salmis of teal aux truffes' and 'Grilled mullet a la maitre d'hotel'.[126] Australian medical professional, health reformer and culinary commentator Philip E. Muskett, suggested that even peasant fare in France was so sophisticated, it would please the 'best club of London'.[127] The preference for French sardines produced imitations, with advertisements promoting the products as true and genuine; in 1852, a stand-alone advertisement offered 'real French Sardines'.

The desire for French sardines was justified through multiple appeals to safety: the soldering of the tin, the reliability of the genuine article, and the type of oil used. In response to poisoning cases in NSW and Victoria, a 'report on tinned goods deleterious to health' from the British consul in Baltimore was reprinted across numerous papers from Brisbane to Adelaide in 1889 and 1890. The metal and solder was of primary concern, with lead from an improperly soldered tin attributed as the cause of one child's death. France and Germany, the report from America continued, were positioned as being at the forefront of safe tinned foods, soldering only on the outside of cans. Americans were attempting to emulate the practices of these countries, but as yet, attempts had not been successful. French regulations (not mentioned in this report) had, in 1879, specified that 'pure tin', not lead, was to be used in the welding of cans.[128]

American sardines had initially been hailed to 'equal if not excel Old World rivals' by an article reprinted from the *New York Herald* in 1874, and promoted in one 1876 Australian advertisement as winning awards at European exhibitions and as 'The Cheapest Luxury of the Age'.[129] In the 1874 article, safety was assured in similar, but slightly different manner, to the reasons American sardines would be condemned for less than a decade later. The Americans,

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[125] Alison Vincent, "A Revolution in Taste, or, Is There Haute Cuisine Without the Michelin Guide?," Dublin Symposium of Gastronomy (2016).
[126] Acclimatisation Society of Victoria, "Acclimatisation Society's Dinner," (Melbourne: Wilson and Mackinnon, 1864), 2-3; Hannah Maclurcan, *Mrs. Maclurcan's Cookery Book: A Collection of Practical Recipes Specially Suited for Australia*, 3rd ed. (Melbourne: George Robertson and Company, 1899).
[127] Philip E. Muskett (1893), *The Art of Living in Australia* (Sydney: Sydney University Press, 2004), 104.
[128] Drouard, "Sardine-Canning", 182.
[129] *Argus*, 15 June 1874, 7; *Australasian*, 12 February 1876, 222.

it ran, had refined sardine canning to 'a science', contrasting with the 'haphazard' techniques of the French and Spanish. Scientific and technological advancement was reiterated through patriotism: it was 'American enterprise and American capital' that ensured the safety of the sardines.[130] But by the 1880s and 1890s, safety and quality concerns had arisen around American tinned foods, and they were held responsible for deaths internationally.[131] In 1883, some Pacific Coast salmon were deemed inferior, not of 'sound' quality, or packed with sufficient care. Place, colour and texture were important here: last season's produce from Fraser River was 'hard, red, overcooked and generally objectionable', whereas 'good Columbia River' fish was characterised by flesh that was 'pink and firm, but tender'. It was feared that shipments rejected from Britain would be pushed onto the Australian market, suggesting a practice of reshuffling unsold and inferior goods.[132]

The packaging of sardines in individual tins for domestic consumption allowed producers to attach and manipulate particular meanings to the fish, and was thus a site where safety concerns played out: 'the American sardine has a particularly evil reputation' the *Age* reported, 'the label is French in the well known yellow and black letters, but the contents are not sardines, nor are they put up in *huile d'olive et pure*, but in cotton-seed oil'.[133] The geographical origins of tinned sardines were critical in establishing trust: France was safe, America was dangerous. These signifiers were deliberately confused or falsified by producers in order to obfuscate origins and add value to their product. Even when the safety mechanism of marking foods with place of origin was shown to be flawed, place (here France), appeared to retain its power: fraud did not break associations of quality. Rather than diminish the reputation of the category of 'French', attempted imitation reinforced status. Two years after the Baltimore report, a very similar warning of imitation and fraud was repeated in another, this time Australian, medical report. French labels again disguised American sardines; the same labels promised fish in olive oil, but it was again cotton-seed oil.[134] The adulteration and mislabelling of canned sardines appears to have been an ongoing issue in America, with numerous prosecutions taking place under the 1906 Pure Food and Drugs Act into the 1950s.[135]

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[130] *Argus*, 15 June 1874, 7.
[131] *Bowral Free Press*, 12 October 1892, 2; *Burrangong Argus*, 4 May 1895, 3; *Adelaide Register*, 22 June 1908, 5.
[132] *Age*, 6 August 1883, 2.
[133] *Age*, 3 February 1890, 4.
[134] *Bowral Free Press*, 12 October 1892, 2.
[135] "FDA Notice of Judgment Collection," US Library of Medicine, no.20027 (1954).

An 1888 article had flagged concerns of cotton-seed oil being used to adulterate 'Pure French Sardines' (actually small 'American herring') and other foodstuffs, such as butter and cheese. Cotton-seed oil was a new industrially hydrogenated food product from the waste of the fabric industry. Helen Zoe Veit has shown how commercial interests taught Americans to overcome initial suspicions of the product, to trust it and industrial production more broadly, with people looking to government oversight rather than understanding the process of production or knowing ingredients.[136] In Australia, the cheaper, more available cotton-seed oil was reportedly sent from America to Spain and Italy, where it was repackaged and returned to America as 'Pure Olive Oil'.[137] Spain and Italy, as known producers of olive oil, lent an air of legitimacy to the repackaged industrial product. Olive oil was considered a valuable health product and was often sold in pharmacies, while cotton-seed oil was deemed inferior and suggested to have been reactive with metal cans.[138]

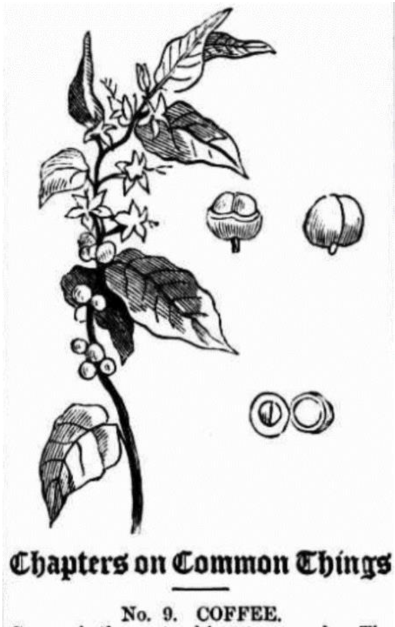
Portuguese sardines also drew attention in the Australian press. Advertised as such only from 1907, Portuguese sardines were, however, discussed in articles and market reports from 1884, implying that they were available in Australia but were not favoured, and thus not advertised in newspapers as Portuguese. Comments were generally negative, 'there is a lot of inferior Portuguese sardines about that are sold as the regular fish'.[139] The Portuguese sardines were contrasted with those from other countries: being 'a very inferior article, and quite bitter', they could 'in no way be compared with the French and Italian brands'. Caution was required in purchasing tinned fish, and people needed to 'select well-known brands'.[140] In 1885, Portuguese and Spanish sardines were 'returned from Australia where quality found too low to suit the market'.[141] Branding was emerging as a safety mark, but continuing to be superseded by provenance in 1898: 'Really fine French Sardines can also be brought at reduced prices in England lower than the best known Portuguese brands, such as Trefavoane, to which they are considered vastly superior'.[142] In Australian history, the safety of fish, both fresh and tinned, has been discursively defined by its place of origin. Turning to coffee, we see that concerns were both similar and different.

Coffee

[136] Veit, "Eating Cotton", 397-421.
[137] *Scone Advocate*, 6 July 1888, 1.
[138] *Colonial Times*, 24 July 1838, 8; *Townsville Daily Bulletin*, 11 June 1927, 10.
[139] *Week*, 20 December 1884, 16; *Age*, 1 October 1885, 4.
[140] Ibid.
[141] *South Australian Register,* 7 December 1885, 4.
[142] *Sydney Morning Herald*, 30 July 1898, 11.

Although coffee was less likely to cause sickness than tinned sardines, it was still subject to food safety concerns. For example, a type of 'drunkenness' was attributed to coffee when a London host reportedly died and several of his guests fell ill after drinking it. Ground coffee was also reported as adulterated with chicory, spoiled grain, 'damaged sea bread', 'oxide of iron' and 'Venetian red', among other substances.[143] Further, chicory that adulterated coffee was itself said to be adulterated with 'brick dust, ochre and charcoal'.[144] And, as this thesis argues, food safety is more than simply 'not sick': food must also be socially safe. Taste, quality and safety were and are deeply enmeshed and, with coffee, place was an important indicator. Coffee was widely discussed (see for example figure 6) and advertised with geographic nuance in the 19th century Australian colonies: coffee was Turkish, English, Cheribon, Bourbon, Mochan, Jamaican, or from Pedang, Java, Arabia, Sumatra, Brazil, Manilla, Neilgherries and Koonda Mountain, Ceylon, Martinique, Costa Rica, and Ramboddi. While perhaps not always accurate, the names of these coffee varieties designated their place of origin, or in the case of the English, suggest it was either processed in the metropole or produced under British supervision.[145] Originally cultivated in Ethiopia, coffee was advertised as being packaged for domestic consumption, sold in bags, and in an early example of retail packaging, in tins and tinfoil as early as 1858.[146] Australian print culture suggests markets were dominated by Java, Mocha and Ceylon. The beverage provides a pertinent example of the importance of place of origin to consumables, introducing important elements of provenance such as empire and the labour of production.

[143] *Advertiser*, 7 February 1911, 2; *Geelong Advertiser*, 4 August 1851, 1; *Weekly Times*, 19 September 1896, 9.
[144] *Tasmanian Daily News*, 9 August 1856, 6.
[145] Bickham, "Eating the Empire", 89.
[146] *Star*, 28 October 1858, 3.



[147]

Figure 6. Articles, such as this 1872 one discussing coffee, informed Australians about foods and other commodities.

Mario Samper K has recognised that good coffee 'is a matter of taste, literally and figuratively speaking': different cultures have valued different attributes in the beverage, such as aroma, colour and density, or production methods, such as organic.[148] He uses the examples of 'Mocha' and 'Java' as evidence of changing meanings through time. Once associated with particular geographic locations and high qualities, Mocha and Java 'subsequently acquired very different objective characteristics, and are now terms used for other purposes'.[149] Such conversations have been observed across several geographic locations and time periods, but were not, of course, replicated precisely. Samper K, in discussing perceptions of Costa Rican coffee in its country of origin during the 19th and 20th centuries, pointed to protestations in the local press that particular 'geographical origins' continued to rule consumer preferences, like this from 1906:

> The appearance or name of a coffee has an imaginary importance for him. Mocha coffee is the worst one can imagine; yet ultimately it is Mocha coffee, and someone will pay ridiculous prices for it. "Old Government"

[147] *New South Wales Agriculturalist and Grazier*, 26 October 1872, 15.
[148] Mario Samper K., "The Historical Construction of Quality and Competitiveness: A Preliminary Discussion of Coffee Commodity Chains," in *The Global Coffee Economy in Africa, Asia, and Latin America, 1500–1989*, eds. William Gervase Clarence-Smith and Steven Topik (Cambridge: Cambridge University Press, 2003), 126.
[149] Ibid., 127.

Java coffee is unwashed, yellow from age, swollen by the humidity it has absorbed, and its aroma weak, yet they pay high prices for it'.[150]

When particular places have been associated with high or low qualities, as Samper K argues, 'it is worth inquiring how that came to be', even if it is impossible to fully answer within the scope of our respective projects.[151]

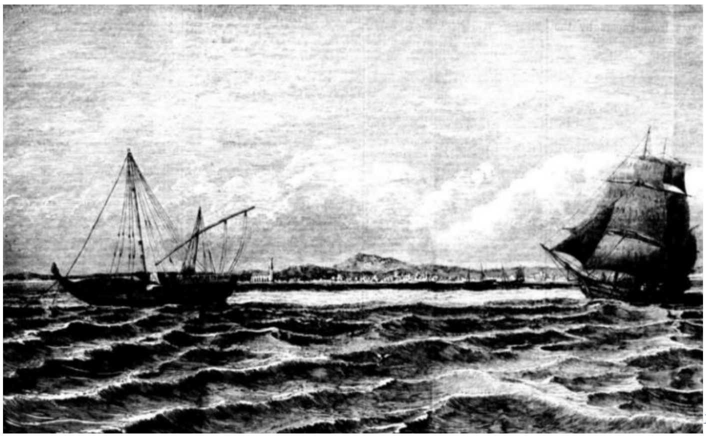

[152]

Figure 7. An 1874 depiction of Mocha, published in an Australian periodical.

Prices reinforce that place mattered, and that place was an indicator of value. Foods such as coffee associated with places were more highly valued than those without, as market reports throughout the 19th century consistently demonstrate. In an 1839 South Australian market report, for example, 'ordinary' coffee was valued at 11d. per pound, while Mocha sold for 11s.3d. for the same quantity.[153] Of all the coffee varieties advertised in Australia during the 19th century, Mocha was consistently the most highly valued, even if its quality was disputed. Mocha referred to the Yemeni port through which coffee from the surrounding regions was traded across the world (see figure 7 for the kind of imagery that potentially informed Australians about Mocha).[154] Its 'world-renowned reputation' likely stemmed from Mocha's perceived status as a site of ancient coffee traditions.[155] In the periodic articles debating the worth of certain types of coffee over others, Mocha was alternatively positioned, well into the 20th century, as: the best, or its quality as a misconception, or as a fraud. The 1937 *First Australian Continental Cookery Book* continued to hail Mocha 'when it is genuine'

[150] Ibid., 129.
[151] Ibid., 126-7.
[152] "Mocha", *Town and Country Journal*, 16 May 1874, 781.
[153] *South Australian Record*, 1 November 1839, 10.
[154] Steven Topik, "The Integration of the World Coffee Market," in *The Global Coffee Economy...*, 22-5.
[155] *South Australian Advertiser,* 2 June 1871, 554.

as ‘the best’.[156] These varied stances affirm that, although disputed, Mocha coffee popularly retained strikingly stable meanings of high quality for much of the 19th century.[157]

An 1850 advertisement in the form of a conversation about the superiority of coffee from the Sydney ‘New Coffee Depot’ boasted of their excellent roasting technique, and stated ‘Edwin Campbell never buys bad coffee’. It concluded with the question: ‘don’t you taste the Mocha?’.[158] A few years later its quality was attributed – like fine wines – to the quality of the soil in which it grew; then the following decade, it was to the coffeeberries themselves: they were ‘small and very equal size; consequently they roast well’.[159] ‘Everybody has heard of Mocha coffee, and it is generally known that [it] is the most esteemed and celebrated’, suggested one 1874 description, ‘with a more agreeable taste and smell than any other’.[160] Author of Australia’s first published cookbook, Edward Abbott, and reformer Philip E. Muskett agreed Mocha was ‘the most esteemed’ and ‘the choicest’ of coffees.[161] A newspaper supplement to the 1889 Melbourne Centennial International Exhibition, shows Australians looked to Europe for the decisive word on taste: ‘the best coffee is said to be imported from Mocha, on the Red Sea. The coffees held next in estimation by the Europeans are the Ceylon, Bourbon and Martinique’.[162]

Other sources contested the place of origin. Numerous articles claimed that ‘genuine’ Mocha coffee was scarce, if not entirely absent from, Australian markets.[163] Arrivals of small shipments received particular attention from the press. In 1865, one such shipment was stated to be ‘a description rarely imported’.[164] Coffee designated ‘Mocha’ was asserted more likely to have come from Malabar, or was subject to substitution with the cheaper Jamaican.[165] These complaints continued into the 20th century. In 1904 Mocha was heralded as:

> the finest ever grown…but the crop is extremely limited and hardly ever more than satisfies purely local demands…Sometimes a few pounds of this cheapest

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[156] *First Australian Continental Cookery Book* (Melbourne: Cosmopolitan Publishing Co., 1937), 287.
[157] Samper K, "Historical Construction", 129:
[158] *Moreton Bay Courier,* 6 July 1850, 1.
[159] *South Australian Register,* 17 April 1858, 3; *Queenslander,* 14 March 1868, 10.
[160] *Town and Country*, 16 May 1874, 781.
[161] Abbott, *English and Australian Cookery,* 184; Muskett, *Art of Living in Australia*, 53.
[162] "Our Exhibition Supplement," *Horsham Times,* 4 January 1889, 2.
[163] *Argus,* 14 September 1865, 4.
[164] *Sydney Morning Herald,* 23 June 1865, 5.
[165] *Age,* 25 April 1857, 3; "Supplement to the" *South Australian Register,* 4 December 1869, 1.

grade makes its way to Constantinople, but it is very, very seldom, and it is improbable that an ounce of it has got any further west than that.[166]

In 1912, an article asserted that Mocha coffee was more likely grown in Southern India, shipped to the Red Sea area where it was packaged and re-exported: 'And while Anglo-Indians drank this "Mocha" many a regret they expressed that India was unable to grow a coffee so full of flavour and aroma'.[167]

An extensive article on coffee was emblematic of taste hierarchies constructed around coffee and the rationales behind them. Reprinted from a British newspaper in 1883, the source concurred Mocha was absent from British markets, calling it 'a thing rather of imagination', and 'more talked of than tasted'. Instead, 'Great Britain was in possession of the greatest coffee estates in the world', among these Ceylon (although lately 'subject to much depression'), and Mysore, which was 'certainly superior' to that of Java or Central America.[168] The coffee of the Blue Mountain region of Jamaica also received praise, with the author comparing it to that of Mysore, but mourning 'the pity of it is that the arrangements which have turned that beautiful island into a nigger Eden will not permit of any development of this most valuable natural product', suggesting the presence of former African slaves tainted the future potential and quality of Jamaican coffee.

Race and empire were implicated in the calibre of coffee, as Ceylon coffee demonstrates.[169] 'If Mocha…had the extraordinary qualities attributed to it by fame', ran another British article, 'but Plantation Ceylon is found to be far superior'.[170] An earlier (1857) Victorian piece similarly asserted little Mocha came to Australia, also suggesting it came from Malabar. 'Ceylon Plantation' was 'most in favour', and 'esteemed nearly, if not quite equal, in quality to the best Jamaican, which seldom comes into the market'. Java was 'of medium quality; that from Manilla of good flavour, but not strong'.[171] Another variety was described, 'the native coffee of Ceylon is also imported here, but no great amount of attention is bestowed on its culture, as it is not by any means equal to the Plantation'.

[166] *Queenslander,* 9 July 1904, 24.
[167] *Sydney Morning Herald,* 18 March 1912, 11.
[168] *Express and Telegraph,* 17 January 1883, 2.
[169] William Gervase Clarence-Smith, "The Coffee Crisis in Asia, Africa, and the Pacific, 1870-1914," in *The Global Coffee Economy…,* 100-19; Roland Wenzlhuemer, *From Coffee to Tea Cultivation in Ceylon, 1880-1900: An Economic and Social History.* Leiden, The Netherlands: Brill, 2008), 1-3.
[170] *Brisbane Courier*, 1 February 1868, 7.
[171] *Age*, 25 April 1857, 3.

As identified, coffee from Ceylon came under two sub-categories. Plantation, as the name suggests, was grown on European-owned plantations. The second, Ceylon Native, indicated ownership and labour, being cultivated on smallholder estates owned or run by non-Europeans: Sinhalese or Tamils. Colonial state policy, Rachel Kurian has shown, inhibited the growth of 'native' estates, favouring and supporting 'white' production through land and financial controls.[172] Native was elsewhere asserted to be the 'inferior sorts gathered by Singaless villages from their wild trees and sent to market with little if any care' [173] Here, local production is portrayed as haphazard, distant from European control. Market prices confirm a higher valuing of 'Plantation' in the Australian colonies during the 19th century, and position that of Java – a Dutch colony, but nonetheless under European control – between the two Ceylonese varieties.[174] Place of origin was a safety mark for Empire and European dominance, refined through denotation of 'Plantation' or 'Native'. Here, ownership bestowed status – status of whiteness, race and Empire – on the commodity, and in turn, onto the drinker.

Concerns around the labour used to produce coffee varied through the 19th century and was connected to places. At times, there was a fear of contamination through the labour of racial others and the privileging of white labour, as suggested above and further demonstrated through dried fruits. Alternatively, there was a moral safety of labour, similar to the 'moral duty' Affeldt describes was given in justification for the higher price of 'white' Australian sugar in the early 20th century.[175] As Java coffee shows, the perceived use of non-slave labour was important. The superiority of Ceylonese Plantation over Java (and other places) was attributed to the type of labour that produced it, building on abolitionist sugar policies and discourse.[176] In 1867, it was reported that despite less productive soil, 'a few private English proprietors in Ceylon, with the imported labors of free immigrants, produce a

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[172] Rachel Kurian, "Labor, Race, and Gender on the Coffee Plantations in Ceylon (Sri Lanka), 1834-1880," in *The Global Coffee Economy...,* 175.

[173] *New South Wales Agriculturalist and Grazier,* 26 October 1872, 15.

[174] Prices generally quoted per pound: Plantation 10d., Java 8d., Native 7d., Singapore 8d. *South Australian Register*, 15 July 1856, 2; Plantation 10 ½d., Java 9d. to 9 ½d., Native 8 ½d., and Manilla 8d. to 8 ½d.; *Age*, 24 June 1865, 6; Plantation 10 ½d., Java 9d. to 9 ½d., Native 8 ½d., and Manilla 8d. to 8 ½d. *South Australian Register*, 24 April 1871, 7.

[175] Stefanie Affeldt, "The Burden of 'White' Sugar: Producing and Consuming Whiteness in Australia," *Studia Anglica Posnaniensia* 52, no. 4 (2017): 439-66.

[176] *Sydney Mail and New South Wales Advertiser*, 2 December 1882**,** 974; *Inquirer and Commercial News*, 7 March 1860, 2; James Ewing Ritchie, *Thoughts on Slavery and Cheap Sugar: A Letter to the Members and Friends of the British and Foreign Anti-Slavery Society* (London: Aylott and Jones, circa 1844); Garritt Van Dyk, "A Tale of Two Boycotts: Riot, Reform, and Sugar Consumption in Late Eighteenth-Century Britain and France," *Eighteenth-Century Life* 45, no. 3 (2021): 51-68.

better article, and more of it, than fertile Java, with the forced labor of its millions'.[177] The following decade, the fruits of empire were again defined by their work conditions, 'by free labour, as in all British Possessions; by slave labour as in Brazil…and by compulsory labour under the direction of the Government, as in Java, a Dutch colony'.[178] Food safety is shown by this example to have an ethical dimension: evident here is an imperial justification of enlightening and uplifting ignorant others.

Discourses of improvement and benign colonisers disguised labour conditions on the ground. While coffee from Java was deplored on the basis of the use of coerced labour, Kurian and M. R. Fernando have demonstrated that the operation of British run Ceylonese estates were little different in terms of treatment of workers.[179] Java, under Dutch control, first produced coffee through coerced labour, and later (1830 until at least the 1870s) through a 'Cultivation System', which essentially amounted to the same thing. Peasants had to produce quantities of coffee for the colonial state, at levels well below world market prices.[180] Workers on British estates in Ceylon were largely engaged from the Tamil regions of India where poverty forced indebted migration to the plantations. There they were subjected to harsh conditions, with rigidly enforced social hierarchies of gender, race and caste. Kurian uses the term 'indebted', recognising the system of *Tandu* (in which debts were recorded on paper) 'in practice contained the principle of indentureship, even if it was never formally viewed as such in law'.[181] Exploring 19th century coffee provenance preferences shows several complex factors at play. Beyond Mocha, the apparent hierarchy (from highest to lowest) in the second half of the 19th century was Ceylon Plantation, then Java, then Ceylon Native, demonstrating that the safety of empire and race were important factors in perceptions of quality. Mocha – real or imagined – reached Australia in relatively small quantities and thus, I argue, retained its status because it did not pose a threat to the hegemony of white British coffee. Labour and race concerns were also connected to hygiene through place of origin in another food type, dried fruit.

Dried Fruit

Advertisers sang the praises of dried fruits marked with their place of origin, and positioned them against other 'inferior' goods. In time, places came to signify particular

177 Reprinted from the London *Examiner*. *South Australian Weekly,* 2 February 1867, 3.
178 *New South Wales Agriculturalist and Grazier,* 26 October 1872, 15.
179 M. R. Fernando, "Coffee Cultivation in Java, 1830- 1917," in *The Global Coffee Economy…*, 159-160.
180 Kurian, "Coffee Plantations", 173-90; Fernando, "Coffee Cultivation", 159-160.
181 Kurian, "Coffee Plantations", 186.

varieties of dried currants and raisins. In 1879, 'J. G. Hanks &Co.,' promoted 'New Valencia Raisins, Ex Hankow'. Their superiority 'when compared with the Ordinary Elemes, is now very generally acknowledged'.[182] Valencia referred to the region in Spain, while Eleme were the top grade from Turkey. Other Turkish varieties included 'Chesme' and 'Smyrna', and there was Spanish 'Malaga': all geographical identifiers of the regions of raisin production, but also signifiers of quality.[183] Reportedly of the same grape variety, Malagas (6d) achieved nearly twice the price of Eleme (3 ½d) per pound in 1860.[184] In 1871, Malaga Raisins were hailed 'the finest in the world'; an 1878 article stated them to be preferred to the Valencian.[185] Later, 'Malaga' came to signify the variety and high quality of raisins in clusters, with an Adelaide newspaper observing in 1911 the sale of 'Malaga table raisins…grown and prepared in West Australia.[186] As with coffee and tinned fish, technology and race were important elements of place safety, but with dried fruit, these issues were specifically connected to hygiene.

The mechanisation of fruit processing was positioned as improving cleanliness, a theme developed in the following chapters. Plant and dirt matter, while not desirable, appear to have been usual in dried fruit. 'Patras Currants', advertised by 'Hanks and Co.', reassured potential customers these Greek grapes were 'quite new…the finest sample in the market. They have been carefully dressed by patent machinery, and are quite free from dirt or grit of any kind'.[187] One early Australian cookbook author, Hannah Maclurcan, instructed readers to 'wash the currants and raisins (pick out all the small sticks), lay them out in the sun on a towel to dry', affirming that dirt and plant-matter were perceived as commonplace.[188] Into the latter decades of the century, fruit from Greece, Spain and Turkey were increasingly compared to fruit from the United States of America. All but unavailable in Australia, the emerging Californian raisin industry was nonetheless widely reported on in Australia, informing discourses of quality.[189] An article in the *Goulburn Herald* in 1879 posited Malaga raisins as the 'best', but qualified that the emerging Californian industry matched their high

[182] *Evening News,* 20 December 1879, 3.
[183] *Sydney Gazette*, 21 December 1806, 2.
[184] *Adelaide Observer,* 22 December 1860, 5; *Adelaide Observer,* 3 April 1875, 9.
[185] *Town and Country Journal,* 27 May 1871, 14; *Sydney Mail,* 18 May 1878, 683.
[186] *Advertiser,* 28 August 1911, 5.
[187] *Evening News,* 20 December 1879, 3.
[188] Maclurcan, *Cookery Book*, 230.
[189] A Trove search reveals less than 10 advertisements for Californian raisins, and four for American raisins for the decade of the 1890s; Alison Wishart, "'Bottled Sunshine': The Birth of the Australian Dried Fruits Industry," *Locale: The Australasian-Pacific Journal of Regional Food Studies* 6 (2016): 41; Kaori O'Connor, "The King's Christmas Pudding: Globalization, Recipes, and the Commodities of Empire," *Journal of Global History* 4, no. 1 (2009): 140-41.

quality.[190] During the 1890s, an Australian dried fruits industry was emerging, increasingly advertising and bringing with it further discussions of quality and safety.[191]

The connection between food, hygiene and ideas of place and race was made explicit in an 1892 article entitled 'Clean v. Dirty Products: A Strong Plea for Washing Currants, Raisins and Figs', reprinted in the *Bendigo Independent* from the *Mildura Cultivator*.[192] The article does not represent the discursive majority, with others arguing the superiority of the Malaga over the Californian. A New South Wales Department of Agriculture Officer, for example, stated Californian raisins were 'hopelessly inferior to those grown and packed in Malaga'.[193] It does provide, however, an important example of sensationalist and vitriolic raced discourse, and was not exceptional in its sentiment.[194] In order to be competitive on the world market, the hygiene of the growers and processors of the 'Mildura' scheme was critical. The article 'revealed' the methods of production in Greece, Spain and Turkey, via an excerpt of study commissioned by the Californian orchardists, reminding us that food safety information was 'discursively globalised', as Tarulevicz has pointed out.[195] Labour concerns here feared contamination, and a white industry was presented as the solution. Here we can begin to understand the workings of what Anne McClintock has termed 'commodity racism', an idea developed in the following chapter.[196] Contemporary ideas of bodies, class and race were invoked using several of the senses.

The fruit-producing nations of the Mediterranean were lumped together into a racialised Other. Human contact posed danger, and certain categories of human were more harmful than others. The account described 'filthy', 'barefooted', 'dirty', 'half clad', and 'squalid peasants', contaminating fruit with dirt, 'cow-dung', and 'human orduration'.[197] Where technology was employed, it was inadequate for the task: 'a primitive winnowing machine mak[ing] a pretence of cleaning'. These details were sure to 'cause every American (and Australian, too) stomach revolt and swear off' the imported dried fruit. The article culminating with the virulent assertion: 'could they but see the peasants foul, stinking clothes,

[190] *Goulburn Herald and Chronicle,* 19 May 1879, 4.
[191] Flora Pell, *Sunshine Cookery Book* (Melbourne: Victorian Dried Fruits Board, circa 1926); C. J. DeGaris, ed., *Sun-Raysed Children's Fairy Story Book* (Melbourne: F.W. Niven & Co., 1919).
[192] "Supplement to the," *Bendigo Independent*, 2 January 1892, 3.
[193] *Week*, 12 February 1892, 3.
[194] *Weekly Times*, 4 November 1893, 29; *Huon Times*, 12 March 1926, 6.
[195] Nicole Tarulevicz, "Discursively Globalized: Singapore and Food Safety," *Food, Culture & Society* 23, no. 2 (2020): 193-208.
[196] McClintock, *Imperial Leather*, 46-7.
[197] *Supplement to the Bendigo Independent*, 2 January 1892, 3.

the scaly, filthy, slimy, repulsive hands which they use for impromptu toilet purposes, it would be easy to convince them that peasant products are wholly unfit for the poorest of Gods' creatures'.[198] Here, peasants were excluded from being considered 'God's creatures', and positioned as animal-like, with the fruits of their labour unsuitable for even the 'poorest', the aforementioned (and presumably white) 'American consumer'. Smell and feel were used to insinuate racial difference, with a hierarchy of senses used to affirm superiority: American and Australian consumers were invited to use sight (a 'higher' sense), to *see* the odour and texture of the labourers' skin, not use the 'lower senses' to smell or feel.[199] Uncivilised, the 'peasants' offended Western sensibilities with their apparent lack of self-control.

The primary offence of the labourers, however, appeared to be their poverty, and being of the 'Orient'. The 'degradation' of the labourers was extrapolated onto the whole of the nations: 'unclean Greeks, Turks and Spaniards'. Ludovice has examined the meanings of meat associated with particular places, and as with the dried fruits discussed here, 'Chinese meat received repulsion largely shaped by discourse with a long history of race, disease, and degeneration that affected the meat's momentary existence', becoming 'almost…inseparable' from the food product.[200] In turn, such discussions of dirty fruit or meat reinforced racial stereotypes. It was the 'filthy economy' of the Spanish that meant nothing was wasted – 'human excrement' was used to fertilise the vines. This American report was endorsed by an Australian newspaper: 'the picture is not overdrawn, we can readily believe. All travellers to the East agree on one point – that the peasantry of Asia Minor are the most repulsively filthy of the human race'. These 'facts...ought to be made known to the civilised world'.[201] Dried fruit's place of origin was positioned as critical to the hygiene and safety of civilisation.

Discourse of polluting and racially-inferior labour continued into the 20th century. A 1907 Royal Commission reported on the fig industry in Smyrna (Turkey), describing the workers and processing of fruit with simultaneously sexualised and repulsed overtones.[202] Pickers were 'street rabble…including many women of questionable character…belonging to

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198 Ibid.

199 Andrew J. Rotter, "Empires of the Senses: How Seeing, Hearing, Smelling, Tasting, and Touching Shaped Imperial Encounters," *Diplomatic History* 35, no. 1 (2011): 7-8.

200 Nicolo Paolo Ludovice, "The Ice Plant Cometh: The Insular Cold Storage and Ice Plant, Frozen Meat, and the Imperial Biodeterioration of American Manila, 1900-1935," *Global Food History* 7 no.2 (2021), 19.

201 "Supplement to the," *Bendigo Independent,* 2 July 1892, 3.

202 This letter was published in the *Journal of the American Medical Association* and reprinted in a 1907 Australian Royal Commission. In the same report, Northern African date-pickers workers were 'ragamuffins with any and every kind of disease, and all irredeemably dirty and insanitary'. Octavius C. Beale, Parliament of the Commonwealth of Australia, *Secret Drugs, Cures and Foods: Report of the Royal Commission* (Sydney: Government Printing Office, 1907), 315-6.

a class where the diseases of the most loathsome and infectious types can run riot'. Because of their poverty and 'Oriental' race, the workers were condemned. Bodily contact and the threat of disease was emphasised: figs were 'moulded with their hands and mouths…one may judge what wonderful possibilities there are of contracting disease from eating "choice Smyrna figs"'.[203]

Author of the Royal Commission, Octavius C. Beale, suggested removing this dangerous commodity chain: 'in Australia, and also in America, these disgusting evils are remediable by producing the figs locally, and packing them under our usually clean and sanitary methods'. Australia and America were safe, Smyrna and Turkey were filthy and compromised. Place of origin could threaten or protect, but consumers, as Beale noted, may have had other ideas: 'I have been informed by grocers that the foreign is preferred because it is foreign'. Further scientific and modern oversight was needed: these examples were given to demonstrate 'the absolute necessity of a Commonwealth Analytical Bureau, with chemical, microscopical, and bacteriological examination of foods, drinks, drugs, utensils, and even articles of human wear'.[204] A new language of safety, bacteria, and science infiltrated discourse, as we see in the chapters to follow.

Conclusion

As the nineteenth century progressed, place of origin marketing became less prominent as other safety mechanisms, both in terms of identification and packaging, came to the fore. Most conspicuously, brands differentiated foods by marking them as being produced or sold by a particular company, becoming one of the most identifiable features of capitalist societies. This gradual shift was supported by a transition from bulk to retail packaging, a trend picked up in chapter four.[205] Place, while perhaps less overtly, nonetheless remained important in reassuring consumers of the safety and quality of their foods. In changing contexts, foods and place of origin associations have manifested in multiple and diverse ways through words and images. Place was so powerful, that in 1908, Australian 'pure meat extract' was reportedly exported 'to England, and it came back as Bovril, Oxo, etc., and was sold at 30 Per Cent. Higher than the same material would bring if it bore an Australian label'.[206] As in the 19th century, foods were associated with places in advertising in numerous ways: they might be imbued with the physical attributes or the technological superiority of a country that

[203] Ibid.
[204] Ibid.
[205] Bannerman, "Print Media", 302.
[206] *Daily News,* 12 October 1908, 3.

ensured health, and/ or promised through the consumption of certain products, access to the lifestyle of the food's provenance.

With the international rise of nationalism, and nationalism around the Federation of the Australian colonies, foods from within the nation were increasingly important displays of patriotism. Today, legal mandates regulate foods marked with provenance. Most foods retailed in Australia are required to be labelled with their country of origin.[207] The process is complicated and often disputed, given the complexity of long commodity chains and the many ingredients of processed foods.[208] Country of origin labelling enables consumers to choose or avoid foods based on their provenance and perceived safety standards.[209] Appellation systems legally identify and protect foods that display particular characteristics resulting from their specific geographic regions; these can also include cultural methods of production of the area. The popularity of the concept of *terroir*, makes the case for place of origin's persistent importance to food.[210]

Place of origin was an important food safety cue before branding, and one that speaks of industrialisation and globalisation, race, labour, empire, class and culinary hierarchies. This chapter has described the foundations of colonial Australian food systems and culture, primarily regarding imported foods. Australia has provided a significant example, with trade routes extending across and beyond empire, binding the continent not only to its geographical location in the Asia-Pacific region, but also to the wider world. Concerned with the relationship between safety and place, it has been shown that place of origin marketing functioned as a branding mechanism in 19th century food advertisements. Places were shorthand for an array of qualities, a trust-mark, assuring quality and safety.[211] At a most basic level, the attribution of place of origin set foods apart from those without; suggesting there was something about that specific item that was worth giving more information about, and worth paying an additional cost for advertising. Over an anonymous good, the attachment of place to a food provided a sense of knowability, even if the consumer knew little or nothing about the place.

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[207] Australian Competition and Consumer Commission, "Country of Origin Food Labelling," Australian Government Department of Agriculture, Water and the Environment (24 April 2017).

[208] Nestle, *Pet Food Politics: The Chihuahua in the Coal Mine* (Berkeley: California University Press, 2008).

[209] Lara Anderson and Heather Merle Benbow, "Cultural Indigestion in Multicultural Australia: Fear of 'Foreign' Foods in Australian Media," *Gastronomica* 15, no. 1 (2015): 34-43.

[210] Michaela DeSoucey, "Gastronationalism: Food Traditions and Authenticity Politics in the European Union," *American Sociological Association* 75, no. 3 (2010): 432-55.

[211] Nicole Tarulevicz, "Sensing Safety in Singapore, 1900–2015," *Food, Culture & Society* 21, no. 2 (2018): 164-79.

The association between food, place and safety had many dimensions. Place of origin marketing could evoke the physical attributes of a place and associate them with a food. It could be the addition of the exotic to the everyday, either a 'taste of home' or the height of fashion. The desire for novelty and pleasure is not to be underestimated, as Hoganson has cautioned.[212] It was what Wilk has called the 'voice of persuasion', that is, there is a quality about the named place that led the consumer to desire the foodstuff.[213] This is particularly relevant in Australia where imported goods, such as preserved fish, were often valued over local, fresh foods. Here, it is the well documented power of foods to display cultural capital and perform social distinction that place of origin allowed: an 'embodied performance'.[214] Place labelling reassured a consumer not only of their physical safety (that is, they would not get physically sick from the food), but also that they were socially and culturally safe.

Protectionist elements of place formed the other side of this coin. As Colin Bannerman has observed, food advertising was entangled with 'ideas of civilisation, progress and refinement'.[215] The safety of empire, race, nation and class could, and did, contribute to food preferences. Food was sometimes selected for its origins within the empire, or because it was produced or overseen by white people. Labour was another aspect, shown through the case studies of coffee and dried fruit: at times the preference was for white labour, at others for non-slave labour. Around the Federation of the Australian colonies, foods from within the nation were increasingly important. The technologies of a place came into consideration, but perspectives varied: sometimes it was viewed as good and necessary in ensuring safety, at others, it was the cause of anxieties. As the example of Mocha coffee has shown, consumers, of course, did not necessarily follow the schemes of hegemonic power in buying empire or 'white' foods. Knowledge was not simply 'imposed' on passive consumers, but was shaped and reshaped through 'circuits of culture'.[216] Different goods were preferred from different places and there was not a standard hierarchy that placed just one above all. Place of origin marketing communicated culturally specific knowledge, reassuring 19th century Australian consumers of the physical, moral, and social safety of particular foods. The following chapter looks at another issue discursively associated with long commodity chains, adulteration. In

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[212] Hoganson, *Consumers' Imperium,* 135-6.
[213] Richard Wilk, "Comments to David Wengrow, 'Prehistories of Commodity Branding,'" *Current Anthropology* 49, no. 1 (2008): 25-6.
[214] Cook and Crang, "World on a Plate", 140.
[215] Bannerman, "Print Media", 299.
[216] Richard Johnson, "The Story So Far and Further Transformation?," in *Introduction to Contemporary Cultural Studies*, ed. David Punter (London: Longman, 1986), 283-5.

the second half of the 19^{th} century, discourses of adulteration and purity came to the fore, and governments intervened in markets to regulate food safety.

3.

Adulteration and Regulation: ‘Playing Havoc with Our Colonial Digestion’

In 1855, a Tasmanian newspaper reported that prominent British analytical chemist and physician Dr. Arthur H. Hassell had found copper adulterants in pickles, commenting that ‘Messrs. Crosse and Blackwell had acknowledged in a most honourable manner that, previous to the appearance of the [Hassell] articles in the Lancet, they had been in the habit of practising the adulteration referred to, but have since discontinued doing so’.[1] Discourse around adulteration in the period 1850 to 1912 reflected a combination of global anxieties and local conditions. While many of the cases of adulteration reported did not occur in Australia, they presented potentially very real concerns. As we saw in chapter two, Australia imported a large array of foods. A scandal of copper colouring agents in pickles in Britain could become a legitimate fear in an Australian home because the pickles in the pantry could be from the very same batch – Crosse and Blackwell’s imported pickles were advertised in Australian papers before and after the 1855 article.[2]

Distance from production in commodity chains, according to Australian colonial newspapers, was said to increase the risk of fraud. According to this logic, if people were adulterating foods sold immediately to the consumer – as they had been found to be doing in Britain – where the risk of detection was high, ‘how much greater must be the temptation to adulterate articles which are to be consumed by the inhabitants of remote countries’, another commentator asked in 1856.[3] ‘Fears about ingesting foreign imports such as tea’ Rappaport has pointed out, ‘set the framework for how we still discuss food safety in a global marketplace’.[4] Australia matters to scholarship on adulteration because of its significant and ongoing engagement with global markets.

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[1] *Courier*, 2 November 1855, 3.
[2] *Sydney Morning Herald*, 29 July 1854, 5.
[3] *Sydney Morning Herald*, 21 February 1856, 3.
[4] Erika Rappaport, *A Thirst for Empire: How Tea Shaped the Modern World* (Princeton: Princeton University Press, 2017), 120.

Food is at once a necessity and a commodity. It is the most basic of human needs, but also a material good that is sold for commercial gain.[5] Its adulteration likewise transects need and profit. This chapter documents how food adulteration was thought about in Australia between 1850 and 1912; it charts whom the perceived perpetrators were and interrogates attempts at resolving the issue. The introduction of Australia's first broad food legislations is considered, as a government response to adulteration concerns. Adulteration anxieties did not necessarily follow actual practice, and thus this study does not try to establish the extent to which adulteration occurred in Australia.[6] This chapter forwards the central tenant of this thesis – that is, that food safety is shifting and culturally contingent – and argues that food adulteration discourses can tell us about cultural concerns, not only about food, but more broadly of Australian society at this time. Food adulteration altered Australian society.

Approach

This chapter is not an exhaustive study of food adulteration in Australia. Seeking to locate the phenomena and accompanying discourse within the broader cultural history of food safety in Australia – using case studies of tea and beer – the chapter asks: why did adulteration concerns appear at this particular time and place, and why were adulteration concerns especially intense in the second half of the 19th century? How did food safety concerns and discourse shift in this period, and what cultural work did adulteration discourses perform? Adulteration returns us to the question of what is considered food, and what is appropriate for whom? Although relevant, the significant role played by commercial interests in claiming and steering discursive space is only briefly touched on. Adulteration concerns focused on both imported and locally produced foods, and while certain foods received more attention than others, fears cannot be neatly categorised as greater around foreign foods than local, or vice-versa. Long supply chains intensified anxieties about food safety, but even foods produced locally by known producers could spark fear. Elsewhere, I have focused on adulteration concerns around milk as a culturally important food susceptible to bacteria and viruses, and with a particularly short commodity chain.[7]

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[5] Noah Zerbe, "Food as a Commodity," in *Routledge Handbook of Food as a Commons*, (London: Routledge, 2018), 155-70.

[6] Margaret Dorey, "Unwholesome for Man's Body?: Concerns About Food Quality and Regulation in London C1600-C1740" (PhD thesis: University of Western Australia, 2011).

[7] Frieda Moran, "'Poison in the Milk': Typhoid, Pure Foods, Adulteration and Sanitation in Nineteenth-Century Tasmania," *Tasmanian Historical Studies* 23 (2018): 1-22.

The periodisation (c.1850 to c.1912) of this chapter follows heightened levels of adulteration discourse in Australian print media. While Edward J. T. Collins argues that in Britain adulteration likely peaked during the 1850s, in the Australian context, discourses around adulteration and ensuring pure food supply were only taking off at this time.[8] Teased out further below, this apparent lag likely reflected developments in public health, the food industry, and a growing urban population in Australia. Hassell's infamous 1850s public revelations on food adulteration in Britain were critical, receiving much attention in Australia. The decade also marks the introduction of Victoria's 1854 public health Act, with an 'unwholesome food' clause, albeit with no mention of adulteration. This period is framed by two pieces of Victorian legislation: the 1854 Act and the Victorian *Pure Food Act 1905*. Additionally, a 1912 end-date allows us to see some implications of the latter Act. Victoria, while not fully representative, was an early adopter and innovator of food adulteration regulation and the site of vocal debates around the foods examined as case studies.

The chapter concentrates on two broad themes of food safety in this period. The first scrutinises how consumers were constructed as responsible for their own safety, and the second discusses government control and responsibility for food safety. The actual perpetrators of adulteration receive comparatively little attention here as sources from the era imply it was a given that people would seek financial gain. The focus here is confined to perceived solutions and responses. After some context, historical understandings of food adulteration are briefly outlined before turning to two case studies. Tea helps tease out where adulteration was represented as occurring and underscores connections between food and ideas of race. From here, a thread of discourse that held consumer tastes to be a critical problem in the fight against adulteration is examined using beer and focused on an 1875 outcry over a suspected adulteration case. Consumer education and the role of the media are explored. As Prasad has shown through the Indian example, 'food items' – here tea and beer – 'became nodal points for the emergence and consolidation of discourses on colonialism, nationalism'.[9]

Food safety regulations, as explicit government market interventions to adulteration, are then examined. Rather than giving an overview of all colonial and Australian food laws, trends are indicated by discussing milestones. Regulations represent the rise of governments

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[8] Edward J. T. Collins, "Food Adulteration and Food Safety in Britain in the 19th and Early 20th Centuries," *Food Policy* 18 no.2 (1993): 95.
[9] Srirupa Prasad, *Cultural Politics of Hygiene in India, 1890-1940: Contagions of Feeling* (Basingstoke: Palgrave Macmillan, 2015), 33.

being held responsible for, and attempting to control, the safety of food, illustrating a shift from the earlier minimal government intervention in food quality. The regulatory environment from which food safety Acts emerged will be discussed. Legislation is shown to be the outcome of discursive anxieties, but even the most effective food safety regulations cannot completely guarantee safe food and prevent all sickness. Regulations are an imperfect expression of food safety, hence, as will be shown, they are repeatedly subject to change. Regulations are important as structural frameworks and codified expressions of food safety that attempt to manage problems such as food fraud.

Context

The period from 1850 to 1912 was one of significant change and development in the Australian colonies. The gold rushes saw influxes of people and capital to the continent, print media and transport networks expanded, technologies ever-increasingly allowed for food manufacturing on a greater scale. Accordingly, imports of food *and* discourse to the colonies would have increased. Manufacturing, more broadly than food, played an important role in Australia's economy from around 1860. By the end of the 1880s, at about twelve per cent of GDP, manufacturing was almost equivalent to the pastoral industry.[10] In the 1890s, as mentioned in the previous chapter, another economic depression hit Australia.

Science had profound implications for food safety. Miasma theory had long informed understandings of disease transmission in Europe, asserting disease was spread through 'miasmal atoms', identifiable by air-borne odours.[11] This was gradually supplanted with the discovery of germs, microbes and bacteria towards the end of the 19th century, introducing 'new regime[s] of public health', which promised 'to deliver bodily health and social harmony'.[12] Cleere reminds us that the process was not a linear or efficient replacement.[13] Science was a popular preoccupation 'central to Victorian culture and politics', that worked to legitimise germ theory with its ability to 'see the unseen', and as demonstrated in the chapters that follow, shaped a 'culture of expertise'.[14] The detection of adulteration was aided

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[10] W. A. Sinclair, "Manufacturing," in *The Oxford Companion to Australian History*, ed., Graeme Davison, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 413-4.
[11] Deborah Lupton, *The Imperative of Health: Public Health and the Regulated Body* (London: Sage, 1995), 20-1, 28-9.
[12] Lupton, *Imperative of Health*, 36; Eileen Cleere, *The Sanitary Arts: Aesthetic Culture and the Victorian Cleanliness Campaigns* (Columbus: Ohio State University Press, 2014), 15; Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1999), 7.
[13] Cleere, *Sanitary Arts*, 15.
[14] Carolyn Cobbold, "Adulation or Adulteration? Representing Chemical Dyes in the Victorian Media," *Ambix* 66, no. 1 (2019): 27; Christopher R. Mayes and Donald B. Thompson, "What Should We Eat? Biopolitics, Ethics, and

by scientific developments, but equally, science made possible new forms of adulteration. As a commentator from 1905 put it: ‘it is not at all a wonderful thing that knavery avails itself of all the discoveries of science to perpetrate its frauds. There, is no form in which scientific help is more available than in the adulteration of food’.[15] Microscopy and chemical analysis developments allowed for the examination of ‘invisible’ adulterations and contaminations of foods from the 1830s.[16]

Keith Farrer pinpoints the period 1880 to 1900 as a ‘watershed’ moment in the Australian development of food science and technology. Qualities of many known foods were changed through science, technologies and industrial processing, utilising, for example, new packaging, colouring agents, preservatives, pasteurisation, cold storage, dehydration and cereal roller-milling; and in the same period, breweries’ use of bottom fermentation methods became established.[17] This point can be used to define when industrialisation began to make its mark on food in Australia. With industrialisation, factories gradually but increasingly produced many foods, and household production lessened (see figure 8). As in many parts of the world, the 1850-1912 period saw the emergence and newly widespread availability of mass-produced, industrialised foodstuffs, such as pre-packaged biscuits, margarine and tinned foods. The circulation of processed foods internationally grew, and around the time of Federation, Australia became a ‘net exporter’ rather than ‘net importer’.[18] Commercial interests sought control and profits in this space, developing trustmarks and brands, and positioning their products in opposition to adulterated foods using a language of ‘purity’. As Petrick reminds us, trust in industrial foods was not a given, but had to be built.[19] Food was one way, Besky argued, through which people and groups conceptualised bodies ‘as materially entangled with the increasingly polluted, urbanizing landscapes’.[20]

Nutritional Scientism” *Journal of Bioethical Inquiry* 12, no. 4 (2015): 593; Vera Hierholzer, “Searching for the Best Standard: Different Strategies of Food Regulation During German Industrialization,” *Food and History* 5, no. 2 (2007): 304; Benjamin R. Cohen, *Pure Adulteration: Cheating on Nature in the Age of Manufactured Food* (Chicago: University of Chicago Press, 2019), 175-232.

[15] *Age*, 13 December 1905, 6.

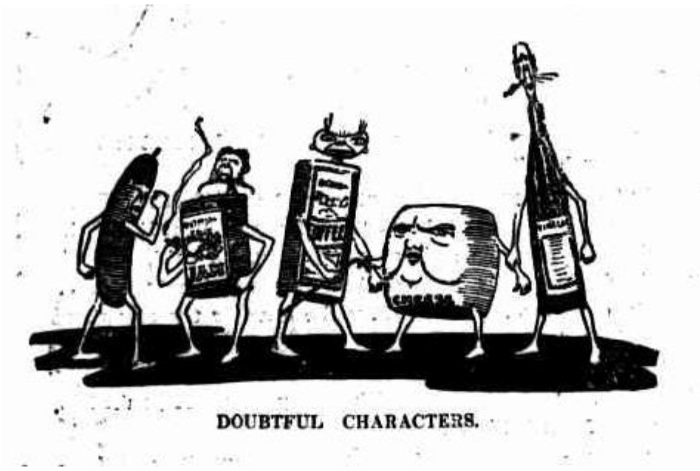
[16] Sean D. Smith, “Coffee, Microscopy, and the Lancet's Analytical Sanitary Commission,” *Social History of Medicine* 14, no. 2 (2001): 173.

[17] Keith Farrer, *To Feed a Nation: A History of Australian Food Science and Technology* (Collingwood: CSIRO Publishing, 2005), 114.

[18] Susan Marguerite Chant, “A History of Local Food in Australia 1788-2015,” (PhD thesis, University of Adelaide, 2016), 70.

[19] Gabriella M. Petrick, “‘Purity as Life’: H.J. Heinz, Religious Sentiment, and the Beginning of the Industrial Diet,” *History and Technology* 27, no. 1 (2011): 38; Alessandro Stanziani, “Negotiating Innovation in a Market Economy: Foodstuffs and Beverages Adulteration in Nineteenth-Century France,” *Enterprise & Society* 8, no. 2 (2007): 380.

[20] Sarah Besky, “Empire and Indigestion: Materializing Tannins in the Indian Tea Industry,” *Social Studies of Science* 50, no. 3 (2020): 399.



[21]

Figure 8.The dangers of the modern food system in 1912: adulterated foods as 'Doubtful Characters'.

The period was also characterised by rising concerns for broader public health and sanitation. Milton J. Lewis has underscored the inaccuracy of the 'Arcadian myth' in the colonial Australian context as it developed 'one of the most urbanized countries in the world'.[22] From 1850 to 1912, urban populations rose from forty to sixty per cent of Australia's total population in 1911.[23] In particular, Sydney and Melbourne grew rapidly in the second half of the 19th century, becoming two of approximately twenty cities globally to have over half a million people by the close of the century.[24] Melbourne's population grew, following the gold rushes, from 29 000 to 125 000 during the 1850s.[25] The size and growth of cities concerned 19th century Australian commentators who saw cities as 'consumers', while rural areas were 'producers'.[26] Public-health issues undoubtedly would have been factors in negative understandings of large cities. Urbanisation and industrialisation intensified problems of clean water, overcrowding, and sewage and waste disposal. Lewis paints a picture of generally insanitary conditions in Australian cities, extensive poverty, and relatively high levels of nutritional-deficiencies and food-borne illnesses.[27]

British public health developments influenced the Australian colonies. Increasingly through the 19th century, medical professionals and other reformers used statistics and maps to survey and establish patterns and understandings of disease and sickness.[28] Individuals,

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[21] *Sydney Mail*, 8 May 1912, 18.
[22] Milton J. Lewis, *The People's Health: Public Health in Australia, 1788-1950* (London: Praeger, 2003), 51-2.
[23] Australian Bureau of Statistics, "Historical Population".
[24] Lewis, *Public Health*, 52.
[25] Graeme Davison, *The Rise and Fall of Marvellous Melbourne* (Carlton: MUP, 1978), 7.
[26] Lionel Frost, "Urbanisation," in *Oxford Companion to Australian History*, 664-5.
[27] Lewis, *Public Health*, 42-115.
[28] Martin Bruegel, "Introduction: Locating Foodways in the Nineteenth Century," in *A Cultural History of Food: In the Age of Empire*, ed. Martin Bruegel (London: Berg, 2012), 5-6.

groups, and later governments, campaigned to improve sanitation and health, with food production, storage, retail, consumption and disposal important elements of what Lewis has called 'The Sanitary Revolution'.[29] Lupton notes a 'doctrine of personal hygiene was central to the practices and ideology of the public health movement'.[30] The Victorian era obsession with cleanliness and purity was marked, McClintock argued, by a 'peculiarly intense relation to money'.[31] Bodies and health were moralised, classified, and used to promote social order and control.[32] Governments became increasingly involved, intervening in markets and in regulating individuals.[33]

In the 1850s, the Australian colonies gained self-government, albeit a form in which Britain retained significant powers. Colonies had separated from NSW by 1851. Governors became heads of state, part of representative parliaments. Colonial laws could be overruled by Britain, and any strictures that potentially impacted Imperial interests, whether economic or moral, were closely monitored.[34] While broad food safety laws did not emerge from 'an institutional vacuum', regulations did increase and evolved dramatically in this period.[35] Food safety regulations were codified, and legally-binding food standards were gradually set. Politically, the Australian colonies became a nation with the federation on 1 January 1901 as a British dominion with a constitutional monarch. Free trade between the colonies was inaugurated, but food safety regulations remained under state control.[36] Federation, then, matters less to food safety than one might expect, and unsettles conventional periodisations of Australian history.

Discursively Adulterated

Concerns over adulteration rose in the 19th century, as scientific knowledge and technology developed. In 1820, chemist Friedrich Accum published an attention-grabbing

[29] Lewis, *Public Health*, 42-115
[30] Lupton, *Imperative of Health*, 33.
[31] Anne McClintock, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (London: Routledge, 1995), 33.
[32] Lupton, *Imperative of Health*, 34-5
[33] Ibid., 37.
[34] Stuart Macintyre, *A Concise History of Australia.* fourth ed. (Port Melbourne: Cambridge University Press, 1999 reprint 2016), 94-5.
[35] Alessandro Stanziani, "Food Safety and Expertise: The Trichinosis Epidemic in France, 1878-1891," *Food and Foodways* 10, no. 4 (2002): 211.
[36] Keith C. Richardson and William R. Porter, "Australia and New Zealand," in *Ensuring Global Food Safety: Exploring Global harmonization*, ed. Christine Boisrobert, Aleksandra Stjepanovic, Sangsuk Oh, and Huub Lelieveld (London: Elsevier, 2009), 28; Rosemary Polya, "Food Regulation in Australia: A Chronology," Australian Government Information and Research Services (2001), 9.

account of adulteration in Britain.[37] Margaret Dorey, however, has reminded us that heightened discourse in 19th century England did not necessarily indicate increased adulteration practice, but rather an 'increased perception of risk'.[38] Benjamin Cohen concurs in the American context, stating it 'was less the *fact* of impure foods' as 'the ways people responded to them'.[39] This trend appears likely, but not tested, in the Australian case too. An 1855 report on a NSW Select Committee investigation, for example, stated that the public 'anticipated' the finding of extensive – 'almost universal' – adulteration in the food supply, but the following year the Committee reported that while some foods, such as green tea and coffee, had been found to be heavily adulterated, bread, flour and other foods were only to a very slight extent.[40]

The sharp rise of discourse around adulteration in Australia during the 1850s appears to have been stimulated by the investigations of Hassall in Britain. Local articles predominately replicated British reports, and many of them drew on Hassall's findings published in the *Lancet* medical journal.[41] British accounts sparked local investigations, as in the aforementioned 1855 appointment of a Sydney Select Committee into food adulteration.[42] A South Australian newspaper, interpreted the findings as suggesting that the Australian colonies were subject to the worst of both worlds:

> It appears from this Report, what with the little amateur poisoning done here, and the wholesale system which prevails in reference to the articles imported from home, that, of the two, the colonies are rather worse off than the mother country.[43]

Local adulteration practitioners lagged: 'the modern art of slow poisoning is still in its infancy on this side of the world. Verdigris pickle is a luxury that must still be imported; red-lead salmon is a delicacy not yet to be produced in the colonies'.[44]

International adulteration debates had implications for foods thought to be locally adulterated. For one letter writer ('Hops') in 1874, articles from the English press recounting prosecutions for beer adulteration were 'strongly confirmatory' of allegations of local beer

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[37] Vera Hierholzer, "Food Security and Safety" in *Cultural History of Food…*, 67; Rappaport, *Thirst for Empire*, 122.
[38] Dorey, "Unwholesome", 278.
[39] Cohen, *Pure Adulteration*, 27.
[40] *Sydney Morning Herald*, 16 November 1855, 3; *Empire*, 11 January 1856, 5.
[41] *Argus*, 20 October 1851, 4.
[42] *Sydney Morning Herald*, 22 June 1855, 5; *Empire*, 11 January 1856, 5.
[43] *Adelaide Times*, 28 January 1856, 2.
[44] Ibid.

adulteration practices. If it was happening in Britain, it was likely happening in Australia too. Underlining how flows of discourse informed Australian readers, 'Hops' provided for readers of the *Age* extracts from British periodicals the *Lincolnshire Chronicle*, the *Lancet,* and the *Brewers' Guardian*, detailing the 'particularly shameful' use by two publicans of 'fusel oil and tobacco juice, in addition to the common fraud of a large proportion of salt and a certain amount of alum'.[45] The same article from the *Lincolnshire Chronicle* had also been published the previous year in the Queensland *Rockhampton Bulletin*.[46]

Defining Adulteration

Adulteration was, in 1861, 'the accomplished arts of unprincipled men'.[47] Popular explanations of adulteration were generally consistent through the period in question, although legal frameworks shifted. Meanings, however, were relatively stable. The adulteration of food could occur in several key ways: the addition or substitution of ingredients that were of lesser value (but not harmful) than the product was represented to be; the addition or substitution of ingredients that were detrimental to health, poisonous, or made the food nutritionally deficient. These two were essentially the same action but perceived in different ways. Where adulteration did not cause illness, it nonetheless was said to be damaging – a moral injury.[48] Adulteration referred to subtraction, making food nutritionally less valuable. The charge was equally about the naming and appearance of a product: adulteration by product imitation commonly used trustmarks – visual cues such as trademarks, brand names and imagery – to disguise apparently inferior products. Many food brands warned customers to beware of 'spurious imitations'.[49] The Sydney Preserving Company was accused by London newspapers of 'artful meat fraud', selling tinned beef as the more expensive mutton.[50] Adulteration was also used to prosecute the selling of contaminated or perished goods, accidental or not, such as dried fruit being infested with weevils and grubs; grocers were fined, for example, for selling 'adulterated tinned herrings' and 'adulterated fish', found by inspectors to be 'blown'.[51]

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[45] *Age*, 1 March 1875, 3.
[46] *Rockhampton Bulletin*, 17 February 1874, 2.
[47] *Mount Alexander Mail*, 28 January 1861, 2.
[48] *South Australian Register*, 18 September 1882, 5.
[49] *Mount Alexander Mail*, 28 January 1861, 2.
[50] *Newsletter*, 30 June 1906, 4.
[51] New South Wales Legislative Assembly, "Public Health: Report Regarding Allegations of Unfair Administration of the Pure Food Branch, Department of Health," (Sydney: Government Printer, 1918), 2; *Cumberland Argus and Fruitgrowers Advocate*, 14 September 1918, 8; *Northern Star*, 14 January 1920, 5.

Adulteration could cause immediate sickness, long-term ill health, or even death. Stories abounded of milk diluted with contaminated water, olive oil blended with the less-nutritious cottonseed oil, and even lollies coloured with arsenic.[52] The ways that we understand particular food practices – arguably adulterations – shift and are disputed. Historically, some forms were knowingly accepted, or at least tolerated at various times: for example, coffee mixed with chicory, nasturtiums for capers, or bread flour whitened with alum or bleached.[53] As Stanziani has described in relation to 19th century France, some novel forms of food manufacture could be reasoned to be 'innovation', but the influence of economic lobbies instead led to them legally deemed adulteration, a classic example being raisin wine.[54] Accounts of milk adulteration indicated degrees of tolerability: incorporating one-eighth water was said to be 'openly acknowledged' by Hobart milkmen, but other adulterations to milk (boric acid, plaster of paris, 'bullock's brains') were condemned.[55] Skimming cream from milk was denounced, whereas more recently, low-fat milk has been considered a 'healthy' option by many.

Chemical additives epitomised the pinnacle of industrial food production for many people, challenging understandings of what constituted food. Often perceived as a recent food issue, they have a long history, from lead to clarify, preserve and sweeten wine in Ancient Rome, to chalk to whiten bread.[56] Whorton and Cobbold have argued that such chemical substances were 'established in commerce before their dangers [were] recognised', so that any endeavours to restrict their use were countered by 'vested interests'.[57] They were used to enhance appeal to consumers and extend the shelf-life of foods, but were questioned as adulterations.[58] Ximo Guillem-Llobat has described an international controversy around saccharine from the 1900s as being defined by several themes: how to categorise it (was it a

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[52] *Geraldton Guardian*, 1 November 1910, 4; *Mildura Cultivator*, 26 September 1891, 3; *Macleay Argus*, 17 August 1892, 6.
[53] *Illustrated Sydney News*, 24 May 1890, 16; *Sydney Mail*, 8 May 1912, 19; Linda Civitello, *Baking Powder Wars: The Cutthroat Food Fight That Revolutionized Cooking* (Urbana: University of Illinois Press, 2017).
[54] Stanziani, "Negotiating Innovation", 381-83.
[55] *Mercury*, 21 April 1880, 3; *Ballarat Star*, 13 October 1903, 4; *Queensland Figaro and Punch*, 9 March 1889, 3.
[56] Josef Eisinger, "Early Consumer Protection Legislation: A 17th Century Law Prohibiting Lead Adulteration of Wines," *Interdisciplinary Science Reviews* 16, no. 1 (1991): 61-68; Vinita Sharma, Harold T. McKone, and Peter G. Markow, "A Global Perspective on the History, Use, and Identification of Synthetic Food Dyes," *Journal of Chemical Education* 88, no. 1 (2011): 24-28.
[57] In Cobbold, "Adulation or Adulteration?", 36; James C. Whorton, *The Arsenic Century: How Victorian Britain Was Poisoned at Home, Work, and Play* (Oxford: Oxford University Press, 2010), 359.
[58] *Telegraph*, 18 May 1905, 4; Ai Hisano, "The Rise of Synthetic Colors in the American Food Industry, 1870–1940," *Business History Review* 90, no. 3 (2016): 483, 486; Sharma, McKone, and Markow, "Synthetic Food Dyes", 24; Carolyn Cobbold, *A Rainbow Palate: How Chemical Dyes Changed the West's Relationship with Food* (Chicago: University of Chicago Press, 2020), 25; Edward Geist, "When Ice Cream Was Poisonous: Adulteration, Ptomaines, and Bacteriology in the United States, 1850-1910," *Bulletin of the History of Medicine* 86, no. 3 (2012): 342-3.

‘food, drug or additive’?), if it was natural or artificial, taste, and potential toxicity.[59] Then, as today, science was not enough to assuage public fears around chemical additives.

Beyond financial gain, adulteration was also used to compensate for shortages and to meet consumer expectations. Some commentators charged the economic structure explicitly: ‘it is a perfect system of swindling, adulterating, and poisoning that our splendid “competitive system” has built up. It is a competition as to which shall most thoroughly swindle, cheat, and poison the public under cover of “business” methods’.[60] As these sources suggested, regulations became necessary when it was apparent that free markets, or ‘perfect competition’ models, did not function adequately.[61] Accusations of fraud were directed at numerous points in food supply chains and could be perpetrated at multiple points; as a 1903 article decrying the use of boric acid in milk expressed: ‘the dairyman, thought it a good thing, and he put some in. The man who brought it to town, thought the same, and he put some in. The deliverer put a little more’. Each link in the chain sought to ‘cover up dirty methods and a want of scientific cleanness’.[62] As the example of tea shows us, where adulteration took place mattered.

Tea

For tea, that important beverage in Australia and the British Empire, the rhetorical space in which it was adulterated was a very specific place: China. For the period under examination, tea adulteration was, in the words of one commentator, a question ‘of immense importance in our Australian communities, where tea is the staple drink, and the “billy” recognised as a national institution’.[63] Ellis et al. have described the ‘central’ role of tea ‘within the complex international currents of cash commodities, people and ideas that drove British imperialism in the eighteenth century’.[64] Rappaport, Fromer and Besky, among others, have examined the commodity’s history, focusing on various elements of its story, but all understanding the intricate entanglement of tea and the British Empire – in the metropole, in

[59] Ximo Guillem-Llobat, “Defining, Regulating and Using Saccharin at the Outset of the Industrial Food Era (1888–1914),” *Appetite* 59, no. 3 (2012): 905-911.
[60] *Truth*, 27 August 1905, 4.
[61] Michael French and Jim Phillips, *Cheated Not Poisoned?: Food Regulation in the United Kingdom, 1875-1938* (Manchester: Manchester University Press, 2000), 4-6; Rappaport, *Thirst for Empire*, 121.
[62] *Ballarat Star*, 13 October 1903, 4.
[63] *Glen Innes Examiner*, 16 May 1893, 2.
[64] Markman Ellis, Richard Coulton and Matthew Mauger, *Empire of Tea: The Asian Leaf That Conquered the World* (London: Reaktion Books, 2015), 9.

tea-producing regions, and in white settler colonies such as Australia.[65] Following the tastes of the mother country, from the mid-19th century until the 1920s, Australians reportedly consumed the highest quantity of tea per person in the world. By 1850, Australians annually drank four to five kilos per person.[66] That it was sometimes adulterated was, 'indeed monstrous'.[67]

Tea was not only a popular drink, but a symbol of an imagined Australian national identity, formed in opposition to the racialised 'Other'. But identity was also complicated through tastes for foreign foods, such as the taste for tea, as a product closely associated with China. From the middle of the 19th century, adulteration concerns around tea were entangled with anti-Chinese sentiment across the British Empire. Further, as Rappaport has explained: 'anti-Chinese attitudes stimulated the use of packaging and branding and encouraged the development of food science and state regulation of the food system'.[68]

In Australia, discourse around tea adulteration from the 1850s reflected a blend of actual adulteration practices, general prejudice against the Chinese 'race', and contextually specific fears of Chinese immigration, as associated with the Gold Rushes. Tea received considerable attention in discussions of adulteration more broadly, and was said to be adulterated in multiple, complex ways, at the hands of Chinese and British traders and grocers. Many reports, particularly early ones, were reprinted directly from British publications. Adulterations ranged from the relatively harmless substitution of tea leaves with other natural materials, such as leaves of other plants and the recycling of 'exhausted' tea leaves, to more sinister concoctions of clay, 'black lead', 'turmeric, gypsum, indigo, Prussian-blue, and Chinese figure stone', and many other substances usually combined with actual tea to complete the disguise.[69] Green Tea was said to be particularly debased and 'doctored in China with something terribly bad'; it 'should cease to be used'.[70]A lengthy discussion of adulterated tea in 1853 reasoned that the practice of food adulteration was

[65] Rappaport, *Thirst for Empire*; Sarah Besky, *The Darjeeling Distinction* (Berkeley: University of California Press, 2013); Julie Fromer, "'Deeply Indebted to the Tea-Plant': Representations of English National Identity in Victorian Histories of Tea," *Victorian Literature and Culture* 36, no. 2 (2008): 531-47; Jayeeta Sharma, "British Science, Chinese Skill and Assam Tea: Making Empire's Garden," *The Indian Economic & Social History Review* 43, no. 4 (2006): 429-55; see also Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking Penguin, 1985); Jason Lim, *Linking an Asian Transregional Commerce in Tea: Overseas Chinese Merchants in the Fujian-Singapore Trade, 1920-1960* (Leiden, Netherlands: Brill, 2010).
[66] Peter D. Griggs, *Tea in Australia: A History* (Newcastle upon Tyne: Cambridge Scholars Publishing, 2020), 1.
[67] *Glen Innes Examiner and General Advertiser*, 16 May 1893, 2.
[68] Rappaport, *Thirst for Empire*, 120; See also, Fromer, "Deeply Indebted", 531-47.
[69] *People's Advocate and New South Wales Vindicator*, 8 January 1853, 12; *Geelong Advertiser and Intelligencer*, 9 November 1855, 3; *Perth Gazette and Independent Journal of Politics and News*, 15 June 1855, 3.
[70] *Empire*, 17 January 1856, 4; *Adelaide Times*, 28 January 1856, 2.

corrupting British morality: 'The old world-famed integrity of the British trader appears to be in jeopardy, and we are in danger of becoming like the Chinese — a contemptible people'.[71]

The act of adulteration projected itself onto people it was associated with. Chinese fraud was the focus of ire, although tea adulteration was also acknowledged to occur at the hands of British or Australian grocers and importers. The discourse on Chinese tea adulteration cannot be separated from anti-Chinese immigration rhetoric: although not explicitly connected by observers at the time, the two issues were sometimes discussed in the same breath, but more importantly, used similar tropes and language. A November 1881 *Argus* article, to illustrate, turned from describing a Bill to restrict Chinese immigration and voting rights in Australia, to a consideration of proposed tea regulations by the Legislative Assembly: the Australian public had to be 'protected' from exhausted and adulterated tea imported from China.[72] Included was a letter from tea merchants, endorsing the tea bill, but blaming public demand, 'of late years the cry for "tea at a price" has given us some of the greatest rubbish misnomered tea'.[73] The legislation would act as a deterrent, the letter continued, if copies of the regulations were sent to Chinese merchants; it would then dictate the following season's quality.[74]

Both Acts were passed in December of 1881. The question of why the latter Act dealt only with tea and not other foods, was posed in legislative assembly debates.[75] The *Herald* acknowledged that this was a 'piecemeal' approach, but 'half a loaf of bread being better than no bread', it was better to wait to address other foods in time, while tea was known to be adulterated to the extreme.[76] There was disagreement about what constituted 'good' tea 'even the chemists disagreed' – and whether 'highly scented' teas such as Orange Pekoe and Kooloo would be considered 'adulterated' under the Act: 'we want protecting quite as much against our rage for cheapness as we do against the ingenious manipulations of the adulterator'.[77]

The problem might occur abroad, but there were proposed local solutions. As we saw with dried fruits, it was periodically suggested that tea be grown in Australia, assuming that

[71] *People's Advocate and New South Wales Vindicator*, 8 January 1853, 12.
[72] *Argus*, 11 November 1881, 4.
[73] Ibid.; *Argus*, 9 August 1882, 4; *Argus*, 28 June 1881, 6.
[74] *Argus*, 11 November 1881, 4.
[75] *Herald,* 19 October 1881, 2.
[76] Ibid.
[77] *Age*, 27 June 1882, 3.

local morals and, later, regulations, would prevent fraud.[78] Inspection was also proposed. While colonial regulations protected locally produced foods, one commentator argued in 1881, the greatest problem lay with consumables, such as tea and coffee, 'imported from places where the laws relating to the internal administration of Queensland laws have, of course, no effect'.[79]These places were both international and inter-colonial. Invention in the form of inspection needed to take place as soon as possible: the Government needed to 'go to the fountainhead, as regards imported articles, and stop at the Customs House everything that is not fit for human food'.[80] Publicity was also framed as a critical tool: 'A list of what has been condemned should be published'.[81] The self-proclaimed role of the media in the fight against adulteration was an enduring and oft-repeated sentiment.[82] Similar ideas were repeated in 1893 NSW: 'It has been stated that the importation of these adulterated teas is due to the absence of a system of supervision here'.[83]

The idea that appeared to have the greatest impact, however, was to avoid adulterated tea (ostensibly Chinese) by buying tea grown in British India, with purity guaranteed by white supervision. From the 1880s, an alternative to Chinese tea became increasingly common in Australian markets – 'British' tea grown in India. While Chinese imports far outstripped Indian teas during the 1890s, by 1900 the situation had almost reversed.[84] The idea that tea from China was adulterated and contaminated was deliberately promulgated and contrasted with tea grown in British-India. This returns us to a common theme in the history of food safety: as Rappaport states, 'business found a way to turn anxiety into profits'.[85] The Calcutta Tea Association of Sydney and Melbourne reasoned consumers could be made safe from the nefarious meddling of Chinese tea producers and middlemen by buying Indian tea, ensured by the authority of 'science', sometimes the safety of machines, but mostly through the protection of British oversight, 'in every stage of production they pass through the hands of our own countrymen'.[86] Jayeeta Sharma's work tells us this was a distinct historical shift: before 1840, British interests had considered Chinese labour on Indian tea plantations to be necessary and desirable. Based on racial typologies of the time Chinese were the most hard-

[78] *Mercury*, 3 October 1862, 3; *Newcastle Morning Herald*, 26 April 1894, 4; Griggs, *Tea in Australia*, 3-4.
[79] *Toowoomba Chronicle*, 29 September 1881, 2.
[80] Ibid.
[81] Ibid.
[82] *People's Advocate and New South Wales Vindicator*, 8 January 1853, 12; *Lone Hand*, 1 October 1908, 724.
[83] *Glen Innes Examiner*, 16 May 1893, 2.
[84] Griggs, *Tea in Australia*, 133.
[85] Rappaport, *Thirst for Empire*, 133.
[86] *Launceston Examiner*, 24 November 1882, 2; Besky, "Empire and Indigestion", 398-417.

working of Asian 'races'.[87] Indeed, in the eyes of one Englishman, Chinese involvement would help convince London markets of the authenticity and quality of the British-Indian product, and provide a useful labour source in contrast to 'the indolence and apathy of the local people'.[88] These tea businesses remind us of the enmeshed nature of power, operating at the intersection of the colonial state and capitalism, and demonstrating how food safety knowledges were actively produced in this space.

While tea grown under British supervision was firmly asserted to be unadulterated, Indian tea was not necessarily well received by the British and Australian publics.[89] British reports published by the Australian press pointed to an alternative to Chinese teas and addressed potential hesitations: 'Assam tea, though not as inviting in colour, is free from adulteration'.[90] For all the rhetoric of a superior product, Sigly points out that British growers did not aim to match the best Chinese teas, but to produce a 'standardised' and inexpensive tea.[91] It was acknowledged that Indian tea did not initially suit British tastes. In 1866, the *Herald* wrote:

> 'Assam tea,' like 'Australian wine,' was at one time, and that but very few years ago, looked upon in the London market as an inferior and almost worthless production. It is now quoted at the top of the finest and most expensive teas.[92]

The flavour of British-Indian tea was framed as a taste of safety: 'as a mildness, a delicacy, and a purity all of its own'.[93] But the flavour had to be explained: 'less is needed…its very goodness may create a prejudice against it'.[94] Blends of Chinese and Indian teas were also used to transition tastes and to make Indian tea more appealing.[95] An 1890 advertorial promoted blended Chinese, Indian and Ceylon teas, and insisted British people preferred the

[87] Sharma, "Empire's Garden", 444; Nitin Varma, *Coolies of Capitalism: Assam Tea and the Making of Coolie Labour* (Berlin: De Gruyter, 2017), 15.
[88] Sharma, "Empire's Garden", 437, 444.
[89] Fromer, "Deeply Indebted", 536-42.
[90] *Geelong Advertiser and Intelligencer*, 9 November 1855, 3.
[91] Gary Sigley, "Tea and China's Rise: Tea, Nationalism and Culture in the 21st Century," *International Communication of Chinese Culture* 2, no. 3 (2015): 333.
[92] *Herald*, 26 June 1866, 2.
[93] *Mercury,* 28 November 1882, 2.
[94] *Australasian Supplement*, 12 May 1883, 9.
[95] Besky, "Empire and Indigestion", 403-13; Rappaport, *Thirst for Empire*, 157-9.

British-control teas, using the ostensibly superior taste judgements of the metropole to encourage specific tastes.[96]

[97]

Figure 9.'Star Brand Packet Teas - Unrivalled Packet Teas, Oriental Solace', 1878.

The changing worth of British teas stemmed less from an improved product, as from public education. As an 1866 article promoting local Australian tea production explained: 'this revolution in taste and in the market value of the article is due to a fuller and more correct knowledge in the public mind'.[98] As figure 9 demonstrates, however, producers were not necessarily attempting to hide the Chinese origin of their product, using strong 'oriental' imagery on packaging, reminding us that discourse exists separate from practice, and that Australians had to be convinced to drink Indian, rather than Chinese, tea. People make purchase decisions based on a range of factors, or as Stanziani phrases it, the 'concrete possibilities' available subject to 'monetary and institutional constraints', attempting to balance, for instance, safety with cost.[99] An 'Ex-Ceylon Planter' in 1881 wrote to the *Argus* editor, 'a large amount of prejudice' existed against Indian and Ceylon teas, but this was misplaced, for 'the very goodness of them only serv[ed] to stay their general use'. The taste and brewing techniques of Australians were said to be at fault, 'tea should not be boiled after it is put to brew', making the tea 'too pungent', giving a 'rough, rasping flavour behind it'.[100]

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[96] *Launceston Examiner*, 26 July 1890, 3.
[97] The placement of imagery suggests that this 'trade mark' was used as packaging/ labelling.
Allen, Bowden and Allen, "Trade mark number 222. Oriental Tea Company," National Archives of Australia (1878), Series SP1006/14, 1.
[98] *Herald*, 26 June 1866, 2.
[99] Stanziani "Negotiating Innovation", 402; Susie Khamis, "A Taste for Tea: How Tea Travelled to (and through) Australian Culture," *ACH: The Journal of the History of Culture in Australia*, no. 24-25 (2006), 57-80.
[100] *Argus*, 28 June 1881, 6.

The taste for non-'British' tea needed to be 'set aside', because of the 'extremely nasty and filthy habits of the Chinese…this disgusting race'.[101]

One advertisement from the 'Calcutta Tea Association' printed by the *Australasian* in 1883 (see figure 10) epitomised the kind of advertising that deliberately created a dichotomy between contaminated Chinese tea and pure Indian tea. Entitled 'Poison in the Cup!', Chinese tea was characterised in the lengthy commentary as 'nearly as injurious to the consumers as the deadly Opium'.[102] Utilising a trope of purity and adulteration discourse, a report from Melbourne analysts endorsed this framing. The still-foreign production was reconciled by the British claiming of the space. It was promised, if one tried it,

> never again by choice will you revert to the shady, insipid, doctored teas of John Chinaman, but will in the future drink the Calcutta Tea Association's Pure, Unadulterated, Fragrant, Full-Bodied Teas, Made in the Indian gardens of old John Bull.[103]

A visual depiction of the packaging enabled potential consumers to identify another form of fraud with the warning 'beware of piracy and imitations', as they had been made aware of 'unprincipled dealers' labelling Chinese teas as Indian. The packaging was detailed, and official retailers of CTA's teas would be published in the newspapers every Saturday.[104]

[101] *Argus,* 28 June 1881, 6.
[102] *Australasian Supplement*, 12 May 1883, 9.
[103] Ibid.
[104] Ibid.

[105]

Figure 10.'Poison in the Cup' tea advertisement, 1883.

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105 Ibid.

As scholars such as Kate Bagnall and John Fitzgerald have observed, Chinese and Chinese Australians were 'widely vilified' in the Australian colonies.[106] In articles concerned with tea adulteration, Chinese were described as 'heathens', 'wily', and Chinese hawkers as 'Chinky Chinky Chopsticks'.[107] Affeldt, drawing on McClintock's notion of 'commodity racism', describes how 'emerging consumer society was intimately connected with notions of "white supremacy"'; a 'commodified version of scientific racism'. It is evident in the 'praising [of] colonial commodities' and, of course, the putting down of, and fear-mongering around, non-colonial goods, such as Chinese tea, Ceylon Native coffee, or Smyrna raisins.[108] As the century progressed, adulteration concerns increasingly highlighted bodily contamination, similar to concerns regarding dried fruit in the previous chapter.

Alongside 'traditional' adulterants of tea, such as leaves and gypsum, one 1881 article alleged tea carried dangerous biological matter, such as bodily fluids: 'to say nothing of the debonair small pox germ, and the twice used infuse leaf of our almond eyed benefactor, are playing havoc with our colonial digestion'.[109] These comments were made in the context of the growing science of germs, although Alison Bashford argues 'colonial medical culture in the 1880s had in no way taken on the concept of living microbes' as the source of disease.[110] Adulteration anxieties coalesced with rising bacterial concerns.[111]

Smallpox continued to haunt Australia, with a Sydney case discovered in May 1881 becoming an epidemic of 163 cases and 41 deaths over eight months.[112] This epidemic led to the establishment of the colony's first Board of Health, signalling, as Alison Bashford has argued, '"health" was thus bureaucratized'. Within this epidemic, Bashford describes how Chinese men suspected to be infected were 'pathologized' by their race: 'to be "clean" and "Chinese" was all but impossible in the dominant racial discourse of colonial Australia'.[113] In the example of tea, we can see how disease was 'mapped' not only onto particular groups of

[106] Kate Bagnall, "Across the Threshold: White Women and Chinese Hawkers in the White Colonial Imaginary," *Hecate* 28, no. 2 (2002): 11; John Fitzgerald, *Big White Lie: Chinese Australians in White Australia* (Sydney: UNSWP, 2007), 16-24.
[107] *Ballarat Courier*, 11 June 1881, 4; *Argus*, 9 April 1881, 14.
[108] Stefanie Affeldt, "The Burden of 'White' Sugar: Producing and Consuming Whiteness in Australia," *Studia Anglica Posnaniensia* 52, no. 4 (2017): 458; Donica Belisle, "Eating Clean: Anti-Chinese Sugar Advertising and the Making of White Racial Purity in the Canadian Pacific," *Global Food History* 6 no.1 (2020): 41-59.
[109] *Argus*, 28 June 1881, 6.
[110] Alison Bashford, "Epidemic and Governmentality: Smallpox in Sydney, 1881," *Critical Public Health* 9, no. 4 (1999): 308.
[111] Alizon Draper and Judith Green, "Food Safety and Consumers: Constructions of Choice and Risk," *Social Policy & Administration* 36, no. 6 (2002): 612.
[112] Bashford, "Smallpox in Sydney", 301-16.
[113] Ibid., 309.

people, but also the commodities and foods associated with them. This rhetoric of bodily contaminated food was so powerful because, as McClintock has pointed out, 'the poetics of contagion justified a politics of exclusion', epitomised in Australia by Anti-Chinese immigration legislation.[114]

In 1901, 'Karma Tea' instructed that their tea was 'grown under British supervision in a British Colony, is packed in lead to ensure its fragrance and purity'.[115] In contrast, China teas were 'unreliable', often 'tampered with', and 'manufactured by the least desirable of races; when you drink China Tea, you may be drinking tea and taking in disease at the same time'.[116] A 1907 advertorial on Lipton's ('the tea Australia drinks') by one Albert Dorrington elaborated on the connection between pure tea and race:

> To me there has always been something objectionable in the thought that China teas are continually handled by low caste Mongolians of dubious habits...The Tamil families employed upon Lipton's estates are nearer to a white man's plane of thought on the matter of bodily hygiene than any other Asiatic race, including the Jap.[117]

Ramamurthy observes Lipton's had a history of 'aggressive advertising'.[118] Race was not simply a matter of 'us' and 'them', but according to such logic, distinctly graded into scales that encompassed class and manifested in 'a rigid system of ethnic labor hierarchy' on tea plantations.[119] As Psyche A. Williams-Forson has written in relation to stereotypical depictions of African-Americans and foods such as fried chicken and watermelon, 'this kind of advertising was one of the linchpins with which white' superiority was claimed over people – in our example, Chinese people.[120] Such rhetoric discursively underpinned racialised exclusion practices, realised in law by the White Australia Policy.

During the 1890s, Indian tea imports to Australia overtook Chinese, although the latter continued to be consumed in considerable quantities.[121] In the year from July 1891, the Government Analyst of Tasmania tested 1628 foods, 1446 of which were tea, reiterating the

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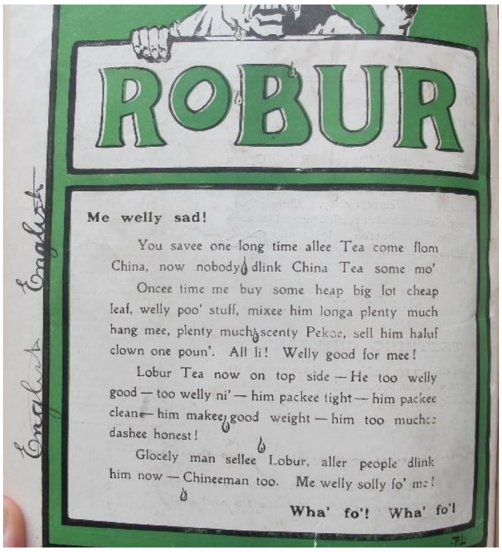
[114] McClintock, *Imperial Leather*, 47; Fitzgerald, *Big White Lie,* 2.
[115] *Braidwood Dispatch*, 2 February 1901, 4.
[116] Ibid.
[117] *Australia*, 4 July 1907, 12.
[118] Anandi Ramamurthy, *Imperial Persuaders: Images of Africa and Asia in British Advertising* (Manchester: Manchester University Press, 2003), 106.
[119] Besky "Empire and Indigestion", 402.
[120] Pysche A. Williams-Forson, *Building Houses out of Chicken Legs: Black Women, Food, and Power* (Chapel Hill: University of North Carolina Press, 2006), 2.
[121] Griggs, *Tea in Australia*, 133.

perceived importance, and danger, of the product. Of the many samples of tea, the analyst said ‘there is undoubtedly a considerable quantity imported which is weak and inferior, but the supervision exercised prevents the introduction of the very worst varieties, for which this country was formerly the sink’.[122] Robur Tea visually depicted this trend in one of a series of racist and nationalist caricatures in the early 1900s (see figure 11).[123] In 1902 and 1903, white middle-class women drank the tea, while south-Asian men and women planted, watered and harvested the tea; the 1903 advertisements were even endorsed by ‘C. R. Blackett, F.C.S. Late Government Analyst, Vic’.[124]



[125]

Figure 11. Robur Tea advertisement, 1905.

By 1912, the danger of adulterated tea was said to have passed. The reason, however, was not attributed to having pinned down where in the supply chain the perpetrators of adulteration operated, ostensibly Chinese people, and rectifying the problem by buying British-Indian tea, but was resolved by supply: the true leaf was now said to be so cheap, adulteration was not warranted.[126] The problem of public tastes in the fight against adulteration, touched on in reference to tea, can be teased out through another beloved Australian beverage, beer.

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[122] Parliament of Tasmania, “Analysis of Food and Drink by Government Analyst,” (1892), no. 98.
[123] *New Idea*, 6 January 1906, backcover.
[124] *New Idea*, 1 September 1902, backcover; *New Idea*, 6 July 1903, backcover; *New Idea*, 6 August 1903, backcover.
[125] *New Idea*, 6 January 1906, backcover.
[126] *Sydney Mail and New South Wales Advertiser*, 12 January 1912, 37; *Sydney Mail*, 8 May 1912 - 18.

Terrible Tastes and Public Education

Commentators wrote that consumers were culpable in the fight against adulteration, or at least played a role, through their poor taste preferences, lack of knowledge about quality and 'pure' foods, and in their unwillingness to pay for quality and unadulterated items. And while it was thought in one 1878 article 'that dealers are impelled to splice their commodities with inferior ingredients partly in consequence of keen competition', but it was also, 'partly to suit the tastes of the masses'. Cultural vogue had much to answer for. The newspaper related a tale of the author purchasing, roasting, grinding and brewing the esteemed 'pure Mocha coffee' from an 'Eastern city in direct contact with Arabia', and offering it to a friend, highlighting the tension between gustatory taste and cultural taste. Instead of raptures, the friend pronounced the local (adulterated) better – an 'instance of the acquired taste for adulterated goods'.[127] It was unfair to blame grocers when 'modern fashion requires that pepper must be white'. Purchasing ground 'white pepper', also allowed for ground rice and other adulterants to be blended in, to the extent that it had been found in England that some pepper contained no pepper whatsoever.[128]

In the mind of one South Australian commentator in 1882, the problem of adulteration was multifaceted and not only the fault of the perpetrator or ineffectual regulations. Customers too, had to take responsibility for their actions:

> Legislative attempts to check the evil have been made, and spasmodic official efforts have not been wanting. Raids have been made in various quarters by the police, but it should be borne in mind that…adulteration is now an institution, which public practice supports as much as public opinion condemns.[129]

This thread of discourse argued that ignorance and false thrift were to blame: 'the general public are not skilled with regard to qualities'. Visual appeal and cost were said to be paramount 'and finding that the new vendor charges less than the old for nominally the same thing, they…[patronise] the cheaper man'.[130] This logic was further explained: When 'customers virtually insist' on low prices, 'it is perfectly obvious that he must begin to

[127] *Mercury*, 27 July 1878, 3.
[128] *Toowoomba Chronicle*, 29 September 1881, 2.
[129] *Australian Register*, 18 September 1882, 5.
[130] *South Australian Register*, 18 September 1882, 5.

humour them by depreciating the quality' of products.[131] It was concluded that 'men have subordinated safety'.[132] The *Truth* in 1905 was even more damning, asserting that 'the consumer ought not to consent to being deceived'; they wanted 'to make the stupid, sleepy people wake up and get interested' in the problem of food adulteration, and only then would legislation preventing the practise be easily enacted.[133]

Beer

The question of adulteration and consumer tastes resurfaced repeatedly around beer.[134] Like tea, it was a beverage of national concern, and much print space was devoted to it. Beer was said to be an 'important article of daily food', and was hailed as a 'National Food' by the *Age* in 1876, 'as everyone knows, beer is the drink of the people – pre-eminently the national beverage'.[135] Consumption figures cited by Tony Dingle suggest that beer was perhaps more symbolically, rather than quantitively, important to an Australian identity for much of the 19th century, and varied considerably between colonies.[136] For example, during the 1830s, per capita annual beer consumption was around 4.2 gallons in NSW, and 10 for the 1890s. Victorians in comparison, were up to around 17 gallons in the 1880s.[137] British authorities sought to encourage beer consumption in the early years of settlement as a lower-alcohol alternative to spirits, and funded the importation of brewing equipment and hops to NSW in 1804, but grain shortages also meant brewing was banned for periods in both NSW and Tasmania.[138] Dingle relates that it was not until the 1880s that brewing produced a stable beer in Australia, with new yeasts and fermentation methods, and technologies: refrigeration assisted with Australia's warm climate.[139] Tampering was feared to cause sickness, insanity,

131 *South Australian Register*, 18 September 1882, 5.
132 *South Australian Register*, 18 September 1882, 5.
133 Initially published in the Brisbane *Truth*, then the West Australian edition. *Truth*, 27 August 1905, 4; *Truth*, 16 September 1905, 1.
134 Farrer, *Feed a Nation*, 11; Michael Moir, "Hops—a Millennium Review," *Journal of the American Society of Brewing Chemists* 58, no. 4 (2000): 131.
135 *Rockhampton Bulletin*, 17 February 1874, 2; *Age*, 1 March 1875, 3; *Age*, 12 August 1876, 3; *Hamilton Spectator*, 5 August 1871, 1.
136 Anthony Dingle, "'The Truly Magnificent Thirst': An Historical Survey of Australian Drinking Habits," *Australian Historical Studies* 19, no. 75 (1980): 231.
137 4 Gallons equates to approximately 16 litres; 10 gallons to 38 litres, and 17 gallons, 64 litres.
138 Dingle, "Truly Magnificent Thirst", 235; Farrer, *To Feed a Nation*, 20-3.
139 Dingle, "Truly Magnificent Thirst", 236; Brett J. Stubbs, "'A New Drink for Young Australia': From Ale to Lager Beer in New South Wales, 1880-1930," in *Food, Power and Community* ed. Robert Dare (Kent Town, SA: Wakefield Press, 1999), 126-41; Jeffrey M. Pilcher, "Does Your Beer Have Style?: The Nineteenth Century Invention of European Beer Styles," in *Acquired Tastes: Stories About the Origins of Modern Food*, ed. Benjamin R. Cohen, Michael S, Kideckel and Anna Zeide (Cambridge, MA: MIT Press, 2021), 53-64.

and worse. In 1883, 'adulterated larger beer' in Germany was 'said to be rapidly increasing insanity, Bright's disease, and suicide'.[140]

Beer was the feature of some of Australia's, and the world's, earliest food quality legislation (as opposed to intoxicant regulations such as licencing), along with bread and meat.[141] In 1806, a Government 'Order' stipulated controls for beer production and distribution in the Hawksbury region of NSW. 'Good beer' was to be provided to the inhabitants at specified prices.[142] In 1844, to give an example of legislation, Tasmania (then VDL) passed two food safety acts, one to prevent the sale of 'unwholesome meat', the other regulating the production and sale of beer.[143] Beer was not to 'contain any Sugar whatsoever', but to be made only from the following materials:

> Water Malt Wheat Oats Peas Barley Rye Bear Bigg or the flour of such grain respectively Honey Hops and Yeast or shall put into or mix with any such Beer Ale Porter or Malt Liquor or the Worts thereof any other ingredient or material than as aforesaid and the necessary fining for such.[144]

It also expressly forbid:

> any molasses liquorice vitriol quassia tobacco coculus indicus grains of paradise Guinea pepper or opium or any extract or preparation of molasses liquorice vitriol quassia tobacco coculus indicus grains of paradise Guinea pepper or opium.[145]

The forbidden ingredients appear to the modern eye as expensive exotics, begging the question if they were really used as adulterants. They are perhaps, explainable by a Victorian analytical chemist writing in 1875: he had never found such adulterants in Australian beer, and suggested 'lists of which have been copied from an English encyclopaedia'.[146] In contrast, the 1905 Victorian Pure Food laws outlawed quite different beer adulterations: 'arsenic lead

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[140] *Rockhampton Bulletin*, 17 February 1874, 2; *Age*, 1 March 1875, 3; *Weekly Times*, 29 September 1883, 10.
[141] The German 1516 *Reinheitsgebot* beer purity laws are considered the world's first food standard. Courtney IP. Thomas, *In Food We Trust: The Politics of Purity in American Food Regulation* (Lincoln: University of Nebraska Press, 2014), 32.
[142] *Sydney Gazette*, 11 May 1806, 1.
[143] *An Act to Regulate the Brewing of Beer Ale and Porter for Sale and to Prevent the Adulteration Thereof, 1844* (Tas); *An Act To Regulate The Slaughtering Of Sheep And Cattle Imported Into This Colony And The Sale Thereof And To Prevent The Sale Of Unwholesome Meat, 1844* (Tas).
[144] *An Act to Regulate the Brewing of Beer Ale and Porter for Sale and to Prevent the Adulteration Thereof, 1844* (Tas).
[145] Ibid.
[146] *Mount Alexander Mail*, 4 March 1875, 2.

copper strychnine cocculus indicus picric acid or any substance or compound in excess of any proportion permitted by regulation'.[147]

In 1875, the *Age* announced, 'one of the most lively controversies that has taken place in the Victorian capital'.[148] A furore erupted around commercially-brewed, colonial beer, adulteration, and consumer tastes when a coroner reportedly associated the recent death of a doctor with heavy consumption of colonial beer: 'fatal to life when taken in excess'.[149] A 'section of the Melbourne press' (ostensibly the *Age*) interpreted this statement as indicating adulteration, and asserted 'colonial beer is a vile compound, consisting of green tea leaves and tobacco, picric acid, quassia, capsicum, green vitriol seeds, seeds of paradise, and cocculus indicus'; it was 'a special poison'.[150] Brewers, analytical chemists, members of the public and intercolonial newspapers weighed into the debate.

Another newspaper challenged the *Age* accusing them of borrowing from British sources, thus 'shirking the question of colonial beer being poison'.[151] Although such adulterations were not generally harmful, contended the *Mount Alexander Mail*, it was fraud, and these ingredients 'did not add to the nutritive value of the liquor'.[152] In contrast, a self-declared brewer's consultant, 'Dextrine', stated that badly-brewed beer produced 'ascetic fermentation in the stomach', turning the drinker into 'an ungovernable madman'.[153] And while government action was called for to resolve the matter, many positioned the imbibers themselves as the problem.[154]

Any adverse effects from drinking colonial beer were the result of consumer demand, argued papers such as the *Ballarat Courier*. Cheap beers were:

> particularly subjected to these processes of doctoring, because without them it would not be fascinating enough to the eye, or attractive enough to the palate of the leather-tongued and leather-throated individuals who go in for cheap and plenty of liquor.[155]

[147] *Pure Food Act, 1905* (Vic).
[148] *Evening Journal*, 23 March 1875, 2; Polya, "Food Regulation in Australia", 9.
[149] *Gippsland Times*, 6 March 1875, 4.
[150] Ibid.; *Mount Alexander Mail*, 4 March 1875, 2.
[151] A *Herald* editorial, as reprinted in the *Mount Alexander Mail*, 4 March 1875, 2.
[152] *Mount Alexander Mail*, 10 March 1875, 3.
[153] *Age*, 13 March 1875, 7.
[154] *Gippsland Times*, 6 March 1875, 4.
[155] *Ballarat Courier*, 3 March 1875, 2.

Another newspaper agreed with the need for civic responsibility, 'a lot of trash is made by cheap brewers', and thus 'the public has always to be on its guard…it is necessary to deal with respectable tradesmen who are not so cheap that they must be nasty'.[156] Although the actual act of adulteration took place at two points of the supply chain – brewers 'used certain vile compounds', and 'the publicans add still more deleterious substances' – retailers and brewers were liable to adulterate beer, compelled by customer demands. The *Herald* was more moderate in tone, but equally certain: 'the public themselves are wholly to blame'. The beverage was not bad because it was adulterated, but because Australian tastes 'demanded' beer too 'immature' and 'fresh', a quality achieved through the use of 'a large amount of sugar', which failed to eliminate potentially harmful elements. Brewers would prefer to only use malt, the editorial continued, as it preserved the beer better and was cheaper: 'but so far the public will have sugar'.[157]

This discussion of public preferences for 'adulterated' sugar beers begs questions around what is considered adulteration, and who gets to define it. By whose standards is something adulterated? Can the addition of sugar to beer be considered adulteration if consumers prefer the taste it creates? Adulteration was a contested, unstable and shifting notion. In the case of beer, taste was a critical factor at play. Just as food had to be 'good', tastes had to be 'correct'. Ray's work on hierarchies of tastes is instructive here: he observes them to be embedded in ideas of race, class and so forth, and that culture 'follows global and social capital'.[158] He importantly qualifies, however, 'it does not follow' that 'the taste of the dominant class is dominant, and the subaltern classes have no role in producing culture'.[159] As we can see in the case of 'adulterated' sugar beers, the 'higher' tastes may have dominated the discourse, but the lower classes preferences were asserted in the face of apparently superior knowledge. 'Australian Cultural Cringe' likely played a part in this battle of tastes, and given the convict histories of many Australian colonists, the taste for sugar beer must have been wrong and impure.[160]

The case received enough attention to motivate the collection and analysis of 709 samples of beer from individual publicans and breweries, with full reports published in a May

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[156] *Border Watch*, 6 March 1875, 4.
[157] *Mount Alexander Mail*, 4 March 1875, 2.
[158] Krishnendu Ray, *The Ethnic Restaurateur* (New York: Bloomsbury Publishing, 2016), 109.
[159] Ray, *Ethnic Restaurateur*, 189.
[160] 'Cultural cringe', coined by Arthur Phillips in the 1950s, reflects Australians' discomfort with their own culture. Arthur Phillips, "The Cultural Cringe", *Meanjin* 9 no. 4 (1950): 299-302.

edition of the *Age*.[161] The general conclusion by the multiple Government Analysts was that: 'no deleterious substances have been wilfully added', with the exception of one thought to contain alum, and another possibly containing cocculus indicus, a poisonous berry used to increase intoxicating properties and provide bitterness. While the charge of 'adulteration' was downplayed as generally 'harmless', some practices were none-the-less fraudulent and could be conceptualised as adulteration. Some analysts reported that a few contained fusel oil, and many contained 'common salt' – to increase rather than sate thirst – some in quite high quantities. Beer adulterated with salt garnered comparably less outrage than other adulterations.[162]

Qualities varied: the use of sugar instead of malt, low quantities of hops, and high fermentation temperatures were the cause of 'the imperfections in most colonial beers'. One stated that the practice of publicans mixing good quality beer with bad was 'common everywhere'. Analysts were divided as to possible solutions, Wm. Johnson concluded with the hope that the market would correct itself, with competition forcing bad and adulterated brews out of the market; Sydney Gibbons thought a dedicated chemist inspector and more specific laws were required; and C. R. Beckett believed – aligning with how the popular media instructed the public – that to recognise the adulterated, 'we must make ourselves familiar with its character and composition in its highest state of purity'. Beckett chose the branded English Bass's Ale as his measure of quality control.[163]

Periodic outcries against adulterated and poor-quality beers continued to punctuate the press into the 20th century. Reports from Australia and England detailed, for example, the hospitalisation of seven 'known beer-drinkers' with 'delirium tremens' ('their favourite tipple is Melbourne Ale'); salicylic acid adulteration was reportedly found in 40% and 34% respectively of draught and bottled beers for sale in Melbourne in 1900 (imported beer was 'absolutely free of this preservative'); and a widely reported case detailed the sickness of 1200 people and 70 deaths in England.[164] Sufferers exhibited similar symptoms to arsenic poisoning. The cause was traced to a beer brewed with 'invert sugar', later debated in Victoria as the 'cheap and bad' 'sugar beers'. Arsenic was said to be accidental

[161] *Age*, 12 May 1875, 3.
[162] Ibid.
[163] Ibid.
[164] *Colac Herald*, 4 May 1883, 4; *Daily Telegraph*, 20 June 1900, 8; *Mercury*, 25 December 1900, 6; *Geelong Advertiser*, 12 January 1901, 4.

contamination from the 'inversion' of the sugar.[165] Beer companies, such as the Tasmanian Cascade Brewery, advertised their product as 'pure' and 'absolutely pure', and included endorsements by a government analyst, declaring their beer as 'free from any of the chemicals and bitter extracts so often used in the adulteration of malt liquors'.[166] The 1875 Victorian episode demanded beer drinkers improve their tastes, but consumer responsibility was proposed in other ways at different times.

A Palate for Safety

Public education was often framed as paramount in the battle against adulteration, and the media believed they had a role to play in exposing fraud, lobbying for political action, and in educating the public. Consumers needed to develop what we can term 'a palate for safety', and use their senses to detect adulteration. As Dorey and Wilson have observed, 'fraud is much easier to perpetrate when consumer knowledge is limited'.[167] Although advances in chemistry increasingly allowed for complex and sophisticated forms of adulteration, sensory assessments were called for in print media advice and letters to the editor well into the 20th century, and positioned as critical in the fight against adulterated foods. In 1860, adulterated colonial beer was said to be detectable 'by the mere smell', although it was not elaborated what adulteration smelled like.[168] Ludovice has shown how 'perceptions of quality...linked palatability with good health'.[169] Tastes had to be retrained. Echoing the 1878 Mocha coffee purist discussed earlier, in 1912 Australians were accused of 'hav[ing] become far too used to a mixture of coffee and chicory; indeed, some buyers consider chicory to be essential, which is quite wrong'.[170]

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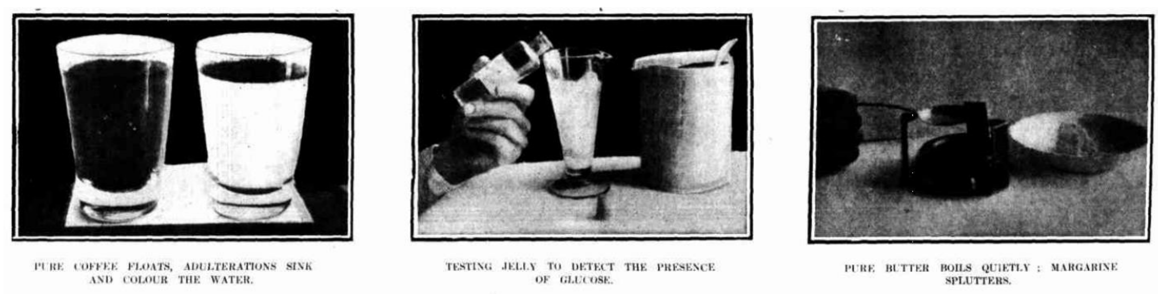
165 *Geelong Advertiser*, 12 January 1901, 4; *Age*, 16 January 1901, 8.
166 *Mercury*, 12 September 1883, 2; *Age*, 4 May 1885, 6; *West Australian*, 8 September 1892, 4.
167 Dorey, "Unwholesome?", 61; Bee Wilson, *Swindled: From Poisoned Sweets to Counterfeit Treats – the Dark History of the Food Cheats* (Princeton: Princeton University Press, 2008), 19.
168 *Argus*, 28 June 1860, 3.
169 Nicolo Paolo Ludovice, "The Ice Plant Cometh: The Insular Cold Storage and Ice Plant, Frozen Meat, and the Imperial Biodeterioration of American Manila, 1900-1935," *Global Food History* 7, no.2 (2021), 19.
170 *Sydney Mail*, 8 May 1912, 11.

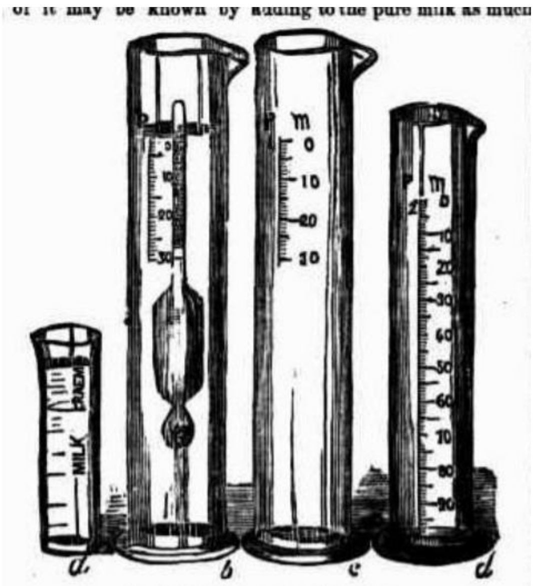


[171]

Figure 12. Tests for adulteration, 1912.

Knowledge of what the wholesome article should be was often assumed, but also instructed. People had to know what good beer should smell like; that pure olive oil (apparently) did not smell, while ‘the adulterated article has a strong animal odour’; to perceive what colour signified the presence of artificial colouring in dripping, and to recognise the correct shade of milk. They needed to be able to visually assess the characteristics of a sloe leaf masquerading as a tea leaf, and how the texture and form of unadulterated flour should feel and hold; to know that blue milk was watered, but sometimes hidden with carrot juice; and that flour, when gripped in a fist, should hold its form when released.[172] It was necessary for people to recognise the difference in sound between quietly boiling butter and spluttering margarine (see figure 12), which made ‘a noise very similar to that which is caused by the placing of a green stick on a hot fire’; and identify the taste of an adulterant: ‘chicory is of no use to those whose palate is attuned to the genuine’.[173] The ‘observant woman’ knew how much was too much when water came from their cooking sausages.[174] Fresh fish injected with ‘preserving fluids’, were readily identifiable to those in the know: ‘the sense of taste speedily detects the difference between smoked and the sham-smoked article’.[175] While analysts with their microscopes and chemical tests could identify food fraud with the authority of science, everyday people were the first line of defence in the fight against adulteration, and it was imperative their senses were attuned.

[171] *Sydney Mail and New South Wales Advertiser*, 12 January 1912, 37.
[172] *Sentinel*, 3 August 1848, 3; *Tasmanian and Port Dalrymple Advertiser*, 12 January 1825, 4.
[173] Olive oil: *Adelaide Observer*, 5 April 1845, 2; Dripping (it is unclear if the prosecution was for imitating butter through the artificial colouring): *Sydney Morning Herald*, 7 October 1910, 5; Tea: *Sydney Mail and New South Wales Advertiser*, 12 January 1912, 37; Butter: *Sunday Times*, 10 March 1912, 24; Chicory: *Sydney Mail*, 8 May 1912, 19.
[174] *Lone Hand*, 1 January 1908, 294.
[175] *Sydney Mail*, 8 May 1912, 18.



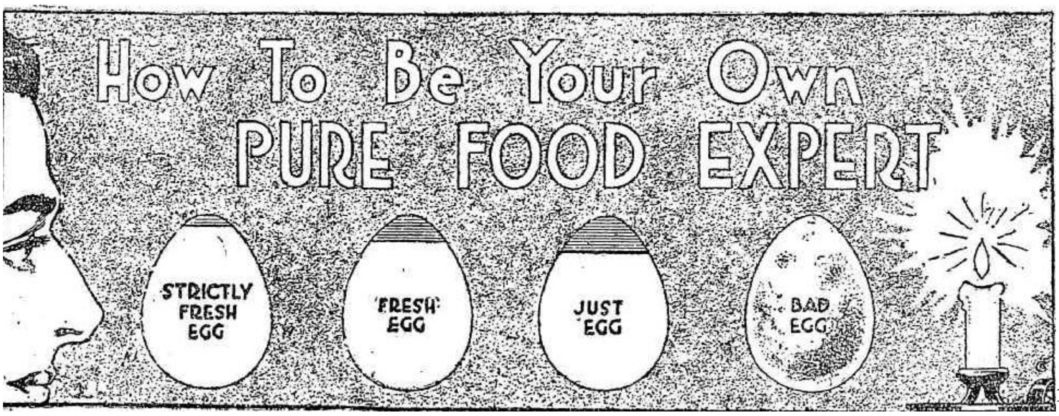
GLASSES FOR TESTING MILK. [176]

Figure 13. Adulteration testing equipment, 1879.

Instructions for detecting adulteration could be complicated, impractical, and require infrastructure (see figure 13), time and knowledge – all things those most likely to be affected by adulteration probably were short of. They were also often questionable, and sometimes the cure appeared worse than the disease. In 1848 numerous methods were given for detecting adulteration in a range of foods: The 'simplest method' to identify grape sugar sold as cane sugar was by adding 'blue copperas, and then caustic potash. If it were pure cane sugar, no change would take place. If it contained grape sugar, the salt of copper would be produced, and the liquid would take a yellow tinge due to the oxide of copper'. And with bread, 'bone dust or gypsum might be discovered by burning the bread. Good bread never left more than one per cent of cinders'.[177] Coffee could be checked for chicory by placing some in water, shaking it, and observing if it sank or floated, and the extent to which it coloured the water.[178] In 1868, detecting 'noxious or poisonous' adulterants in beer required the death of a fowl. The letter instructed beer to be poured into a 'glass retort', gently evaporated until the 'spirit has gone', and the upper half was clear. Allow to cool, it continued, and extract the solids from the base and feed these to fowl by mixing them with bread. If the bird died, the beer was adulterated.[179] One of the 'more commonly adulterated' foods, jam, could be tested for starch in 1912 through a process involving dilution, cooling, sieving, potassium permanganate,

[176] *Sydney Mail and New South Wales Advertiser*, 9 August 1879, 215.
[177] *Sentinel*, 3 August 1848, 3.
[178] *South Australian Advertiser*, 31 December 1867, 2.
[179] *Age*, 8 December 1868, 3.

‘decolourisation’, and tincture of iodine.[180] Nevertheless, as Tarulevicz points out, such instructions ‘worked to construct the consumer as knowledgeable and empowered’ (see figure 14).[181]



[182]

Figure 14. Constructing informed consumers, 1912.

Newspaper articles instructing how housewives, rather than purchaser or consumer, should test for adulteration, mark a notable shift in the history of food safety. Manufacturers were still represented as the primary danger site for food, but responsibility for food safety became increasingly gendered. Housewives were framed as the gatekeepers of safe food. In 1912, an article entitled ‘Simple Tests for Food Purity: What the Housewife may do to Detect Adulteration’ was published in several Australian periodicals, and attributed to the *Scientific American* but tweaked for local conditions.[183] The rhetoric was that Governments had regulated, but could not control, every aspect of food production, as indicated in a discussion of canned foods: ‘These are used so widely nowadays that the laws controlling their preparation are rightly stringent. Still, now and again, for no very clear reason, something goes wrong with a tin of goods’.[184] Another article from the same year explained, ‘the feminine pronoun is used advisedly, for the buyer of the household necessities should be, as is generally the case, “the lady of the house”’.[185]

Ideas of consumer responsibility can be connected to cultural ideas of the individual and free will. Eating adulterated foods violated what Dupuis has called ‘boundaries of

[180] *Sydney Mail and New South Wales Advertiser*, 3 January 1912, 36.
[181] Nicole Tarulevicz, “‘I Had No Time to Pick out the Worms’: Food Adulteration in Singapore, 1900-1973,” *Journal of Colonialism and Colonial History* 16, no. 3 (2015).
[182] *Sunday Times*, 10 March 1912, 24.
[183] *Sydney Mail and New South Wales Advertiser*, 3 January 1912, 36; *Sunday Times*, 10 March 1912, 24; *Daily Herald*, 25 May 1912, 16.
[184] *Sydney Mail and New South Wales Advertiser*, 3 January 1912, 36.
[185] *Sydney Mail*, 8 May 1912 - 18.

intactness', in maintaining an 'intact body' of self, but also between social groups of 'us' and 'them'.[186] Everyone had a role to play. Discourse of individual responsibility for health was deeply entwined and extended to ideas of a healthy nation. There was, 'no question of greater importance to a nation than the purity of its food products', according to the *Lone Hand* journal in their 1908 publicity campaign against adulteration, '"The people's food must be pure" has become the motto in almost every civilised country in the world'.[187] Entitled 'Food Adulterations that Menace Health', a 1912 article positioned authorities of food safety as patrolling the boundaries of Australia:

> the analyst is one of the custodians of the health of a Nation…He is therefore more essential than the policeman who safeguards our peace. Health comes before peace and we need Healthy babies to make the stalwart men and women who fare to build the greater Australia of the future.[188]

Although food in Australia was generally good, and protected by laws 'wisely framed and carefully administered', the guidelines included for adulteration detection were necessary to keep food standards and health elevated.[189]

The Victorian 'Hygienic Section of the Science and Art Exhibition' in 1913 highlighted methods to detect adulteration, and explained that while 'statistics prove the British race under Austral skies are its strongest and healthiest', poor hygiene could undo all these gains, 'easily and readily'.[190] Prasad has argued that adulteration 'became concrete and affective terrain on which crucial questions around…the body, community, and nation' were debated.[191] In South Australia, a local inspector of health instructed his audience, 'Remember, you are citizens, and on you falls the duty of doing your share in the interests of pure food'. Good health was critical, and 'legislation is of little avail unless people help themselves'.[192] In this rhetoric, we can observe development in the rise of ideas of individual responsibility for personal health, social bodies and the well-being of the nation, discussed further in chapters five and six, exploring the first half of the 20th century. The self-designated role of the press in

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[186] E. Melanie DuPuis, *Dangerous Digestion: The Politics of American Dietary Advice* (Berkeley: University of California Press, 2015), 2.
[187] *Lone Hand*, 1 January 1908, 292-296.
[188] *Sydney Mail*, 8 May 1912, 18.
[189] Ibid.
[190] *Advance Australia*, 1 January 1913, 5.
[191] Prasad, *Cultural Politics*, 33.
[192] *Port Pirie Recorder*, 8 June 1914, 4.

the battle against adulteration extended from public education, to putting pressure on governments to act.

Regulation

Anti-adulteration legislation was an expression of government response to the social problem of food fraud. As Tarulevicz has stated, 'regulatory regimes create food safety environments'.[193] Regulations systemised food safety knowledges, articulated who was responsible and what was considered to violate the safety of food. Laws, however, were not only fixed things on paper, but helped create knowledges and shaped behaviours. Simultaneously, regulations were not necessarily how people popularly understood food safety. The regulation of food quality occurred in the context of broader sanitary and public health concerns in the Australian colonies, and the introduction of Bills to Parliament were often motivated or triggered by food safety scandals or episodes of sickness, as seen in 1880s Tasmania with milk and typhoid.[194] Laws cemented the notion that what people ate was the business of the state.[195] They were, as James Harvey Young reminds us, indicative of the increasing awareness that 'matters affecting the public health influenced the whole economy. Insofar as disease could be prevented, sanitarians argued, industrial profits would expand'.[196] Regulations were fundamental infrastructure of the institutionalisation of food safety, a theme developed further in chapter five.

Calls for government intervention in the form of more and better regulation were loud in colonial Australia. Commenting on the 1875 Victorian beer scandal, one James Mirams epitomised, somewhat hyperbolically, these calls. He wrote to the editor of the *Age* describing the problem of adulteration: 'here we have in our midst a fell evil invading our homes, sapping the wealth of our people, destroying our men, debauching our women, tainting the very blood of our children'.[197] Mirams posed the problem was structural. 'A system going on for years, producing incalculable evils, resulting in murder, suicide, prostitution, insanity, pauperism, misery, death and damnation. Has the Government done anything to stay it? No!'[198] Dorey, argued that as perceptions of risk heightened in early 19th

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[193] Tarulevicz, "Food Adulteration", 1-12.
[194] Janine Maree Curll, "Food Fraud and the Tools for Combat: Food Labelling Regulation and the Protection of Food Safety and Public Health," (PhD thesis: Monash University, 2019), 20.
[195] James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* Princeton: Princeton University Press, 1989), 292.
[196] Young, *Pure Food*, 43.
[197] *Age*, 20 March 1875, 6.
[198] Ibid.

century England, so too did the belief ‘that governments should be responsible for ensuring food quality’.[199]

British laws as they stood in 1788, ‘were considered to apply in the new colony of New South Wales’, but any subsequent legislation did not, unless specifically provisioned for.[200] After the Colonial Laws Validity Act 1865 (UK), laws passed in the Australian colonies were not formally determined by Britain. Laws were, however, influenced and guided by British (and other colonial) precedents.[201] Newspapers provide insight into laws that the public were likely aware of, and it is worth remembering food safety issues were at times covered by other laws, such as import and trademark regulations. The earliest laws definitively concerning food safety in the Australian colonies provided for particular foods, reminding us of colonial priorities – first bread, then later meat and beer.

In precarious settlement periods in both NSW and Tasmania, the use of grain for brewing was prohibited, and Assize of Bread ordinances dictated price and qualities, such as weight and ingredients.[202] Britain’s 1822 Assize of Bread was reported on in the colonies’ presses, dictating penalties for ‘adulteration of corn or flour, or selling one sort of flour for another’, stipulating (among other clauses) that bread containing ‘mixed flour’ be marked with an ‘M’, and that any bakers found with (unspecified) adulterants on their premises would be fined.[203] Tasmanian and NSW bread laws (introduced in 1834 and 1835 respectively), alongside weights and penalties, specified acceptable ingredients, as in the Tasmanian laws (to ‘prevent frauds’):

> no bread shall be sold or offered or made for sale other than such as shall be made of flour or meal of wheat barley rye oats maize peas beans rice or

[199] Dorey, “Unwholesome?”, 278.
[200] Richardson and Porter, “Australia and New Zealand”, 27.
[201] Peter Karsten, *Between Law and Custom: 'High' and 'Low' Legal Cultures in the Lands of the British Diaspora-the United States, Canada, Australia, and New Zealand, 1600-1900* (Cambridge: Cambridge University Press, 2002), 507.
[202] *Sydney Gazette*, 19 February 1804, 1; *Hobart Town Gazette and Southern Reporter*, 3 August 1816, 1; Polya, “Food Regulation in Australia”, 7.
[203] *Hobart Town Gazette and Van Diemen's Land Advertiser*, 1 February 1823, 2; *Sydney Gazette*, 20 February 1823, 3; Corn meaning grain, not maize, see Nancy Cushing, “The Mysterious Disappearance of Maize: Food Compulsion and Food Choice in Colonial New South Wales,” *Food, Culture & Society* 10, no. 1 (2007): 109-30.

potatoes and with common salt pure water eggs milk barm leaven or other yeast.[204]

Loaves containing flours other than wheat required the 'M' mark.[205] The NSW Act – 'to prevent the adulteration thereof and of Meal and Flour and frauds on the public in selling bread' – gave more detail than the Tasmanian, specifying bread was to be 'well made', contain no alum, for varieties to be marked in particular ways, and that bakeries may not hold adulterants. Materials were allowed for 'preventing or cleansing' bread ingredients from insects, smut or other impurities.[206] Until the 1850s, food laws in Australian colonies were similarly particular, as in the 1844 Tasmanian legislation to prevent the sale of 'unwholesome meat'.[207]

In contrast, colonial legislation concerning the safety of food introduced after 1850 was wide-ranging. Indicating rising broad sanitary concerns, Victoria's 1854 public health Act attempted to provide for a safe food supply. Local board officers were 'empowered' to enter and inspect any premises selling food (butchers, fishmongers, etc.) and seize any food that 'appeared' unfit for human consumption. If, to a Justice of the Peace, 'upon the evidence of a competent person', these suspicions were confirmed, the unwholesome food was to be destroyed, and was 'hereby declared to be an offence under this Act'.[208] The clause theoretically operated on a 'do no harm' principal: the Act defined only that 'unwholesome' food was illegal, but not what constitutes a wholesome food. Two other elements of the legislation are important here. A new government institution (local boards of health) had been created to intervene and ensure public health through regulation. Alongside these, new authorities were to be appointed to implement public health measures, including passing judgement on what constituted unwholesome food.

Victoria's subsequent *Adulteration of Food Act 1863*, provided more defined food safety regulations, and was directly concerned with adulteration, while continuing to cover 'unwholesome' food.[209] Britain had set a precedent by enacting their Adulteration of Food

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[204] *An Act to Regulate The Sale Of Bread, 1834* (Tas); *Bakers Act* 1835 (NSW). Polya and Chant date a NSW '*Adulteration of Bread Act*' to 1838, but no mention of an Act by this name appears in the colonial press, or on the Austlii website. Polya, "Food Regulation in Australia", 8; Chant, *Local Food*, 73.
[205] *An Act to Regulate The Sale Of Bread, 1834* (Tas).
[206] *Bakers Act, 1835* (NSW).
[207] *An Act to Regulate the Brewing of Beer Ale and Porter for Sale and to Prevent the Adulteration Thereof, 1844* (Tas); *An Act To Regulate The Slaughtering Of Sheep And Cattle Imported Into This Colony And The Sale Thereof And To Prevent The Sale Of Unwholesome Meat, 1844* (Tas).
[208] *An Act for Promoting the Public Health in Populous Places in the Colony of Victoria, 1854* (Vic).
[209] Curll, "Food Fraud", 21.

and Drink Act in 1860.[210] The description of the purpose of the Victorian Act was relatively brief: 'to repress by more effectual means than those which are now in force…any articles of food or drink which are adulterated or not pure'. Adulteration was forbidden, whether it was 'deleterious to health' or not, thus providing for financial fraud. Packaging and labelling of foods also came under the purview of the Act, prohibiting:

> every person who shall make manufacture sell or exhibit or offer for sale any article of food or drink enclosed in or bearing any cover capsule wrapper label seal or enclosure or imprint or mark by which such article is made to represent that which it is not. [211]

Here, the concern was to accurately represent foods. A differentiation was made between adulteration and the acceptable mixing and compounding of foods, so long as they were marked 'as such'.[212] Further measures were instated. Retailers could avoid prosecution if they could prove they were unaware of adulteration or impurity, but those who were convicted would be publicised in print media at their own expense. The Act indicates some potential difficulties in the implementation of the regulations, with a clause insisting that purchasers had to notify the seller of their intention to have items analysed, and be given the opportunity to accompany them to place of analysis, 'in order to secure such article from being tampered with by the purchaser'.[213]

Other Australian colonies were slow to follow Victoria's lead, with nearly two decades lapsing before most colonies passed broad food safety laws.[214] Colonies' laws varied, but from a cultural perspective, these laws were, broadly speaking, fundamentally similar in intent and scope. The implementation of legislation did result in some government analysis of foods and records of results. In Tasmania, for example, testing results of the Government Analyst were published in local newspapers, and in an annual report in the parliamentary papers after the introduction of the *Sale of Food and Drugs Act* in 1881.[215] While these results cannot be read as necessarily indicative of levels of adulteration, the reports show which

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[210] Draper and Green. "Food Safety and Consumers", 612.
[211] *Adulteration of Food Act, 1863* (Vic).
[212] Ibid.
[213] Ibid.
[214] *Adulteration of Food Prevention Act*, *1879* (NSW); *Sale of Food and Drugs Act*, *1881* (Tas); *Sale of Food and Drugs Act, 1881* (Qld); *Queenslander*, 21 January 1882, 83; Queensland Government, "Chronological table of repealed Queensland Acts," *The Sale of Food and Drugs Act*, *1882* (SA); *The Public Health Act 1886* (WA).
[215] *Mercury*, 13 March 1883, 2; Parliament of Tasmania, "Analyses of Articles of Food and Drink: Report by Government Analyst," (1884), No 172.

foods were tested (and thus prioritised, or of most concern), and some of the ways adulteration likely took place.

Milk was said to be skimmed, watered or 'deficient in cream'. While bread had been examined, no adulterations were recorded. A couple of coffee samples were said to contain 'much chicory', the chicory 'ditto', and, in one case, containing 'earthy matter'. By far the most tests were, however, for alcoholic beverages – brandy, rum and ale. While the ale was not found to be adulterated, the spirits were fraudulent – mixed with water, burnt sugar, liquorice, fusel oil, corn spirit and, in one case, lead.[216] In the year from July 1891, 1628 foods –were tested, 1446 were tea. Of the non-tea samples – milk, spirits and ale, wine and essences, water, bread and flour, meat, and drugs – sixteen were found to be adulterated, including one case of 'German sausage', which was 'putrid throughout'.[217] Milk was generally watered by around 7%, and spirits were said to be 'under proof'.[218] Prosecutions took place, but evidently not extensively enough to allay public concerns.[219]

For the remainder of the century, food safety laws were made and amended, responding to apparent failings of previous legislations, changing conditions, and particular food safety concerns.[220] Common complaints in letters to newspapers argued that laws were not being enacted, or that they did not contain the necessary provisions to realise their intent. In response to the 1875 Victorian beer episode, for example, commentators recognised existing legislation, and called for 'vigorously enforcing'.[221] Another thought that it could not be said that the law was inadequate, as the law had 'never been tried'.[222] In an 1881 Victorian newspaper report of a Mr M'Ivor's lecture on adulteration, the need was flagged for the government to produce 'a workable act' with corresponding inspectors in population centres.[223]

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[216] Parliament of Tasmania, "Analyses of Articles of Food and Drink: Report by Government Analyst," (1884), no 172.

[217] Parliament of Tasmania, "Analyses of Articles of Food and Drink: Report by Government Analyst," (1884), no. 98.

[218] Ibid.

[219] *Age*, 15 September 1871, 3; *Herald*, 13 July 1882, 3; *Australian Star*, 25 June 1895, 6; Mustard, *Wellington Times and Agricultural and Mining Gazette*, 26 August 1897, 2; *Daily Telegraph*, 4 March 1899, 14; *Sydney Morning Herald*, 7 October 1910, 5; *Argus*, 14 October 1931, 14. Not all cases were proven.

[220] *The Food and Drugs Act Amendment Act*, *1890* (SA); *The Food and Drugs Act Amendment Act*, *1882* (QLD). *Queensland Times, Ipswich Herald and General Advertiser*, 23 March 1897, 3; Queensland Government, "Repealed Queensland Acts", 13; *The Tea Act*, *1881* (Vic).

[221] *Ballarat Courier*, 3 March 1875, 2.

[222] *Age*, 20 March 1875, 6.

[223] *Melbourne Punch*, 29 September 1881, 6.

Predominately general in nature, these newspaper reports and letters to the editor often declared the need for specialised inspectors, or more inspectors. Greater penalties was also a repeated refrain. An 1897 letter signed ‘Pure Bread’, argued that the necessary regulations existed, but that authorities failed to act.[224] Evidence of alum had been found in Brisbane bread, it was asserted, and ‘unease’ caused by recent allegations that American flour cut with maize (a substance ‘not fit for human food’) had reached Australian shores. Yet the adulteration of bread was easy to prevent, ‘Pure Bread’ argued: ‘all’ imported flour should be tested under ‘section 80 of the Customs Act 1873’, and bakers found to be using maize or alum in their bread could be prosecuted using ‘the Bakers and Millers Act of 1835’, or the ‘Food and Drugs Act of 1881’, and fined twenty or fifty pounds respectively, and given ‘six months with hard labour’ for a repeated offence under the second Act. The burden of detection should not fall to the public, the letter concluded, ‘local authorities are supposed to take action from time to time in order to detect adulteration of bread, flour, &c, but do they ever do so?’.[225]

With the formalisation of Australia as a nation, domestic food legislation did not shift to federal control, but remained the purview of states, which individually introduced new legislation between 1905 and 1912.[226] Post-Federation legislation represented a shift in Australian food regulation, most notably through the 1905 Victorian *Pure Food Act*, which was internationally acclaimed at the time and has been hailed as a world first.[227] These regulations were developed amid an international conversation around ensuring ‘pure foods’, centred in the USA, where federal legislation was enacted in 1906.[228] What was new about the 1905 Victorian Act was the provision for setting of compositional standards for foods. That is, foods were given set definitions of their substance and nature under ‘prescribed names’.[229] For Janine Maree Curll, this ‘reversed the onus of proof, enhancing administration of the Act compared to the rare enforcement activities before federation’.[230] Rather than a policy of *caveat emptor*, the ‘defendant’ – food producers, manufacturers and retailers – were

[224] *Brisbane Courier*, 3 July 1897, 11; For alum in bread, see Civitello, *Baking Powder Wars*.
[225] *Brisbane Courier*, 3 July 1897, 11.
[226] Richardson and Porter, “Australia and New Zealand”, 28.
[227] Curll, “Food Fraud”, 22; *An Act for the Prevention of the Adulteration of Food and for Other Purposes. Pure Food Act,* 1905 (Vic).
[228] Young, *Pure Food*; *Weekly Times*, 4 November 1905, 20; Stanziani, “Negotiating Innovation”, 399-401.
[229] Curll, “Food Fraud”, 22.
[230] Ibid.

now responsible and had to prove or certify the ingredients or substance of their products 'in every case'.[231]

A newspaper report described the Act's significance for the Victorian people. It was hailed as an 'important measure', critically giving a clear definition of adulteration, for the 'provision of facilities for analysis', and in its provision for the establishment of a food standards committee.[232] The definition was, in essence, as covered earlier in this chapter, covering the substitution, mixing, addition to, and subtraction of, foodstuffs with substances other than what the item was purported to be, or lessened the food's value, or any form of misrepresentation. Contamination via 'injurious utensils or appliances', was also included, banning the use of equipment for food preparation or storage containing, for example, lead or more than a 'one forth of one grain of arsenic'. Special provisions were made for wine, beer, aerated waters, and the marking of weight, measure or volume on food packages was also noted as an important element of the legislation. The critical clause here was the deeming of a food as adulterated 'when it does not comply either wholly or in part with the standard therefore prescribed in this Act'.[233]

The *Bendigo Independent* article described the intended food standards committee as 'a body representing health, science, producing, manufacturing and commercial in interests'.[234] The Act was more specific as to who these new authorities were to be. They were 'professor or teacher' of chemistry and physiology from the University of Melbourne, 'the Director of Agriculture', the 'Medical Officer of Health' of Melbourne, and 'four other additional expert members'. Although not defined in the Act, the newspaper interpreted these four experts as representing industry and commercial interests. Principal to the committee's purpose was to set 'standards of composition, strength or purity, or quality of any article of food', and 'for prohibiting or restricting the use of certain substances in the preparation of articles of food'. In designating who these officials would be, new food authorities were created (an idea developed in chapter five), professionals who were legally sanctioned to define what constituted 'safe' and 'unsafe' foods.[235]

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[231] Collins, "Food Adulteration and Food Safety", 102; *Pure Food Act,* 1905 (Vic).
[232] *Bendigo Independent*, 25 December 1905, 6.
[233] *Pure Food Act, 1905* (Vic).
[234] *Bendigo Independent*, 25 December 1905, 6.
[235] Nineteenth century analysts and anti-adulteration campaigners were not always employed by governments. See for example, Dr Edward Swarbreck Hall. Moran, "Poison in the Milk", 3; Lewis, *Public Health* (London: Praeger, 2003), 90-1.

Pure food standards were gradually set after the Food Standards Committee's establishment. Foods were categorised and broken down into constitutive parts, but also varied in specificity. Butter, for example, was recommended as 'butter fat contents, not less than 80 per cent; water not more than 15 per cent…boron compounds or saltpetre (one or both) as preservative substances in a proportion not exceeding 0.25, and in fresh butter salt not exceeding 3 per cent'.[236] A Tasmanian newspaper reminds us of potential concerns around particular foods, reporting that the committee had 'decided that no preservatives shall be allowed in milk or cream', allowing 'pure milk' to be identified, and for 'anything which they did not know to be fresh' refused.[237] It is suggested here that preservatives were distrusted for their ability to disguise old or stale goods, rather than necessarily only being a concern in themselves. Like butter, milk was also deigned to consist of certain percentages of 'solids' and 'milk fats', but the interpretation for popular consumption highlighted the issue of preservatives. Standards were subject to review and change. The 1905 definition of margarine is different to how it is conceptualised today: 'standard Margarine shall not contain less than 5 per cent of oil of sesame'.[238] Some foods such as milk, meat and margarine, were subjected to further restrictions under other pieces of legislation.[239]

Standards are significant because they are cultural constructs that help societies organise and fix meaning. Lampland and Star have characterised modern life as interacting with 'millions of interlocking standards', although they are not, of course, a new phenomenon.[240] Modern institutions, such as health boards, are built on 'tools of measurements', such as standards.[241] Standards, to varying degrees, restrict 'unlimited diversity' and serve to 'codify, embody, or prescribe ethics and values, often with great consequence for individuals'.[242] Frequently hidden behind their apparent naturalness, such prescriptions are 'necessarily historical and embedded in a series of complex events and social structures', and sometimes 'arbitrary'.[243] Lampland and Star elaborated that standards seek to contain 'messy reality', but are 'always incomplete and inadequate (compared to

[236] *Age*, 11 August 1906, 12; In contrast, private actors such as nutritional chemists in Germany created standards before laws provided for them: 'they virtually invaded governmental food regulation', adopted into a 'de-facto' framework and guidelines during the 1890s. Hierholzer, "Best Standard", 307.
[237] *Examiner*, 14 August 1906, 6.
[238] *Argus*, 18 August 1906, 6.
[239] *Margarine Act*, *1893* (Vic); *Meat Supervision Act, 1900* (Vic).
Argus, 18 August 1906, 6.
[240] Martha Lampland, and Susan Leigh Star, *Standards and Their Stories: How Quantifying, Classifying, and Formalizing Practices Shape Everyday Life* (Ithaca: Cornell University Press, 2009), 4, 10.
[241] Lampland and Star, *Standards*, 10.
[242] Lampland and Star, *Standards and Their Stories*, 8, 5
[243] Ibid., 14, 10, 15.

some ideal) character’. Further, standards powerfully demonstrate ‘Max Weber’s powerful insight that the move towards rationality necessarily results in forms of irrationality’.[244] While it is intelligible that food standards are useful, or perhaps necessary (what makes milk, milk, for example?), it is important to understand the context of their production, and to ask who gets to define these standards and what their motivations are.

Conclusion

In the Australian colonies, the period 1850 to 1912 was witness to conspicuous discussions and fear around the issue of adulteration, leading to the development of Australia’s first broad food safety regulations. There was no straightforward, linear progression from a largely unregulated food economy to consistent, effective protection. The Victorian 1905 Act, while signalling a shift, was not the endpoint of food legislation in Australia, with regulations continuing to evolve and change. Regulations empowered authorities to inspect and prosecute for food fraud breaches, and worked to reassure Australians about the safety of their food supply. But, as Toulin has articulated, ‘food production and consumption…remained deeply fraught’.[245] It was and is not, of course, possible to inspect every food item, and so the potential for sickness continues.[246]

Australians were thought to be particularly vulnerable to adulteration, given their distance from producers and the many hands their food passed through along commodity chains. Issues of adulteration reflected broader cultural anxieties, and were contested and variable. Case studies of tea and beer have shown that there was a perceived relationship between taste and safety, and that adulteration fears were often closely connected to ideas of race and class. Responsibility for preventing adulteration was understood to lie in differing hands, but public education was key, and individuals were increasingly framed as responsible for food safety. The protection offered by packaging, a key material technology of food safety, is turned to in the following chapter.

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[244] Ibid.

[245] Alana Toulin, ““Old Methods Not up to New Ways”: The Strategic Use of Advertising in the Fight for Pure Food after 1906,” *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 461.

[246] Janine Maree Curll, “The Significance of Food Fraud in Australia,” *Australian Business Law Review* 43, no. 4 (2015): 270.

4.

Packaging: 'No Germs Lurk Here'


[1]

Figure 15. Hygienic food distribution, 1914.

In 1914, the new 'Hygienic Distribution Methods' of the 'Adelaide Crystal Ice Company' were announced, demonstrating a shift in food packaging and changing safety measures, and articulating many of the concerns of this chapter. In the photograph (see Figure 15), a 'smart' and 'scrupulously clean' uniformed driver delivered a tray. On the tray, alongside a 30cm square block of ice, sat a bagged-chicken, and butter and eggs in cardboard cartons.[2] The picture and accompanying article demonstrates the tightly bound relationship between the historical development of food safety knowledges and packaging technologies. Food itself

[1] *Register*, 9 May 1914, 11.
[2] Ibid.

was dangerous, according to the article – 'there are no greater distributing agents of disease than certain forms of foodstuffs' – but how foods got to the consumer was of most concern. Most danger lay in the distribution of food, the space between the producers and consumers situated immediately before the food reached the home.

'Methods of handling foodstuffs' were reported as increasingly informed by bacteriology, seeking to 'minimise the danger of germ contamination'. The 'oven-ready' chicken in the 1914 photograph had 'flesh' of 'a whiter appearance and a finer flavour'.[3] White chicken flesh became valued, arguably a sign of safety. Chicken can range from blue-white to yellow, reflecting feed, age, breed and exercise.[4] Safe packaging critically ensured quality, with the chicken contained neatly within a bag. This bag could not yet have been plastic, but was likely a coated, liquid-resistant paper bag. The process protected food at every stage: in the factory, each chicken was 'confined in a dust-proof package'. Rather than delivered in an open cart, chickens were transported to the consumer in a cool-storage vehicle, meaning 'a total absence of blood, flies, and dust', and in summer, 'no danger of meat taint'. Two more packets in the photograph were rationalised, stackable cardboard rectangular-prisms featuring printed messages, and contained butter and eggs – each egg 'with its own compartment'.[5] The cardboard and paper packages were key to the hygienic delivery of food through a hazardous journey.

From the beginning of the 19th century to 1964, food packaging changed significantly and became a focus for branding and advertising. Packaging worked to set companies' products apart from others, and was represented as a sign of safety. Innovations in packaging altered food supply chains, the space and experience of purchasing, and introduced new foods to Australia and the world. While scholars such as Sarah Risch have adopted the view of historical industry journals that packaging innovations arose 'chiefly as a concession to changes in habits of living', I, among other scholars, argue that packaging contributed to changing lifestyles.[6] Case studies of tinned foods, paper and cardboard, and plastics will help explore the relationship between packaging and food safety.

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[3] Ibid.
[4] USDA Food Safety and Inspection Service, "The Colour of Meat and Poultry,"; *Farmer and Settler*, 17 April 1953, 17.
[5] *Register*, 9 May 1914, 11; This was not a moulded cardboard egg carton as we use today. *Northern Star* 27 September 1929, 10.
[6] *Food*, July 1939, 405; Sara J. Risch, "Food Packaging History and Innovations," *Journal of Agricultural and Food Chemistry* 57, no. 18 (2009): 8089; Simon Naylor, "Spacing the Can: Empire, Modernity, and the Globalisation of Food," *Environment and Planning A* 32, no. 9 (2000): 1625-39.

As a critical culinary infrastructure of food safety, packaging shows us how the materiality of food safety changed over time, and in doing so, altered understandings, spaces of concern, and the sensory experience of food safety.[7] In many ways the Australian experience of food packaging was not distinct from other places, but rather mirrored and was shaped by international developments and discourses. And yet there were moments of difference, as this chapter shows: from how Australians liked their bread, to how people were instructed to take particular care with tinned foods in Australia's hot climate. Moreover, as an 1885 discussion of food poisoning and tinned herrings illustrates, Australia contributed to international understandings of packaging too.

Approach

This chapter asks: What role did packaging technologies play in food safety management? How did people respond to innovations in packaging? How were concerns negotiated? Meanings of food safety had to be fixed to packaged foods – what were these in the Australian context? The chapter begins with detailing the state and development of packaging technologies in the 19th and 20th centuries. Particular focus is paid to the significance of unit packaging, that is, packages sized for domestic consumption. The relationship between packaging, food, and the senses is briefly explored, and glass is highlighted as a packaging form particularly associated with safety. While glass was known, used and brought with British colonisers on their arrival to Australia, tin cans, cardboard and plastics were innovations that gradually became common, as the case studies show. Rather than technological development, the focus here is on discursive discussions of packaging and how packaging affected people's experience of food and food safety. Within each case study, material is not always ordered chronologically, but rather developed thematically.

Essentially, packaging provides 'protection, utility, and communication', in three types of environments: 'physical, atmospheric and human'.[8] The packaging of foods was, of course, central to the preservation of food and to safety concerns. Although it does not always extend the shelf life of foods, packaging commonly slows spoilage rates, while containing foods, maintaining moisture levels, and protecting from potential contaminants, such as dust, dirt, water and animals, or atmospheric conditions that speed deterioration of food, such as

[7] Nicole Tarulevicz. "Food Safety as Culinary Infrastructure in Singapore, 1920–1990." *Global Food History* 2, no. 2 (2016): 132-56.
[8] Risch, "Food Packaging", 8089.

oxygen and light. Packaging allowed foods to be transported further and 'created new food categories and added convenience'.[9]

The function of packaging was not only material protection, but critically allowed for the attaching of meanings to a product. Foods, particularly when packaged, were commodities that by the end of the 19th century, in the words of McClintock, were 'the fundamental form of a new industrial economy but also…of a new cultural system representing social value'.[10] Packaging was a site where particular meanings could be ascribed to foods, enabled by technological innovations in printing, paper, cardboard, metal and glass manufacturing, but also implied through material forms being associated with particular products, such as the shape of a bottle.[11] Packaging and advertising are 'semiotic spaces' around foods that can be used to shape cultural ideas of food, but also function more broadly.[12] Erika Rappaport showed how 'advertising, packaging and branding both produce and supress knowledge about the production of goods, and all of these processes can shift markets, alter commodity chains, and inspire consumer-based politics'.[13] For Susan Willis, packaging is the embodiment of commodity capitalism and 'the fetishized sign of desire for purity, which, in the fullest sense, is also a desire for security'.[14] Packaging has shaped food safety knowledges.

Context

The economic, political and social contexts of the 19th century Australian colonies, as discussed in the previous chapters, contributed to the development, use and ideas of packaging technologies. Food in the 19th century Australian colonies was packaged in a variety of vessels made of wood, metal, glass, ceramics and other plant and animal materials. Newspaper advertisements for imported foods demonstrate the range of containers. Foods were often, but not always, advertised as packaged in a specific way: salt meat in barrels,

[9] Ibid., 8091; Anneke Geyzen, "The Ideology of Convenience. Canned Foods in Women's Magazines (Flanders, 1945-1960)." *Appetite* 94 (2015): 21-5.
[10] Anne McClintock, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (London: Routledge, 2015), 208.
[11] Igor Kopytoff, "The Cultural Biography of Things: Commoditization as a Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 2008), 64-94; Olive R. Jones, "Commercial Foods, 1740–1820," *Historical Archaeology* 27, no. 2 (1993): 27; Lisa Haushofer, "Sickness, and the Case of Benger's Food," *Journal of the History of Medicine and Allied Sciences* 73, no. 2 (2018), 184.
[12] McClintock, *Imperial Leather*, 213.
[13] Erika Rappaport, *A Thirst for Empire: How Tea Shaped the Modern World* (Princeton: Princeton University Press, 2017), 14.
[14] Susan Willis, *A Primer for Daily Life* (London: Routledge, 1991), 3.

alcohol in casks and hogsheads, cheese in cases, butter in firkins, tea in chests, fish in tierces, tins and kits, raisins in boxes, figs in drums, salt in baskets, fruit in bottles, spices in bags, lard in bladders, potted meat and anchovy paste in small ceramic containers.[15] The same commodity could come in different vessels. Sugar, for example, arrived in tubs, bags, barrels, casks, cases or boxes.[16] Despite the extensive array of packaging types, they were usually standardised terminology; for instance, a British (as opposed the smaller American) firkin was a small barrel commonly used to transport butter, specified to contain fifty-six pounds (twenty-five kilograms).[17] Although these measures are no longer familiar, 19th century consumers would have been aware of sizes.[18]

As the century progressed, increasing numbers of goods appeared within unit packages, and the processes of producing the packages themselves gradually became mechanised. Tins, paperboard cartons and glass bottles have been identified as key 'modern' packaging types, and their development is explored further in the case studies of this chapter. Packaging developments do not necessarily fit into a linear timeline, as progress started and stopped, businesses failed, and vessels were revealed as faulty or dangerous. Often there were lags between product creation and widespread adoption, and developments were concurrently made by different people in different places. Cans, for example, were first developed in the early decades of the 19th century, but only became fully mechanised and reliable in the early decades of the 20th century.[19] In the 1870s, a Tasmania jam factory made cans from imported tinplate from Wales: individual machines cut and prepared the containers, but every can was soldered, filled, washed and tested by hand.[20]

Paper-bag machines were invented in the 1850s, and folded cardboard cartons manufactured from approximately the 1880s, but Farrer posits it was not until the mid-20th

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[15] *Sydney Gazette*, 5 March 1803, 4; *Sydney Gazette*, 26 March 1803, 4; *Monitor*, 4 May 1827, 1; *Sydney Herald*, 28 October 1833, 3; *Colonial Times*, 11 September 1838, 296; *Sydney Monitor and Commercial Advertiser*, 2 Oct 1839, 1; *Australian*, 1 December 1825, 4; *Australian*, 6 June 1840, 3; *Australian*, 17 April 1845, 2.

[16] 'Sugar in Tubs', *Sydney Gazette*, 5 March 1803, 4; 'Fine moist sugar 9d. per lb. by the ton, or 10d. by the single bag', *Sydney Gazette*, 2 July 1809, 2; 'Casks of soft SUGAR', *Sydney Gazette*, 5 February 1809, 2; 'Box Sugar', *Morning Star and Commercial Advertiser*, 12 December 1834, 2; 'loaf sugar in cases', *Geelong Advertiser and Intelligencer*, 8 May 1854, 5; '11 Barrels Sugar', *South Australian Register*, 26 April 1858, 4.

[17] Russ Rowlett, "How Many? A Dictionary of Units of Measurements," University of North Carolina.

[18] Jones, "Commercial Foods", 27; Vessels would not have always met specifications, Richard Wilk, "Anchovy Sauce and Pickled Tripe: Exporting Civilised Food in the Colonial Atlantic World," in *Food Chains: From Farmyard to Shopping Cart*, ed. Warren Belasco and Roger Horowitz, (Philadelphia: University of Pennsylvania Press, 2009), 95-7.

[19] Keith Farrer, *To Feed a Nation: A History of Australian Food Science and Technology* (Collingwood: CSIRO Publishing, 2005), 121-2.

[20] Farrer, *Feed a Nation*, 66.

century before fibreboard cartons superseded wooden cases in Australia.[21] Thin metal sheets known as 'foil', were promoted as a food packaging from the late 1850s, and became commonly used with foods such as butter in the 20th century. Coffee, for example, was advertised in tinfoil as early 1858 – 'a package unrivalled for its adaptability to the preservation of Coffee'; but foil faced concerns in the 1930s with a newspaper reporting manufacturers had sought to counter claims tinfoil was 'injurious', pointing to a seal of purity given by the English Institute of Hygiene.[22] The crown cork – a metal cap for glass bottles lined with cork – was patented in 1892, significantly improving the ability to seal and exclude oxygen from bottles, and glass bottles were produced with 'semi automatic' machines in the first years of the 20th century.[23]

Although the 19th century saw significant technological innovation in packaging, Diane Twede has pointed out that for the most part, production continued to be expensive, slow and labour intensive into the new century.[24] The scientific and technological developments relating to food and packaging of the late 1880s and 1890s became ever more evident on shop shelves in the new century when nationally and internationally distributed, standardised, branded and marketed foods proliferated.[25] The mechanisation of packaging – both in its own production and in the packaging of food – became more common, allowing for the mass production and distribution of foods in heightened scales. Understandings of germs grew and fed into ideas around packaging, as explored over the following chapters.

The first four decades after Federation were ones of dramatic change, with the two World Wars, the global influenza pandemic, and the Great Depression. The implications of these events on food systems should be noted. War and Depression increased government intervention in everyday life, particularly in control of food systems. Disease, too, encouraged a strong focus on nutrition and healthy, efficient populations. World War One heightened organisation and speed in distribution networks, and post-war, commercial

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[21] Diana Twede, Susan E. M. Selke, Donatien-Pascal Kamdem, and David Shires, *Cartons, Crates and Corrugated Board: Handbook of Paper and Wood Packaging Technology* (Lancester, PA: DEStech Publications, 2014), 19; Diana Twede, "The Birth of Modern Packaging," *Journal of Historical Research in Marketing* 4, no. 2 (2012): 245.
[22] *King Island News*, 22 February 1939, 2; *Star*, 28 October 1858, 3; *Nambucca and Bellinger News*, 19 June 1931, 2.
[23] Risch, "Food Packaging", 8090; Ian Stuart, "Bottles for Jam? An Example of Recycling from a Post-Contact Archaeological Site," *Australian Archaeology* 36, no. 1 (1993): 18.
[24] Twede, "History of Packaging, 116.
[25] Kim Humphery, *Shelf Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998), 28.

shipping adopted diesel fuel, cutting transport times. Foods and food systems 'became embedded within an ideology of efficiency'.[26]

Although earlier forms of packaging, such as barrels, and transport methods, such as ships, had been designed and adapted for logistical ease, new forms of food packaging and transport were increasingly standardised, contributing to 'the world's progress towards industrial and commercial efficiency', in the words of a 1929 newspaper article.[27] Geometric cardboard boxes, such as the 'Eburite Containers', for example, 'cut packing costs, as saw dust, wood-wool, shavings, etc are unnecessary – they lie flat for storing and reduce freight charges and overheads on handling, storing and materials'.[28] Cold-storage compartments became features of ships and trains, initially cooled by ice.[29] Emergent technologies such as refrigeration encouraged the development of new packaging types.[30] Motor vehicles appeared from the 1910s and 1920s, at the same time domestic refrigerators arrived in Australian markets, and publicly broadcast radio.[31]

With World War Two came austerity measures and food rationing, research into plastics increased and diversified manufacturing. 1940 to 1960 can be characterised by an expansion of scientific knowledge and the institutionalisation of research into food science through organisations such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and professional organisations.[32] The period saw industrial foods proliferate with frozen foods appearing in 1940. By the end of the decade foods were being grown and manufactured specifically for freezing, and cold-chains accordingly expanded. Instant coffee was another notable development.[33] Prosperity increased post-war, suburbs spread, and car ownership grew from a third of households at the beginning of the 1950s to two-thirds by the 1960s.[34] Australians could shop at once for a week's worth of groceries or more, and quickly drive their frozen foods home. Self-service meant more direct consumer-

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[26] Ibid., 29.
[27] Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 7; *Examiner*, 4 November 1929, 9.
[28] *Huon Times*, 23 November 1933, 6.
[29] Farrer, *Feed a Nation*, 102.
[30] Gabriella M. Petrick, "'Like Ribbons of Green and Gold': Industrializing Lettuce and the Quest for Quality in the Salinas Valley, 1920-1965," *Agricultural History* (2006): 269-95.
[31] *Queenslander*, 20 January 1923, 8; Colin Jones, *Something in the Air: A History of Radio in Australia* (Kenthurst: Kangaroo Press, 1995), 12-33.
[32] Farrer, *Feed a Nation*, 130-9.
[33] Ibid., 140-1.
[34] Stuart Macintyre (1999), *A Concise History of Australia.* fourth ed. (Port Melbourne: Cambridge University Press, 2016), 224-5.

product choices, and marketing on packaging was more immediate than ever.[35] The stand-alone 'one-stop-shops' we today call supermarkets, took off in Australia during the early 1960s.[36] Grocers (people, not shops) became less of a mediator between food and the customer as independent browsing became the norm. At the same time, the market became concentrated in the hands of a small number of companies.[37] Today, Australia's food distribution is dominated by a duopoly of supermarket chains.

The 20th century saw the continued use of materials such as glass and tin cans, the widespread uptake of various kinds of paper and cardboard, and the development of synthetic plastics. Specific sealing technologies, such as 'crown cork' seals for bottles, proliferated.[38] Packaging aided the creation of new categories of foods, such as more highly processed breakfast cereals. Packaging materials were also used in combination with each other. The Swedish Tetra Pack Company, for example, launched in 1951, utilised laminated packaging materials that combined paperboard, foil and plastic: 'paper for printing, foil as a barrier and polyethylene for sealing, waterproofing and adhesive'.[39] Studies show the 'second lives', or re-use of containers indicates how many forms of packaging were valued and were not considered 'disposable' or single-use until the second half of the 20th century.[40]

From Bulk to Unit Packaging

While bulk packaging potentially allowed the domestic purchaser to assess the quality of foods through sensory observation more readily than hermetically sealed unit packaging, it also could be damaged by long-distance sea travel, was susceptible to insect infestation, and at the point of sale in a grocery shop, was potentially more exposed to cross-contamination and adulteration.[41] Different types of containers signalled different qualities in advertisements: Wilk argued that wooden bulk barrels were only used 'for the cheapest and lowest quality foods'.[42] Olives, to give an Australian example, could be packaged in large barrels or small

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[35] Farrer, *Feed a Nation*, 140; Humphery, *Shelf Life*, 79-99.
[36] Humphery, *Shelf Life*, 3.
[37] Ibid.
[38] Risch, "Food Packaging", 8089-90.
[39] Ibid., 8091 Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 48.
[40] Stuart, "Bottles for Jam?", 17-21.
[41] Diana Twede, "History of Packaging", 122.
[42] Richard Wilk, "A Taste of Home: The Cultural and Economic Significance of European Food Exports to the Colonies," in *Food and Globalization: Consumption, Markets and Politics in the Modern World*, ed. Alexander Nutzenadel and Frank Trentmann (Oxford: Berg, 2008), 96-7.

glass containers, the latter signalling a heightened monetary and social value, while the former was likely cheaper and more common.[43]

Unit packaging was central to efficient distribution and became pervasive. Industry journals argued unit packaging enabled customers to distinguish between products, encouraging repeat sales: ‘the package serves as an essential link between the producer and the consumer’.[44] Packaging not only protected foods physically – ‘among advantages are the sanitary values of sealed packages’ – but also communicated safety: ‘quality and purity of products may be expressed in considerable measure by packages’.[45] While figures for Australia do not exist, by 1920, seventy-five per cent of American magazine advertisements for packaged goods included descriptions of their packing.[46] In the retail shop, packaging aided uniform and attractive displays and as part of ‘an emergent display culture’, packaging was critical in the rise of supermarkets.[47]

Packaging then, was central to the burgeoning ubiquity of brands. It became material and symbolic evidence of safety that international and local brands drew attention to. In an early example, Lea and Perrins gave detailed instructions in 1877 to purchase their ‘genuine’ Worcestershire Sauce and avoid ‘spurious imitations’ by accepting only the new label that bore their signature, of which an image was included, and to sight their name on ‘wrapper, label, bottle and stopper’.[48] In the 20th century, the sealing of packages was correlated with machinery and promoted as an indicator of purity.[49] Companies built on earlier marketing approaches: Rosella preserves promised their packaging seal was a guarantee of ‘unsurpassed quality’, and ‘symbolic of good food’.[50] Wrigley’s chewing gum was promoted as supporting ‘mouth cleanliness’, reiterated by the wrapping of wax paper, ‘*sealed’*, pictured and explained: ‘this sanitary package brings Wrigley’s to you fresh, clean and full flavoured’.[51] Another confectionary, Minties, were ‘hermetically sealed’ and ‘triple glasoline wrapped’ by

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[43] ‘Barrel Olives’, *Shipping Gazette*, 2 December 1848, 286; ‘Jar Olives’, *Melbourne Weekly Courier*, 27 April 1844, 2.
[44] *Glass: Official Journal of the Australian Glass Industry,* 2 no.2 (1 October 1934), 43.
[45] Ibid.
[46] Twede, “History of Packaging”, 118.
[47] Haushofer, “Benger’s Food”, 184; Humphery, *Shelf Life*, 28-9; Michael Ruhlman, *Grocery: The Buying and Selling of Food in America* (New York: Abrams, 2017), 29-30; Tracey Deutsch, *Building a Housewife's Paradise: Gender, Politics, and American Grocery Stores in the Twentieth Century* (Chapel Hill: University of North Carolina Press, 2010), 69; Susan V. Spellman, *Cornering the market: Independent Grocers and Innovation in American Small Business* (Oxford: Oxford University Press, 2016), 26-7.
[48] *Evening News*, 7 July 1877, 7.
[49] *Daily News*, 15 September 1903, 7; *Leader*, 17 December 1904, 8; *Australasian*, 22 September 1894, 7
[50] *Age*, 14 April 1948, 9; *Advertiser*, 1 March 1929, 11.
[51] Wrigley’s, as with all the international brands mentioned here, were sold and advertised in Australia. *Forbes Advocate*, 15 February 1927, 1.

‘modern machinery’, assuring customers they were purchasing ‘the purest and best sweets made’.[52] In 1936, a new ‘patent parchment seal’ locked in the ‘factory freshness’ of Aunt Mary’s Baking Powder.[53] ‘Grape Nuts Food’ likewise advertised its industrial origins: a multi-stage processing was completed with ‘finally the filling, sealing, and packing of the well-known, air-tight yellow packets – all accomplished without the food being touched by hand’.[54]

Pure food legislation, introduced in multiple Australian states during the early 20th century, made provisions for packaging, most notably specifying that packaged food had to be labelled with the food’s weight or volume, and the name and address of the maker, manufacturer or agent.[55] Unit packaging did not, of course, resolve all food safety issues, and regulations could not prevent all deceptions. Labels could be sent with tins to be affixed at their destination, thus avoiding potential damage in transport, but allowing for potential fraud: in 1906, it was reported that ‘bleached American beef’ was being sold as Australian mutton in tins with labels ‘printed and pasted on in England’. It was suggested place of origin be stamped on the tins, but then what was ‘to prevent [traders] refilling Australian tins with American meat?’.[56] Packaging did not always occur alongside production and was thus subject to the issues of bulk packaging discussed earlier.[57] Tea, for example, was often blended and packaged in Australia.[58] Nor was ‘consumer’ packaging necessarily welcomed by consumers. Kerreen Reiger has related that the Melbourne Housewives Association formed in 1915 to demand bulk-buying facilities and street markets – ways of buying food that avoided the cost of unit packaging, and allowed for sensory checks.[59]

Packaged Senses

Packaging altered the sensory experience of food safety by placing a physical barrier between customer and food. Newspapers supported the claims of food companies, as in this 1935 example:

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[52] *Telegraph*, 7 December 1929, 16.
[53] *Richmond River Herald*, 9 June 1936, 1.
[54] *Brisbane Courier*, 23 June 1914, 9.
[55] *Pure Food Act, 1905* (Vic); *Pure Food and Drugs Act, 1908* (SA); *Express and Telegraph* 26 February 1915, 3.
[56] *Telegraph*, 18 August 1906, 7; “Labeling,” interpretation panel 5.3, Prince Rupert Cannery Museum, British Columbia, Canada (visited June 2019); Deutsch, *Housewife's Paradise*, 70-1.
[57] Sarah Besky, “Empire and Indigestion: Materializing Tannins in the Indian Tea Industry,” *Social Studies of Science* 50, no. 3 (2020): 403.
[58] *Truth*, 24 May 1908, 3; *Glen Innes Examiner*, 21 July 1885, 4.
[59] Kerreen M. Reiger, *The Disenchantment of the Home: Modernizing the Australian Family, 1880-1940* (Oxford: Oxford University Press, 1985), 67.

> goods packaged by manufacturers are safe, for it has been definitely proved that germs which cause food to ferment cannot penetrate through dry, clean paper or oiled paper or a protective covering such as cellophane, which is impervious to dust, air, moisture, grease and oil.[60]

Packaging was guaranteed protection against unseen pathogens: 'we know with certainty that it is safe'.[61] A decade earlier, Barbara Brooks of the US Kellogg Home Economies Department likewise insisted, according to a Melbourne newspaper, 'canisters, cans or cartons' indicated to the consumer 'that the contents are absolutely clean and sanitary'.[62] It was not necessary to observe the food within these vessels, because 'the label tells us what is inside and the contents must be up to specifications'.[63] Packaged foods were therefore safe because they were regulated.

Whereas previously, the ability to smell and thus assess a product was to measure safety, now to be able to smell a product at all, according to this logic, signified the loss of quality. Whether a food smelt good or bad mattered not: 'the strong aroma of foodstuffs or other products denotes loss of flavor and quality. Modern packaging requires an air and water-proof container, to keep the quality in by keeping the air out', an account of a Sydney Modern Packaging Exhibition related in 1936.[64] Ideas of freshness, argued Susan Friedberg, came to depend 'less on time or distance than on the technology that protects it', a significant change in the history of food production.[65] Packaging 'created a revolution in the way we receive our foods', as a 1934 article put it.[66] Commercial interests, illustrated by the exhibition source above, took potential consumer concerns and inverted them. Technological changes in food supply chains, such as new packaging, could fuel fears of a lack of transparency.[67] Manufacturers redirected anxieties about the inability to sensorily assess a food because of packaging, and instructed that these fears were old-fashioned and that no smell equalled safety.

The packaging, rather than the food itself, became the thing to assess. Detailing a call by a Victorian Housewives Association for all bread to be wrapped, a 1936 article pointed to

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[60] *Farmer and Settler*, 17 October 1935, 13.
[61] Ibid.
[62] *Table Talk*, 29 October 1925, 47.
[63] Ibid.
[64] *Farmer and Settler*, 30 July 1936, 10.
[65] Susanne Freidberg, *Fresh: A Perishable History* (London: Belknap Press, 2009), 4.
[66] *Telegraph*, 13 April 1934, 12.
[67] Susanne Freidberg, "Moral Economies and the Cold Chain," *Historical Research* 88, no. 239 (2015): 125-37.

popular concerns that packaging disguised the age of foods: 'it has been stated that people believe factory-wrapped goods, particularly those enclosed in transparent material, to be stale'. Attempting to assail these fears, an 'expert' explained transparent wrappings were, in fact, 'proofs of freshness', with the packaging becoming opaque if kept for 'long periods'.[68] Despite this message – that food could be considered safe because it was packaged – discursive sources, concurrently, but seemingly contradictorily, continued to rely on and instruct how to assess the safety of a product through sensory judgement of the food itself *and* the packet it came in, as this chapter teases out.[69] Further, commercial interests recognised there was a sensory experience of food packaging, around which meanings needed to be made.[70]

Glass

Glass containers have a long historical association with food. Brought with European colonisers to Australia, glass was discussed as the 'gold standard' of hygienic packaging into the twentieth century, although this was not necessarily accurate. Used to package wine, condiments and preserves, glass was sealed shut with other materials, including metal, cork and wax.[71] It was said to be trustworthy and hygienic because it was possible to visually assess the food contained within. 'Glass reveals – while it protects', ran the tagline of the Australian Glass Manufacturers; elsewhere it was 'the world's finest container for foodstuffs'.[72] Advertising to a milk producers association, the association promised 'pure milk: no germs lurk here!'. 'The purity of glass', it was explained, 'unlike tin, can neither rust, nor contaminate'. Milk was healthy: 'in a bottle for safety'.[73] Seeing was safety and, in 1956, 'glassed goods have nothing to hide'.[74] And while glass's reputation for safety was also challenged in the first half of the 20th century, consumer trust in glass was great.[75] As Tarulevicz has shown, in internationally reported cases of botulism, popular concerns

[68] *Herald*, 4 November 1936, 28; *Glen Innes Examiner*, 26 November 1936, 2.
[69] Ai Hisano, "Selling Food in Clear Packages: The Development of Cellophane and the Expansion of Self-Service Merchandising in the United States, 1920s–1950s," *International Journal of Food Design* 2, no. 2 (2017): 153-66.
[70] Carlos Velasco and Charles Spence, eds., *Multisensory Packaging*: *Designing New Product Experiences* London: Palgrave Macmillan, 2019), 1-18.
[71] Lauren Alex O'Hagan, "Pure in Body, Pure in Mind? A Sociohistorical Perspective on the Marketisation of Pure Foods in Great Britain," *Discourse, Context & Media* 34 (2019): 3.
[72] *Age,* 21 September 1937, 25; *Glass: Official Journal of the Australian Glass Industry* 1 October 1934, 43; *Food*, January 1935, 2.
[73] Victorian Milk Producers' and Retail Dairymen's Association, *The Milk Book of Victoria* (Melbourne: Brown, Prior & Co., circa 1930s), 26.
[74] Mothercraft Association of Queensland, "Mothercraft," (Brisbane: Co-Operative Press, 1956), 2.
[75] *Daily News*, 27 January 1932, 9.

incorrectly centred on tinned foods, when foods packaged in glass were actually to blame.[76] Food producers drew on this trust to sell products packaged in other materials; for example, in 1942 Australian company Rosella promoted their jams as 'in Hygienic Gold-lined Cans Equal to Glass Jars' (see figure 16).[77]

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Figure 16.Hygienic cans 'Equal to Glass Jars', 1942.

Tinned Foods

For much of the 19th century, the technology of tinned food was problematic, dangerous and, some have argued, based on inaccurate science.[79] Tinned or canned refers to a vessel containing food which is hermetically sealed and heat-treated in order to prevent microbial growth. Upon opening, the food loses its sterility and again becomes perishable. The term 'canning' applies to the process, rather than the packaging material, and so can also refer to foods packaged in glass or ceramics. 'Potted' has historically also been used to refer glass or ceramic 'canned' foods. Here, the discussion centres on the commercially produced metal form unless specified otherwise. Today, the principles of 'canning' are also applicable to plastic.[80] Numerous individuals were responsible for developing and refining canning from the late 18th century onwards. Improvements were made to the process, but it was well into

[76] Nicole Tarulevicz, "Discursively Globalized: Singapore and Food Safety," *Food, Culture & Society* 23 no.2 (2020): 193-208; *Richmond River Express and Casino Kyogle Advertiser*, 30 August 1922, 1; *Daily Examiner*, 28 August 1922, 3.
[77] *Home*: *An Australian Quarterly*, 1 July 1942, 57.
[78] Ibid.
[79] Farrer, *Feed a Nation*, 39-40.
[80] Tim Hutton, *Food Preservation: An Introduction* (Gloucestershire: Campden and Chorleywood Food Research Association Group, 2004), 9.

the twentieth century before the method was truly reliable.[81] Heat treatment was the method of sterilisation used in canning. Tim Hutton differentiates between sterilisation and pasteurisation processes. The first, he explains, renders inert 'all organisms' that have the potential to grow in the final food product, and generally involves a process equating to 121°C for a minimum of three minutes. In contrast, pasteurisation 'only completely destroys vegetative, pathogenic organisms', using temperatures of 70° to 100°C for a few seconds or minutes. While pasteurised foods typically have a shelf life of days or weeks when kept in cool storage (unless other preservatives were used), sterilised foods will keep at ambient temperatures for months or years.[82] In canning, foods are put in a hermetically sealed vessel which is then heated, usually through heated water or steam in a larger, pressure cooker-style vessel (a retort), and then cooled in a sterile environment.

Canning was a method of packaging, a technology of food preservation, and a new form of food. Canned foods, whether plant or animal, were more recognisably 'fresh' than other pre-existing preserved foods such as smoked or salted.[83] Tinned or 'canister' (canned) foods provide an early example of an industrialised food, representing a significant leap in food preservation. While offering improvements to food preservation in terms of quality and distribution, and presenting a novel idea of 'fresh', new packaging technologies such as canning also brought with them new food safety concerns. This technological innovation prompted considerable interest, with articles describing the canning process delving into great detail. Building on the discussion of tinned fish and place of origin in chapter two, tinned food allows us to explore how consumers responded to a 'new' food and how they negotiated food safety concerns. Here, tinned foods are used to explore the development, adoption and concerns around a packaging technology.

The technology of canned food has been hailed as 'the foundation of the development of modern industrial foods'.[84] Scholars have reminded us of their militaristic and imperial origins.[85] Developed in response to the need of French Napoleonic troops in the early 19th century for long-lasting and transportable food, canning was refined most notably by the

[81] Gabriella M. Petrick, "'Purity as Life': H.J. Heinz, Religious Sentiment, and the Beginning of the Industrial Diet," *History and Technology* 27, no. 1 (2011): 39; Gabriella M. Petrick, "An Ambivalent Diet: The Industrialization of Canning," *Organization of American Historians Magazine of History* 24, no. 3 (2010): 37.
[82] Hutton, *Food Preservation*, 8.
[83] Anna Zeide, *Canned*, 8, 91-3.
[84] Susan J. Thompson and J. Tadlock Cowan, "Durable Food Production and Consumption in the World Economy," in *Food and Agrarian Orders in the World Economy*, ed. Philip McMichael (Westport: Praegar, 1995), 42-3.
[85] Naylor, "Spacing the Can", 1625-39; Anna Zeide, *Canned*, 12.

British and Americans – countries that sought geographical and political expansion in this historical moment.[86] For Naylor, tin cans not only worked in building material, economic and ideological ideals of the British Empire, but 'embodied ideals…that also [encompass] the harnessing and control of the natural world, the globalisation of consumption, the progress of science and civility, and of hygiene and orderliness'.[87] The 'opaque vessel', has been used by Zeide as a metaphor for a lack of transparency in the American food system.[88] Canned food had a 'significant role in shaping daily lives', she argued, removing food's seasonality and shifting eating habits to rely predominantly on processed foods. Critical to this change were industry, governmental and scientific networks that worked to build trust, convincing consumers that tinned foods were safe and desirable.[89] Over the course of the 19th century in Australia and elsewhere, tinned foods shifted from exceptional to everyday fare. Initially serving disparate markets, tinned foods were either expensive, out-of-season treats, or served long-distance expeditions or warfare needs.[90] Towards the end of the century, tinned foods in Australia were predominantly framed as the food of the lower classes, the military and those living remotely. Australian exported tinned meats were connected with the lower classes, having been 'trialled' in British workhouses and jails.[91] These associations, however, result in a lack of discursive information around the safety of tinned foods.

Canning was developed as way of storing and distributing seasonal and regional abundances. Like mechanical refrigeration, canning was primarily developed in Australia to export surplus meat.[92] Some commentators thought it had the power to preserve indefinitely: 'I have partaken of fish which had been dead ten years…[it] might have been stowed away…for our grandchildren's children, and might have tasted, after that long lapse of years, as well as ever'.[93] Canning was welcomed for its utopian potential. As with many other industrial food technologies such as refrigeration and plastics, it was thought 'technology

[86] Zeide, *Canned*, 10-13. Freidberg, *Fresh*, 244.
[87] Naylor, "Spacing the Can", 1625-39.
[88] Anna Zeide, Canned, 1-9.
[89] Zeide, *Canned*.
[90] Ibid., 14; Katherine Leonard Turner, *How the Other Half Ate: A History of Working-Class Meals at the Turn of the Century* (Berkeley: University of California Press, 2014), 34; Pierre Saunier, "Food Production: Industrial Processing Begins to Gain Ground," in *A Cultural History of Food: In the Age of Empire*, ed., Martin Bruegel (London: Berg, 2012), 27-48; *South Australian Record*, 27 November 1837, 2; *Launceston Advertiser*, 1 April 1841, 1; *Sydney Morning Herald*, 31 July 1847, 3.
[91] *Riverine Herald*, 6 January 1872, 2; *Weekly Times*, 5 February 1887, 4.
[92] Farrer, *Feed a Nation*, 31-33.
[93] *Sydney Morning Herald,* 25 February 1858, 2; Harold McGee argues some tinned foods, like sardines, improve with age, 'like fine wines': food technologists determine 'use-by' dates by when there is 'just noticeable difference' to a food, regardless of whether the difference may be perceived as positive or not. Harold McGee, "On Cans: Another transmission from Harold McGee's Orbital Desk in Outré Space," *Lucky Peach:* 6 (2013), 14-7.

would usher in good society by conquering and taming the fickle nature of food provisioning'.[94] 'Canister-cooking' was a 'great boon conferred upon humanity', an 1858 article proclaimed, 'rendering the superfluities of one land available to others…no matter how remote'. This preservation method offered safety from hunger and want and conflict, according to the author: it 'should, if appearances be not deceiving, do more to unite men in one common brotherhood, than all the treaties which were ever devised by statesmen or signed by kings'.[95] The potential of this technology could not be overstated.

The introduction of food packaging technologies stimulated new food safety issues. As Gabrielle M. Petrick has shown, late-19th century technologies of mass-production such as canning 'both enabled and reduced food contamination'.[96] Reduced because the contamination and adulteration concerns of bulk packaging were eliminated; and enabled because new methods and material combinations introduced new threats. Many deaths and illnesses were attributed to canned foods, with the Australian press reporting local and international episodes.[97] A letter-writer declared there was 'danger in the tin'; that his family had been made ill by tinned fish manufactured by 'Marshall &co'.[98] Seventeen French soldiers in Vitre were said to have died after eating American tinned fish in 1895.[99] In 1897, tinned meat was held responsible for the death a sixteen-year-old boy and the illness of his father, after 'deleterious' canned sheep's tongues produced 'symptoms of poisoning' in NSW.[100] The 'death of married woman' in 1898 was attributed to 'eating fish left in an open tin'; it was an 'unfortunate exemplification of deadly dangers…proved over and over again'.[101] A family exhibited violent pain after consuming tinned jam in 1881, and another five children were made ill in 1910, with the youngest dying.[102] Tinned fruit and vegetables, milk and soup were all recorded as inducing sickness.[103]

But tinned foods as the culprit for illness and deaths was also contested. Because microbiology was not yet used to identify the source of sickness, compromised foods could only be assessed through correlation and epidemiology. Tinned meat was 'no danger at all'

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94 Aaron Bobrow-Strain, *White Bread: A Social History of the Store-Bought Loaf* (Boston: Beacon Press, 2012), 60.
95 *Sydney Morning Herald,* 25 February 1858, 2.
96 Petrick, "Purity as Life", 39.
97 *Evening News*, 1 March 1886, 7.
98 *Age*, 22 January 1887, 4.
99 *Burrangong Argus*, 4 May 1895, 3.
100 *Bendigo Independent*, 21 March 1907, 3; *Kiama Independent*, 28 October 1897, 2.
101 *Clarence River Advocate*, 6 December 1898, 4.
102 *Adelaide Observer*, 19 March 1881, 11; *Register*, 13 July 1910, 7.
103 *Murchison Advocate*, 19 January 1907, 3; *Bendigo Independent*, 19 January 1910, 7; *Daily Express*, 4 March 1930, 1; *Labor Daily*, 1 December 1926, 1.

according to a widely reprinted Melbourne *Leader* article in 1889, and 'lead is certainly not an actively virulent poison'.[104] Illness from tinned foods was less likely than 'from eating the untinned article'. The 'usual explanation', that 'acid juices of the fish or meat settle on the solder' producing poison, was asserted to be actually rare, with few 'authenticated cases'.[105] The exact causes of illness were also disputed. In 1898, for example, it was temperature, not 'metallic or vegetable poisons' were that to blame in an article entitled 'Supposed Poison in Tinned Meat'.[106] One could ask: Were the foods within the tin already 'stale' or 'unwholesome', or was it the metal from the tin or solder leaching into the foods, or perhaps the food's chemical reaction with the metal, caused by exposure to heat, or left in the tin too long, or was the tin compromised leading to the food within to spoil, or the chemicals used to preserve the colour of foods noxious? In 1924, the Director-General of Health for N.S.W. insisted in his experience, it was always 'fresh', rather than tinned, meat that caused sickness.[107]

The material qualities of the tin presented multiple problems. Metal, especially lead, used in 19th century cans, could be harmful. In Australia, newspaper accounts emerged primarily during the later decades of the century, suggesting the increasing prevalence of tinned foods in diets, increasing awareness of the issue, and increased print media.[108] Cans were made from tinplate and soldered shut with an alloy of tin and lead, and metals could leach into the food.[109] Early versions used a soldered 'plug', while later designs isolated the solder from the food by folding the tinplate connection over on itself.[110] Perhaps the most infamous (although now considered unlikely) historical example of this was the ill-fated 1840s British Franklin expedition to find the North-West Passage. The high levels of lead in expedition members' bodies was attributed to the tinned provisions, and was speculated by many to be the cause of death.[111] An 1889 report was adamant in connecting canning methods and sickness; 'consumers of tinned provisions run a serious danger from poisoning through defects in the soldering of the cans'. The report expressed surprise that fatalities were

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104 *Leader*, 28 December 1889, 37; *Queenslander*, 25 January 1890, 168; *North West Post*, 21 January 1890, 4; *Age*, 3 February 1890, 4.
105 Ibid.
106 *Ballarat Star*, 15 March 1898, 4.
107 *Armidale Express*, 15 January 1924, 3.
108 *Queanbeyan Age*, 21 February 1880, 3; *Express and Telegraph*, 8 February 1890, 2; *Burrowa News*, 14 February 1890, 2; *Advertiser*, 12 January 1893, 4.
109 *Burrowa News*, 14 February 1890, 2.
110 CSIR, now CSIRO. CSIR, *Food Preservation Quarterly* Vol. 3 No. 2 (1943), 26.
111 Keith Millar, Adrian Bowman, and William Battersby, "The Erebus, the Terror and the North-West Passage: Did Lead Really Poison Franklin's Lost Expedition?," *Significance* 11, no. 2 (2014): 20-26.

not more common given 'the enormous dimensions' of the colonial tinned fruit and fish trade.[112] By calling on the NSW Government to reject improperly soldered tins upon arrival to the colony, the problem was framed as one concerning imports.[113]

From the end of the 19th century, commercial interests and scientific bodies were united in asserting that lead contamination was no longer an issue.[114] Australian newspapers extracted and re-published information from the British medical journal *Lancet*.[115] As specified by the Victorian 1905 Pure Food Act, lead in solder or metal alloys had to be under 1 percent in the tinplate, or 10 percent in the solder.[116] But lead was not the only metal contaminant of concern. Presumably because of concerns over the use of copper to preserve colour, a 1932 article instructed: 'TEST WITH KNIFE When you have opened a tin of fruit, leave a bright steel knife in the fruit for a few minutes. If there is any copper present, a deposit will be seen on the knife and the fruit must be thrown away'.[117] Until the 1940s, tins were not lacquered or lined, and when foods within were exposed to air, they could react with the metal of the tin.[118] 'Our Cookery School' in 1906 insisted that 'nine-tenths' of illnesses were caused by people failing to follow the rule of removing foods from the tin upon opening.[119]

Fruit juices were able to 'dissolve portions of the tin plate in sufficient quantities to cause sickness', warned a chemist from King's College London in 1878. Therefore 'it would be advisable in future to throw away the syrup contained in fruit-tins, and indeed the whole contents of every such vessel the surface of which is at all corroded'.[120] Two years later, fish was a particular danger: 'There is, from fish, an acid engendered, under certain conditions, which must have a more rapid dissolving effect upon lead in fish tins than is usual with other substances'. Tinned jam, particularly those with acidic fruits, were also of concern, having 'been found in a dangerous state', inducing 'severe illness'.[121] A 'New York expert' was

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[112] *South Australian Chronicle*, 28 December 1889, 5.
[113] Ibid.
[114] *Morning Post*, 23 August 1901, 4.
[115] *Geelong Advertiser*, 13 September 1897, 4; *Register*, 29 March 1923, 4.
[116] *Pure Food Act 1905* (Vic); Small amounts of lead and tin – the result of 'chemical migration from the packaging or from environmental exposure' – in tinned foods are deemed acceptable today. Food Standards Australia & New Zealand, "Survey of Tinned Fruits for Tin, Lead and Arsenic".
[117] *Daily News*, 27 January 1932, 9; *Bendigo Independent*, 19 January 1910, 7.
[118] *Beaudesert Times*, 29 January 1943, 5; *Daily News*, 27 January 1932, 9.
[119] *South Eastern Times*, 14 December 1906, 7.
[120] *Cornwall Chronicle*, 3 October 1878, 3.
[121] *Queanbeyan Age*, 21 February 1880, 3.

quoted in an 1888 article, advising people to avoid tinned fruits altogether, such was the danger of the fruit acid acting with lead.[122]

Particularly problematic in the Australian context, heat was a trigger for releasing dangerous elements from the tin into the food. In one 1884 case, the children and a servant of a family were made ill for days, with the tinned food the suspected culprit: 'Dr. Clarke is of opinion, that some of the spirits of salt, or other chemical used in soldering must have been allowed to enter the tin and render the contents unfit for food'. The heat of the sun, magnified through the glass of a shop window, was thought to have enabled this chemical reaction. 'It would do well', the article cautioned, 'for grocers and others to remember that tinned, food of any kind should not be subjected to the heat of the sun, but kept in the coolest place available'.[123] Chemistry today concurs that heat is problematic for tinned foods, although not for the same reasons Dr. Clarke proposed. Sterilisation methods immobilise, rather than kill, microorganisms below a certain temperature range, but these can re-activate when exposed to higher temperatures.[124]

One 1885 case reveals several concerns around canning, and how globalised discourse was. Five cases of severe food poisoning in Tanunda, South Australia were attributed to tinned fish, sparking an international conversation about the safety of this evolving technology. Apparently the result of tinned herrings from the brand 'Maconochie Brothers', the poisoning was reported as far afield as Aberdeen, Scotland, as the 'head centre' of the trade in tinned fish, and with a 'world-wide reputation' for excellence.[125] Four letters printed in the Aberdeen *Daily Free Press* in January 1886, were republished in the *South Australian Advertiser* three months later.[126] Local Scottish producers were called on to maintain high quality. Cost was the central issue, the letters agreed, with the use of poor-quality materials and adoption of cheap technologies compromising consumer safety.

Sources of potential illness were multiple, yet producers and consumers could protect themselves in several ways, the letters advised. Reminding us of the relationship between branding and unit packaging, it was said that brands 'of long-standing and high reputation' offered consistent quality, but companies had to vie with 'ever increasing' competition through lower costs. Low prices then, were equated with poor quality and danger. Fish, 'stale'

[122] Reprinted from a British newspaper. *Brisbane Courier*, 30 May 1888, 6
[123] *Southern Argus*, 23 August 1884, 2.
[124] Hutton, *Food Preservation*, 9.
[125] *Express and Telegraph*, 17 December 1885, 3.
[126] *Daily Free Press*, 27 January 1886, 2; *South Australian Advertiser*, 6 April 1886, 6.

and of ‘second-class quality…act as an acid on the inside of the tin’.[127] Three of the four letters drew attention to the adoption of new and problematic technologies used to attach lids and cut the expense of employing skilled tinsmiths.

These ‘rotating’, ‘floating or soldering machines’ used dangerous acids, argued one correspondent of the *Daily Free Press*, contaminating the fish and resulting in ‘40 per cent. or more bad tins’, which were nonetheless sent to market. The shape of the tin was an indicator of safety: tins soldered by machines were identifiable by their round shape; oval tins were finished by more trustworthy ‘intelligent’ human labour. These writers did not perceive a trajectory of improving food safety through technological innovation as we have seen with later food safety discourses, but rather framed modern conditions as responsible for poisoning cases.[128] The positioning of human involvement as a sign of safety was increasingly rare in discussions around foods, industrialisation and safety. Instead, as will be shown below, humans were more commonly posed as potential contaminants.

Canning interrupted the sensory assessment of a food’s safeness, or lack thereof. Although the senses could not, of course, identify all food safety issues, they were a critical tool of existing food safety regimes. An early and detailed account of ‘Canister Food’ from 1858 articulated this shift in food safety knowledges and practices: the ‘opaque metal wall prevents us looking into the contents’ to check ‘whether its contents are good’.[129] It was impossible to ‘appeal to another sense for information’. However, the article continued, one could still feel for safety, but rather than handling the food itself, they were to touch the packaging, that is the tin, for distortions and to check the vacuum was maintained.[130] While Zeide has argued tins offered ‘only hard metal adorned by colourful paper’, the foods within – biological, messy and unstable – could disturb and rupture the neat containers, signalling likely food safety issues.[131] Some issues were obvious to a cursory sensory inspection. Although tins ‘broke’ the direct sensory relationship between consumer and food, people were still instructed to make sensory judgements around the packaging, well into the 20th century.

[127] In contrast, good fish kept ‘fresh color’; the tin stayed ‘bright and clear for years’. Ibid.
[128] Ibid.
[129] *Sydney Morning Herald,* 25 February 1858, 2
[130] Ibid.
[131] Zeide, *Canned,* 2.

An 1886 article entitled 'how to select tinned foods' was reprinted at least five times in two colonies.[132] *Visible* material features to avoid addressed improper soldering and sealing methods: those with two holes in the cap, soldered over; those on which a line of resin was not discernible down the side and around the cap of the tin; and tins with rust around the cap were all signs of danger. Consumers were advised to *feel* for distortions in the tin, 'press up the bottom of the tin' and *listen* for the very particular sound of danger, 'if decomposition is commencing, the tin will rattle just as the bottom of an oiler of sewing machine does'.[133] Such descriptions established sensory regimes, particular to a time and place, used to assess the safety of tinned foods.[134] Cultures have different sensory regimes for deciding what is appropriate and what is not, who is and is not, edible and inedible, risky, tasty and so forth. These, of course, are shifting, unstable and mutable.[135]

These guides were paradoxical. At a time when big pushes towards establishing safe food 'facts' through science, rationality and into the 20th century, microbiological and nutritional knowledge, people – specifically housewives – were being told that 'the old ways' of producing and assessing foods were no longer adequate. Yet the same authorities continued to advise consumers to use their senses to ensure the safety of their food, albeit via the packaging and discursive markings. A 1900 article reported sensory checks were used in commercial settings as well as domestic. An 'incomprehensible' food and safety measure was used in a factory, where men were employed to tap tins of meat: 'the trained ear of the expert examiner can tell whether the meat is in a wholesome or a putrid condition by the sound emitted'. Despite the loud surrounds, the men worked in 'total indifference to all sorts of noises about him'; the rapidity at which they worked 'render the procedure a very curious one to watch'. And yet, the reporter wondered, 'the test is said to be practically infallible'.[136] The Prince Rupert Cannery in British Columbia confirms sound was used to test cans until the 1920s, but only for good seals, not putrid meat: 'a clear sound indicated a proper seal, while a

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[132] *South Australian Advertiser*, 6 January 1886, 5; *South Australian Weekly Chronicle*, 9 January 1886, 7; *Express and Telegraph*, 6 January 1886, 5; *Daily Telegraph*, 15 January 1886, 3; *Clarence and Richmond Examiner*, 23 January 1886, 3.
[133] *South Australian Advertiser*, 6 January 1886, 5.
[134] Constance Classen, "Foundations for an Anthropology of the Senses," *International Social Science Journal* 49, no. 153 (1997): 401-412; Mark M. Smith, *Sensory History* (Oxford: Berg, 2007); Andrew J. Rotter, "Empires of the Senses: How Seeing, Hearing, Smelling, Tasting, and Touching Shaped Imperial Encounters," *Diplomatic History* 35, no. 1 (2011): 5.
[135] Rotter, "Empires", 5.
[136] *Goulburn Evening Penny Post*, 28 August 1900, 4.

dull sound revealed an improper seal'.[137] Unsound cans were resealed and recooked. In 1932, the sound of danger continued to be described as 'like a pressed oil can'.[138] Silence was then the sound of safety.

What was hidden by the solid metal cannisters also prompted fears. Declaring the global dimensions of food safety and anxieties around industrial processing and packaging methods, the meat packing scandal of Chicago touched Australian shores. In June 1906, Australian newspaper readers were greeted with stomach-turning accounts: 'what we eat: juicy junks from "The Jungle": Chicago choice chemical chicken: tinned tuberculosis – minced man – potted poison'.[139] Upton Sinclair's novel *The Jungle,* while concerned with industrialisation, working conditions and meat production more broadly, instigated debates around canned meats in Australia as the means by which Australians experienced American meat.

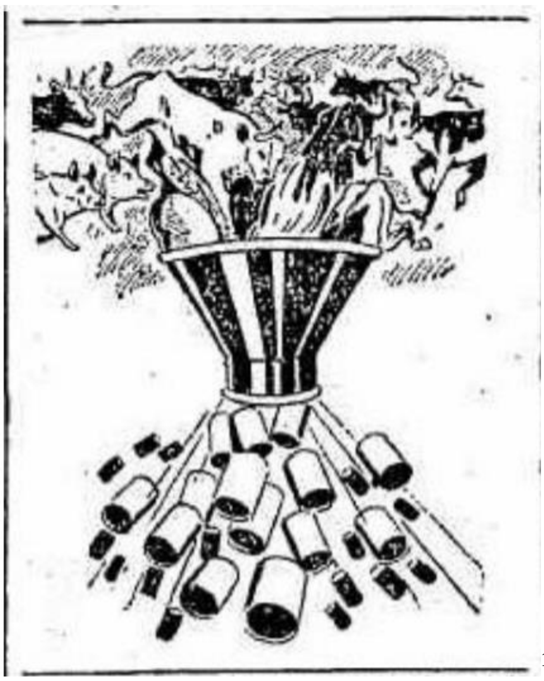
[140]

Figure 17. A visual representation of The Jungle scandal.

The Jungle was said to be in great demand in Australia, and explained by the press as 'exposing the American canned meat trade'.[141] All canned products were said to have come

[137] "Testing," interpretation panel 5.2, Prince Rupert Cannery Museum, British Columbia, Canada (visited June 2019).
[138] *Daily News*, 27 January 1932, 9.
[139] *Truth*, 10 June 1906, 7.
[140] *Newcastle Morning Herald and Miners' Advocate*, 1 August 1906, 5.
[141] *Northern Star*, 21 July 1906, 5; *Week*, 15 June 1906, 5; Published in serial form by the Australian *Worker* newspaper in 1907, *Worker*, 11 April 1907, 17.

out of same ‘hopper’, as figure 17 shows, with no differentiation between hoof or muscle, pig, rat or beef, wholesome or diseased meat, or spoiled hams, revived with borax and glycerine.[142] The ‘Women’s Gossip’ section of the Brisbane *Week* brought fears home: ‘the importations that have reached this market may not alone have included canned meat, but canned men’.[143] Some local authorities were spurred into action. The Victoria Minister for Public Health announced it had ‘decided to take action in regard to inspection and analysis of American canned meats imported into the State’.[144] Those remaining American canned goods on the Australian market evidently suffered a decline in value, with one NSW advertisement running: ‘For Sale. Very Cheap. American Canned Beef and Chicago Sausages’.[145] In September 1906, it was reported that Perth authorities had seized ‘2033 tins of provisions and 144 tins of Chicago potted meat’.[146] A few months later, West Australian ‘vigilant health authorities’ rejected shipments of canned ‘stuff branded Chicago, even though there were no reasonable grounds for suspecting anything wrong with some of the meat’.[147] In this example, public concerns overrode objective assessment.

Chicago meat packers were reported as attempting to entice back customers by literally repackaging their products: ‘one packer is devoting all his energies to booming hermetically sealed bottles and glass jars containing various preparations of meat. He has certificates on each jar, signed by an eminent analyst, guaranteeing the purity of the contents’.[148] By making the meat visible in transparent glass jars, the packer hoped to persuade customers they could ‘see’ the safety of his product. This example exemplifies Toulin’s argument that ‘corporate interests were able to re-direct’ – or rather, repackage – ‘conversations’ of food safety, deploying trusted packaging methods and quality endorsements of experts on the label, a classic commercial trope of the period.[149]

Locally, Australian meat processors also deployed the approval of health authorities and the language of science in advertisements that featured images of their product’s packaging. Appearing to respond to concerns over American canned meat, the Queensland Meat Export Company advertised their canned meats in 1907 alongside bacon, butter and

[142] *Newcastle Morning Herald*, 1 August 1906, 5; *South Coast Times*, 16 June 1906, 18.
[143] *Week*, 15 June 1906, 5.
[144] *Kerang New Times*, 8 June 1906, 2.
[145] *Burrangong Argus*, 13 June 1906, 3.
[146] *Gundagai Times*, 4 September 1906, 2.
[147] *Daily News*, 10 November 1906, 18.
[148] *Bunyip*, 21 September 1906, 2.
[149] Alana Toulin, "‘Old Methods Not up to New Ways’: The Strategic Use of Advertising in the Fight for Pure Food after 1906," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 462.

hams, promising the 'the finest quality of raw material, most scientific methods and up-to-date machinery' (see figure 18). Affirming this promise, the company informed 'there is a duly qualified meat inspector stationed at each of our works'.[150]

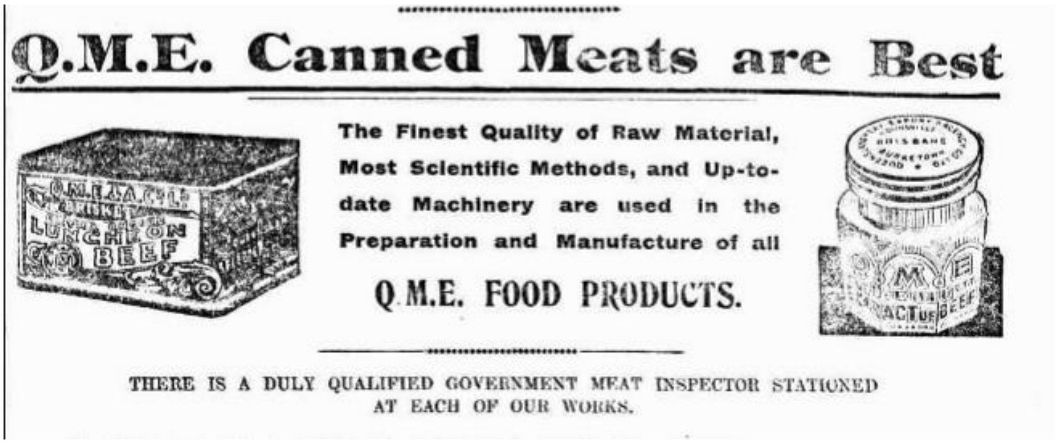

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Figure 18. Packaging as proof of safety, 1906.

In the 20th century, human involvement rendered the canning process risky, print media reported. The NSW Public Health Commissioner, Dr. J. Coffey, placed blame for illnesses on domestic production, tinned foods 'prepared at home and not properly sterilised'.[152] Both industry and scientific bodies equated packaging and machinery with safety. A British co-authored Ministry of Food and Ministry of Health report, reprinted in the CSIR *Food Preservation Quarterly* in 1942, and in the Australian press in 1943, praised packaged foods for being prepared by machinery, 'handled less', sterilised post-packing, and 'tested by the makers'.[153] The report also posed consumers as liable for their own health, advising 'whenever a can of food is brought for storage, and not for immediate consumption, the date of purchase should be written in ink on the label'.[154] The amount of time the can had been stored for pre-purchase did not seem to be an issue. By this rationale, industrialised canning removed people (and thus danger) from the production process, prevented contact with the food in distribution, and so shifted safety concerns into the home.

By the 1950s, anxieties over tinned foods, mirroring broader shifts toward safety as health – discussed in chapter five – moved to the safety of long-term nutritional health.[155] As

[150] *Telegraph*, 7 August 1906, 11.
[151] Ibid.
[152] *Northern Miner*, 17 October 1932, 3; *Western Mail*, 19 July 1923, 19; *Recorder*, 28 August 1932**,** 1.
[153] CSIR, *Food Preservation Quarterly* Vol. 2 No. 3 (1942), 26; *Beaudesert Times*, 29 January 1943, 5.
[154] *Beaudesert Times*, 29 January 1943, 5.
[155] Eirlys Roberts, "Consumer Protection in Foodstuffs: (a) The Consumers' Questions," *Royal Society of Health* 79 no. 5 (1959): 614-6; *Healesville and Yarra Glen Guardian*, 6 October 1928, 6; *Mercury*, 18 November 1936, 13; *Glen*

a packaging material and a new industrial food, tinned foods demonstrate shifting concerns over material qualities, a changing sensory relationship between food and the senses, altering perceptions of sites of danger, and points to the rise of nutrition. A case study of cardboard and paper further develops the relationship between packaging and food safety.

Cardboard and Paper

Cardboard and paper exist in a long trajectory of packaging innovations derived from wood or other plant-materials, such as baskets, barrels, and crates. While having long histories, their use for food packaging is surprisingly recent. Wood pulp, for example, was not commercially produced until the 1850s, and the paper bag machine invented in 1852.[156] By the end of the 19th century, paper-making technologies had developed sufficiently to allow for the mass-production of packaging materials, to the extent that in 1902, an article characterised the times as ‘the paper age’.[157] Folded cardboard cartons were first mass-produced in America around 1880 and were quickly refined to be able to carry liquids as well as dry products. There were other forms of cardboard cartons, such as the stitched ‘set-up boxes’, but folded cartons were more easily mass-produced, cheaper, and thus more commonly used for a range of food products.[158] By the 1900s, speciality papers had been developed for specific food storage purposes: grease-proof and water-resistant papers could be used for butcher’s paper and baked goods.[159] Beyond their material qualities, paper and cardboard were unmatched for their ability to carry printed branding messages (see figure 19), a central function of packaging.[160]

Innes Examiner, 14 January 1952, 5; *Murrumbidgee Irrigator*, 23 June 1953, 2; *Western Herald*, 5 August 1955, 5; *AWW,* 15 November 1947, 41; *Australian Woman's Mirror,* 31 October 1933, 42; *AWW,* 29 June 1946, 49.

[156] Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 19; Richard Coles, Derek McDowell, and Mark J. Kirwan, eds., *Food Packaging Technology* (Oxford: Blackwell Publishing, 2003).

[157] *Western Champion and General Advertiser for the Central-Western Districts*, 14 December 1902, 2.

[158] Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 19, 38-41, 46.

[159] Ibid., 41, 27.

[160] Ibid.

[161]

Figure 19. Advertising on cardboard cartons, 1935.

Paper and cardboard transformed the way foods were distributed and gradually altered standards of hygiene. Examining the discourse of marketing messages around paper and cardboard reveals the ways people were instructed about food safety, and how recent germ theories and public health movements contributed to this discourse. Moreover, packaging discourses demonstrate how companies located food safety danger sites in different spaces in order to promote their product. Reports of new packaging technologies were appreciative, indicating the significance of packaging innovations to everyday lived experience, and the novelty of what is today considered banal and disposable.

US brand Quaker Oats was, in 1877, the first cereal company to market in folded cardboard cartons.[162] Advertisements printed in the Australian press in 1900 related that the ‘purified’ oats were ‘put up in two-pound sealed cartons only to exclude the air and dust and to insure getting what you buy’.[163] Packaging then not only provided safety from potential contaminants, but safety from adulteration and imitation. The customer could be secure in knowing Quaker Oats were safe, not because the oats could be sensorially checked, but because the packet *told* the customer what they were buying, and the sealed package protected the oats: ‘be sure that every package bears the Quaker name and trade-mark’.[164] Loose oatmeal, it was then implied, offered none of these benefits, travelling from the

[161] *Food*, January 1935, 16.
[162] Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 43.
[163] *Australasian*, 21 April 1900, 32.
[164] 30 April 1900, 2.

manufacturers without protection, to the grocer, where it was further exposed to potential contaminants and the nefarious activities of the untrustworthy grocer.[165]

Twede et al. have argued that the Uneeda packet – crackers wrapped in colour-printed waxed paper inside a 'tray style carton' – released in 1896, represented 'the birth of modern packaging': not for its structural or protective properties, but for the ability to carry messages from the producer to the consumer. The packet became 'a sales tool' thus performing 'a most central role in the branded consumer product revolution'.[166] Brands, as discussed in chapter two, came to stand in for the sensory assessment of food safety, offering consistency and reliability.

Cartons concealed food and its quality and quantity. While companies advertised their protective qualities, 'for much of history, cartons have implied something special that goes beyond the product'.[167] Evident here is a tension of packaging more broadly: packaging increased both the potential risk, in hiding the food, but also the potential social status offered by the commodity in embellishing meaning around the food. Skipping forward to the 1920s, for McAlpin's flour that 'special' something was safety. Emphasising their hygienic packaging methods to encourage brand loyalty, the company invited readers into the factory to, 'come and see <u>our</u> flour packed' by their 'automatic filling' system (figure 20).[168] Images depicted declared scientific and sanitary premises, with workers dressed in the obligatory hygienic white, tending machines that contained flour within 'Germ-Proof Cartons'. McAlpin's reiterated their transparent production and trustworthiness: 'ask to see <u>your</u> flour packed'.[169]

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[165] *Yass Evening Tribune*, 30 April 1900, 2; Spellman, *Cornering the Market*, 6-7.
[166] Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 42-3, 45.
[166] Ibid.
[167] Ibid., 46.
[168] McAlpin's Flour, "McAlpin's Flour," Museums Victoria Collections; *Punch*, 30 May 1901, 44.
[169] Ibid.

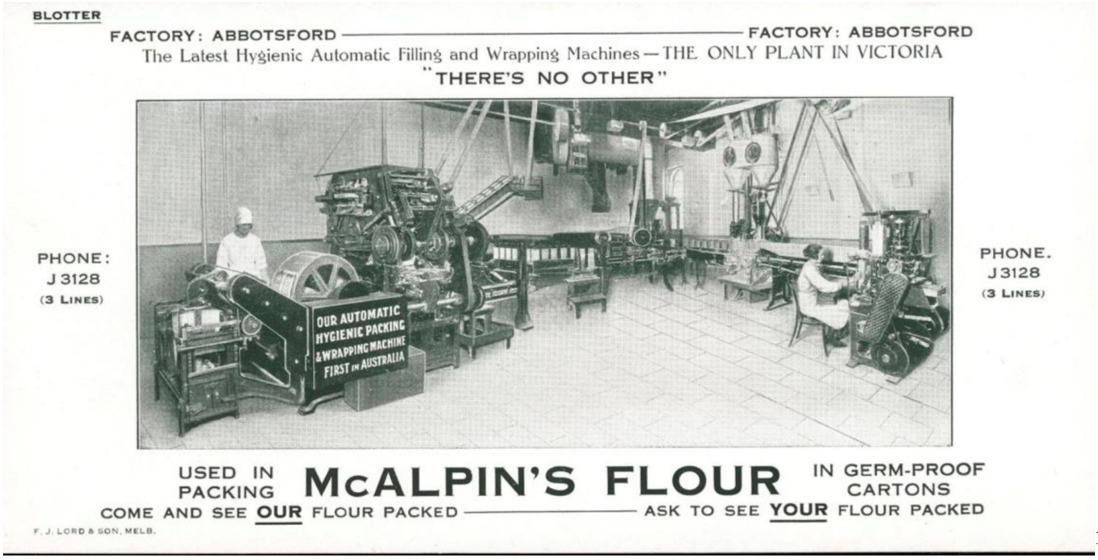

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Figure 20.Factory safe, McAlpin's Flour, circa 1920s.

In the 1920s, waxed paper received considerable attention and print space as a novel packaging method and a mark of progress in hygiene standards.[171] Bread was framed as the 'staff of life' in Australian diets, an important food that had to be protected.[172] As early as 1915, articles detailed research into the most protective kinds of paper, and also on findings of microbial growth on unwrapped vs wrapped bread.[173] British studies, it was reported, found one in five delivered loaves carried streptococci, and at the most extreme, studies associated unwrapped bread with cancer.[174] The introduction of waxed paper by bakers was commonly greeted by newspapers appreciatively, as in a 1925 edition of the *Mirror*: 'waxed paper: no longer will Fitzroy residents consume quantities of microbes and grit with their daily bread'.[175] Commercial interests also framed packaging as the key to safety: in 1930 the 'pure white waxed paper' that contained 'Sheekey's Cakes and Breads' was said to be the 'pinnacle of modern hygiene'.[176] In each of these sources, packaging bread in waxed paper was offered as the infallible solution to food safety threats.

Overseas developments and differing opinions about the need for packaged bread were discussed by local newspapers. In the 1920s, it was observed that the formerly standard 'green lotus leaves' bread-wrappers of Shanghai had been replaced, with authorities

[170] Ibid.
[171] *Maitland Daily Mercury*, 29 October 1923, 4; *Telegraph*, 7 May 1925, 5; *Saturday Journal*, 16 February 1924, 13; *Examiner*, 25 September 1926, 2.
[172] *Daily Mail*, 22 May 1925, 13.
[173] *Grenfell Record*, 17 September 1915, 3.
[174] *Mercury*, 20 May 1924, 3; *Daily Mail*, 22 May 1925, 13.
[175] *Mirror*, 5 September 1925, 2.
[176] *Yass Tribune-Courier*, 16 October 1930, 2.

introducing regulations stipulating that bread and bakery products must be contained within waxed paper.[177] A ‘commercial intelligence’ column doubted demand for wrapped bread and pointed to New Zealand, where wrapping machines had been abandoned.[178] A reader, signing off as ‘Clean Loaf’, asked ‘why cannot we have clean bread in Melbourne?’, offering American practices of hygienic wrapping as the ideal exemplar.[179] Nearly three decades later, in 1955, the trend towards packaged bread in Australia remained ‘increasing and likely to be universal within a generation’, as confirmed in the description of a Melbourne display factory at the ‘Better Food Exhibition’ entitled ‘revolutions in speed and hygiene’.[180] In 1959, another report hailed the appearance in communist Russia of white bread in waxed imprinted paper, which ‘at a distance might be taken for any big British or American chain store or bakery brand’…it was a ‘revolution in a people’s progress’.[181] Yet contemporaneous articles suggested that wrapped bread in Australia was hardly the norm, nor was it universally desired, with only ‘leading bakeries’ in Australia said to sell machine-wrapped bread.[182]

Reasons for resistance to wrapping bread from the bakers themselves were multifaceted, and brought them into conflict with public health authorities and housewives’ associations.[183] Packaging costs would be ‘prohibitive’ for most bakers, and ‘would force many small bakers out of business’, reminding us that food safety regulations could and did benefit larger operations.[184] Beyond the expense of wrapping bread in paper, or later cellulose, bakers objected to the standardisation (discussed in chapter three) such changes would require: ‘instead of the choice of 11 or 12 shapes of loaves’, customers ‘would have to accept a standardised rectangular loaf’.[185] Housewives would no longer be able to ‘specify under-baked, over-baked or especially crusty loaves’, but ‘take what was given to them in the sealed envelopes’.[186] ‘The public demand was for fresh bread’, argued the Melbourne and Suburban Master Bakers Association in 1936, and cooling bread for wrapping would mean an

[177] *Maitland Daily Mercury*, 29 October 1923, 4.
[178] *Argus*, 10 December 1927, 32.
[179] *Herald*, 18 February 1929, 6.
[180] *Argus*, 27 January 1955, 25.
[181] *Canberra Times*, 22 May 1959, 18.
[182] *Biz*, 3 September 1953, 11; *West Australian*, 2 March 1949, 3; *Herald*, 9 June 1949, 10; *Western Herald*, 18 March 1960, 1; *Age*, 16 April 1953, 2.
[183] *Weekly Times*, 21 February 1920, 49; *Border Watch*, 1 December 1951, 9; *Sunday Times*, 15 March 1953, 4; *Mail*, 11 December 1954, 62.
[184] *West Australian*, 10 March 1949, 6; *Newcastle Morning Herald*, 9 October 1940, 4; Toulin, “Old Methods”, 461-79.
[185] *West Australian*, 10 March 1949, 6; *Argus*, Friday 28 August 1925, 13; *Newcastle Morning Herald*, 9 October 1940, 4.
[186] *Argus*, 28 August 1925, 13.

unacceptable delay.[187] Bakers equated fresh bread with hot bread for Australian people – 'we like it hot' – and because hot bread could not be packaged, consumers would not then be able to access 'fresh' bread.[188] Bread would become 'soggy' and unfit to eat if not cooled for several hours.[189] Bobrow-Strain has observed in America, methods of safety assessment changed with the introduction of wrapped bread. Unable to see, smell or feel to judge the actual loaf, consumers could still squeeze the packaged loaf, and so 'softness [became]…proxy for freshness', which in turn, lead to the production of softer bread.[190]

But more than fresh or soggy, countered other bakers, wrapping bread introduced different food safety threats such as 'fungus growth or mould'.[191] Wrappers would enable bakers 'to dispose stale bread' on customers.[192] Mr Elfum, representative of the aforementioned baker's association, firmly rejected calls for bread packaging by the Commission of Public Health in 1925. He dismissed stories of unhygienic delivery men: 'any self-respecting' baker understood a 'clean and tidy' carter was an 'advertisement to his round'; and praised the quality and safety of the product: 'as a general rule, bread is delivered clean and crisp, as uncontaminated as it comes from the oven…I have never heard of anyone suffering in the slightest from eating bread as we deliver it today'.[193] He concluded: 'the germ theory can be overdone'.[194]

The loaf of bread was framed as being most at risk of contamination during the delivery phase, yet the housewife was held most responsible for ensuing its safety. On leaving the bakery or factory, loaves were handled by multiple people; open delivery carts exposed bread to flies and dust, and, as reported in 1953, bread was delivered 'by the armload by a shirtless singlet-less and profusely perspiring delivery man'; who, others said, left bread on door-steps and window-sills.[195] A 'visiting American' – apparently an authority purely as a citizen of the nation with the most ideal food hygiene practices – was scathing of local habits in 1938. He deplored the practice of unwrapped bread being left on dirty doorsteps and so forth, but most of all decried 'the Australian housewife's acceptance of carelessly handled and consequently germ-laden foodstuffs'. In his opinion, 'law should specify the wrapping of

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[187] *Argus*, 24 November 1936, 4.
[188] *Newcastle Morning Herald*, 9 October 1940, 4.
[189] *Argus*, 24 November 1936, 4.
[190] Bobrow-Strain, *White Bread*, 57.
[191] *West Australian*, 10 March 1949, 6.
[192] *Geelong Advertiser*, 13 May 1926, 3.
[193] *Argus*, 28 August 1925, 13.
[194] Ibid.
[195] *Sunday Times*, 15 March 1953, 4.

all bread in cellophane or wrapped paper, and, furthermore, should prevent the handling of edibles by human hands'.[196] For this American, packaging offered the solution to unsanitary practices such as human contact, and while government intervention has a role, housewives needed to step up as the gatekeepers of food safety. However, women were indeed active in this space. The 'Housewives' Association' of Victoria, for example, lobbied 'to have bread wrapped in the bakehouses and delivered in sealed packages'.[197] Pressure continued: in 1953, the '*Sunday Times* suggests that the housewife becomes her own inspector and demands that bread is treated as a basic food item should be – with respect for the health of members of the family unit'.[198] Overwhelmingly, it was not expected that the deliveryman would improve his hygiene, or the bakery enforce safety in delivery, but for the woman of the house to observe and demand hygienic practices.

Where wrapping foods – more broadly than bread – for the journey between shop and home was common practice, the kind of paper used was vital. Newspaper was a problem, as a 1953 article elaborated: 'it is high time housewives were made aware of the source of much of the newspapers they customarily accept from shop-keepers as wrappings for their food purchases'.[199] Another argued 'housewives should not accept grimy, torn-up newspapers as suitable wrappers for such commodities as fish, or meat'. Only clean papers could protect foods from threats such as flies, 'those winged enemies of health'. Dirty newspapers were contrasted with 'proper paper sheets', and waxed paper was the 'simplest and most hygienic method of protecting moist or greasy food while in the shopping basket'.[200] For housewives to play their role in keeping their family safe, knowledge was key, but regulations also played a role.

Government authorities drew attention to packaging malpractice, and regulations were introduced early on. The Victorian *Pure Food Act, 1905* was reported in a newspaper as legislating against the use of second-hand paper or newspaper for the wrapping of bread and meat, and these two items of food were specified to be protected 'from flies and dust' in transport.[201] The Act did not make the explicit packaging provisions as stated by the

[196] *Daily Mercury*, 18 October 1938, 8.
[197] *Herald*, 4 November 1936, 28; *Glen Innes Examiner*, 26 November 1936, 2; see also, Judith Smart, "The Politics of Consumption: The Housewives' Associations in South-Eastern Australia before 1950," *Journal of Women's History* 18, no. 3 (2006): 13-39.
[198] *Sunday Times*, 15 March 1953, 4.
[199] *Record*, 30 January 1953, 1.
[200] *Avon Argus*, 3 July 1952, 6.
[201] *Kerang New Times*, 12 October 1906, 4; *Pure Food Act,* 1905 (Vic).

newspaper, but may have provided for them through the establishment of the Food Standards Committee. Consumer concern, as evident in newspapers, suggested that these requirements were not necessarily enacted. In 1909, the Victorian Board of Public Health reported that bakers and butchers had been found to be wrapping bread and meat in second-hand newspapers 'in various soiled conditions'.[202] By the 1930s, court cases emerged dealing with inadequate packaging of foodstuffs. In 1931, a defendant pleaded guilty to the 'failure to protect a foodstuff as required by law'.[203] While newspaper was acceptable as an outer layer, an in-between barrier was required. The butcher had used 'insufficient white paper' in wrapping meat in newspaper – the piece of paper was 'too small'.[204] Another butcher in 1950 was fined for using second-hand newspapers to wrap meat 'when by-laws specified only white or brown paper to be used'.[205] It was not the dirtiness of the newspaper here that risked contaminating the food within, but the ink used: the food was 'not wholly protected from print'.[206]

Cardboard, like waxed paper, was offered as more hygienic than older forms of packaging. Cardboard milk cartons were sometimes positioned as better than glass in the 1920s and 1930s despite, as a Sydney newspaper claimed, 'for years the public [having] been educated to believe that the distribution of milk in sealed glass bottles was the ideal and most sanitary method'.[207] What had previously been held as the gold standard of packaging hygiene was under attack for the very same reasons it had been lauded. Glass's transparency was problematic because it 'let light in', causing the souring of milk left in the sun.[208] Opaque waxed cardboard was posed as the alternative, for its ability to prevent light contamination, but also for its disposable qualities: one of the 'principal advantages' was that the cartons 'cannot be used a second time; they are thrown into the rubbish heap or furnace as soon as empty'.[209]

The inability to reuse the container was framed as a benefit from a hygiene point of view, and disposability – for the convenience offered – was proposed as a major selling point for packaging in the first half of the 20th century. Cartons were still reported in 1954 as a

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[202] *Age*, 8 April 1909, 11.
[203] *Traralgon Record*, 2 July 1931, 2.
[204] Ibid.
[205] *Collie Mail*, 17 August 1950, 7.
[206] Ibid.
[207] *Sydney Morning Herald*, 14 October 1933, 9.
[208] *Northern Star*, 6 February 1924, 10.
[209] Ibid.; *Week*, 4 January 1924, 5.

novelty for local audiences: 'quite milk proof', cartons were also 'probably more hygienic than glass', again because they were mechanically filled and thus uncontaminated by human contact.[210] The 'occasional' dirty glass milk bottle was still a problem, with sterilisation not yet perfected.[211] Continued trust in glass packaging as a sign of safety reminds us of the gap between science and popular knowledges.

To conclude this case study and show how multiple discourses of safety were drawn together around paper and cardboard, we return to the 1920s. A 1926 JelleX advertisement illustrates how the themes of correct packaging, factory production, modernity, women's choices and food safety were connected. It warned, 'danger lurks in hand-packed jelly dessert!', then reassured, 'but new machine-packed jelly protects children from bacterial risks'. Jelly was a food transformed by industrialisation. Previously requiring the extraction of gelatine from the bones and cartilage of animals, the production of jelly was a labour-intensive, visceral and disagreeable process.[212] A later 1929 advertisement implied other jellies retained traces of less palatable origins, but described the JelleX product as 'free from gummy taste or gluey odour'.[213] While available in pre-packaged form in the early 20th century, safety risks remained, according to the JelleX promotion. The unseen human hand presented a contamination risk to food, whereas the machine protected, and housewives and mothers made choices to protect their families:

> Australian mothers are forsaking old-style, cheap, hand-packed jellies in favour of the new, quick-gelatine dessert – JelleX – in its airtight waxed paper satchels that bring this new delicacy to you so clean, fresh and wholesome. Wonderful automatic machines – bright and shining clean – to make, fill, and seal these unique bags into cartons…[214]

By 1929, these machines had become 'almost human, hygienic machines'.[215] More than simply ensuring the safety of the food contained within, double-wrapped JelleX trapped the goodness of nature, the 'tempting scent of sun-ripened fruit', and secured health for the family: 'famous food analysts say…[JelleX] brimming full of protein…aids easy

[210] *Western Mail*, 25 March 1954, 72.
[211] Ibid.; *Central Queensland Herald*, 14 February 1952, 27.
[212] Abbott wrote 'Sheep's feet are generally thrown away in Australia, although they…are delicate for jelly', but does not specify for savoury or dessert jelly. Edward Abbott, *The English and Australian Cookery Book: Cookery for the Many, as well as for the "Upper Ten Thousand"* (London: Sampson Low, Son, and Marston, 1864), 21; Isabella Beeton, *Mrs Beeton's Household Management* (London: S. O. Beeton, 1861), recipe 1411.
[213] *Mercury*, 14 December 1929, 8.
[214] Ibid.
[215] Ibid.

digestion…and increases nourishment from other foods'.[216] As will be shown in chapter five, safety and nourishment went hand-in-hand. Packaging, here and in other examples throughout this chapter, signified control over the food contained within and over nature, in all its biological messiness.

Plastic

Plastic packaging, so ubiquitous and problematic today, is a relatively recent innovation. In the words of Jeffrey Meikle, the substance changed 'the material texture of everyday life'; for Gay Hawkins, it 'acquired governing capacities' in changing behavioural norms.[217] I argue it altered daily lives as well as food safety knowledges and practices. Plastic food packaging only became pervasive after 1964, but it is possible to begin to explore the material's introduction and interaction with food safety. Like canning (and refrigeration, discussed in chapter seven), plastic was hailed as a utopian ideal, an alternative to scarce natural resources such as ivory, and it would lead to the democratisation of formerly exclusive consumer goods.[218] Plastic was evidence of progress and promised wellbeing for all, as a 1953 promotion claimed: 'plastics for everyone...for healthier modern living'.[219]

Plastic is a term that came to be used to refer to a category of new materials 'united by similar manufacturing processes, shared markets, and a common name', developed in the late 19th and 20th centuries. The word 'plastic' was a reference to the quality of malleability when melted, and rigidness or flexibility when set, 'unlike anything known to nature'.[220] Up until the 1960s, plastic described both plant-based materials known by trade names such as 'Cellophane', 'Diophane', 'Glassine', and synthetic plastics such as nylon or polyethylene.[221] In this period of innovation, research on plant-based materials (derived from, for example, sugar, potatoes and milk), competed with research on synthetic, petroleum-based materials for the plastics market.[222] Celluloid, for example, was made from natural cellulose – 'pulped cotton nitrated in acid to form nitrocellulose'.[223] Cellophane, an organic cellulose material,

[216] *Argus*, 26 October 1926, 4.
[217] Jeffrey L. Meikle, *American Plastic: A Cultural History* (New Brunswick, NJ: Rutgers University Press, 1995), 186; Gay Hawkins, "The Skin of Commerce: Governing Through Plastic Food Packaging," *Journal of Cultural Economy* 11, no. 5 (2018): 401; Rorie Parsons, "The Role of Plastic Packaging in Transforming Food Retailing," *British Food Journal* (August 2021).
[218] Meikle, *American Plastic*, xiv, 10, 14.
[219] "Plastics Week: An *Argus* Souvenir," *Argus*, 8 September 1953, 20.
[220] Meikle, *American Plastic*, 5, 99.
[221] *Sydney Morning Herald*, 29 July 1958, 17.
[222] *Northern Star*, 29 August 1931, 5; *Cobram Courier*, 29 March 1939, 5; *Daily Mercury*, 11 September 1939, 3; Meikle, *American Plastic*, 1.
[223] Meikle, *American Plastic*, 11, 19-20.

hailed as 'launch[ing] the flexible packaging revolution', was the 'ultimate wrapping "paper"', being transparent, flexible, attractive, and forming a moisture-barrier around foods.[224] It was synthetic plastics that came to dominate.

Again, warfare instigated innovations that dramatically changed foodscapes. World War Two saw extensive development and up-take of synthetic plastics for military purposes, and post-war saw a massive commercialised expansion.[225] Newspapers anticipated a packaged-food future for Australia, again turning to the US: in 1946 America, it was reported, 'prepared food now available in slot machine', with popular food vending machines turning out a 'piping hot hamburger or "hot dog" wrapped in cellophane'.[226] Plastic also helped eliminate the messy job of mixing colour through margarine by containing the margarine and colour capsule within a 'kneadable' plastic bag. (Yellow-coloured margarine was banned to avoid confusing the substance with butter.) By 1954, polyethylene, a plastic particularly used for food packaging and film, was produced in Australia by Imperial Chemical Industries.[227] In 1957, another milestone of everyday culinary infrastructure, the first plastic sandwich bag on a roll, was produced.[228]

[229]

Figure 21.Transparency and flexibility were features of plastic emphasised in this promotion.

[224] Twede, Selke, Kamdem, and Shires, *Paper and Wood Packaging*, 32; Hisano, "Clear Packages", 153-166.
[225] 'Plastics are a warrior and a homebody', "Plastics Week: An *Argus* Souvenir," *Argus*, 8 September 1953, 19; Meikle, *American Plastic*, 166.
[226] *Telegraph*, 4 September 1946, 4.
[227] *Advertiser*, 8 October 1953, 6.
[228] Risch, "Food Packaging History," 8090.
[229] *Sydney Morning Herald,* 16 March 1958, 86.

By the early 1950s, the new material was gaining associations with food safety protection. Plastic coverings and wraps were being suggested by public health authorities as ideal ways to 'banish food danger' and preserve foods.[230] The wonderous qualities of such domestic packaging plastics were seemingly endless (see figure 21 for example). It was: 'transparent, tasteless, odorless, tough, durable, thermoplastic, pliable and moisture-proof, yet permeable to carbon dioxide. It is not attacked by insects or vermin and moulds will not grow on its surface, nor can their spores or mycelia pass through the film'.[231] The 'astonishing properties' of a new transparent wrapping film – alkathene, a low-density polyethylene – were described by columnist Sarah Dunne in the domestic sections of several 1950 newspapers.[232] The 'new housekeeping aid' had been introduced at the William Angliss Food Trades School and was said to resolve many 'home food storage' problems: 'stale odours' of foods kept in containers were prevented, vegetables kept perky, bread cut the previous night was 'just like new', moist foods retained their natural moisture and dry foods stayed dry. Importantly, reports also noted that the plastic film was 'non-toxic and odourless', and not affected by food acids.[233]

Covered and contained food, as indicated by these early plastic film promotions, was synonymous with safe food. 'FOOD preservation is the first law of life', announced a 1953 newspaper special on the material, 'plastic packaging has brought hygiene, economy and simplicity, also attractiveness, to the delivery of fresh food over long distances'.[234] The feature, like many others, sought to address the apparent lack of knowledge around the material: 'to many, plastics are still substitutes' for wood or metals, but 'they are materials in their own right'. The rhetorical question and answer was posed: 'would you throw a glass dish on the floor? You would not'. Those who did not know such things would be considered 'woeful uninstructed…Yet there are many people who are just as unaware about plastics'.[235]

The theme of unfamiliarity was present in other articles too. The women's page of a 1954 edition of the Melbourne *Weekly Times* advised: 'if you have not used plastic bags, do try them out. I think they really are an asset to the home, and they are so cheap'. Plastic packaging solved several issues of refrigeration: 'They do not take up so much space as dishes in the refrigerator or ice chest', and were 'so handy for keeping vegetables and food

[230] *Townsville Daily Bulletin*, 29 September 1952, 5; *Forbes Advocate*, 9 January 1951, 2.
[231] *Singleton Argus*, 24 July 1950, 3.
[232] *Newcastle Morning Herald*, 22 May 1950, 5; *Herald*, 15 May 1950, 11.
[233] *Newcastle Morning Herald*, 22 May 1950, 5; *Herald*, 15 May 1950, 11.
[234] "Plastics Week: An *Argus* Souvenir," *Argus*, 8 September 1953, 16.
[235] Ibid.

from being tainted. They will keep your bread fresh'. No mention was made of increased chances of mould because of the moisture barrier provided by plastic. Safety from odour contamination was a strong theme that emerged in discussions of plastic and food. The same 1954 column said: 'If you have been wondering where on earth you can put that smelly gorgonzola cheese where it will not pollute the air, wrap it in a plastic bag'.[236]

Four years earlier the new wrapping was 'a plastic type of paper which revolutionises the storage of food', preventing cross-contamination of foods stored 'in a closed space', and keeping foods fresher for longer.[237] Another 1950 article described bags, available in Perth shops, that mimicked paper grocers' bags 'for the storage and protection of perishable foods and commodities'. The article also gave safety advice, significantly noting that they could be 'washed with soap and water', suggesting they were not then perceived as disposable or single use.[238] Another source confirmed that plastic film could be 'used again and again'.[239] Plastic also stepped in when gaps appeared in the packaging market: In 1951, a paper shortage lead to Adelaide butchers offering for sale plastic wrapping or fruit bags – 'permanent and hygienic containers' – for those customers who did not bring their own packaging.[240]

Plastic furthered the interruption of sensory relationships to food. Sight, as Ai Hisano has argued, became the dominant sense in assessing food in clear wrappings, such as cellophane.[241] Although other senses were blocked by plastic barriers, 'clear packages provided consumers with a new way of understanding product quality', and introduced 'a new kind of visual regime, which rested on commercial intent, gendered narratives and technological manipulation'.[242] A 1934 article describing improvements in the handling of food, harked back to earlier established food safety understandings, praising cellophane particularly because of its transparency: 'Goods wrapped in it are as plain to the eye as if they, were in glass, yet are safe from any contamination, and are kept from getting either too damp or too dry'.[243] For Willis, plastic was 'a transparent skin between the consumers hand and the object. Shaped and naked, but veiled and withheld, the display of commodities is

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[236] *Weekly Times*, 28 April 1954, 44.
[237] *Herald*, 20 September 1950, 22.
[238] Entitled, "Plastic Bags That Save Food", *West Australian*, 16 September 1950, 25; Similarly, plastic was reusable, thus economical: "For Food Storage", *Newcastle Morning Herald*, 22 May 1950, 5.
[239] *Herald*, 20 September 1950, 22.
[240] *News*, 27 July 1951, 2.
[241] Hisano, "Clear Packages", 153-166.
[242] Ibid., 153.
[243] *Telegraph*, 13 April 1934, 12.

sexualized'.[244] The naked female form enveloped in plastic in figure 22 strikingly illustrates her claim.

[245]

Figure 22. Plastic promotional material, 1938.

Australian company Sunwhite Rice associated plastic packaging as key to knowing the safety of their product: 'sealed in hygienic, transparent packets and branded for your protection'. The safety of Sunwhite Rice was visible in 1956: 'you SEE the large whole grains…untouched by dust or handling'.[246] In 1963, the brand was still advertising 'sealed hygienically in transparent packs'.[247] For the home, plastic film was also promoted for its see-through quality.[248] 'Attractive coloured transparent plastic' moulded food storage containers, were promoted as ' odourless, tasteless and hygienic' in 1954.[249] But the correlation between the transparent qualities of plastic packaging and hygiene, and female responsibility, were best summarised by Australian Cellophane Pty Ld. in 1955:

> Housewives the world over know that products packaged in "Cellophane" are factory fresh, protected against germs, flies and dirt. They do not buy a package – they buy the product and 87% of purchases in food stores are

[244] Willis, *A Primer for Daily* Life, 4.
[245] *British Omnibus of Marketing and Packaging* (London: Creative Journals, 1938), n. p; Diophane and Cellophane were plant-based plastics. Dixie A. Dean, "Films, Foils and Laminations (Combination Materials)," in *Pharmaceutical Packaging Technology*, ed. Dixie A. Dean, E. Roy Evans, and Ian H. Hall (London: Taylor and Francis, 2000), 264-5.
[246] *AWW*, 1 August 1956, 30.
[247] Later, the company co-advertised with Tupperware plastics. *Canberra Times*, 24 May 1963, 25.
[248] *Daily Advertiser*, 3 February 1954, 4.
[249] *Argus*, 19 October 1954, 3.

> made on sight. Mrs. Shopper rightly demands to be able to see the product.[250]

Apparently drawing on consumer research, cellophane packaging was glass-like, offering an aesthetically pleasing visual connection to the foodstuff while protecting from contamination, and sealing in the 'factory freshness' of processed goods.[251] Again, industrialised food production, packaging and food safety were conflated.

Plastic also modified the properties of some foods. Just as the consistency of bread was changed by its packaging in paper, then later plastic, the colour of meat varied when not exposed to air. Altered colours undoubtably challenged existing food safety understandings. As Hisano argued, 'food colour was expected to convey sensory knowledge that consumers understood, and helped them imagine the taste, smell and texture of a product'.[252] Food safety knowledges had to be remade. The altered colour of meat wrapped in plastic was framed as a sign of safety in a 1951 newspaper report: 'a hygienic pack protecting the meat from contamination; the meat had a pink "bloom," not a dark look'.[253] In this way, people were taught that quality, fresh and safe meat should be pale pink, and not oxidise and turn the darker tone meat gains as it ages. A 1958 'new materials' special in the *Sydney Morning Herald* detailed how cellophane packaging allowed fresh meat to 'retain its natural bloom'.[254] Chemical preservatives became increasingly common in assisting with discolouration of meat in plastic packaging, ensuring the 'correct' colour of safe meat.[255]

The new packaging material received very little negative press in this period. Plastic chemicals leaching into food was an issue raised as early as 1949, but was posed as an issue of knowledge and identification, rather than a problem of the material itself. A report on the 1949 Plastics Institute of Australia Conference explained the problem: 'unlabelled plastic goods could be either a menace or useless'. The need was for the differentiation between different types of plastic: 'Cups had been made in Australia from a plastic which contaminated milk, and some plastic goods, if boiled in water, would break up'.[256] There were suggestions of other problems. One NSW baker associated mould with plastics in

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[250] *Argus*, 13 October 1955, 14.
[251] Ibid.
[252] Hisano, "Clear Packages", 159; Ai Hisano, *Visualizing Taste: How Business Changed the Look of What You Eat* (Cambridge, Massachusetts: Harvard University Press, 2019).
[253] *News*, 27 July 1951, 10.
[254] *Sydney Morning Herald*, 29 July 1958, 17.
[255] Ai Hisano, "The Rise of Synthetic Colors in the American Food Industry, 1870–1940," *Business History Review* 90, no. 3 (2016), 162.
[256] *Advertiser*, 11 November 1949, 4.

advising housewives how best to keep bread (wrapped in cloth, ventilated).[257] More damning was a report of a 1957 food poisoning outbreak at the Candowindra Show in the same state. Over 100 people were said to have become ill after partaking in a cold-meat luncheon, with the 'staphylococcal' dissemination enhanced by the plastic packaging: 'warm conditions inside the plastic bags in which the food had been stored would have created a favourable atmosphere for the breeding of the germs'.[258]

Conclusion

Plastic took time to become the pervasive packaging material it is today, and some forms failed to be adopted at all. While this chapter has focused on packaging technologies that became ubiquitous, other less successful innovations should not be forgotten, as they too are telling of historical food safeties and broader cultural issues.[259] Meikle reminds us, that like other technologies of food safety, 'each plastic object emerges from a design process involving social needs and desires, economic constraints, technical limitations, and marketing strategies, all coordinated with some degree of awareness'.[260] Cost reportedly inhibited uptake, but also numerous forms of plastic did not meet expectations.[261] Developed to resolve issues of food safety, such as contamination from environmental factors and pests, a couple of examples, had they been adopted for general use, would likely have introduced food safety issues and health risks of their own. 'Sisalkraft' was described in 1936 as, 'a remarkable material consisting of sisal fibre, and the type of brown paper known as kraft, and bitumen…air and water-proof, dust-proof, germ-proof, gas, vermin and contamination-proof'.[262] In 1950, it was reported that 'insect-proof packaging' had been developed by an English research laboratory, formed by layers of cellulose 'impregnated with DDT'.[263] DDT being Dichlorodiphenyltrichloroethane, the infamous synthetic chemical associated with significant environmental damage and a likely carcinogen.[264] The 'square egg' – an egg removed from its shell and repackaging in a square, plastic container – was promoted as saving on breakage costs and storage space, easier to separate white from yolk, and could be boiled in plastic case; it was easy to see if the egg was cooked to liking, and claimed to keep

[257] *Daily Examiner*, 23 December 1954, 10.
[258] *Western Herald*, 11 October 1957, 1.
[259] Carolyn Cobbold, "The Rise of Alternative Bread Leavening Technologies in the Nineteenth Century," *Annals of Science* 75, no. 1 (2018): 39.
[260] Meikle, *American Plastic*, 183, 192-3.
[261] *Age*, 21 November 1953, 9; *Age*, 23 April 1953, 2.
[262] *Farmer and Settler*, 30 July 1936, 10.
[263] *North Western Courier*, 23 January 1950, 7.
[264] John Beard, "DDT and Human Health," *Science of the Total Environment* 355, no. 1-3 (2006): 78-89.

fresher longer as more airtight than eggshell – with refrigeration, even longer.[265] Attempts to re-package the egg reminds us that technological change and adoption are not always inevitable.

This chapter has shown how packaging has developed in Australia over the 19th and 20th centuries, and how it has informed food safety knowledges and practices. Working in combination with branding mechanisms, packaging presented new ways to assess food safety, disrupting sensory relationships to food. Industrialised packaging methods, while protecting foods, also presented their own dangers and issues, as case studies of cans, paper and cardboard, and plastic have illuminated. Through discourse, packaging was used to shift the focus of responsibility for food safety into the home, and reassure consumers about the industrial systems that produced their food. Packaging also provided convenience, shaping daily lives. Exploring the history of packaging also speaks to a food safety concern that has heightened in recent times, that of environmental food safety. A current cause of major discomfort around food for many people, is its environmental impact, with packaging a major factor in this. The following chapter looks at the influence of emergent scientific theories between 1901 and 1964. It shows how food safety came to incorporate health and became increasingly institutionalised, with implications for various segments of the Australian population.

[265] "Export Trade and Packaging: An *Argus* Souvenir," *Argus*, 27 November 1956, 14.

5.

‘Sanitary Sensitiveness’: Safe becomes Healthy

‘Clean’ was the catchcry of an article instructing Australian housewives how to feed their families in 1939. ‘Housewives and Clean Food: Health Department’s Advice’ created a dichotomy of ‘clean’ and ‘dirty’: ‘dirt is a danger to health and in no case is the danger greater than in the case of dirty food’; whereas ‘cleanliness is the first law of health’. Food had to be sourced from hygienic shops with workers who wore clean washable clothes and had clean hands and nails. In the home, women had to protect food from flies, heat, dust, bodily contamination by cleaning pantries, utensils and children. They needed to ‘wage war’ on vermin and burn all waste. As reported in *Propeller*, ‘the housewife’s motto should be clean food, cleanly handled and cleanly cooked, eaten by clean people with clean mouths in clean homes’.[1]

This article was typical of Australian food safety advice throughout the period 1901-1964, and signalled a move to invoking the authority of a state institution – here the Health Department – as proof of legitimacy. Further, advice was gendered, addressed to women as the caregivers and food providers of Australian homes. Moreover, it demonstrates the influence of germ and nutritional theories on food safety discourses of the time. Food was to the body what fuel was to a machine: ‘just as inferior fuel will hamper the working of an engine, so unclean food will endanger the efficiency of the body and may cause disease’.[2] It was not enough then, for food to be not dirty, it needed to be the right kind of ‘clean food’ – that is, food that was nutritionally adequate, providing health to the Australian people and, thus, to the new Australian nation. Food was simultaneously dangerous and protective.

I argue that new scientific approaches of germ theory and nutrition shifted understandings of food. In this period, safe food emerged as food that would give health, rather than simply a food that would not make you sick. Health and safety were portrayed as mutually constitutive. New knowledges led to a discernible shift in the ideas and practices of food safety, with differing implications for different Australians. Food safety lines were

[1] *Propeller*, 31 August 1939, 7.
[2] *Lithgow Mercury*, 22 June 1934, 6.

drawn around class, race and gender, and delineated physical spaces. This chapter explores how scientific knowledge of germ theory and nutrition shaped the institutionalisation of food safety. By ‘institutions’, I mean the intangible structures and organisations that regulate and order a society, such as legal and education systems, not bricks and mortar institutions such as factories. New government departments were created, and education interventions, such as the disciplines of nutrition and domestic science, burgeoned. Scientists, doctors, public health authorities and home economists became established as food safety experts. Women were made the gatekeepers of national wellbeing in their roles as housewives and mothers responsible for reproducing healthy nuclear families. It was also the historical moment in which many of the underlying understandings of food safety that we hold today, came to be. Food safety became a defined – but not fixed – set of knowledges in which practices were codified. This story, although specifically Australian, was not an exclusive one: these developments connected the nation to an international trend.

Approach

In studying food safety in the period 1901-1964, this chapter asks: What were the perceived threats to health in this era? How did new scientific theories manifest in Australian food culture? Where did concerns focus? How were different Australians impacted? After locating food safety developments in their historical context, ice cream and milk are used to explore the implications of germ and nutritional theories. The rise of new food experts and authorities is observed as food safety became increasingly institutionalised in Australia. Following the discourse, domestic and rural environments are paid particular attention as contentious and critical spaces of food safety, contrasting with commercial factories as discussed in the following chapter. The implications – for gender, class and race – of developing food safety knowledges are explored, and their entanglement with national ideologies demonstrated. A ‘clean food’ campaign, instigated by the Melbourne *Argus* newspaper, signals the commercial application of these trends, the focus of the following chapter.

Emergent knowledges defined this era of food safety. ‘Germ theory’, and growing understandings of bacteria had huge implications for food safety globally, practically and discursively. Knowledge became formalised into a more defined and consistent (albeit shifting) paradigm characterised by emerging authorities and the institutionalisation of food safety. The period also saw the intensification of the ‘industrialisation’ of food, with recent scientific findings – chemistry and new technologies – used to produce, process, store, and even create new foods.[3] At the same time, nutrition emerged to become a prominent discipline, and growing ideas of health led to a change in how 'safe' foods were conceived. The popular discursive focus primarily shifted to the longer-term health impacts of food and diet. This is not to say immediate safety concerns disappeared, or that the connection between food and health had not been there beforehand, but there was a shift. Nutrition came to be framed as a form of food safety knowledge – the aim of nutrition being to *keep* the body healthy, that is a less-immediate form of safety.

The word 'new' appears often in this chapter ('new' experts, 'new' theories), with some hesitations. It is not being suggested that these 'new' things occurred out of a vacuum, or emerged suddenly at a particular point in time. Instead, it is recognised these things had strong precedents and long trajectories of development. Neither were these occurrences the endpoint, but they continued to evolve and change. Critically, however, the word 'new' signals that something had *changed* or emerged in a pronounced manner in the period discussed. For example, this study follows works by Bashford, Tomes, and Cleere in recognising that 'insisting that rupture narratives of scientific change and revolution radically misrepresent the sluggish pace of scientific discovery and adaptation, as well as the protracted resistance to germ theory that lingered well into the twentieth century'.[4] I will not discuss the Temperance movement or discourse around infant health. While scrutiny of children's health and diet was particularly intense in this period, this area will not be the focus of the chapter, recognising the existing and substantial body of scholarly work, and acknowledging the scope of this chapter does not allow for the further development of this work within the larger framework of this thesis.[5]

Food safety and nutrition have tended to be studied as separate issues, but, historically, as will be shown in this chapter, they have not been regarded as separate, and thus warrant closer consideration together. The concept of hygiene, for example, has changed with time. Today, popularly conceived as closely aligned with sanitation and cleanliness, in the 19th and early 20th centuries, hygiene was used more broadly, embracing the promotion of health

[3] Gabriella M. Petrick, "'Like Ribbons of Green and Gold': Industrializing Lettuce and the Quest for Quality in the Salinas Valley, 1920-1965," *Agricultural History* (2006): 269-295.
[4] Eileen Cleere, *The Sanitary Arts: Aesthetic Culture and the Victorian Cleanliness Campaigns* (Columbus: Ohio State University Press, 2014), 14; Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life*. (Cambridge, MA: Harvard University Press, 1999); Alison Bashford, *Imperial Hygiene: A Critical History of Colonialism, Nationalism and Public Health* (New York: Palgrave Macmillan, 2004).
[5] Amy Bentley, *Inventing Baby Food: Taste, Health, and the Industrialization of the American Diet* (Berkeley: University of California Press, 2014); Philippa Mein Smith, *Mothers and Baby King: Infant Survival and Welfare in an Imperial World, Australia 1880-1950* (London: Macmillan, 1997).

through environment, through the mind, and, most notably here, through food choice: in 1908, a paper on 'the hygiene of ice cream' was primarily concerned with the food's health properties and its value as an article of diet.[6] The science of nutrition was, and is, cultural, and often intertwined with moral judgements and economic interests.[7]

Gyorgy Scrinis's concept of the 'ideology of nutritionism' is important here, critically distinguishing between nutrition and nutritionism: the latter defined as the research and interpretation of nutrition 'applied to the development of dietary guidelines, nutrition labelling, food engineering, and food marketing' in a *reductive* manner.[8] Using Australia to study the relationship between food and morals, and paying particular attention to nutrition, John Coveney observed: 'scientific and technical knowledge forms the basis for the moral judgements we make about ourselves and others. It is this moral imperative which is encoded in nutrition that makes it so compelling, so engaging, so judgemental, and so strangely popular'.[9]

The ways in which nutrition worked to create 'good' citizens, functioned in the same way that ideas of hygiene and scientific housekeeping did. DuPuis recognised this conflation, in connecting the historical dietary advice to the American ideal of freedom. In this period, 'hygiene politics' were created, promoting 'one way of eating as perfect and healthy. The result of purity politics was the exclusion of certain people and their eating, making them lesser citizens', remembering of course, that the 'introduction of hygienic food practises was also powerful and lifesaving'.[10] To redeploy a phrase of Anderson's: nutrition, hygiene and public health 'came to provide a rich vocabulary for social citizenship in an anxious nation'.[11]

[6] *Wyalong Advocate*, 7 November 1908, 2.
[7] Julie Guthman, "Introducing Critical Nutrition: A Special Issue on Dietary Advice and its Discontents," *Gastronomica* 14, no. 3 (2014): 1-4; Harmke Kamminga and Andrew Cunningham *The Science and Culture of Nutrition, 1840-1940* (Amsterdam: Rodopi, 1995); Harmke Kamminga, "'Axes to Grind': Popularising the Science of Vitamins, 1920s and 1930s," in *Food, Science, Policy and Regulation in the Twentieth Century: International and Comparative Perspectives*, edited by David F. Smith and Jim Phillips (London: Routledge, 2000), 83-100.
[8] Gyorgy Scrinis, *Nutritionism: The Science and Politics of Dietary Advice* (New York: Columbia University Press, 2013), 2.
[9] John Coveney, *Food, Morals, and Meaning: The Pleasure and Anxiety of Eating* (London: Routledge, 2000), vi, 92.
[10] E. Melanie DuPuis, *Dangerous Digestion: The Politics of American Dietary Advice* (Berkeley: University of California Press, 2015), 93.
[11] Warwick Anderson (2002), *The Cultivation of Whiteness: Science, Health, and Racial Destiny in Australia* (Carlton: Melbourne University Press, 2005), 4.

Context

The 20th century to 1964 was one of enormous transformation in society, food production and consumption, and in health outcomes. Urbanisation continued, from 60% in 1911 to around 80% in 1964.[12] Health concerns were very real. For example, food- and water-associated diarrhoea was the third-leading cause of death of the Australian population in 1907 (7-8%). Children were particularly vulnerable, accounting for 25% of deaths in children aged 0-4 years.[13] Infant mortality from diarrhoea dropped rapidly during and after this period due to increased knowledge and power over parasites, bacteria and viruses – 'from around 700 per 100,000 population for males and 580 for females'. By 1935, deaths from diarrhoea for both sexes were under 100, and by 2000, the figure stood at 'about 2 deaths per million'.[14] Infectious diseases were also made worse by mal- and under-nutrition.[15]

Australia was part of a network, and witness to, 'medical internationalisation', in the words of W. F. Bynum. Responding to heightened movement of peoples, contagions, and growing understandings of bacteria, viruses and pathogens, this network formally manifested in the British Empire as international sanitary conferences, held first in 1851.[16] As Lisa Haushofer has shown, 'public health increasingly focused on individual behaviour and the cost of sickness' on the efficiency of nations.[17] In other words, 'health had come to be regarded as the outcome of healthful behaviour'.[18] Each of the Australian colonies had introduced Public Health Acts by 1900, regulating sanitation, disease, and food and drugs.[19]

The era 1901-1964 saw the realisation and further development of public health, with food safety laws (as described in chapter three) passed throughout Australia in the latter decades of the 19th, and early 20th, centuries, remembering that after Federation, laws concerning food quality remained in the jurisdiction of the states. Food came under much tighter government control, while simultaneously continuing to be influenced by large

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[12] Australian Bureau of Statistics, "Historical Population"; World Bank, "Urban Population," (2018).
[13] Australia Institute for Health and Welfare, "Mortality Over the Twentieth Century in Australia: Trends and Patterns in Major Causes of Death," (2005), 47-8.
[14] Ibid.
[15] Marion Nestle (2002), *Food Politics: How the Food Industry Influences Nutrition and Health* (Berkeley: University of California Press, 2013), 31.
[16] William F. Bynum, "Policing Hearts of Darkness: Aspects of the International Sanitary Conferences," *History and Philosophy of the Life Sciences* 15 no.3 (1993): 421-34; Deana Heath, *Purifying Empire: Obscenity and the Politics of Moral Regulation in Britain, India and Australia* (Cambridge: Cambridge University Press, 2010), 84.
[17] Lisa Haushofer, "Between Food and Medicine: Artificial Digestion, Sickness, and the Case of Benger's Food," *Journal of the History of Medicine and Allied Sciences* 73, no. 2 (2018): 168-9.
[18] Haushofer, "Food and Medicine", 171.
[19] Barbara Santich, *What the Doctors Ordered: 150 Years of Dietary Advice in Australia* (Melbourne: Hyland House, 1995), 19.

commercial interests. A federal government scientific research organisation, in a couple of iterations and forerunner to the CSIRO, was formed first in 1916, with food as one of its key subjects.[20] Santich observed the proliferation of primarily middle-class 'amateur associations' that sought to advance public health 'in keeping with their bourgeois values'.[21] The rise of nutrition and domestic science then, was part of a broader program of social change based on 'scientific principles' in Australia and elsewhere, as Kerreen Reiger has shown.[22] Ostensibly objective and rational, this social reform nonetheless reflected and contributed to hegemonic power structures.

State involvement in food matters increased during the period, influenced by war, disease, and economic disaster. World War One killed 60 000 Australians from a population of 5 million.[23] Domestic civilians were involved at all levels, as through women's voluntary work raising funds and supplies to be sent abroad. The Commonwealth Government took on significant powers under the *War Precautions Act 1914*, regulating production and trade, intervening in state finances, and in quieting detractors.[24] Initial enthusiasm for the war waned, with high mortality, a contracted economy, growing debt, and divisive conscription attempts. But the conflict also cemented a national identity, giving rise to the Anzac legend which celebrated bravery and mateship values in unwinnable circumstances, ostensibly formed by tough Australian conditions.[25] Global conflict accelerated concerns around healthy populations, manifesting, as this chapter shows, through food discourse.

After the war, Australia continued to attempt to exclude the outside world, Stuart Macintyre argued, further tightening raced immigration policies and protections for local manufacturing. In 1919, influenza killed 12 000 Australians, promoting the notion 'Australia was threatened by foreign evils'.[26] 40% of the population were infected – a mortality rate of 2.7 per 1000, one of the lowest globally. The effects were not felt evenly, with some Indigenous communities experiencing a 50% death rate.[27] Globally, influenza deaths were

[20] Farrer, *Feed a Nation*, 123.
[21] Santich, *Dietary Advice*, 19.
[22] Kerreen M. Reiger, *The Disenchantment of the Home: Modernizing the Australian Family, 1880-1940* (Oxford: Oxford University Press, 1985), 11.
[23] Macintyre, *Concise History*, 169.
[24] Craig Wilcox, "World War 1," in *The Oxford Companion to Australian History*, ed., Graeme Davison, John Hirst, and Stuart Macintyre (Oxford: Oxford University Press, 2001), 698-9.
[25] Anna Clark, *Making Australian History* (Sydney: Vintage, 2022), 103-7.
[26] Macintyre, *Concise History,* 178.
[27] National Museum of Victoria, "Influenza Pandemic".

estimated at between 50 to 100 million.[28] It was speculated – and dismissed – that an outbreak in Newcastle, England, was actually 'swine fever' caused by 'impure food' in the form of 'bad bacon'.[29]

Print media and food-related publications burgeoned. Popular women's periodical *The New Idea — A Women's Home Journal for Australia*, was first published in 1902, and the *Australian Woman's Weekly* in 1933. The motorcar, radio and domestic refrigeration became available in Australia around the 1920s, although they took time to become accessible to the general population.[30] But even as the range of consumer products expanded, austerity measures continued. Legislation setting pub closing times to 6pm was first introduced in various states as a World War One restriction, and resulted in the last-minute drinks rush known as the 'six o'clock swill'. Tasmania was the first state to extend hours to 10pm in 1937, but other states continued with the restrictions into the 1950s and 1960s.[31]

The Australian Depression of the 1930s was located in the wider international Great Depression. Heavy government debt to London and falling commodity prices saw unemployment peaking at thirty percent in 1932. The State began to supplement private and religious interests in providing food for citizens requiring assistance. 'Food bank type programs' emerged in Australia, and degrees of rationing systems were implemented through 'food tickets' and 'vouchers' in attempts to provide food security.[32] 'Sustenance' relief – ration vouchers – were introduced by state governments, often in exchange for labour.[33] In 1931, around 2000 unemployed workers in Adelaide protested the removal of beef from government support rations in what became known as the 'beef riots'.[34] Conditions were undoubtedly even harsher for Indigenous Australians, faced with less support and

[28] William J. Liu, Yuhai Bi, Dayan Wang and George F. Gao, "On the Centenary of the Spanish Flu: Being Prepared for the Next Pandemic," *Virologica Sinica* 33, no. 6 (2018): 463-6.
[29] *North Western Advocate*, 28 November 1918, 3.
[30] Colin Jones, *Something in the Air: A History of Radio in Australia* (Kenthurst: Kangaroo Press, 1995), 12-33.
[31] NSW (1954), Victoria (1966), and SA (1967). Helen Doyle, "Six O'clock Swill," in *The Oxford Companion to Australian History*, ed. Graeme Davison, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 593.
[32] Rebecca Lindberg et. al., "Still Serving Hot Soup? Two Hundred Years of a Charitable Food Sector in Australia: A Narrative Review," *Australian and New Zealand Journal of Public Health* 39, no. 4 (2015): 358-65.
[33] Jenny Lee, "Depressions," in *Oxford Companion to Australian History*..., 183-85.
[34] *News*, 9 January 1931, 1; Jan O'Connell, "1931 Beef Riot in Adelaide".

discriminatory policies.[35] This depression encouraged the widening of the social welfare system in the 1940s.[36]

Although with fewer Australian deaths, World War Two came closer to home than World War One. With brief Japanese incursions on the continent itself, this war united Australians to a far greater degree than the previous war.[37] Greater powers were again assumed by the government, many of which continued post-war: prices, rents and wages were set, for example; labour moved to where needed, industries deemed nonessential were banned, and the Communist Party prohibited for standing against the war.[38] In 1942, Australia became constitutionally independent, and conscription was introduced.[39] Austerity measures initiated food rationing, and some shortages – although to a lesser extent than other sites – were experienced as Australia sent supplies to international allies.[40] Rationing of certain foods continued after the war.[41] Women's participation in the workforce heightened, albeit receding again with the end of the war, but the shift to industrial work – better paid than domestic jobs and often in food manufacturing – was enduring.[42] This conflict propelled Australia towards the US, politically and socially, with Britain's lack of support in South-East Asia seen as a 'betrayal'. In 1962, Australia entered the Vietnam War.

As elsewhere, prosperity boomed in the post-war period for Australians, but did so unevenly. For the First Australians, 'Protectionist' policies gave way to 'Assimilation' in the 1950s, and the ongoing removal of children from their families contributed to 'Stolen Generations'.[43] Over two million migrants, predominantly non-English, came to Australia in the two decades after the war ended, gradually diversifying food culture, as they were instructed on the 'Australian Way of Life'. Women's pay was raised to 75% of men's, and increasing numbers entered the workforce.[44] The marketplace changed quickly in the 1950s:

[35] Tarunna Sebastian and Michelle Donelly "Policy Influences Affecting the Food Practices of Indigenous Australians since Colonisation," *Australian Aboriginal Studies*, no. 2 (2013): 59-75.
[36] Lee, "Depressions", 183-85.
[37] 37 000 deaths from a national population of 7 million. Joan Beaumont, "World War II," in *Oxford Companion to Australian History…*, 699-701.
[38] Macintyre, *Concise History*, 201.
[39] Beaumont, "World War II", 699-701.
[40] Lauren Samuelsson, "The Imitation Game: Mock Foods in the Australian Women's Weekly, 1933–82," *Australian Historical Studies* 51, no. 4 (2020): 481.
[41] Lindberg et. al., "Charitable Food", 358-65.
[42] Beaumont, "World War II", 699-701.
[43] Ibid., 231.
[44] Ibid., 230, 227.

supermarkets and self-service spread mid-decade, migrants brought new tastes, packaging intensified marketing, and more new food products emerged.[45]

The wellbeing of a nation was dependent on a strong population: a healthy population relied on safe and nourishing food. Extraordinary circumstances, such as war, a pandemic and an economic disaster, permitted increased government intervention in everyday life, and many controls continued after the immediate episode. Alongside the rise of government, science emerged as a powerful force in Australia, as elsewhere. Nutritional science ostensibly offered objective, rationalised and quantifiable measures to ensure efficiency and productivity.

Science, Germs and Nutrition

The rise of nutrition as a branch of science was pre-figured by the discovery of what is now termed germ theory. Previously, the prevailing idea held that disease and sickness were spread through miasmas, which were, as Dupuis has pointed out, 'understood to be visible as dust and perceivable as smells; microbes however, were not detectable without special instruments and skills'.[46] As a 1933 source said of bacterial contamination, 'the good and the bad cannot always be differentiated by the eye', and in 1949, 'bad food isn't labelled poison…don't think that these infected foods look bad or smell bad. As a rule, they don't'.[47] Because bacteria and germs required particular infrastructures of technologies and knowledge, those in possession of this infrastructure gained power and prominence by, in Pilcher's words, 'determining the nature and meanings of food', becoming experts and authorities.[48] Knowledge of bacteria, as with nutrition, was often only partial, culturally influenced, and sometimes inaccurate. Limited understandings of bacteria for much of this period meant that concepts, such as fermentation, were often viewed in a negative light, associated with rotting and decomposition.[49] Cobbold has shown how prominent 19th century chemists and health reformers such as Justus von Liebig thought yeast and fermentation were 'a force of decay', leading to the search and promotion of alternate leavening technologies, such as baking powder, alternate foods, such as Graham bread, and less commercially successful (but

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[45] Farrer, *Feed a Nation*, 140; Kim Humphery, *Shelf Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998).
[46] DuPuis, *Dangerous Digestion*, 77-8.
[47] *North Western Courier*, 28 December 1933, 2; *Centralian Advocate*, 9 September 1949, 18.
[48] Jeffrey M. Pilcher, "Culinary Infrastructure: How Facilities and Technologies Create Value and Meaning around Food," *Global Food History* 2 no.2 (2016): 105-31, 105.
[49] By 1949, perspectives had begun to shift in Australia: 'the fact that, a food is putrefying doesn't mean that it's uneatable. What about game and gorgeous old gorgonzola?'. *Centralian Advocate*, 9 September 1949, 18.

influential) industrialised foodstuffs, such as 'Aerated Bread'. Luis Pasteur, on the other hand, understood yeast as a living force that could be 'controlled and commoditized'.[50]

The scientific study of the chemical make-up of foods was not new, but rose to prominence in this era, became a formal and institutionalised field of science, and fundamentally shifted how we think about food. Beginning in the mid-19th century, scientists and chemists began breaking down and identifying foods into their constituent elements, such as carbohydrates, proteins and fats, and later, vitamins and minerals.[51] In this period, science 'began to secure its cultural status as an arbiter of truth', and from this context nutrition burgeoned.[52] Nutrition presented a new way to make food choices: rather than selecting according to taste or custom or ability to sate hunger, it suggested food should be chosen for specific qualities (i.e. nutrients) that promoted a healthy body. It provided a scientific, if sometimes flawed, basis for diet.[53] By the early 20th century, 'the Vitamin Era had begun'.[54] Science was able to address diet-related diseases, such as rickets and beriberi, and the field was hailed for its contribution to society. The Australian company Sanitarium Health Food, for example, announced in the 1930s that 'the discovery of food vitamins is one of the most important of modern times'.[55] In the words of Charlotte Biltekoff, 'nutrition staked its claims to authority on the presumed objectivity of the numbers it produced'.[56]

But as scholars have observed, nutritional science was also cultural, and tightly bound up in moral and economic ideas.[57] The cultural aspect of nutrition is evident in dietary advice and meal plans.[58] In a 1946 Queensland nutrition guide, British-Australian food hierarchies were reinforced, with vegetable proteins deemed 'generally inferior in food value to animal

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[50] Carolyn Cobbold, "The Rise of Alternative Bread Leavening Technologies in the Nineteenth Century," *Annals of science* 75, no. 1 (2018): 22.
[51] Scrinis, *Nutritionism*, 2.
[52] Charlotte Biltekoff, *Eating Right in America: The Cultural Politics of Food and Health* (Durham, North Carolina: Duke University Press, 2013), 9.
[53] Jessica Mudry, "Introduction: Nutritional Science in Historical Perspective," *Global Food History* 4, no. 2 (2018): 109-11.
[54] Santich, *Dietary Advice*, xii.
[55] Sanitarium Health Food Company, "Marmite recipes...," (Sydney: Sanitarium Health Food Company, circa 1930s), 2.
[56] Charlotte Biltekoff, "What Does It Mean to Eat Right: Nutrition, Science and Society," in *Food Fights: How History Matters to Contemporary Food Debates*, ed. Charles C. Ludington and Matthew Morse Booker (Chapel Hill: University of North Carolina Press, 2019), 128.
[57] Christopher R. Mayes and Donald B. Thompson, "What Should We Eat? Biopolitics, Ethics, and Nutritional Scientism," *Journal of Bioethical Inquiry* 12, no. 4 (2015): 587.
[58] Queensland Health Education Council, "Food and Nutrition," (Brisbane: "*Truth*" and *"Sportsman"* Ltd., 1946), 11-13.

protein and [are] therefore regarded as "second class"'.[59] Milk was privileged, deemed a 'most valuable food', and 'as near a perfect food as possible'.[60] Ice cream, being a 'milk food', was thus framed as health-giving. Ice cream and milk can be used to tease out the development and entwining of germ theory, nutrition and food safety.

Safe and Nutritious: Ice Cream and Milk

Today, ice cream is not necessarily perceived or represented as a 'healthy' *or* 'risky' food in terms of food safety and nutrition. Historically, however, it has been a volatile substance, yet also framed as a health-giving foodstuff. Ice cream is inherently defined by its transience, and is heavily reliant on technology. Unfrozen, it has neither the structure nor temperature that transforms constituent parts into 'ice cream'. Newspaper articles from the early 20th century highlighted the precariousness of the food, with frequent articles appearing under titles such as 'Ice Cream. Where Danger Lurks', and 'Poisoned by Ice Cream.[61] Both international and local cases were reported: in 1923, for example, 153 people were reportedly made ill at a Madrid wedding.[62] Edward Geist argues that debates in America around ice cream-associated illnesses and 'ptomaine poisoning' reflected, and contributed to, shifts in 'thinking about food safety from a preoccupation with chemical adulterants to possible microbial contamination'.[63]

Ice cream was paid particular attention in Victoria's 1905 *Pure Food Act*, with the specification that premises used for its production must be registered.[64] It was a food that featured in food safety advice throughout the period, as demonstrated in a 1949 Alice Springs newspaper's instructions to keep food at low temperatures 'because germs prefer the warm', while cautioning, 'though that doesn't mean to say that they don't like ice-cream'. The danger of the foodstuff was emphasised: 'there's not nearly enough supervision in ice-cream today. It should be made under the most careful conditions, for germs, like small boys, love ice cream'.[65] Dangerous ice cream was caused in many ways. Because of inadequate infrastructures, refrigeration technology did not always form an efficient cold-chain, meaning that ice cream could partially melt and refreeze, creating the ideal environment for bacterial

[59] Ibid., 7.
[60] Santich, *Dietary Advice*, xii.
[61] *Barrier Miner*, 16 February 1910, 6; *Sunday Times*, 4 January 1920, 13.
[62] *Sunday Times*, 5 August 1923, 1.
[63] Edward Geist, "When Ice Cream Was Poisonous: Adulteration, Ptomaines, and Bacteriology in the United States, 1850-1910," *Bulletin of the History of Medicine* 86, no. 3 (2012): 337.
[64] *Pure Food Act, 1905* (Vic).
[65] *Centralian Advocate*, 9 September 1949, 18.

growth. There might also be insufficient hygiene in its production or contaminated ice involved, and for much of this period milk was not pasteurised.[66] As the foundation of ice cream and 'the keystone of national nutrition', milk was itself a volatile substance, one that caused anxiety and debate.[67]

The safety of milk was thus a nutritional question. In the pasteurised milk debate, we can see how scientific theories competed in public discourse. While commercial interests promoted the heat-treatment of milk, there were voices of dissent acknowledged in the press. Did the pasteurisation of milk destroy its nutritional value? In a 1920s promotional booklet for a NSW milk company detailing the 'scientific regime' that produced their milk, concerns were acknowledged, but quashed.[68] Doctors from across North America were quoted supporting pasteurisation, and differed only in suggesting that there was no, or only perhaps 'slight nutritive loss'. Summarising the sentiment of these officials, a 'Professor M. J. Rosenau' stated that 'pasteurisation is the cheapest form of life insurance…[it] takes nothing from the milk, nor does it add anything except SAFETY'.[69] The booklet concluded by stating: 'There is no living for the microbe that spreads disease. Its life history is the subject of constant study. No mercy is shown. It is hunted down and destroyed'.[70] In 1946, pasteurisation was still said to be a question that 'agitated the public mind for years'. There was 'no objection' to unpasteurised milk produced in clean and healthy conditions, which encompassed the health of the cow and handlers to clean vessels, but these ideal conditions were 'difficult to attain'.[71]

Although the science behind rationales for pasteurisation was there, cultural norms were none-the-less invoked in arguments for the heat treatment. In 1933, milk and meat were aligned: 'it is customary to cook animal foods before consumption. It should be remembered that milk is an animal food'.[72] And again in a 1946 Queensland nutritional guide, food safety was shown to be a cultural construct, 'one looks forward to the day when the drinking of raw milk will be considered as barbarous a custom as the eating of raw meat is at present'.[73] Custom was underlined with nutritional information, reinforcing the relationship between

[66] Geist, "Ice Cream", 340.
[67] *Northern Star*, 12 October 1946, 7.
[68] Camden Vale Milk Co., *Camden Vale Special Milk* (Sydney: Eric N. Birks, circa 1920s), 9.
[69] Ibid.
[70] Ibid., 23.
[71] Queensland Health Education Council, "Food and Nutrition", 25.
[72] *North Western Courier*, 28 December 1933, 2.
[73] Queensland Health Education Council, "Food and Nutrition", 25.

health and safety. Because meat was understood to retain its nutrients when cooked, it followed that milk, as an animal food, was the same: 'one need have no fear, therefore, that the great advantage of boiling is purchased at the cost of any noteworthy diminution' of nutritional worth.[74] By 1954, sterilised milk was said to be making 'great headway', being popular in households without refrigeration.[75]

Experts and Authorities: The Institutionalisation of Food Safety

Germs and nutrients, impossible to discern with the naked eye, required specialist scientific knowledge to be examined, understood, and interpreted to the general public. These science and public health officials, using their exceptional knowledge of food, gained influence and power, which shifted authority over food and health. In doing so, Scrinis argued, 'the authority' of existing 'cultural knowledge of food, or of people's own sensual and practical experience with food, has been correspondingly devalued'.[76] DuPuis has shown how knowledge of germs 'enabled a particular class to claim authority and to embrace purity as something that excluded those who did not adopt a particular way of life'. Further, through such expertise, 'middle-class fear of dirt, germs and contamination led to new forms of purification – suburbs, eugenics, disinfectants'.[77] Food safety and nutrition were posed as problems of the state, and health departments became responsible for safe and hygienic food.

Individual experts were both self- and officially appointed. Scientists and doctors were prominent among the new experts, visible in print media, quoted in newspaper articles, in commercial advertisements and health publications. F. B. Smith confirms doctors enjoyed increased status in the existing hierarchy of 'custodians of purity and danger', beginning around the mid-1880s, and increasingly apparent in the 20th century. Before this, doctors did not hold the same legal or social standing as priest and lawyers: their work of dealing with disease and sickness 'overlapped with women's work'.[78]

Government-appointed public health analysts and officials were sources and enforcers of food safety information and regulations. Slightly less conspicuous were the predominantly female domestic scientists and home economists, discussed below. Authority did not occur only at the level of the individual, but was increasingly formalised into private not-for-profit organised bodies, and institutionalised into government departments and educational

[74] Ibid.
[75] *Western Mail*, 25 March 1954, 72.
[76] Scrinis, *Nutritionism*, 2.
[77] DuPuis, *Dangerous Digestion*, 77.
[78] F. B. Smith, *Illness in Colonial Australia* (North Melbourne: Australian Scholarly Publishing, 2011), 245.

curriculums.[79] As will be shown in the following chapter, brands also worked to position themselves as health authorities.

Governments came to prominence in this period through regulations and in determining what constituted 'safe' and 'healthy' food. As one Queensland newspaper stated in 1937, 'this problem of national diet and mal-nutrition is just as vital as that of unemployment with which it is inextricably entwined'.[80] A productive and healthy nation required Governments to supply nutritional guidance and access to appropriate foods.[81] Institutionalisation took place at local, state and federal levels, and with it, norms of food safety and nutrition were codified. Food safety regulations (discussed in chapter three) had been introduced in individual Australian colonies from the 1860s. After Federation and assisted by war, disease and economic disaster, state interventions into the daily lives of its citizens increased, most significantly here through food.[82]

Laws evolved, reflecting shifts in government, developing knowledge, and aiming to meet the increasing complexity of industrialised food systems. Food protection laws remained in the jurisdiction of the states and territories, who largely enacted updated acts in the first decade of the new century.[83]Victoria's 1905 laws were internationally lauded for introducing comprehensive standards, and in 1908, NSW was the first Australian state to make provisions regulating food advertising beyond direct labelling.[84] Laws required infrastructure, not only of technology and information, but of human agents also. Analysts and officials were appointed to enforce compliance with regulations. Prosecutions took place and penalties were applied for violations by food production businesses: a fishmonger in 1950, for example, was fined for having inadequate infrastructure to prevent flies entering his shop.[85] Local municipal councils were largely responsible for implementing state regulations. Knowledge was circulated at many levels, from the informal replication of information between newspapers, to the dissemination of scholarly journals and books, to the meeting of experts at local, state, national and international conferences.[86] Again, none of these were

[79] Reiger, *Disenchantment*, 2.
[80] *Maryborough Chronicle, Wide Bay and Burnett Advertiser*, 4 September 1937, 10.
[81] Mayes and Thompson, "What Should We Eat?", 589.
[82] Reiger, *Disenchantment*, 3.
[83] Rosemary Polya, "Food Regulation in Australia: A Chronology," Australian Government Information and Research Services (2001), 9.
[84] *Pure Food Act, 1905* (Vic); Polya, "Food Regulation", 9.
[85] *Northern Standard*, 24 November 1950, 10.
[86] See for example, Launceston Public Health Inspectors Meeting: *Examiner*, 10 October 1934, 6; Victorian Health Officer Conference 1950: *Argus*, 26 September 1950, 5; Industrial Hygiene Conference at Canberra (National):

new, but intensified. Most Australian states had adopted consistent food safety regulations by the 1980s, but although discussed from the first decade of the twentieth century, it was not until 1991 that the *National Food Authority Act* introduced laws at a federal level.[87]

Organisations to promote the health of Australians through food were set up by the national government: food was addressed by the National Health and Medical Research Council, established in 1936.[88] In 1953, the same council created a body specifically 'to advise on all aspects of additives and contaminants' in food. The Commonwealth Advisory Council on Nutrition in 1936 was led by a number of eminent male scientists, doctors and other academics, who attempted to establish what Australians ate and how diets could be improved.[89] Food safety knowledge was increasingly propagated through education, directed not only at the younger generations, but for the broader population. Published during wartime 1941 by the Commonwealth Department of Health, *Diet and Nutrition for the Australian People*, was 'designed essentially for the man in the street'.[90] Following the lead of state governments, national education campaigns were launched. Health Weeks, for example, became national in the early 1950s, after having taken place at a state level for approximately two decades.[91] These annual intensive periods disseminated information encouraging public health and well-being. The type of information promoted in Health Weeks indicates how food safety was codified.

Knowledge, power and health were explicitly connected in promotional discourse. In 1929, a healthy nation and race was said to rely on every single citizen: 'the crux of the whole problem is personal hygiene—nutrition, healthy habits, the clean life, fresh air, exercise, moderation in all things'.[92] Personal hygiene was conflated with national health, and learning was the key: 'it depends on knowledge and the educated and forward-looking mind. "Only an educated people is an effective people"'.[93] 'Safety for Health' was the national theme in 1958, reminding how the concepts had become inseparable. 'A great deal of

Telegraph, 20 March 1930, 12; The International Congress on School Hygiene at London University: *Advertiser*, 14 September 1907, 8; Rural Hygiene Conference to be held in Java: *Daily News*, 2 January 1937, 2.

[87] Polya, "Food Regulation", 16.

[88] Ibid., 11.

[89] Santich, *Dietary Advice*, 93-5.

[90] F. W. Clements, ed., *Diet and Nutrition for the Australian People* (Sydney: Angus and Robertson, 1941), inside cover.

[91] *Shepparton Advertiser*, 24 September 1923, 5; *Farmer and Settler*, 31 October 1931, 12; *Brisbane Courier*, 3 April 1933, 18.

[92] *St George Call*, 1 November 1929, 6.

[93] Ibid.

sickness and discomfort could be avoided', related an article promoting the aims of the week, if the following measures became habits:

1. Ensure hands are clean before handling food.
2. Keep the home free from flies and rats.
3. Protect food and utensils from contamination.
4. Keep toilets and sinks clean.
5. Deposit kitchen refuse in a galvanised iron bin which has a close-fitting lid.[94]

Health weeks can also be understood as part of the 'medical internationalism'. Internationally exchanged discourses came to be categorised into defined sets of information, to the extent that food safety advice, as exemplified above, appears natural and unchanging, and we do not question how this knowledge came to be.[95]

Special attention was paid to young people, particularly females. As early as federation of the Australian nation, came an article flagging the need for the domestic science education of girls. 'The safety of the Nation' rested on food knowledge, with many women being 'utterly ignorant of the elements of food they daily place on their tables'. A 'good home' would lift the regard of domestic duties: 'true knowledge of the needs of the home will dignify its labours and that we will no longer regard it as drudgery'.[96] The Victorian Education Department in 1914 was reported as seeking 'the creation of a health conscience, a sort of extra sense – sanitary sensitiveness', in the upcoming generations 'to remedy the stagnation of ignorance and superstition'.[97] The historical role and significance of these disciplines has been explored by Australian scholars. They warrant a brief discussion here, providing important examples of the institutionalisation of food safety. Elaine Stratford has argued that 'the science of domestic economy' was not only a discipline, but 'an apparatus, to ensure that homes were clean, safe, efficient, and morally nourishing'.[98]

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[94] *Suburbs Weekly*, 16 October 1958, 3.
[95] Bynum, "Sanitary Conferences", 421-34.
[96] *Traralgon Record*, 8 March 1901, 1
[97] *Sun*, 19 April 1914, 3; *Argus*, 22 July 1914, 7.
[98] Elaine Stratford, *Home, Nature, and the Feminine Ideal: Geographies of the Interior and of Empire* (London: Rowman & Littlefield International, 2019), 183; Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983); Kerreen M. Reiger,

As the names suggest, domestic 'science' and home 'economics' were actively aligned with professional and 'male' fields of knowledge, working to legitimise their existence.[99] They signified a professionalisation of domestic knowledge – as specified by experts, not housewives – not just through their curriculums, but through qualifications and consolidation of knowledge. Cooking classes in public schools from the 1890s mark the beginnings of domestic science in Australia for females, with males taught technical trade skills.[100] A national movement was heralded by the 1904 founding of the Australian Institute of Domestic Economy, educating women and girls to apply 'scientific principles to the efficient running of the home'.[101] Cooking and kitchens were to be regarded respectively as a science and laboratories.[102] Discourse and organisations manifested in bricks and mortar, such as the Emily McPherson College of Domestic Economy, which opened in Melbourne in 1926, and in pedagogical cookbooks and household guides, like the Tasmanian "*Central" Cookery Book*.[103] Within a few decades, domestic science schools were burgeoning, reflecting 'an ideological and pedagogical approach that transformed the home into a domestic laboratory, and the housewife or domestic servant into a skilled manager and practitioner'.[104]

Domestic science gave rise to a specific rank of specialists, primarily female, and generally operating in combination, but at a level below, the male authorities. Qualifications accompanying the domestic science movement demonstrate the professionalisation of food safety and other domestic work, as occurred with the rise of public health in the previous century. People, mostly women, could become domestic scientists, instructors and educationists with diplomas from technical colleges.[105] Diplomas in the field were offered as three- and four-year courses in 1954.[106] Specialised tertiary degrees also emerged: an early Sydney University Bachelor of Science in Domestic Science was awarded in 1940.[107] These

"All but the Kitchen Sink: On the Significance of Domestic Science and the Silence of Social Theory," *Theory and Society* 16, no. 4 (1987): 497-526.

99 In Australia, 'Domestic Science' was the most commonly used term. Reiger, *Disenchantment*, 63.

100 Ibid., 57; Coveney, *Food, Morals*, 103.

101 Coveney, *Food, Morals*, 103.

102 Reiger, *Disenchantment*, 72.

103 Ibid., 60; A. C. Irvine, "*Central" Cookery Book* (Hobart: H. T. Whiting, circa 1930).

104 Kate Darian-Smith, "Domestic Spaces and School Places: Vocational Education and Gender in Mid-Twentieth Century Australia," in *Designing Schools: Space, Place and Pedagogy*, ed. Kate Darian-Smith and Julie Willis, (London: Routledge, 2016), 133-5.

105 *Weekly Times*, 2 March 1918, 9

106 *AWW*, 17 November 1954, 37.

107 *Sun*, 21 May 1940, 12.

professionals also published manuals and cookery books.[108] Domestic scientists and home economists were made visible in Australian print media, with periodicals celebrating their international activities and visits to Australia.[109] In 1929, the *Australian Woman's Mirror* noted that, in America, a domestic scientist had gained a Masters of Arts degree for her work on 'scientific washing-up'.[110] Private companies hired home economists to promote their wares, 'redirecting the[ir] legitimacy', and as Megan J. Elias has said of the American context, eventually 'commodifying lifestyles so that home economics in popular culture became product-focused rather than an intellectual movement'.[111] From the 1920s, prominent female journalists such as the *Argus's* 'Vesta', worked to disseminate information through advice columns and weekly pages.[112] Professional roles, texts, organisations and government departments, not alone, but together, signal a shift in public discourse and the institutionalisation of food safety.

Spaces of Safety

Food safety advice targeted the home. While often only implied, at other times the threat of non-factory production was explicitly stated. Debates around the safety of ice cream indicate where concerns likely lay. A 1912 report into 'the ice cream question' saw backyard production as 'a menace to the lives of our children', and called for the trade to be government regulated. Emphasising the cooling period as the danger-zone of the process, it was said open pots were left on back porches, and 'one has only to consider for a minute the actual conditions existing, the small dusty yard, pan-closet, and swarm of flies to realise how serious is the risk of pollution'.[113] Australia was 'favourable to the fly', and dust and flies were specific Australian threats of contamination to be eliminated by industrial foods.[114]

Dust and dirt were menaces, particularly coinciding with the summer season when ice cream was most popular. Dust and dirt formed 'one of the readiest means of conveying the bacteria' in 1908, and unless excluded, the 'element of danger…is very real'.[115] In concerns about dust contamination, the traces of miasma theory, in which diseases were believed to be

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[108] Alison Wishart, "The Turbulent History of Our Cookery Book," *Provenance: The Journal of Public Record Office Victoria* 9 (2010), n.p.; *Weekly Times*, 2 March 1918, 9.
[109] *Herald*, 16 March 1936, 8; *Daily Telegraph*, 7 November 1938, 1.
[110] *Australian Woman's Mirror,* 29 October 1929, 25.
[111] Megan J. Elias, *Stir It Up: Home Economics in American Culture* (Philadelphia: University of Pennsylvania Press, 2008), 2; *AWW*, 3 July 1957, 32.
[112] *Catholic Weekly*, 16 September 1954, 3; Reiger, *Disenchantment*, 65.
[113] *Daily News*, 3 October 1912, 4.
[114] *Daily Post*, 8 February 1913, 4.
[115] *Advertiser*, 25 February 1908, 6.

borne in physically present particles, was still evident. In 1917, the number of microorganisms per square centimetre of ice cream was the measurement of danger and prosecution.[116] An 'invasion' of dirt and dust, rather than temperature fluctuations or pathogen corruption, was named as the reason why the purity of the ice cream was compromised. The presence of physical particles was more than an unpleasant textual and flavouring addition, but held the potential to have lethal effects, as the title of the article 'Death in Ice Cream' expressed.[117]

A 1926 *Australian Woman's Mirror* article, 'Ice Cream is a Healthy Food', insisted that ice cream, while formerly 'a rather dangerous article' because 'our pure food laws were lax', was now dangerous due to the too-rapid consumption of this 'tonic food', causing a sudden temperature change in the stomach and potentially chills and pains.[118] Ice cream also shows the transition of fears from physical contamination through dirt, to health. Previously, commercial ice creams were risky, exposed to 'dust- and germ-laden sweepings of the road' in reaching the customer, but now homemade ice cream was more risky than the bought item, with factories manufacturing it 'under the most hygienic conditions', and unit packaging to protect it.[119] Home freezers were a site of potential risk, with small amounts of grime able to cause infection.

Domestic spaces threatened the health of Australian families. Authored by one 'Medico', a 1943 article in the *AWW* ruminated, 'I have often wondered why Australian housewives put up with so many domestic and hygienic handicaps, especially in the kitchen'.[120] Stated systematic research suggested spaces that contrasted sharply with the sleek factories of the promotions: 'house to house surveys in Australian towns have revealed a surprising state of affairs'. One in five houses reportedly had no meat safes, but hung meat exposed in the open; two out of five had no sink, and one in five no running water. It was feared that these conditions encouraged flies.[121] Advice was given to cover food and use 'swatters and papers'. The insects were not only feared in the kitchen, but in the backyards of suburbia.

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[116] *Queensland Times*, 18 May 1917, 5.
[117] Ibid.
[118] *Australian Woman's Mirror*, 2 March 1926, 38.
[119] Ibid.
[120] *AWW*, 15 May 1943, 21.
[121] Ibid.

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Figure 23. 'If only you could see', 'Faul-Ded' insecticide advertisement, 1934.

Disposal of food waste was a widespread concern of Australian print media as a medium for the promulgation of insects and rodents, and the prevalence of diarrhoea, or as it was politely termed in Brisbane, 'jacaranda fever', because of the seasonal regularity with which the sickness arrived.[123] Household refuse heaps were a common feature of hygiene discussions, as a 1943 Kitchen Hygiene article warned: 'once rubbish has been crawled over by flies, burying will not prevent fly breeding, as the adult fly, when it emerges, can crawl through four feet of earth'.[124] Outdoor toilets, with insufficient fly-proofing, attracted 'myriads of blowflies', threatening to contaminate food and spread disease.[125] Insecticide companies advised 'sudden death to every pest' (see figure 23), and: 'tackle 'em with D.D.T. Never leave food about to act as a landing stage for the flies. Always have a fly-paper in your kitchen. Be merciless to the beggars!'.[126] In the remnants of backyard incinerators, and flyscreens on windows and doors, we can see the physical infrastructure of food safety from this period.[127]

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[122] *Daily News*, 1 March 1934, 11.
[123] *Sunday Mail*, 8 October 1944, 3.
[124] *AWW*, 15 May 1943, 21; *Farmer and Settler*, 23 October 1953, 23.
[125] *West Australian*, 10 November 1950, 10.
[126] *Centralian Advocate*, 9 September 1949, 18.
[127] *Queensland Times*, 18 August 1950, 5; *Nambour Chronicle*, 6 March 1936, 10.

Rural areas, described as being particularly susceptible to infestations of pests, required special safety measures: 'possibly the country township supplies the fly with conditions most congenial. Nowhere else does it so flourish, exhibit such vitality, or arrive in such squadrons'.[128] By 1913, flies were the foe of safety: 'science has declared it a menace to health of the community—in ways so deadly and far-reaching that only by united effort may we hope to partially combat it'. An 'unceasing war against the common enemy' was necessary.[129] Little had changed by 1953 when the NSW Health Week Executive stated: 'there is a great need for being health conscious in rural areas…people in these districts must wage a continual war against the house fly, the blow fly, cockroaches, mosquitos, ants, and other disease-carrying pests'. If action was not taken, 'a fly's life may cost you your own'.[130] Perhaps pests reminded colonial powers they were out of place in this unruly continent. Dawn Day Biehler and Tarulevicz have shown attempts at controlling pests were reflective of political ideologies, entwined with 'ideas of civility, modernity, and morality', and observed how remarkably resistant and persistent 'pests' have been 'in colonizing *us*' as humans.[131] Order was the answer: in 1913, food was 'a magnet', and homes and yards needed to be kept 'scrupulously clean'.[132] In 1953, 'a clean, neat, tidy home and gardens will help keep these dangerous insects away'.[133] Aesthetic neatness of home and yard was not only visually pleasing but safe, a protection against insects and vermin.

The spatiality of sanitation during the long 19th century, Stratford suggests, 'deeply unsettled' borders between 'the public and private'.[134] Knowledge of germs and contagion meant that private dirt was of public concern, a potential pollutant to the wellbeing of Australia. The health of the individual, the child and family was mediated by responsible public health authorities, regulated and certified. The effect of this was that predominant food safety concerns shifted from fears of contamination in distant lands – or adulteration in transport, for example – firmly into the home, onto the family and into the hands of the housewife.

[128] *Daily Post*, 8 February 1913, 4.
[129] Ibid.
[130] *Farmer and Settler*, 23 October 1953, 23.
[131] Nicole Tarulevicz, "Insecta (Class), or One of the Main Drawbacks of Tropical Living," in *Humans and Other Animals in Singapore, 1942-2020*, ed. Timothy P. Barnard (Singapore: Singapore University Press, forthcoming 2022), 1; Dawn Day Biehler, *Pests in the City: Flies, Bedbugs, Cockroaches, and Rats* (Seattle: University of Washington Press, 2013), 8; William Cronon, "Foreword: An Unruly Wilderness Within", in Biehler, *Pests in the City*, xiii.
[132] *Daily Post*, 8 February 1913, 4.
[133] *Farmer and Settler*, 23 October 1953, 23.
[134] Stratford, *Geographies*, 217.

Gatekeepers of Hygiene

Domestic science was not merely a theoretical change, but had real impacts on women's lived experience. As Tomes and Reiger have identified, germ theory and scientific housekeeping had profound implications for women on whom the bulk of hygiene, sanitation and food preparation fell. It 'simultaneously ennobled women's work in the home and made it more physically and emotionally burdensome'.[135] An Australian source from the 1940s explains this view. A 'housewife's' letter to a Dr V Wallace, arguing for women's right to control family size through contraception, detailed the pressures faced by housewives, stating that expectations of home hygiene and nutritional knowledge were impossibly elevated: 'Modern cooking…is more varied and the more one knows of calories and vitamins the more the menu has to be studied…[making] living on a higher standard harder, not easier'.[136] Housework, for most women, and for much of this period was, as Kate Darian-Smith has argued, 'unmechanized drudgery', and only further 'aggravated' by World Wars and The Depression.[137] The 1946 Queensland 'Food and Nutrition' guide (mentioned earlier), reinforces the high expectations placed on women. While designed 'for non-technical readers', it presented detailed nutritional scientific information on vitamins, calories, minerals and so forth. Diagrams of recommended intakes for 'specific nutrients' required complex calculations to turn into an accurately balanced nutritional meal.[138] Intended levels of knowledge were high.[139]

As other Australian scholars have shown, much of the broader reformative work in this era was 'consciously aimed at women'.[140] Discursive sources reveal a deep focus on health, particularly of the family, because, as Foucault, Coveney and others have shown, the family was the crucial link between the individual and social body.[141] Nuclear families were seen to 'maintain moral order', as Joanne Hollows has shown.[142] Women were responsible not only for their own homes, but more far-reaching causes too. In purchasing cheap milk in 1936, housewives were said to undermine quality and impede 'the process of improvement of

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[135] Tomes, *Gospel*, 10.
[136] In Reiger, *Disenchantment*, 73.
[137] Kate Darian-Smith, *On The Home Front: Melbourne in Wartime 1939-1945* (Oxford: Oxford University Press, 1990), 97.
[138] Queensland Health Education Council, "Food and Nutrition", 13, 45, 47.
[139] Reiger, *Disenchantment*, 75.
[140] Ibid., 43.
[141] Coveney, *Food, Morals*, 95.
[142] Joanne Hollows, *Domestic Cultures* (Maidenhead, Berkshire: McGraw-Hill, 2008), 9.

our milk supplies by a reasonable certified standard'.[143] Women, as housewives and mothers, were pivotal in the production of heathy families and maintaining the health of the nation. Responsibility extended to blame, and 'popular ignorance remained a fixture of official explanations of malnutrition'.[144] Aligning women with disorder, in 1913 housewives were said to be careless and backward-thinking: 'her reign in the kitchen is always precarious'.[145] An investigation into milk supply revealed 'home truths', pointing to the conservatism of housewives who continued to prefer – 'like the microbes' – the open milk jug to patent sanitary milk cans, which protected milk from germs.[146]

While women were subject to significant pressure, the rise of health and hygiene concerns also presented new meaning, roles and power for some women. As Alexander Cameron-Smith has pointed out, gendered discourse was not simply enforced by the state and society, but women responded – mothers, teachers, and the like – writing letters to relevant authorities asking for further information about nutrition and health.[147] Numerous enduring women's organisations emerged around this time, providing public platforms for issues that concerned particular groups of women.[148] The rise of nutritional science and domestic science offered possibilities for women, albeit very specific socially-approved 'appropriate' ones, rendering possible tertiary educations and scientific training and research from which they had been previously barred.[149] Even with their circumscribed nature from today's vantage point, such educational prospects, Darian-Smith has argued, have 'been crucial to changing understandings of gender relations, equity and occupational expectations…contributing to the social transformation of modern Australia'.[150] But despite the opportunities offered by the rise of domestic science and the rhetoric of scientific household management and professionalism, scholars have argued that because housework remained unpaid labour, it remained underappreciated work.[151] Moreover, while often

[143] *Advocate*, 5 November 1936, 7.
[144] Alexander Cameron-Smith, "Raphael Cilento's Empire: Diet, Health and Government between Australia and the Colonial Pacific," *Journal of Australian Studies* 38, no. 1 (2014): 108.
[145] *Evening News*, 15 February 1913, 8.
[146] Ibid.
[147] Cameron-Smith, "Cilento's Empire", 109.
[148] The Australian Women's Health Association already had branches in several states by 1900. Santich, *Dietary Advice*, 19; *Herald*, 14 August 1952, 5.
[149] Coveney, *Food, Morals*, 75.
[150] Darian-Smith, "Vocational Education", 142.
[151] Helen Zoe Veit, *Modern Food, Moral Food: Self-Control, Science, and the Rise of Modern American Eating in the Early Twentieth Century* (Chapel Hill: University of North Carolina Press, 2013), 79; Reiger, *Disenchantment*, 73.

targeting working classes, these opportunities were largely only afforded to white middle-class Australian women.[152]

Economics, Class and the Social Body

The cost of the food was implied as a measure of safety, a correlation consistent with other discussions around ice cream. Cheap ice cream was deemed ‘the fortress of the bad bacillus and morbific microbe’, and the treat was paid particular attention in an article entitled ‘The Danger of Cheap Foods’ a decade later.[153] Cheap food was bad food in 1910, when a ‘woman doctor’ cautioned people that ice cream was dangerous, having had ‘several almost fatal cases of dysentery directly traceable to cheap ice cream’.[154] Other sources concurred: ‘cheap food is never an economy’; indeed, it was a ‘fallacy’.[155] ‘Reliable’ sources, which increasingly meant not homemade, were said to be safe, but not cheap sources. It was bemoaned that cheapness was often sought at the expense of nutrition and safety: ‘unfortunately, a large proportion of the general public do not take much interest in the hygienics of what they eat and drink, so long as it has some name, is palatable, plentiful and cheap’.[156]

Nutrition was connected to economics because of its concern with efficiency. The science sought to establish which foods were more advantageous in terms of nutrients and cost. In the early period, this related to providing adequate calories to most efficiently ‘fuel worker’s bodily machine’.[157] A ‘dietary scale’ was said to have formed the foundation of national wage calculations in 1911, and Santich noted that a central function of the 1919 Australian Basic Wage Commission was to establish a model for a nutritionally adequate diet for a nuclear family, and to base a wage around this information.[158] The cheaper an adequate diet then, the lower the basic wage and cost of labour could be. Nutrition was utilised to solve perceived social problems such as the threat of labour movements striking for higher

[152] Reiger, *Disenchantment*, 56-82.
[153] *Sunday Times*, 10 May 1896, 9; *Australian Star*, 12 October 1907, 11.
[154] *Northern Star*, 29 October 1910, 14.
[155] *West Australian*, 15 October 1934, 7; *Daily Advertiser*, 15 November 1913, 4.
[156] *West Australian*, 5 October 1910, 4.
[157] DuPuis, *Dangerous Digestion*, 67.
[158] Clements, *Diet and Nutrition*, 6; Santich, *Dietary Advice*, 71-7.

wages.[159] Nutritional guides focused on economy and efficiency throughout the period, balancing food values with cost.[160]

The clear disconnect between the search for nutritional efficiency and the condemnation of cheap food was a contradiction that could be reconciled through knowledge. For, as Biltekoff, Coveney, Bobrow-Strain, Veit and others, have understood, nutrition and domestic science 'came to function as a system of knowledge and power', in the Foucauldian sense.[161] Holders of the 'right' knowledge, could discern between foods that could safely be purchased cheaply and provide sufficient nutritional benefit, and those, like ice cream, which presented danger when purchased cheaply. In turn, evidence of this knowledge – health, prosperity, knowing and eating the 'proper' foods – was used to naturalise class distinctions and perceived racial difference. At the same time, understandings of the social body were becoming more prevalent.

The health of the individual was by the 1920s understood as important to the health of the wider community, which in turn, had implications for the safety of the nation. As Cameron-Smith has argued, 'concerns about racial fitness and national efficiency were central themes of public health reform discourse between politicians, health officials, doctors and the public', most notably in the interwar period.[162] A 1926 article explained, 'The Great War impressed upon many nations the large percentage of physical defects' in their populations.[163] Individual and community health mattered, and were inextricably bound. Military unfitness was underscored by contagious epidemics and increasing scientific understandings of how these diseases were spread. The article continued, 'the greatest ally of prevention is hygiene— the science of the preservation of health or the science of sanitation'. Food safety and nutrition were critical to health, with readers reminded of 'the great importance of diet, and of the susceptibility of human beings to disease through contamination of food by flies and other insects'. Individuals, particularly women, had a critical role in the health of her community, 'the great part that the housewife plays in

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[159] Biltekoff, "Nutrition, Science", 129.
[160] Victoria Department of Public Instruction, "Cookery Instruction Card," (Melbourne, Albert J. Mullett, ca.1910-1920s), no. 7 (author's collection); Queensland Health Education Council, "Food and Nutrition", 39; Reiger, *Disenchantment*, 64-8.
[161] Charlotte Biltekoff, "'Strong Men and Women Are Not Products of Improper Food': Domestic Science and the History of Eating and Identity," *Journal for the Study of Food and Society* 6, no. 1 (2002): 60-1.
[162] Cameron-Smith, "Cilento's Empire", 103.
[163] *Maryborough Chronicle*, 18 October 1926, 4.

protecting such food'.[164] Australians, as citizens, had a moral duty to ensure not only their own personal health, but that of others. In 1932, a 'Dr Purdy stresses the need for arousing the whole sanitary conscience of the community and for enforcing the responsibility of the individual to observe the conditions of healthful living'.[165] The prominent Australian public health official Ralph Cilento made the link between the individual and the social body explicit: 'it is being universally acknowledged that the health of the individual…is not only his personal affair, but the concern and responsibility of the whole community'.[166]

New nutritional knowledge and ideas of healthy social bodies made the hygiene of the home everybody's concern. As Bobrow-Strain has pointed out in the American context, this period from between the wars witnessed a 'medicalization of home life', which held individuals personally responsible for the health of nation.[167] Scrutiny and monitoring of personal and home hygiene was validified, and healthy diets became equated with good citizenship, or in Reiger's words, there was 'a strong ideological message of cleanliness equals holiness equals citizenship': hygiene was a moral concern.[168] The working class received particular attention. That health education 'guidelines were not only practical but moral and aimed at the working class reveals the strong ideological overtones of the public health movement'.[169] Domestic science, Biltekoff has argued, was 'particularly concerned with examining and codifying subjects according to class difference', and 'in doing so, naturalized class difference and normalized a middle class standard for "alimentary subjectivity"'.[170] Nutritional and hygiene knowledge was used to perform class difference, as S. Margot Finn has pointed out.[171] In the case of colonial Bengal, Ray has shown that 'the scientific discourse of nutrition had to fall back on an imagined "tradition"' in the construction of ideal, hygienic – and thus 'pure' – diets for discursively classed bodies.[172] In Australia as elsewhere, nutrition recommendations affirmed existing middle-class dietary ideals, but were not, of course, always welcome. Santich has observed that the 'annual reports

164 Ibid.
165 *Advertiser*, 17 September 1932, 8.
166 In Cameron-Smith, "Cilento's Empire", 105.
167 Aaron Bobrow-Strain, "White Bread Bio-Politics: Purity, Health, and the Triumph of Industrial Baking," *Cultural Geographies* 15, no. 1 (2008): 22-6.
168 Reiger, *Disenchantment*, 41-2.
169 Reiger, *Disenchantment*, 44.
170 Biltekoff "Strong Men", 65-6, 60.
171 S. Margot Finn, "Can "Taste" Be Separated from Social Class?" in *Food Fights: How History Matters to Contemporary Food Debates*, ed. Charles C. Ludington and Matthew Morse Booker (Chapel Hill: University of North Carolina, 2019), 96-7.
172 Utsa Ray, "The Body and Its Purity: Dietary Politics in Colonial Bengal," *The Indian Economic & Social History Review* 50, no. 4 (2013): 397.

of Sydney Ladies Sanitary Association' deplored that "working women" did not care to be educated'.[173] The evolution of *safe* to incorporate *healthy* was not only gendered and classed, but raced too.

Eugenics, Euthenics, and the Safety of the Race

Australia as a nation was founded explicitly on the basis of racial exclusion.[174] As Alison Bashford has written:

> The pursuit (at many levels) of health, hygiene and cleanliness was one significant way in which the 'whiteness' of white Australia was imagined, as well as technically, legally and scientifically implemented: purity was the project of public health, as well as the project of nation.[175]

Ideas of race wrought understandings, applications and institutions of public health.[176] Various aspects of eugenics and racial hygiene movements in Australia have been addressed, such as intersections with health and medicine, sex, and women's movements, but very little has been written about ideas around the interaction of food and race during this time period.[177]

Discourse around race and food was common for much of this period, and 'race' was often used interchangeably with 'nation'. As scholars have established, continuing anxieties about how British bodies would adapt to Australian environmental conditions meant that the right diet and safe food was imperative.[178] Compounding these fears, was the perceived threat of an 'Asian invasion' from the north.[179] World War Two entrenched government intervention in food, and this continued for Indigenous Australians for much longer than the rest of the population. Some commentators used the wellbeing of the race to promote particular foods – 'pure milk is a vital matter to the growing race' – while others sought to

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[173] Santich, *Dietary Advice*, 36; Reiger, *Disenchantment*, 62-3.
[174] Bashford, *Imperial Hygiene*, 3.
[175] Ibid.
[176] Ibid.
[177] Notable exceptions are Cameron-Smith and Mayes, Cameron-Smith, "Cilento's Empire", 103-18; Christopher Mayes, "Feeble-Mindedness, Depression and Obesity: A Brief History of Eugenics and Dietary Interventions in Australia," *Somatosphere* (3 March 2020); Scholars have studies eugenics in Australia from non-food studies perspectives, especially Jane Carey. Jane Carey "'Wanted! A Real White Australia': The Women's Movement, Whiteness and the Settler Colonial Project, 1900–1940," in *Studies in Settler Colonialism*, ed., Fiona Bateman, and Lionel Pilkington (Basingstoke, Hampshire: Palgrave Macmillan, 2011), 122-39; Anne Rees, "'The Quality and Not Only the Quantity of Australia's People': Ruby Rich and the Racial Hygiene Association of NSW," *Australian Feminist Studies* 27, no. 71 (2012): 71-92.
[178] Anderson, *Cultivation of* Whiteness, 167.
[179] Cameron-Smith, "Cilento's Empire", 112.

protect the nation through food.[180] In a 1943 letter to the *Bulletin*, improving diets and nutritional knowledge were essential 'for a race bubbling over with health and vitality', in order to 'safeguard the nation's health'.[181] Food was a critical interface between self and other, at the same time working to create a subject, being imbued and becoming part of us. Concerns around diet and race manifested through several interrelated themes: in 'improving' and strengthening a white Australian race; in 'improving' and 'civilising' Indigenous peoples across Australia; and in the fear of bodily contamination of food.

Heredity and environment were key to a healthy race, and theories of eugenics and the lesser-known euthenics rose to prominence in early twentieth century Australia.[182] Drawing on international thought, and developed locally, these theories were explained by sources from the era. In 1911, a newspaper informed readers that while eugenics was concerned with inherited traits, euthenics was concerned with environments as the determining factor of health, but that 'their ultimate objects are identical'.[183] Put another way, 'eugenics is the science of being well born and euthenics the science of being well placed'.[184] A couple of years later, euthenics was deemed 'the sister science of eugenics', in an article published from Northern Queensland to WA. Studying 'the hygiene of the present generation', the field taught 'that diseases themselves are not inherited, but the power to resist disease is inherited, and unless this resistance is present a child is liable to fall prey to the ever present microbe'.[185] In contrast, 'heredity was nothing more than stored environment, and every mother has the chance to add to that store'. And since 'a bad inheritance can be overcome by a good environment', the correct food was critical. Instructions for infant diets were prolific and particular, for instance, 'a child's general diet at infancy should be beef juice and orange juice'.[186] According to these perspectives, race and food were 'mutually constitutive'.[187]

The perceived threat of Asian invasion in the north of Australia meant that a healthy white population was critical, according to some Australian officials.[188] Nutrition was pivotal to aforementioned heath official Cilento's understandings of public health in 1936: 'nutrition is, indeed, the chief governing factor in the great parabola of the human life course – the

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[180] Camden Vale Milk Co., *Special Milk*, 25.
[181] *Bulletin*, 28 April 1943, 27.
[182] Anderson, *Cultivation of* Whiteness, 167.
[183] *Advertiser*, 25 March 1911, 18.
[184] *Daily Telegraph*, 15 November 1922, 8
[185] *Maryborough Chronicle*, 27 January 1913, 8; *Western Mail*, 10 January 1913, 44.
[186] Ibid.; Another article rhetorically asked, 'Housekeeping or Euthenics?', *Age*, 30 April 1929, 7.
[187] Veit, *Modern Food*, 102.
[188] *Telegraph*, 21 August 1935, 20.

constant chemical activator'.[189] A year earlier, a widely published article voiced Cilento's fears for British settlement in Northern Australia, 'we cannot preserve our frontiers unless we can effectively occupy the land we claim', extending, of course, to growing crops for settler-colonists.[190] While three generations had successfully adapted to challenging climatic conditions, disease and nutrition problems were new threats:

> In discussing the development of tropical Australia people seldom realised the importance of the medical factor, it being necessary to secure the pioneers of tropical colonisation against food deficiencies and epidemic…food deficiencies which did not kill, but doped and destroyed initiative and intelligence.[191]

The security of the nation, in other words, pivotally relied on a nutritionally correct diet. Other officials, such as Dr. D. Gifford Croll, concurred with the need for a healthy population: 'our national safety lies in the quality, not quantity, of our people'. For Croll, this was 'racial pressures'.[192]

So which foods then, were suitable for a healthy Australian race? In 1926 eugenicist and prominent public health official Harvey Sutton, in collaboration with various organisations, implemented the 'Sutton's Standard' children's lunches for some NSW schools, including 'grated chocolate and raisins, grated carrot, celery, marmite, steeped prunes, grated cheese, fruit salad and cream, and ice cream'.[193] In a 1930 lecture to the Racial Hygiene Association, a Doctor H. G. Wallace explained the connection between diet and national health: 'nations whose sole protective food was the leaf of the plant were small, and not noted for mental or intellectual ability'.[194] Those whose diets consisted of animal protein ('milk and meat'), on the other hand, 'made greater advance in every way', although perhaps Australians did consume 'too much meat'.[195] In 1934, the WA Commissioner of Health Dr. Everitt Atkinson prescribed more dietary advice. He was quoted as instructing on 'Suitable foods for white people', which covered most foods: 'cereals (wheat, oats, barley, rice, etc.), pulses (peas, beans, lentils), tubers and roots (potatoes, carrots, turnips, etc.), the flesh of

[189] From Cameron-Smith, "Cilento's Empire", 107.
[190] *Telegraph*, 21 August 1935, 20; *Sydney Morning Herald*, 14 September 1935, 19.
[191] Ibid.
[192] *Sydney Morning Herald*, 14 September 1935, 19.
[193] Grant Rodwell, "Professor Harvey Sutton: National Hygienist as Eugenicist and Educator," *Journal of the Royal Australian Historical Society* 84, no. 2 (1998): 164.
[194] Racial Hygiene Association was heavily involved in NSW state 'Health Weeks' in the late 1920s, *Sydney Morning Herald*, 10 October 1928, 16.
[195] *Newcastle Morning Herald*, 2 April 1930, 9.

animals, eggs, milk, and milk products, green vegetables, salads and fruits'. But he further qualified that the 'Anglo-Saxon' diet of 'mainly...wheat, potatoes and meat', with small quantities of dairy, vegetables and fruit, was efficient and practical.[196]

Recommendations such as Atkinson's and Wallace's reiterated existing British-Australian diets, reflecting how nutritional knowledge was culturally specific. The 1933 NSW annual health week was named 'Health and Milk Week', encouraging Australians to drink more of the substance.[197] Only a year earlier, the loss of 'The Ashes' cricket competition (Australia versus England) was attributed by some, to insufficient milk consumption'.[198] Dr Elma Stanford Morgan of the NSW health department appeared to condone this suggestion, stating in the same article that it was 'recognised that the aggressive races – such as the Normans – were "milk races"'.[199]

For some, such as Cilento and Atkinson, anxiety coalesced around industrialised foods, reflecting an 'ambivalence about modernity', despite all the talk of 'progress', and 'science'.[200] Entitled, 'Mal-Nutrition: The Silent Enemy of the Race', a 1937 article can be used to tease out this quandary. It presented concerns about proliferation of processed foods, the ability of poorer classes to afford nutritionally adequate food, and racial progress:

> When the economic historians of the future come to deal with the nineteenth century, they will probably label it 'The Age of the Tin-opener.' Never before has the world seen such a variety of foods in bottles and containers and cans, all most hygienically sealed and attractively prepared.[201]

It was not doubted that these foods saved time and labour, 'but there is amongst scientists a growing uneasiness as to their essential virtues'. Processed foods were feared not only inadequate, but harmful, with some declaring 'that modern food is "destroying our civilisation, as surely as it has decimated the ranks of primitive peoples"'.[202] Dental and health statistics of Queensland children was used as evidence of decline, with 35.6% suffering from 'defects'. These figures were not contextualised. It was feared that processed foods were compromising the health of children and thus the safety of the race. The

[196] *Daily News*, 1 March 1934, 11.
[197] *AWW*, 18 November 1933, 25.
[198] *Daily Telegraph*, 29 July 1932, 8.
[199] Ibid.
[200] Cameron-Smith, "Cilento's Empire", 113.
[201] *Maryborough Chronicle,* 4 September 1937, 10.
[202] Ibid.

contrasting of pre-colonisation Indigenous food habits and health with the ill-health of colonised Indigenous peoples was a trope expressing a discomfort around modern diets while simultaneously marking out European superiority from the 'primitive inhabitants'.[203] Dr F. W. Clements and the Nutrition Committee of the National Health and Medical Research Council of Australia extended these ideas to the health of the land and nation in the 1941 *Diet and Nutrition for the Australian People*, describing a disconnect between the people and their food: 'social custom, commercial practice, and mechanized industry contrive to complicate the picture by interposing refinement, preparation, chemical treatments...between the original product of the soil and the consumer'.[204] Grain, for example, was 'selected for special selling qualities utterly divorced from dietary needs, and subjected to the greatest mechanical and chemical refinement that can be devised by ingenious mankind'. A safe and appropriate food supply were then of national importance; 'a matter for consideration for every Australian who holds his country and his race dear'.[205] For Cilento and others, Cameron-Smith has observed, '"Civilised" decline…was a decline towards a "primitive" self that was always present'.[206]

Concerns about food safety, nutrition and race, were also directed at Australia's first peoples.[207] In an example that demonstrates the paternalistic, racialised public health approach of governments in 1950, the Federal Minister for the Interior stated that 'the policy of his department was to provide for the care, welfare and education of natives,' which aimed 'to encourage them to appreciate the advantages of a settled life'.[208] For 'care, [and] welfare' of the government, it was demanded in return that Indigenous Australians conformed to European normative patterns of living. Food habits were central to this cultural requisite. The second listed priority in the inspection and surveillance of the missions and government stations that enacted welfare was to oversee 'food preparation and hygiene'.[209] These aims were strikingly similar to ideas of diet and race over one hundred years earlier, as discussed in chapter one. Using health and wellbeing as the justification, government sought to dictate everyday life for Australia's first peoples. Ian Mosby has shown that in Canada, settler-colonial officials in the same period sought to solve diet-related health problems through 'expert-driven, technological solutions as a means of easing the so-called transition from

[203] Clements, *Diet and Nutrition*, 4.
[204] Ibid., 5.
[205] Ibid., 7.
[206] Cameron-Smith, "Cilento's Empire", 113.
[207] This is a starting-point for understanding relationships between ideas of race and food safety.
[208] *Northern Standard*, 14 April 1950, 5.
[209] Ibid.

"traditional" to "modern" foodways'.[210] Rationing continued in areas of Australia, and 'civilisation' was still the rationale, as the Minister concluded: 'thus they might raise their own status and qualify themselves for the ordinary rights and privileges of citizenship'.[211] But rather than being couched in terms of Christianity, intervention was now because of public health.

Although there is a substantial literature on policies governing Indigenous people's lives in Australia, the examples used here tell a specifically Australian story of food safety. The colonial policy of 'Protection', which had brought with it government-sanctioned rationing, was officially replaced by the federal government policy of 'Assimilation' in 1952.[212] In 1961, it was described for the Native Welfare Conference:

> [All] aborigines and part-aborigines are expected eventually to attain the same manner of living as other Australians and to live as members of a single Australian community enjoying the same rights and privileges, accepting the same responsibilities, observing the same customs and influenced by the same beliefs, hopes and loyalties as other Australians.[213]

In other words, Indigenous Australians would be treated as white Australians *if* they abandoned their own cultures and adopted the culture of their British-Australian settler-colonisers. Included in the first 'method of advancing the policy', among other factors, was the aim of 'better standards of…nutrition'. As Tarunna Sebastian and Michelle Donelly have discussed, food – specifically the absence of 'whitefella food' – has been directly implicated in and used as an excuse for the forced removal of children from their families: deliberate attempts to fracture the cultural continuity of Indigenous peoples, a practise that arguably continues today.[214] The systematic removal of Indigenous children (the Stolen Generation) from their familial environments was another manifestation of the biopolitical and racial

[210] Ian Mosby, "Administering Colonial Science: Nutrition Research and Human Biomedical Experimentation in Aboriginal Communities and Residential Schools, 1942–1952," *Social history* 46, no. 1 (2013): 171.
[211] *Northern Standard*, 14 April 1950, 5; Robert Foster, "Rations, Coexistence, and the Colonisation of Aboriginal Labour in the South Australian Pastoral Industry, 1860–1911," *Aboriginal History* 24 (2000): 1-26; Amanda Nettelbeck and Robert Foster, "Food and Governance on the Frontiers of Colonial Australia and Canada's North West Territories," *Aboriginal History* (2012): 21-41; Vicky Hoogmartens and Jean-Christophe Verstraete, "Rations: Flour, Sugar, Tea and Tobacco in Australian Languages," *Australian Journal of Linguistics* 40, no. 4 (2020): 444-74; Steven Farry, "Living (and Dying) on Dry Bread: Rationing and Biopower in Jack Davis's Kullark and No Sugar," *Food, Culture & Society* 24, no. 4 (2021): 1-21.
[212] Tarunna and Donelly, 59.
[213] Australian Government, "Changing Policies towards Aboriginal People"; Paul Hasluck, "Native Welfare Conference: The Policy of Assimilation," (Canberra: Commonwealth Government Printer, 1961).
[214] Sebastian and Donelly "Policy influences", 59; Mosby, "Colonial Science", 145-72.

thinking of the era. In this theory, Indigenous people could be ‘raised up’ to the level of white Australians. Concurrent but conflicting racial theories held groups of people – ‘races’ – as fundamentally different and unable to change.

Fears of contamination were framed as an immediate threat to wellbeing, based on essentialist notions of some ‘races’ as incapable of understanding hygienic practices. Around the turn of the century, cheap ice cream in Australia (as in Britain and America) was particularly associated in popular discourse with Italians. Italian ice cream vendors were labelled ‘dirty dagos’ and ‘greasy Italians’, and their products ‘cheap and nasty’ and ‘an extremely dangerous quantity from a health point of view’.[215] They were often accused of causing sicknesses, with newspaper accounts detailing apparent methods of production. In one belligerent account, vendors in Perth were said to make their ice cream in backyards, in ‘vile and filthy’ conditions. Testing of ice cream made by Italians in London was said to have revealed ‘dog hair, human hair, tobacco and dry horse dung’, and the writer had ‘no reason to suppose Italian purveyors of ice cream in this country are any cleaner than in London, indeed it is doubtful if they are so clean’. Conditions of production were inextricably tied to race: ‘dagos as a rule are not noted for the habits of cleanliness, and it is only to be supposed that their wares must partake of some of their filth’.[216] Such rhetoric again displays continuities with 19th century descriptions of dried fruit and tea production, discussed in earlier chapters., Cleanliness and food production, drawing on Dupuis, functioned in ‘marking some people as intrinsically less deserving of a good and healthy life because they are deemed “disorderly”: less capable of controlling their bodies and boundaries’.[217]

Racist practices and the rhetoric of food safety was extreme and offensive. In a mundane and seemingly pleasant article detailing Darwin hospital patients and their illnesses from 1936, the tone turned: ‘a very unpleasant incident took place the other day and it is to be hoped it is not going to develop into a regular practice’, it said; ‘a full blooded abo. was put on as waiter to the patients serving them their meals’. Hygiene was used as the rational to justify a profoundly dehumanising statement:

> It is a recognised fact that a full-blooded abo. does not understand hygiene and no matter how humble and poor patients may be, treatment and

[215] *Truth*, 28 November 1903, 1; *Tasmanian News*, 29 September 1903, 3; *Wagga Wagga Express*, 15 October 1892, 2; *Capricornian*, 10 January 1903, 39; *Tamworth Daily Observer*, 19 January 1911, 2.
[216] *Truth*, 28 November 1903, 1.
[217] DuPuis, *Dangerous Digestion*, 8.

> attention in the hospital should have cleanliness as a foundation. It is a known fact that restaurants and butchers and other distributors of food are not allowed to employ abos, in handling it. [218]

The racist language is shockingly casual. 'No matter how humble or poor', the unstated, but unquestionably white, hospital patients were deemed superior merely by the colour of their skin. Racial determinism asserted it was an unchangeable rule of nature that it was not possible for Indigenous people to be clean or practice cleanliness. Perhaps even more alarmingly, it points to a wider cultural practice ('a known fact') of disallowing Indigenous Australian involvement in food production and handling. Here, the biopolitics of health and food safety are starkly evident. The 'knowledge' of the 'science' of hygiene, with its 'facts', was used to justify and strengthen social hierarchies. Food safety and nutrition, were the rationale for, in Mosby's words, 'a larger institutionalized and, ultimately, dehumanizing colonialist racial ideology'.[219]

These ideas did not disappear after the racialised horrors of World War Two. Deborah Ambery has detailed the 'the Hopewood experiment of L O Bailey', in which a number of white Australian children, carefully selected, were removed from their families and raised in NSW group homes, according to strict eugenic principals, of which diet was central.[220] In the immediate years after the war until businessman Bailey's death in 1964, the approximately eighty-six children were restricted to what can be loosely described as unprocessed foods, dominated by raw vegetables, fruit and dairy, with minimal meat and 'starch' foods, a diet which Bailey believe to be 'natural'.[221] It was hoped by Bailey, that these children would form an 'elite group', and eventually reproduce among themselves, thus passing on these 'improvements to subsequent generations', and becoming 'the basis of an Australian super-race'.[222] Unsurprisingly, no 'super-race' emerged. Australia's comfort with eugenics was ongoing in wider sections of the community also. Ann Rees has observed discussions of racial hygiene, although 'unfashionable', continued in Australia with, for example, the Family Planning Association only changing their name from the Racial Hygiene Association

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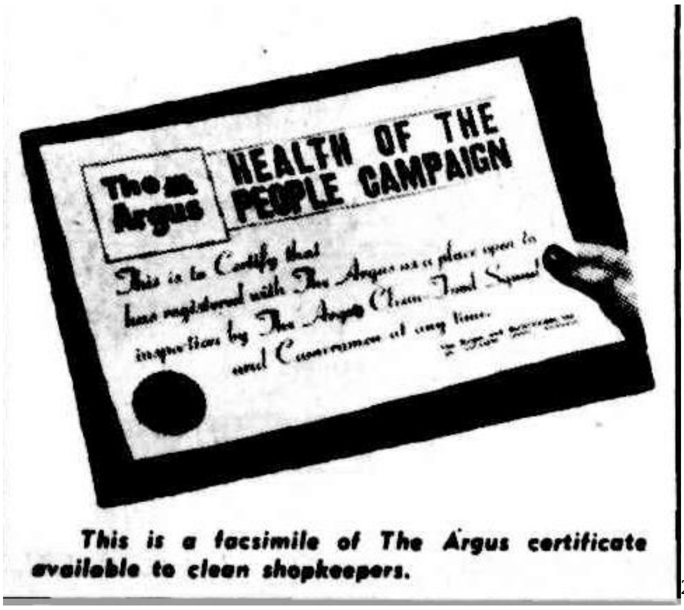
[218] *Northern Standard*, 8 May 1936, 8; As depict in Noongar artist Sandra Hill's painting *The Cakemaker*, exclusion in food production was not merely theoretical, Hannah Reich, "Stolen Generations survivor Sandra Hill turned to art to tell her story, process grief and heal".
[219] Mosby, "Colonial Science", 172.
[220] Deborah Ambery, "A Design for Better Living: The Bio-politics of Eugenics, Diet and Childhood in the Hopewood Experiment of LO Bailey," (PhD thesis: University of Western Sydney: 2000).
[221] Ambery, "Hopewood", 137-8, 157.
[222] Ibid., 119.

in 1960, and in 1968 for the first time, dropping the term eugenics from their annual reports.[223] Race also remained part of official governance: it was not until the 1970s that the ‘White Australia’ policy was renounced by the federal government.[224]



[225]

Figure 24. Certifying Safety: ‘The Argus Clean Food Squad’, 1955.

Conclusion

Both hygiene and racism were institutionalised regimes that often functioned similarly and, sometimes, in conjunction with each other. The rhetoric of hygiene and food safety permeated government interests, but also those with commercial intent. The delineation of private and public interests was messy, and the blurring of scientific authority and commercial interests often hard to discern. Media interests became involved in policing and monitoring health and safety. The *Argus* newspaper in Melbourne joined the campaign for ‘clean food’ in 1955, offering a ‘Health of the People Certificate’ of cleanliness to food businesses, such as bakeries, cafes and butchers: ‘the holders of certificates agree to offer their premises for inspection by The *Argus* Clean Food Squad and cameramen at any time during trading hours’ (see figure 24*)*. The certificate would be withdrawn if breaches were proven – with the *Argus* as the assessor – and notification published in the press.[226] The newspaper framed itself as a public health authority, crusading to make Victoria a safer place,

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[223] Rees, “Racial Hygiene Association”, 86.
[224] Anderson, *Cultivation of Whiteness*, 248.
[225] *Argus*, 29 July 1955, 1.
[226] Ibid.

evident in figure 25: 'today the *Argus* Food Squad will strike in its biggest blitz yet on the dirty food handlers. A time-tabled plan has been evolved, to be triggered at dawn'.[227] Little mention was made of scientific or medical professionals being involved in assessments of businesses, but only their own staff: 'Man from The *Argus* was there'. The newspaper's authority then, rested on their ability to publicly shame non-compliant businesses.

THE ARGUS, Friday, July 29, 1955 Page 5

HERE ARE TODAY'S GUILTY FOODMEN

Man from The Argus was there

THE greatest penalty in a health prosecution was that a reporter was in the court taking notes, Mr. Roy Schilling, barrister, told Box Hill Court yesterday.

He was appearing for a bakery alleged to have failed to protect bread from dust and flies in a delivery cart.

Mr. Schilling: "The greatest penalty in this case is the gentleman with the notebook and pencil."

He indicated a reporter — a man from The Argus. (Full story, this page.)

DAWN BLITZ TODAY

A three-pronged attack on dirty food handlers will start at dawn today.

Mister Felix

Court fines 3 dirty city restaurants

THREE of Melbourne's most patronised restaurants, two in the theatre area, were fined in the District Court yesterday for dirty premises. They are:

- Mirka's French Cafe, Exhibition st.
- The Lexington, Exhibition st.
- The Topsy, Sugden Place.

Mirka's and the Lexington are next door to each other.

GEORGE MORA, 40, of Collins st., City, proprietor of Mirka's cafe, £5 on each on charges of not providing a proper dustbin lid; not keeping all walls, ceilings and floors clean at all times; not keeping yards clean and dirty condition, there was a wooden tray with cakes on a table, and a rat hole near the doorway," said Mr. Brown.

Mr. Borwn said the dining room had dirt on the floor and the floor beneath the

CLEAN UP BREAD DELIVERY, COURT WARNS BAKERS

THERE must be clean delivery of bread, Mr. Hammond, S.M., warned all bakeries yesterday.

He was referring in regulation — although Cal-

● *The rush is on for Argus Cleanliness certificates. Up they go, in the city, in the country, in groceries, milk bars, cake shops, fish shops, food factories, butcheries, delicatessens.*

● Pauline Daly and Mrs. J. Yates fix up an Argus cleanliness certificate at Four'n Twenty Pies factory, Ascot Vale.

Here's the first list of premises "certified clean."

GOOD NEWS FOR

228

Figure 25. The Argus cleans up, 1955.

This chapter has explored a distinct shift in the history of food safety in Australia, informed by scientific knowledge of germs and nutrition, and an intensification of industrial food production. These bodies of knowledge were not only scientific, but cultural, and became central to Australia's structural institutions, manifesting in new authorities, education interventions and so forth, and were deployed to maintain existing social hierarchies. The following chapter shifts focus away from the state to commercial interests during the same time period, paying closer attention to the discursive space claimed by businesses in shaping food safety narratives.

[227] Ibid.
[228] Ibid.

6.

‘Where Hygiene is a Creed’: Commerce Claims Safety

In February of 1915, newspapers across the country reported on an ‘ice cream epidemic’ in the small town of Petersburg, South Australia. Nearly one hundred people were sick and two eventually died – a thirteen-year-old boy and an eighteen-year-old woman, Vera Brimage.[1] Despite national-press coverage, there appears to have been little consequence from the episode, aside from a couple of letters from the public to the local newspaper demanding a health report be released. A scant two weeks later, advertisements began appearing in both Adelaide and local newspapers, reframing the tragedy. An advertorial, ‘Pure Food Supplies’ appeared in the *Petersburg Times*, promoting Peter’s Ice Cream.[2] Describing the manufacturing process of the frozen food, safety and health were emphasised.

In the Peter’s factory, the piece related, the product could not be contaminated by human touch, ‘not even a finger necessarily comes into contact with any of the ingredients’.[3] As for the ingredients themselves, only ‘absolutely pure milk’ was used, overseen by a ‘dairy expert, one who thoroughly understood the most hygienic methods known to science’. Heat treatment of milk was an absolute guarantee of safety: ‘so perfect is the latest and improved process of pasteurisation that any matter which may be impure will not lend itself to pasteurisation in any shape or form, thereby rendering its method proof positive for effectiveness’. How exactly impure milk refused pasteurisation was not explained. Utensils were sterilised ‘every day’, and as further evidence of purity, Peter’s was distributed in remarkable packaging: ‘specially prepared wax paper, thereby ensuring the safe arrival of ice cream in its pure and unadulterated form’. And yet, ‘the most pronounced feature’ of ‘this nutritious summer food’ was that it contained only ‘pure milk, cream and flavouring’, and the butter fat content was said to be ‘nearly double’ that required by the Pure Food Act.[4]

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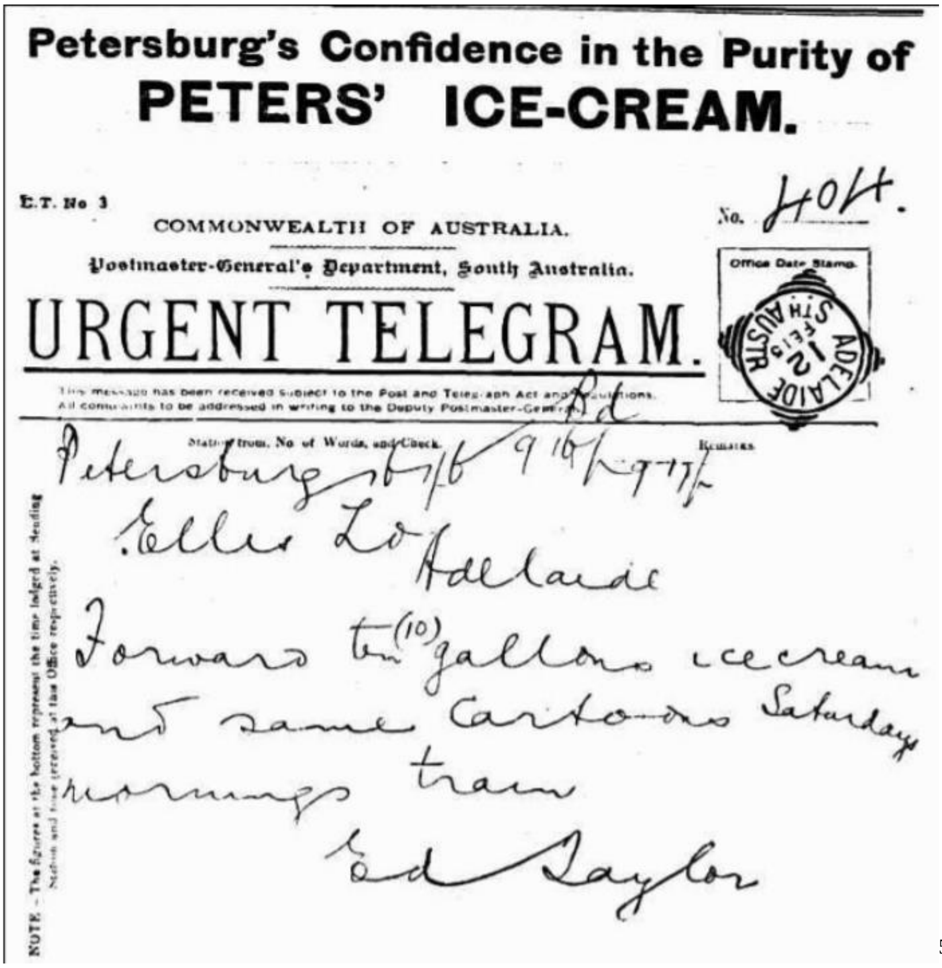
[1] *Chronicle*, 20 February 1915, 11; *Northern Territory Times and Gazette*, 18 February 1915, 13.
[2] *Petersburg Times*, 26 February 1915, 5; The apostrophe appears in different places in the brand’s name, and sometimes, not at all. I use Peter’s, but follow existing punctuation in quotes.
[3] Ibid.
[4] Ibid.



Petersburg's Confidence in the Purity of
PETERS' ICE-CREAM.

E.T. No 3 — No. 404.

COMMONWEALTH OF AUSTRALIA.

Postmaster-General's Department, South Australia.

URGENT TELEGRAM.

Station from, No. of Words, and Check. — Remarks.

Ellis Ltd
Adelaide

Forward ten (10) gallons ice cream and same cartons Saturday morning's train

Ed Taylor

[5]

Figure 26. 'Urgent Telegram' for Peter's Ice Cream, 1915.

Peter's Ice Cream used the Petersburg tragedy as a marketing opportunity, publishing 'purity' advertisements in the local press, and printing images of an 'Urgent Telegram' in Adelaide newspapers (see figure 26). Under the title 'Petersburg's Confidence in the Purity of Peters' Ice Cream', the telegram ordered 'ten (10) gallons ice cream and same cartons Saturday'.[6] The company implied Petersburg residents, despite the recent tragedy, had faith in the safety of Peter's. Another promotion in the *Petersburg Times* announced Peter's was 'guaranteed under Pure Foods Act'.[7] These advertisements demonstrate how big businesses sought to capitalise on food safety concerns, using the language and authority of pure food regulations, while simultaneously making health claims reflecting the burgeoning science of nutrition. Advertisements from Peter's Ice Cream and other food brands will be used to further explore this enmeshing of food safety, nutrition and commercial interests.

[5] *Express and Telegraph*, 15 February 1915, 4; A Mr Edwin Ellis 'acquired the rights' to manufacture under the Peter's name. *Mail*, 28 February 1914, 7.
[6] *Journal*, 17 February 1915, 1.
[7] *Petersburg Times*, 19 February 1915, 2.

Approach

Commercial interests interacted with, and shaped, food safety knowledges by co-opting and directing food safety and nutrition knowledges. This chapter examines how private interests were also actors in the institutionalisation of food safety. It asks, how did food businesses interact with the emerging knowledges of germs, bacteria and nutrition? Did new food safety issues accompany the increasing industrialisation of foods? Advertisements are used to unpack the ways food brands interacted with prevalent food safety concerns of the period 1901 to 1964. This chapter argues commercial interests contributed to food safety discourses, taking advantage of potential concerns around food and tapping into fears to promote their products. It teases out the relationship between nutrition and hygiene, examining representations of authorities, tropes of fortified foods, and factories as spaces of safety. The particular problem of 'regularity' leads into a discussion of gender, and the chapter concludes by demonstrating how commercial interests and – ostensibly – scientific information were muddied. As with the previous chapter, milk and ice cream products will be again referenced, including the brand Peter's Ice Cream, as a prominent Australian company and prolific advertiser.

Advertising, as discussed in the thesis introduction, provides a 'way in to culture', an overt and telling cultural artefact that can illuminate issues that concerned people of the time, and demonstrate how advertisers sought to shape ideas and knowledge around commodities and particular issues.[8] During this period, a number of food companies explicitly focused advertisements on safety, but this 'safety' had shifted from the previous century. The branded product, 'Benger's Food', for instance, was 'the safe food', not because it was uncontaminated or unadulterated, but because of its health-giving properties: it was the 'most easily assimilated and quickly nourishing'.[9] Nestle's Milk promised to 'safeguard the health of the family'. Safe milk meant healthy children: 'Life's a game to a healthy child reared on SAFE MILK…always pure, germ-free and nourishing. Nestle's Milk is rich country milk…safe food for any child'.[10]

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[8] Sarah R. Davies, et. al., "Science Stories as Culture: Experience, Identity, Narrative and Emotion in Public Communication of Science," *Journal of Science Communication* 18, no. 5 (2019): 4.
[9] *Morning Bulletin*, 16 December 1936, 4. 'Medical men' gave Benger's 'constant recommendation'. *Examiner*, 6 February 1929, 11.
[10] *Brisbane Courier*, 15 August 1932, 16.

Context

With notable setbacks such as two world wars and the Depression, the range of domestic products – food and technologies – expanded dramatically between 1901 and 1964. Along with domestic refrigeration, radios and the motor car, came powered washing machines, irons, toasters, vacuums and electric lights; so did Vegemite and Ovaltine, and into the 1950s, frozen foods and instant coffee. Print media proliferated, as did food brands. Although the percentage of incomes fell throughout the period, spending on manufactured foods was increasingly common.[11] Local food manufacturing continued to swell, and in the 1920s, international brands, such as Nestle, initiated Australian production. In the same decade, an Australian advertising industry was formed, and commercial discourse around food and food safety were produced in conversation between local and international interests.[12] During World War Two, the structure of the economy was changed: secondary and tertiary industries displaced primary in terms of employment and GDP, although primary production still dominated exports. Manufacturing became more sophisticated, notably with developments in food processing, aided by support from the US.[13]

As with many other industrialised countries, Australia entered a 'golden age' post-World War Two through the 1960s, with economic activity tripling. Life expectancy and leisure activities extended, and the nation became more outward looking. Weekly wages doubled between 1945 and 1965, as paid three weeks annual leave and five-day working weeks became the standard. The participation of married women in the workforce quadrupled between 1947 and 1961, and the contraceptive pill became available for some women from 1961.[14] Suburbs sprawled: home ownership grew from 53 per cent in 1947 to 70 per cent in 1961, and car ownership multiplied. Television arrived in Australia in 1956, and religious activity peaked at the end of the 1950s.[15] Full employment was complemented with broadened social securities, including unemployment payments, public health, education and housing provisions.[16] From the early 1960s, supermarkets were the dominant food

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[11] Kim Humphery, *Shelf Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998), 45.
[12] Ibid., 42, 44.
[13] Joan Beaumont, "World War II," in *The Oxford Companion to Australian History*, ed., Graeme Davison, John Hirst and Stuart Macintyre (Oxford: Oxford University Press, 2001), 699-701.
[14] Stuart Macintyre, *A Concise History of Australia.* fourth ed. (Port Melbourne: Cambridge University Press, 1999 reprint 2016), 227; Michelle Arrow, *The Seventies: The Personal, the Political and the Making of Modern Australia* (Sydney: NewSouth Publishing, 2019), 21-2.
[15] Macintyre, *Concise History,* 224-7; Rosemary Polya, "Food Regulation in Australia: A Chronology," Australian Government Information and Research Services (2001), 12.
[16] Macintyre, *Concise History,* 224.

distribution and retail form, with implications for purchasing choices as described in chapter four. By 1964, a 'modern consumer society' had developed in Australia for many.[17]

Nutrition and Safety

Safe food and nourishment were conflated and had become inseparable in popular print media during this era. Information around food was produced and circulated by many sources, some impartial and in public interest, and others, in pursuit of commercial gain. Often, it was difficult, if not impossible, to delineate between the two. Some sources from the era raised these concerns, arguing food advertisements were 'absolutely misleading and improper'. Indeed, one of the aims of the NSW Food Education Society was said to be 'to protect housewives from advertised foods which misrepresent the nature of the food offered'. These voices, however, were few.[18]

[19]

Figure 27. Guaranteed and branded, 1934.

Discursive sources constructed multiple layers of safety, interweaving medical advice, corporate concerns and, sometimes, state prosperity. For example, in a 1934 special (figure 27), local food was promoted as safe and desirable, reflecting the Depression-era context. 'Swan Brand Products' said 'spend where you earn', and in order to be 'absolutely W.A. made', they were changing their packaging to 'amber Bottles, which are made in the state', as 'white glass [was] not manufactured in W.A.'.[20] The conventional symbol of safety – white, likely transparent, glass – was exchanged for the less highly regarded brown version, but

[17] Humphery, *Shelf Life*, 3.
[18] *West Australian*, 5 October 1910, 4; *Mudgee Guardian*, 4 November 1926, 30.
[19] *Daily News*, 1 March 1934, 11.
[20] Ibid.

Swan brand sought to shift the safety understandings of consumers into recognising amber glass as a sign of locally made, supporting the health of the local economy. But the brand was the ultimate safety guarantee, as stated by the pictured authority, Commissioner of Health Dr. Atkinson, introduced in the previous chapter:

> It has been well said that as an engine runs smoothly according to the purity of the fuel that it gets, so does the human system perform largely according to diet. The soundest principle is to use well-known brands of foodstuffs. [21]

Brands then, equalled pure and safe food. As Toulin argued, such examples 'reveal that purity – and its attendant links to hygiene, public health, and consumer safety' rapidly became 'a commodity that could be purchased'.[22]

Brands like Peter's traded heavily in discourses of nutrition and safety. Advertising from many large industrial food companies in this period exemplify Scrisnis's theory of nutritionism, which we can also use to understand the broader food safety claims made in this space. As we have already seen, food promotions purported to be educating consumers, using reductionist and often misleading or inaccurate health claims, a trend that has continued into the 21st century. These discourses fed off and into consumer anxieties around food, as Veit has identified: 'in the early twentieth century, at a time when the kind of individual knowledge needed to safely navigate the food landscape could feel overwhelming, brands could assume enormous power'.[23]

Threats came from every direction, as a poem from early in the period described: *'there's a new-fangled science that sets at defiance / raw food is pernicious; if cooked not nutritious'*. Food was under attack: *'fruit makes us too bilious and sugar too fat'*. And sickness loomed: *'all canned stuff's infected / fish must be rejected / typhoid bacillus / likely to kill us'*. Nutrition and food safety advice, if attempted to be conscientiously followed, not only bamboozled, but imperilled the health of Australians: *'it's a safe proposition that man will grow lean / If he eats by the rules of the new hygiene'*.[24]

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[21] Ibid.
[22] Alana Toulin, "'Old Methods Not up to New Ways': The Strategic Use of Advertising in the Fight for Pure Food after 1906," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 473.
[23] Helen Zoe Veit, "Eating Cotton: Cottonseed, Crisco, and Consumer Ignorance," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 412; Toulin, "Old Methods", 461-2.
[24] *Kangaroo Island Courier*, 3 January 1914, 7.

New and growing knowledge of 'unseen' forces, such as germs, microbes and nutrients, were interpreted by food brands; new and unfamiliar foods, enabled also by developing technologies, appeared on the market. Vegemite, for example, 'the food with vitamines', like other foods such as Bovril and Benger's Food, was promoted as the solution to a wide range of ills, from rheumatism to fatigue.[25] The advertisement reminds us of ambivalence around industrial foods, discussed in the previous chapter, explaining, 'civilised peoples are not content with natural food…we cook, we pack, we process', but 'do you get enough [vitamins] to really live?'.[26]

Science could be, and was, co-opted and manipulated by commercial interests, as Scrinis has explained: 'Nutritionism has provided a powerful conceptual framework for transforming nutrients and nutritional knowledge into marketable food products and for further commodifying food production and consumption practices'.[27] Peter's exemplifies nutritionism, not least through their slogan, 'the health food of a nation', introduced in 1923.[28] Food companies selected and highlighted information to suit their interests, as in Peter's emphasising of their ice cream's butter fat and Vitamin A content, focusing on single nutrients to justify health claims.[29] Companies continue to use this technique today – for example, protein content might be promoted in a sugar-laden cereal.

Peter's was not the only Australian ice cream company to deploy the rhetoric of nutrition to sell their product. In 1928, the half-yearly report of a South Australian dairy company detailed their aspirations for the ice cream arm of their business: 'what Amscol wants is for the public to realize is that ice cream, properly made from dairy products, is a food and not a luxury'.[30] This food, it was explained 'to the uninitiated', was comprised of the same nutritional benefits of milk, butter and cheese: 'it has the constituent parts – the casein, fats, sugars, mineral salts and vitamins – contained in all these'. Amscol's product was both healthy and safe, the report continued: 'what could be more nourishing?' The company wanted 'the people to acquire – and benefit from – the ice cream habit', and extended 'a most hearty welcome' to visitors to their factory – 'the most up-to-date of its kind

[25] Phil Lyon and Ethel Kautto, "Half the Battle Is Fought in the Kitchen: Convalescence and Cookery in 1920s and 1930s Britain," *Food, Culture & Society* 24, no. 3 (2021): 345-67.
[26] *Argus*, 27 February 1924, 7; *Argus*, 25 March 1925, 7.
[27] Gyorgy Scrinis, *Nutritionism: The Science and Politics of Dietary Advice*. Columbia University Press, 2013), 8.
[28] Michael Harden, *Of a Nation: Nestle Peters 100th Anniversary* (Prahan, Victoria: Hardie Grant, 2007), 8.
[29] Scrinis, *Nutritionism*, 8.
[30] *Kapunda Herald*, 14 December 1928, 3.

in the world' – to 'explain and illustrate the wonderful pasteurisation and other processes connected with the preparation and distribution of pure ice cream'.[31]

The importance and necessity of milk was a constantly repeated message throughout the period, evident in food guidelines and advertising alike. In 1946, the Queensland Health Education Council published a nutrition booklet, in which the positioning of ice cream as a health food was explained: 'from a nutritional point of view, ice cream is an excellent food. It is a milk food, and contains all the important nutrients found in milk'. Because it was enjoyed by so many it was nutritionally important and could 'be used to replace a certain amount of milk in the diet where people dislike milk'. Further, 'in hot weather, it will tempt a tired appetite, and not only provides important nutrients itself, but encourages consumption of other foods'. Ice cream's higher cost, however, meant full-cream or powdered milk was recommended where finances were constrained.[32] Positioned on the page directly facing this passage, a Peter's advertisement tapped into this nutritional discourse: it was 'milk in its most appealing form…Many children do not drink as much milk as they should, so it is wise to allow them plenty of Peter's Ice Cream – equal to three times its weight in rich full cream dairy milk – and so easily digested'.[33] In the same year, promotions published elsewhere emphasised dairy content and cast ice cream as a natural element of human needs: 'man is a mammal, and that is why milk and cream are such an important part of his diet, especially rich, daily-fresh milk and cream of which Peters Ice Cream is made'.[34] In short, Peter's Ice Cream was, somewhat conflictingly, 'the perfect single food', and 'the almost complete food'.[35]

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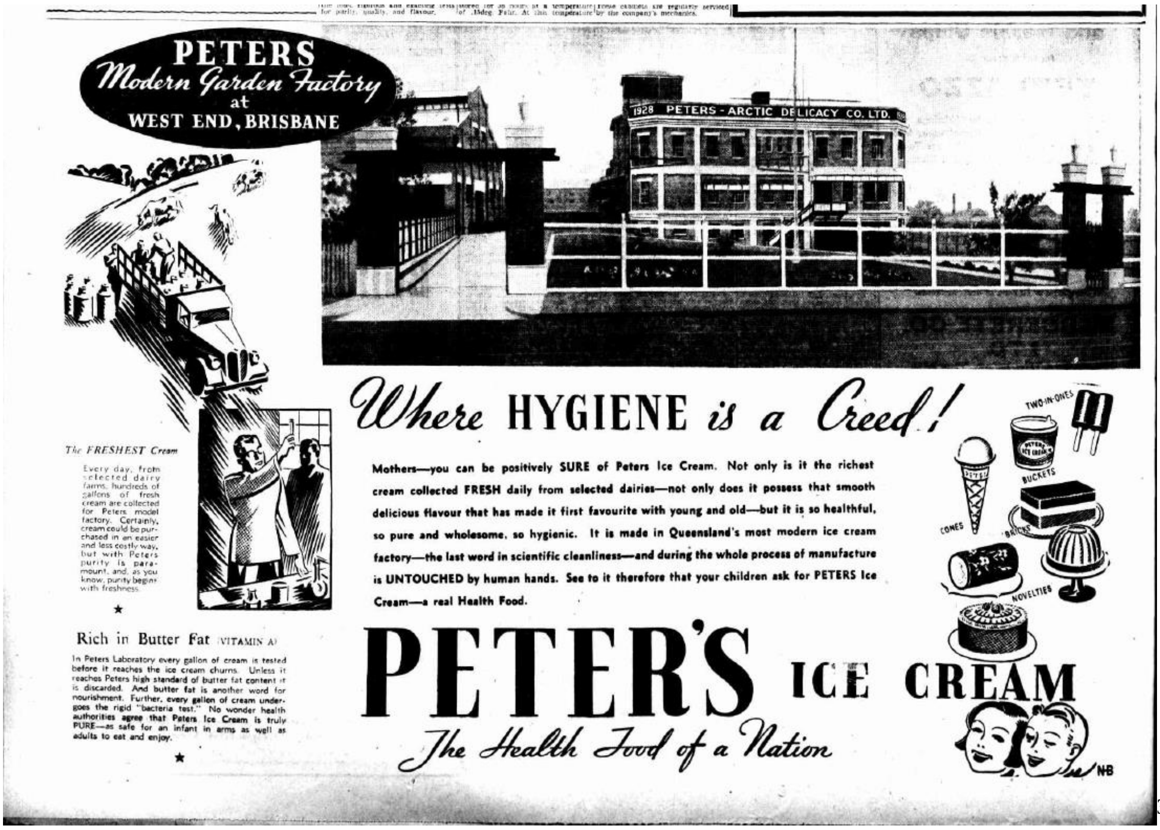
[31] Ibid.
[32] Queensland Health Education Council, *Food and Nutrition* (Brisbane: "*Truth*" and *"Sportsman"* Ltd., 1946), 39.
[33] Ibid., 38.
[34] *Mercury*, 16 November 1946, 4.
[35] Ibid.; *Northern Star*, 12 October 1946, 7.

Authorities of Nutrition and Hygiene



[36]

Figure 28. 'The Health Food of a Nation', 1936.

The rhetoric of safety and health was paramount and intertwined in Peter's advertisements throughout the period. Fred Peters, an American immigrant to Australia, began producing ice cream commercially in 1907 from a small shed in his Sydney backyard. Within a few decades, production was taking place under the Peter's name in several states across Australia.[37] Food safety and hygiene were inseparable from the nutritive properties of the food in a 1936 advertisement from the brand (see figure 28): 'it is so healthful, so pure and wholesome, so hygienic'.[38] Nutritional properties were explained: it was high in butter fat, which was 'another word for nourishment', and it had 'vitamins and carbohydrates for health, lime for good teeth and bones, butter fat for growth, sugar for energy'.[39] Sealing in safety and nourishment, Peter's was packaged in 'hygienic cups: machine-filled and sealed, with sealed spoons, too'.[40]

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[36] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[37] Harden, *Of a Nation*, 8, 11-2.
[38] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[39] Ibid.; *Warwick Daily News*, 31 December 1937, 3.
[40] *Warwick Daily News*, 31 December 1937, 3.

[41]

Figure 29. The authority of science, 1936.

Science was used to assess both the nutritive value and the safety of the ice cream in the 1936 Peter's advertisement. The company had its own laboratory, which tested cream for its butterfat content; cream also underwent 'the rigid "bacteria test"'. Their factory was not only clean, but 'scientifically clean'.[42] Protection from germs and bacteria was a central feature of Peter's promotions, with promise from the 1910s that their milk was pasteurised.[43] The company at once drew on, and fed into, popular concerns of food safety. The hygiene of production and the safety of the final Peter's product was evidenced by a white, male authority (see figure 29).[44] Bespectacled and identifiable by his white laboratory coat, the scientist holds aloft a test tube and appears illuminated by beaming light rays. He brings to mind a religious deity, suggesting the sanctity of the modern factory, and underlining the 'magic' of science.[45] The image was visual shorthand for safety and the approval of all-knowing science. Combined with the discussion of 'creeds' – 'where hygiene is a creed' – Peter's aligned science, religion, and their product. As Nancy Tomes has argued and evident in this advertisement, convincing people of germ theory was made easier by an earlier authority: that was religion, with their 'invisible worlds'.[46] The Peter's advertisement was emblematic of another rising authority in Australian culture and elsewhere, as discussed in the previous chapter: that which Reiger has identified as an 'emerging group of professionals,

[41] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[42] Ibid.
[43] *Mail*, 28 February 1914, 7.
[44] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[45] Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1999), 2-7.
[46] Tomes, *Gospel*, 7.

experts in public health' who became an 'interlocking group of reformers'.[47] Commercial interests used 'the authority of science' to add weight to health and safety claims, communicated in advertisements by visual cues, such as the white lab coat, and language, 'technical terms', such as vitamins and bacteria.[48]

[49]

Figure 30. Endorsed by experts, 1953.

In the 1930s, the Australian brand Sanitarium presented a contemporary perspective of the new knowledge of nutrients, and indicated it was a male professional that wielded the power of this new knowledge, not the housewife feeding her family: 'in vitamins the modern physician possesses the most powerful therapeutic weapon in the scientific control of diet ever placed in his hands'.[50] Authority came not only in the form of individual experts, but was embodied in larger organisations. Private companies drew on the apparently non-partisan knowledge and power of health groups to sell their products. In 1953, Aeroplane Jelly evoked

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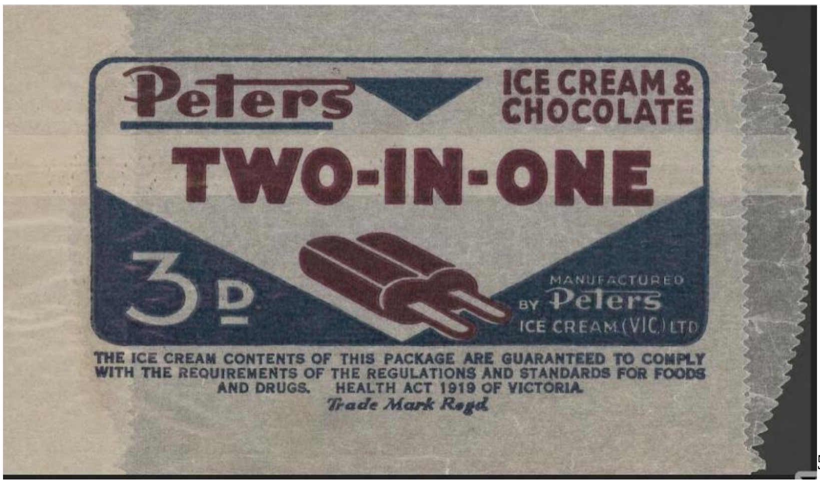
[47] Kerreen M. Reiger, *The Disenchantment of the Home: Modernizing the Australian Family, 1880-1940* (Oxford: Oxford University Press, 1985), 33.
[48] Christopher R. Mayes, and Donald B. Thompson, "What Should We Eat? Biopolitics, Ethics, and Nutritional Scientism," *Journal of Bioethical Inquiry* 12, no. 4 (2015): 592.
[49] *Farmer and Settler*, 23 October 1953, 23.
[50] Sanitarium Health Food Company, "Marmite Recipes...," (Sydney: Sanitarium Health Food Company, circa 1930s), n. p.; Like Kellogg's in America, Victorian Sanitarium Health Food Company was Seventh-day Adventist Church owned, founded 1898, and strongly promoted vegetarian foods. Sanitarium, "Moments that Made Us".

the expertise of The Diabetic Association of Australia in publicising a product to a specific segment of Australians (see figure 30).[51] The organisation was called on to endorse the validity of the claim that the jelly was safe for diabetics, 'definitely contains no sugar'. It was further implied that the treat was a healthy choice through the inclusion of Vitamin C. The Peter's 'Two-in-One' ice cream wrapper (see figure 31) visually demonstrates how commercial interests appealed to the authority of state regulations to promote the safety of their product: the ice cream was 'guaranteed to comply' with the 'Health Act 1919 of Victoria'. It reminds us how packaging functioned not only to protect foods, but also to communicate discursive messages, as we saw in chapter four. Food safety regulations were embraced and publicised by companies such as Peter's, utilised as a marketing tool to encourage trust and thus sales.



[52]

Figure 31. Complying with Regulations, circa late-1930s.

Peter's advertisements were characterised by endorsements from scientific and medical professionals, ostensibly lending legitimacy to health and hygiene claims. From 'the medical profession adding testimony', to 'science has proved it', the veneer or 'nutritional façade' of unnamed expert professionals bolstered the authority of commercial interests.[53] In 1935, one such promotion was dominated by a photograph of a stern, bespectacled, white male, his medical expertise indicated by his white laboratory coat (see figure 32). Hands gesticulating, suggesting a verbal lecture, this image was elucidated: 'your doctor will tell

[51] *Farmer and Settler*, 23 October 1953, 23.
[52] Peter's Ice Cream, "Two-In-One" National Library of Australia (n. d., circa 1936-).
[53] *Western Herald*, 8 December 1923, 3; *Glen Innes Examiner*, 3 March 1924, 7; *Warwick Daily News*, 7 January 1938, 2; Scrinis, *Nutritionism*, 8.

you so: Peters Smaks are *good* for growing children'. 'Smak', of course, being the name of the advertised 'largest threepenny chocolate coated ice cream confection'. A black banner across the bottom of the image asserts scientifically assessed nutritional validation: 'by analysis a 100% health food'. In a smaller, sketched image, a standing doctor lectures a seated woman and child, 'for medical men know'. Health claims were paired with reassurances of the safety of the ice cream: 'rich in vital food values', Smaks were 'packed and wrapped by sterilized machinery…untouched by human hands!'. Experts endorsed the contents and the packaging: 'doctors openly approve of SMAK's hygienic wrapping. The patent three-tear wrapper protects every Smak from the ever-present risk of germs and impurities due to exposure and shop handling. Your own fingers are the first to touch a Smak'.[54]

[55]

Figure 32. 'Peters Smaks are good for growing children', 1935.

Fortified, Enriched and Protective

New foods required explanation. Science not only identified the nutritional make-up of foods, but introduced novel technologies of food production.[56] 'New' foods appeared on

[54] *Telegraph*, 16 April 1935, 14.
[55] Ibid.
[56] Mayes and Thompson, "What Should We Eat?", 589.

the Australian market, using techniques such as hydrogenation and freeze-drying, which 'manipulated an ingredient at a molecular level', producing foods such as margarine, cornflakes and Milo.[57] While today it may be difficult to imagine processed cereals or instant coffee as innovations, these products only became common during the first half of the 20th century. To sell products sometimes unrecognisable or unfamiliar as food, companies often framed the processing of ingredients as the 'fortification' of foods, offering an improvement on nature. This discourse built on ideas of 'protective' foods, associated with recently discovered vitamins, discussed below. Many of these foods can be understood as a continuation and part of a 'genre' of products such as 'Benger's self-digestive food', first designed and promoted in the 1880s.[58] As Lisa Haushofer has described, Benger's was deliberately positioned to sit at the 'intersection of food and medicine', an image cultivated through 'conceptual and material work', most notably via marketing and packaging, while reflecting 'historically specific and social economic concerns about the cost of sickness'.[59]

The technological 'enrichment' of foods in the early 20th century presents an early iteration of what Scrinis has called 'functional nutritionism', going beyond the avoidance of 'bad', unsafe or unhealthy nutrients, to pursue an 'enhanced and optimized state of health and bodily functioning'.[60] In this era, such foods were presented as 'protective foods', and although the name suggests a preventative action, the implication was clearly about building a better and more healthy body. To borrow from Megan Elias, corporate interests recognised 'the power of purity', and we can add to this, health and nutrition, 'to serve as a bridge between traditional foodways and modern mass production'.[61] Even companies such as Peter's, seemingly had to convince people that their product was a food. Under the title 'A Healthful Food', it was argued 'that ice cream is a real food is evident from a glance at the ingredients'.[62]

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[57] Veit, "Eating Cotton", 410.
[58] Lisa Haushofer, "Between Food and Medicine: Artificial Digestion, Sickness, and the Case of Benger's Food," *Journal of the History of Medicine and Allied Sciences* 73, no. 2 (2018): 169; *Australian Town and Country Journal*, 31 January 1885, 7.
[59] Haushofer, "Between Food", 187; Lauren Alex O'Hagan, "Flesh-Formers or Fads? Historicizing the Contemporary Protein-Enhanced Food Trend," *Food, Culture & Society* (18 June 2021), n.p.
[60] Scrinis, *Nutritionism*, 4, 52.
[61] Megan J. Elias, "Making Progress in Food," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 395.
[62] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.

[63]

Figure 33. In the 'Safety Zone' of Milo, 1953.

Milo, an Australian-invented, industrialised chocolate-milk beverage first produced in 1934, would become an iconic product.[64] From the outset, 'Nestle Milo Tonic Food' was touted as being 'a real body builder', with 'many important vitamins'.[65] The following year, however, it was not 'just another tonic food', it was '*fortified*', promising 'a new lease of life' for those suffering from a 'lack of vitality or sparkle', for 'convalescents or any one at all run down in health'. The new product was explained: '*containing* malted cereals, milk, natural vitamins, and calcium, magnesium, phosphorous and iron salts'.[66] By 1951, the fortification of Milo was said to sooth irritable men. 'Why "MILO Men" make good husbands', expounded another publication: because 'they're drinking pure country milk and malted cereals fortified with extra vitamins', they 'seldom get "edgy" [or]…come home from work "played out" and "fed up". Milo gives them a "lift", soothes their nerves and helps build up vigour and stamina'.[67]

A Milo advertisement from 1953 (see figure 33) explicitly shows how food safety came to embody the intertwining of health and nutrition concerns. 'Safety Zone', the promotion shouted, 'protection all the year round'. Nutrition and health were now what was protected: 'at *all* seasons of the year, Milo, with its resistance-building vitamins and protective nutrients, keeps tens of thousands of people in the "safety zone" of health…secure against cold-weather chills, against over-fatigue and sleeplessness'.[68] Milo, emblematic of industrialised 'supplement' foods more broadly, was said to have improved on nature, as if

[63] *Farmer and Settler*, 23 October 1953, 23.
[64] Nestle Milo, "The Beginning of Milo," https://milo.com.au/all-about-milo/history (accessed 23 September 2020).
[65] *Maryborough Chronicle*, 3 May 1934, 5.
[66] *Sun*, 22 July 1935, 10.
[67] *Brisbane Telegraph*, 10 April 1951, 15.
[68] *Farmer and Settler*, 23 October 1953, 23.

food in its unprocessed state was insufficient: 'MILO. a delicious chocolate-flavoured blend of pure country milk and malted cereals is fortified with vitamins A, B and D. It contains calcium, phosphates and health-giving minerals. Drink and enjoy MILO: it will do you a *world* of good!'.[69] In other words, scientific intervention was framed as enriching the drink's ingredients, adding value. The promotion also visually depicts the typical discursive representations of gendered dynamic, with the woman serving a seated, relaxing male. It illustrates how, in this moment, safe foods for the vulnerable (infants/elderly/invalids), became safe food for all. The rhetoric of safety harks back to earlier discourses of food safety. The phrase 'safety zone' held long cultural resonances, deploying older 19th century tropes of food safety. This Milo advertisement neatly demonstrates how food safety came to incorporate health and nutritional concerns.

The connection between bodily health and food was not new, but as this chapter shows, the vocabulary used to describe it was. From approximately the 1920s and through the subsequent decades, Australian newspaper readers were bombarded with articles about 'protective foods'. Featuring titles such as 'Protective Food Essential for Growing Children', and 'Diet and Health: Importance of Protective Foods', these articles encouraged increased consumption of a wide range of vitamin- and mineral-rich foods, generally classified as 'natural' and 'un-refined'.[70] Fruit and vegetables were particularly emphasised – Santich has called these 'the newly virtuous' – as was wholemeal bread over the 'denatured' white version.[71] In 1928, for example, the N.S.W. Egg Stabilisation Committee explained that eggs, 'a health-protective food…guarded the system against deficiency disease'.[72] Individual foods, such as milk, meat, cheese and celery, had newspaper articles devoted to their values, and were promoted as 'protective' – whether by health authorities, lobby groups or food companies, it was not always clear.[73] This discourse exhibits striking similarities with, and antecedents for, conversations still being held today around 'functional' and 'super' foods.[74]

This language was adopted by processed food manufacturers. A forerunner to this trend, 'Beefine', in 1919 promised it was 'a protective against influenza', as the pandemic

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[69] Ibid.
[70] *Cairns Post*, 21 April 1954, 6; *Raymond Terrace Examiner*, 7 July 1949, 1.
[71] Barbara Santich, *What the Doctors Ordered: 150 Years of Dietary Advice in Australia* (Melbourne: Hyland House, 1995), xii.
[72] *Sun*, 14 November 1928, 11.
[73] *Courier Mail*, 21 July 1936, 5; *Scrutineer and Berrima District Press*, 9 December 1939, 4; *North-Eastern Advertiser*, 25 March 1937, 4; *Dubbo Liberal and Macquarie Advocate*, 21 May 1952, 4.
[74] Carlos A. Monteiro et. al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936-41.

arrived in Australia. The 'concentrated fluid beef peptonised' was said to be endorsed by 'The Advisory Committee of the Government'.[75] During World War Two, Horlicks was 'a safeguard against typhoid', with food safety and nutrition entwined. This malted milk drink was 'absolutely free from bacterial infection' and 'completely safe'. It was not only the nutrient-rich ingredients that were important, but the way the drink was produced: 'a protective food, scientifically blended from sterilised full cream milk, malted barley and wheat flour'. To maintain the safety of production in the home, it was advised to 'only use water that has been boiled'.[76] Cadbury's Bourn-Vita drink – because of the vitamins and minerals it contained – was promoted as 'a first-class protective food' with the authority of 'medical science'.[77]

In 1946, ETA peanut butter helped to 'stretch' post-war rationing coupons as it was said 'a real protective food', providing 'more body-building protein than beef...rich in carbohydrates, fats, minerals and growth-promoting Vitamin B'.[78] Peter's sought to extend seasonal ice cream consumption in 1953: 'keeps you warm in winter', because it was a 'front rank protective food, blending concentrated dairy nutrients, and promoting physical warmth and extra vital energy'.[79] Again, these products were represented as more than their raw ingredients or constituent parts. In 1963, in a less processed later example, the Australian Dairy Produce Board promoted butter as 'Nature's great protective food', a concentrated form of milk: 'it takes 18 pints of milk to make a single pound of butter'. The type of vitamins necessary was refined further by this date: 'guard the health with butter' because 'nothing equals *natural* vitamins'.[80] Nature was often capitalised in these advertisements, emphasising its importance and positioning it as an active, even conscious, agent.

In using the vocabulary of fortified, enriched and protective foods, delineations between food and medicine were deliberately blurred. Some products appeared more like earlier patent medicines, medicinal tonics and 'quack' cures, than as recognisable foods, and had to be explained to the public. Returning to the 1920s, 'Yeaston', described as 'Nature's Corrective Tonic Food' in 1927, was promoted as a cure for an astonishing range of ills and a counterweight to refined 'modern food-stuffs' that had eliminated 'those mysterious elements

[75] *Argus*, 13 February 1919, 7.
[76] *Argus*, 5 April 1943, 3.
[77] *Advertiser*, 28 December 1946, 7.
[78] *Australian Worker*, 17 April 1946, 9.
[79] *Illawarra Daily Mercury*, 1 September 1953, 9.
[80] *AWW*, 12 June 1963, 32.

named vitamines' and left 'apparently well fed people' suffering 'mal-nutrition'.[81] Yeaston was revealed as a vitamin pill when further explained: 'pure dried brewer's yeast in tablet form'. In the same year, under the title 'Influenza: Eminent Medical Advice', the unfamiliar appearance of Ovaltine – a 'tonic food beverage' – was described: 'presented in a highly concentrated golden granular form', having been produced 'by an unique and original process'.[82] The drink was said to 'fortify the system against infection…enriches the blood, restores in fatigue, and builds up brain, nerves and body'. Although perhaps in a curious form, it was assured that the drink's ingredients included 'the choicest and best of Nature's protective and restorative foods. Malt, milk, eggs and cocoa'. Indeed, Ovaltine was framed as an improvement on nature, with one cup 'supplying more nourishment than 3 eggs' or other prepared foods, such as '12 cupsful of beef tea'.[83] Allenbury's Baby Foods were not only 'quite free from all disease germs', but 'enriched' with Vitamin D, and were 'The "Vitalized" Foods' in 1928, without the term being further explained.[84]

[85]

Figure 34. Fighting epidemics, 1938.

[81] *Sun*, 15 March 1927, 3.
[82] *Daily Telegraph*, 30 June 1927, 15.
[83] Ibid.
[84] *Australasian*, 1 December 1928, 17; *Brisbane Courier*, 20 December 1928, 22.
[85] *AWW*, 16 July 1938, 20.

A decade later, Cornwell's Malt Extract (see figure 34), utilised similar language and sentiments, implying the extract was more protective than unprocessed foods. With strong resonances today, the 'famous pure tonic food' was said to 'guard' children from epidemics by 'increasing their powers of resistance', 'prevent[ing] malnutrition', providing 'extra nourishment', and building 'strong bone and muscle, enrich[ing] the blood'.[86] The product was equated with keeping children safe. In 1949, appealing to science for legitimacy, 'Bickford's Clinic Emulsion' was 'the all-family vitamin rich protective food', containing 'Vitamins A and D' and the unspecified 'vital food elements'. The product, similarly to Yeaston, appears to have been what we would now call a food 'supplement', with the only listed ingredient being cod liver oil. As elsewhere, the non-transparent packaging had to be explained: 'packed in non-actinic amber glass to conserve all the goodness'.[87] These early 20th century examples prefigure what today are termed 'nutriceuticals', or 'functional foods': products ostensibly created to supply health benefits, and which continue to present regulation problems.[88]

Commercial baby foods are another type of product that tapped into the language of safety and health.[89] Vi-Lactogen (a Nestle product), for instance, advertised as the '"humanized" infants' food'; 'free from dangers associated with hot weather – dust and flies...pure and wholesome, protected in sealed tins against germ infection'. The brand disseminated free pedagogical materials, such as mothering manuals, and free advice from their trained nurses, available at every capital city office.[90] In educating mothers and selling safe baby food, Nestle was protecting the future of the nation: 'many infant lives have been lost through ignorance on the part of the parents'. Ironically, Nestle was the company that was notoriously associated with infant illnesses and deaths in developing countries during the 1970s, attributed to marketing techniques discouraging breast feeding, and displaying semblances with Lactogen methods from earlier that century.[91]

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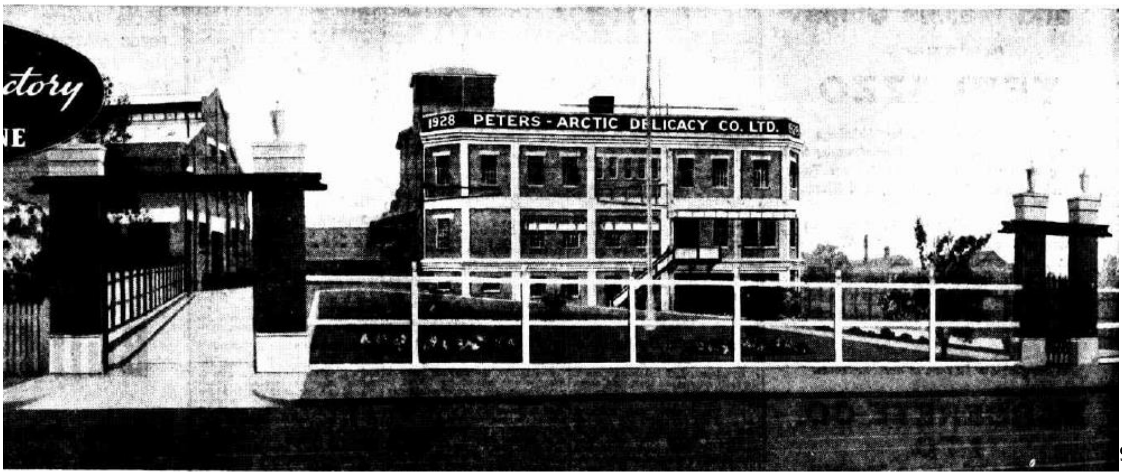
[86] Ibid.
[87] *News*, 19 November 1949, 7.
[88] Polya, "Food Regulation", 3.
[89] Amy Bentley, *Inventing Baby Food: Taste, Health, and the Industrialization of the American Diet* (Berkeley: University of California Press, 2014).
[90] *Morning Bulletin*, 2 March 1934, 12.
[91] Amy Bentley and Shayne Leslie Figueroa "A History of Food in Popular Culture over the Life Span," in *The Bloomsbury Handbook of Food and Popular Culture*, ed. Kathleen Lebesco and Peter Naccarato (London: Bloomsbury, 2017), 86.

Factories

Protective, fortified and enriched foods were inevitably produced in industrial factories, a food space touched on in chapter four. Positioned as the binary opposite of the dangerous and chaotic domestic spaces and small-scale back-yard producers already discussed, factories were a frequent trope implying safety in branded food advertisements of the era. Dominating the 1936 Peter's promotion was a picture of the company's Brisbane factory (see figure 35). While the product was not entirely disassociated from its agrarian origins, with a bucolic image of milk cans being loaded into a truck directly from the rolling cow pasture, it was upstaged by that of the factory.[92] The photograph shows the neat modern building situated in spacious, manicured grounds, with entranceways marked by pillars topped by neo-classical urns, signifying Peter's was part of a long and great tradition, but was also up-to-date and progressive.[93] In the top left corner, a bubble designates the building as 'Peters modern garden factory at West End, Brisbane'. [94]



[95]

Figure 35. Spaces of safety and industrial protection, 1936.

This invoking, and yoking, of two seemingly contrasting spaces of nature and industry is consistent with a larger trend in food advertising internationally, one that Laura Lovett has identified as 'nostalgic modernism', which as interpreted by Alana Toulin, 'celebrat[ed] the new and modern…while remaining firmly tied to pastoral imagery and ideology'.[96] As with the fortification of foods, industrial production, 'offer[ed] levels of cleanliness and purity

[92] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[93] In Hobsbawn's sense, Eric Hobsbawn and Terry Ranger, eds., *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983 reprint 1993).
[94] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[95] Ibid.
[96] Toulin, "Old Methods", 461-462; Michael S. Kideckel, *Fresh from the Factory: Breakfast Cereal, Natural Food, and the Marketing of Reform, 1890-1920* (PhD thesis: Columbia University, 2018).

impossible in nature; in effect, factory processing made them *more* natural by removing impurities', Veit has argued.[97] Progress was critical to the safety of the product: 'made in Queensland's most modern ice cream factory – the last word in scientific cleanliness'. Under the photograph of the factory, large text sanctifies the site, 'where hygiene is a creed!'. This was more than a factory, it was an ordered, safe, controlled, avant-garde, and sacred space of sanitation and health, a kind of temple, emphasised by the ancient urns.[98] Factory-based commercials worked to reassure people about the increasing technical intervention and processing of foods.

[99]

Figure 36. 'By Mountain and Sea', Cadbury's Tasmanian factory, 1954.

The advertising of manufacturing plants drew on an international history of companies constructing and promoting industry with improved working conditions. The Cadbury's English Bournville factory – 'the Factory in the Garden' – being perhaps the most

[97] Veit, "Eating Cotton", 410.
[98] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[99] *Argus*, 5 January 1954, 17.

famous example.[100] The same company, in 1922, constructed an antipodean iteration of Bournville, in Claremont, Tasmania (see figure 36). Companies constructed factories outside of crowded cities, with housing for workers and their families and recreation opportunities, thus ostensibly promoting and protecting the healthfulness and purity of their people and, correspondingly, of their product.[101] Harvey Levenstein points to Heinz as the first American company to emphasise the manufacturing process in the marketing of their food; Heinz opened their factory to tourism around the turn of the century.[102] Model villages and healthy workers helped align faith and profit for the often religious company heads: Cadburys were a quaker firm and Henry Heinz, Christian.[103]

Imagery was coupled with phrases reiterating safety: ‘and during the whole process of manufacture is UNTOUCHED by human hands’. This phrase was representative of an international discursive trend concerned with food safety and purity, proliferating in the first four decades of the 20th century. Attempting to counter disquiet about the industrialisation of food and threats of food-borne illnesses, the food safety trend held progress and science to have removed the potential for human contamination: machines and technology were safety; human hands were sites of potential contamination and danger.[104] For Jackson Lears, the sentiment represented a ‘revulsion against biology’; Tarulevicz argued this trend avoided the sometimes ‘grotesque’ realities of foods.[105] For Aaron Bobrow-Strain the phrase speaks of a complex history of food fears and disease, and to Veit, it was emblematic of an ‘exploding food advertising industry that highlighted factory processing as a unique virtue’.[106]

Similar to the place of origin marketing discussed in chapter two, in claims of safety, place still mattered, and transparency in the supply chain of foods was emphasised by descriptions of factories. Cadbury’s chocolate was consistently publicised in Australia using

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[100] Helena Chance, “The Angel in the Garden Suburb: Arcadian Allegory in the ‘Girls’ Grounds’ at the Cadbury Factory, Bournville, England, 1880–1930,” *Studies in the History of Gardens & Designed Landscapes* 27, no. 3 (2007): 200.

[101] Peter Wilde and Elissa Sutherland, “Venturing Overseas: Geography and the Cadbury Chocolate Factory at Claremont, Tasmania, 1921-67,” *Tasmanian Historical Studies* 15 (2010): 101.

[102] Harvey Levenstein, *Revolution at the Table: The Transformation of the American Diet* (Berkeley: University of California Press, 2003), 40.

[103] Gabriella M. Petrick, “‘Purity as Life’: H.J. Heinz, Religious Sentiment, and the Beginning of the Industrial Diet,” *History and Technology* 27, no. 1 (2011): 37-64.

[104] “Industrial Supplement,” *Courier Mail*, 3 August 1936, 6.

[105] Jackson Lears, *Fables of Abundance: A Cultural History of Advertising in America* (New York: Basic Books, 1994), 172; Nicole Tarulevicz, “Untouched by Human Hands: Making and Marketing Milk in Singapore, 1900 – 2007,” in *Routledge Handbook of Food in Asia*, ed. Cecilia Leong-Salobir (New York: Routledge, 2019), 198.

[106] Aaron Bobrow-Strain, *White Bread: A Social History of the Store-Bought Loaf* (Boston: Beacon Press, 2012), 20; Veit, “Eating Cotton”, 397.

its Tasmanian factory as place. From 1922 into the 1950s, the promise of factory production was underlined by place of origin marketing and the framing of Cadbury advertisements with the phrase 'where the air is pure – by mountain and sea'.[107] In 1914, Nestle condensed milk published a book of recipes that included a lengthy account of a recently cured – by their condensed milk, of course – woman's visit to the company's Swiss factory, reminiscent of Johanna Spyri's *Heidi*. Drawing on associations of Switzerland with quality, cleanliness and bucolic pastures, the description of the production process here – 'a palace of purity' – detailed every stage; from the grass cows ate – 'no patent milk forcing foods are allowed' – to the 'exceedingly strict' inspectors who 'carefully tested' every can of milk in the 'white villas which were actually the factory'; all ensuring the healthfulness and 'consequent purity of the milk'.[108] In 1924, a Perth newspaper detailed a visit to a Peter's factory by 'well over 300' visitors: 'the absolute cleanliness of everything is most apparent to everyone', amplifying the individual experience.[109] Such food brands invited the public to tour factory premises, offering evidential proof of their hygienic methods, whether people actually visited or merely saw the suggestion as proof of openness and thus safety.

Smaller food companies also promoted their product along these themes. In a distinctive 1928 advertorial entitled, 'Eat Clean Food Only: From the Health Kitchen', nature, domestic and industrial-factory settings were correlated.[110] It was explained as 'an up-to-the-minute food factory run on hygienic lines, and under modern conditions, is a health kitchen'. The 'Darling Downs Bacon Co.'s works [was] in one of the most salubrious and beautiful spots', with modern machinery ensuring 'perfection and uniformity in quality'. Consistent appearance was said to be 'a visible guarantee and a proof of the inherent goodness of the product'.[111] For Lears, this standardisation was framed by domestic scientists as 'a moral advance' and, of course, a feature of industrial production.[112] Factory-produced safety underlined the health promises of this local brand, and protected the naturalness of its food: 'people would not need cod liver oil or any other such like unnatural preparations if they ate enough of the life-sustaining and body-building meat and pork delicacies prepared from the

[107] *Warwick Daily News*, 14 January 1922, 6; *AWW,* 26 May 1954, 31; *Sydney Morning Herald*, 19 March 1932, 12; *Argus*, 5 January 1954, 17.
[108] Nestle & Anglo-Swiss Condensed Milk Co., *The Milky Way Housewife's Book* (Sydney: Attkins McQuitty, 1914), 114-15.
[109] *Nepean Times*, 26 January 1924, 7.
[110] *Queensland Times*, 21 September 1928, 8.
[111] Ibid.
[112] Lears, *Fables of Abundance*, 184-6.

splendid livestock produced here in Australia'.[113] Factories and 'health kitchens' protected people from the 'dangerous' domestic conditions, detailed already.

The protection offered by factories was represented as covering more than conventionally conceived food safety issues. The threat of communicable disease was very real for Australia well into the 1960s. Outbreaks of poliomyelitis and hepatitis were (accurately or not) associated with food, and factory-produced foods were associated with safety, not only by the food brands, but by other voices too.[114] Various articles called on people to protect food from flies and to boil milk.[115] A 1952 letter to the editor called for nutrition to be improved in Darwin where fruit and vegetables were scarce or expensive, for 'prevention is better than the cure'.[116] In 1949, specific advice was given about polio and ice cream. 'Freezing does not kill the disease', warned an article entitled 'Polio Points: Watch Food, Keep Clean'.[117] While factories could guarantee food safety in production, the article continued, once it left this safe space it was once again vulnerable: 'there are opportunities for contamination of ice cream in the retail trade, although it may be clean when it leaves the factory'.[118] In another report (extensively reprinted) cautioning against poliomyelitis and a wide range of other diseases including typhoid and measles, 'catering establishments' were drawn to attention: 'community's safety largely rests on food handlers'.[119] Improperly washed utensils and chipped crockery had the potential to transfer droplets from an infected person. Restaurants and cafes were not the only dangers, but 'the housewife must be careful too'.[120]

Fears of a hepatitis epidemic in the early 1960s furthered these themes of safe and unsafe spaces of food production. Although some stated that home-prepared food was safest, others argued industrial production was best.[121] The packaging of processed foods such as bread and biscuits needed to be made compulsory to prevent hepatitis transmission in distribution networks upon food leaving the factory, argued the Chief Health Inspector of

113 *Queensland Times*, 21 September 1928, 8.
114 Nicole Tarulevicz, "Insecta (Class), or One of the Main Drawbacks of Tropical Living," in *Humans and Other Animals in Singapore, 1942-2020*, ed. Timothy P. Barnard (Singapore: Singapore University Press, forthcoming, 2022).
115 *Herald*, 17 September 1949, 3.
116 *Northern Standard*, 4 January 1952, 5.
117 *Herald*, 17 September 1949, 3.
118 Ibid.
119 *Australian Worker*, 21 December 1949, 8; Also, *Gloucester Advocate*, 7 October 1949, 3; *Macleay Argus*, 27 September 1949, 6.
120 *Australian Worker*, 21 December 1949, 8.
121 *Biz*, 30 November 1960, 6.

Paramatta Council.[122] Commercial interests sought to capitalise on this correlation, publishing advertorials highlighting the safety of their production processes: 'Wrapped bread is hygienic. The emphasis on food hygiene, created by the current hepatitis epidemic, has not presented any problem to Home Pride Bakeries'.[123] In the following autumn, the NSW Minister for Health was even more strident in perpetuating the power of the 'untouched by human hands' claim. 'Food properly packaged under hygienic conditions, is a bulwark against the spread of disease in the community. Where the naked hand touches food, that is the point of danger.' Industrial processing was celebrated, 'factory packaged foods have been a wonderful aid to health in that they have reduced the danger of contamination by handling'.[124]

Keeping Regular

Industrial food was acclaimed but simultaneously decried as a modern ill, sometimes by individuals or experts, sometimes by the very same companies. Marmite explained in the 1930s, 'the principal cause of disease in modern life lies in the absence from our artificial food of just those elements contained in Marmite', namely vitamins; Marmite 'counteracts acidity, gas, and fermentation of the stomach and normalises the action of the bowels'.[125] Modern foods then, as they so often are today, were accused of being corrupted and lacking the natural goodness of the 'real' foods of yesterday. Perhaps in response, many advertisements promised readers that their foods would keep them 'regular'. The commonness of this concern makes one wonder the extent to which advertisers were *responding* to a need, or *creating* a need, that is, making people feel like they should be more regular.[126] James Wharton has traced concerns over constipation through the centuries, similarly observing heightened concerns during this period, particularly in food advertising, arguing that the condition was doubtless perceived as such a problem 'in part because of the premium the era attached to the virtue of efficiency'.[127] Breakfast cereal manufactures were some of the most conspicuous advertisers in this era, and commonly made health claims in promoting this relatively new and unfamiliar food-form. In a 1925 advertisement, below an

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[122] *Cumberland Argus*, 14 December 1960, 6.
[123] *Biz*, 30 November 1960, 2.
[124] *Western Herald*, 31 March 1961, 11.
[125] Sanitarium Health Food Company, "Marmite Recipes".
[126] British studies that have shown more people consider themselves as suffering constipation than medically-defined cases. James C. Whorton, *Inner Hygiene: Constipation and the Pursuit of Health in Modern Society* (Oxford: Oxford University Press, 2000), 5; DuPuis argues laxatives more broadly emerged to resolve tension between comfort and health with the rise of rich and refined foods in the late 19th century. E. Melanie DuPuis, *Dangerous Digestion: The Politics of American Dietary Advice* (Berkeley: University of California Press, 2015), 73-4.
[127] Whorton, *Inner Hygiene*, 194.

image of a woman consulting a male doctor, was the text, 'physicians recommend Bran as a laxative'. The processed cereal advertisement continued, 'constipation is not a natural state', and 'the regular eating of Post's Bran Flakes is recommended for regular habits'.[128]

Kellogg's All-Bran advertising purported to solve the problems processed foods had apparently introduced. In 1937, All-Bran sought to set itself apart from 'modern over refined foods', which, with their 'insufficient "bulk"', were the cause of constipation. The company framed its product as a 'natural' and 'safe, pleasant corrective' for 'common constipation'. The All-Bran promotions included detailed, ostensibly scientific explanations in lay terms: suppling 'the natural "bulk" needed to provide regular elimination…It absorbs moisture in your body, forming a soft mass that gently cleanses the intestinal walls'.[129] In the same year, All-Bran promised free health and diet booklets, and relief from constipation 'by merely eating two tablespoonfuls daily': it 'arouses lazy intestines and induces natural regularity'.[130] The food was medicative, but superior to medicines: 'so much better than pills or drugs', and better than 'harsh habit-forming medications' which weakened 'the peristaltic action of the intestines'.[131] Finally, all this 'healthiness' was protected by being 'sealed inside with a WAXTITE bag'.[132]

Women of a certain age were paid particular attention in All-Bran promotions. 'An old woman at 30' was the 1937 title given below the image of a distressed woman looking at her reflection, 'her heart aches as she faces that mirror. Life's not fair…[she's] looking old, *old!*'.[133] According to the logic of All-Bran, aging at once caused constipation, and constipation caused aging, at least in women. 'Over 35?' questioned another All-Bran advertisement a decade later, 'end irregularity this safe, natural way'.[134] Repeating tropes of the era, a bespectacled, white-coated male authority presented a solution to the frustrated, ostensibly middle-aged woman. The cause? 'It starts at your dining table.' Food was to blame, but food would be the cure. Again, a reductive representation of nutritional knowledge was evident: 'Meat, white bread, potatoes, milk, eggs, fish' were 'all nourishing enough but lack one vital element, "bulk"'. Remedies and laxatives only compounded problems, claimed All-

[128] *Evening News*, 28 May 1925, 6.
[129] *Recorder*, 20 April 1937, 3.
[130] *AWW*, 6 July 1937, 4.
[131] Ibid.; *Recorder*, 20 April 1937, 3.
[132] *Recorder*, 20 April 1937, 3.
[133] *AWW*, 6 July 1937, 4.
[134] *AWW*, 11 January 1947, 20.

Bran, requiring increased dosages. By the end of the promotion, the unhappy woman was beaming: 'Kellogg's All-Bran has got me safely regular in one week'.

Gender

Food brands discursively reinforced gender tropes. Returning to the 1936 Peter's advertisement, it is mothers who are addressed, reminding us how advertising works to create and reinforce gendered 'ideal subjects'.[135] Females were responsible for their family's wellbeing, and health was equated with safety: 'Mothers – you can be positively SURE of Peters Ice Cream'.[136] Its suitability for children was emphasised: mothers were encouraged to make sure their children 'ask for Peter's', and reminded that it was good for the whole family, 'as safe for an infant in arms as well as adults to eat and enjoy'.[137] Women were constructed as care-giving mothers and wives in the commercial material of the period.

The language of guilt, fear and responsibility directed at women is demonstrated by a 1936 'Creamoata' cereal advertisement in the Tasmanian *Jean Nelson's Cookery Book*. As the self-proclaimed 'National Breakfast Food', the brand warned: 'Mothers!...You can avoid Malnutrition. Malnutrition is insidious. It comes slowly, solely due to lack of sufficient nourishment in the food a child or an adult eats'.[138] Women had a duty to actively protect their family: 'it is in your hands to see your family gets sufficient nourishment, not just food, every day'. Creamoata was condoned by an appropriate authority, 'recommended by Doctors', and was aligned with nature and progress, 'a real sunshine food…carefully prepared from life-giving sun refined grain – rich in vital mineral content, losing none of the supreme value in the processes – 27 in all'.[139] Cremoata taught women that processing and refinement of foods in the 'correct' environment – that is, a factory – was critical to the health and safety of their children. The presence of a doctor further reassured mothers the product was risk-free and wholesome. Women's knowledge, learned from family and communities, informal and accumulated over their life-time, was disregarded and superseded by scientific and medical information. Women were taught to distrust their senses and look for other signs of safe food.

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[135] Peter Scholliers, "Novelty and Tradition: The New Landscape for Gastronomy," in *Food. The History of Taste*, ed. Paul Freedman (Berkeley: University of California, 2007), 336; Jessamyn Neuhaus, *Housework and Housewives in Modern American Advertising: Married to the Mop* (New York: Palgrave Macmillan, 2011).
[136] "Industrial Supplement," *Courier Mail*, 3 August 1936, 6.
[137] Ibid.
[138] Ruth Wing, ed., *Jean Nelson's Cookery Book* (Launceston: Examiner, 1936), 84.
[139] Ibid.

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Figure 37. Modelling consumers, Peter's, 1953.

Later, control of women's bodies through food emerged as a biopolitical theme in advertisements. In 1953, Peter's not only claimed to be a health food, but a weight-loss food, in another classic example of nutritionism (see figure 37). Peter's kept the female eater healthy and socially safe, with an acceptable and appropriate body: 'they used to call her Calorie Kate but now she's Sally Slender'. The image below the text depicts two women on a set of scales, one slim, happy and ebullient, brandishing an ice cream in victory, and below her, a heavily seated and largely faceless woman, implying that overweight women were inappropriate and disregarded, dismissed as Calorie Kates. Peter's explained how their product could assist 'calorie counters': it 'rates *high* in protective, energising food values, relatively *low* in calories'. Predictably, the authority of an institution was used to give emphasis to the company's claims: 'when ice cream was used in a university research project, students reduced weight and maintained health'.[141] Vita-Weat crispbreads went further in 1956, giving the pictured model's measurements: height, weight, bust, hips and waist.[142] In

[140] *AWW*, 11 November 1953, 18.
[141] Ibid.
[142] *AWW*, 1 August 1956, 53.

doing so, the company dictated the 'ideal' figure and woman's physicality. The food allowed model Paula Frappell 'perfect figure control', containing 'far less weight-making calories than any other crispbread', and presented the female reader with the opportunity to 'watch those pounds fall' and 'keep slim *naturally*'. Slim became increasingly connected with particular ideas of health: 'Vita-Weat keeps you regular, too!'.[143]

[144]

Figure 38. Sunshine full cream powdered milk, 1955.

A 1955 Nestle's Sunshine Full Cream Powdered Milk advertisement combined many of these commercial concerns (figure 38). Ideal consumers were fashioned with an attractive, thrifty, smart mother-shopper, and two healthy white children.[145] The woman indicated her savvy knowledge: 'I don't want skim milk powder…for I'm sure my family needs the nutrition of full-cream milk!' Below the picture of the family is, 'I want Sunshine because…it's made by Nestle's. It means that Sunshine is the best quality money can buy'.

143 Ibid.
144 *AWW*, 11 May 1955, 24.
145 Ibid.

Again, the brand was said to be an assurance of safety and quality. This powdered milk was 'safer than ordinary milk', with factory processing enhancing nature's purity and goodness. The advertisement exhibits obvious similarities with the 1936 Peter's Ice Cream promotion, discussing pasteurisation, illustrating both bucolic pastures and a factory, and in ensuring 'its purity is guaranteed from pasture to pantry'. These semblances are evidence of a continuation of food safety and health themes promulgated and reiterated by food brands.

[146]

Figure 39. Reiterating colonial subjectivities, 1956.

As with other advertisements discussed in this era, it is not only who is depicted that is telling, but who and what are left out. In the Sunshine milk, Peter's, Milo and Cornwell's promotions, every person was white, emphasising the racialised ideal of an Australian citizen. Husbands, wives, mothers, children, scientists and doctors were infallibly white. The few advertisements that did present more diversity, rendered those depicted in servile or comic roles, as exotic 'others'.[147] A turbaned, presumably Indian man, for example (see figure 39), bows in offering a uniformed British army officer a tray of Vencatachellum curry powder, actively associating the product with British-Indian colonialism, reinforcing racial hierarchies,

[146] *AWW*, 2 May 1956, 20.
[147] Rice Marketing Board Cookery Bureau, *1966 Rice Recipes!: For Cooking With The International Touch* (Alexandria, NSW: Conpress Printing, 1966).

and perhaps seeking to make potential consumers feel comfortable with a potentially challenging 'exotic' food by reproducing existing power structures with colonial nostalgia.[148]

Redirecting Conversations

Companies such as Nestle's and Peter's not only modelled ideal consumers and citizens, but, as shown, actively steered food safety discourse.[149] In diverting discourses of food safety and adulteration, and drawing attention to the 'health' properties of their products, as Toulin notes, 'food companies repackaged themselves not as the problem in the fight…but part of the solution'.[150] A further example of this comes in the form of a 1946 Queensland nutritional guide, deploying government authority. The detailed, scientific nutritional advice given in the Health Education Council's booklet was interspersed with numerous promotions from industrial food companies, indicative of a broader trend of commercial interests permeating food safety and nutritional advice.[151]

On the inside cover of the HEC booklet, Ovaltine targeted expecting and nursing mothers, assuring them their product was: 'the foundation for healthy happy babies' with an 'abundance of proteins to replace body tissue'.[152] A few pages later, pasteurised 'Rex processed cheddar cheese' was promised to be of 'highly nutritious value' as 'acclaimed by eminent dieticians'; Granose 'vitamin fortified whole wheat biscuits' asked, 'did he gain this week?' and offered a free 'book about babies…written by a medical authority'.[153] Trufood offered 'pure fresh' powdered milk; Maxam cheese promised 'health plus flavour'; Merra-lea margarine and Kelloggs, among others, promoted their products as 'all packed full of nutrition'.[154] 'Pro-Vita weat-harts' distilled and concentrated the 'abundant' goodness of nature, and, as proof of their medicinal and health-giving properties, were sold in chemists.[155] The inclusion of these advertisements in a nutritional manual is implicitly an endorsement of the companies and the foods they promoted. These trends speak of broader societal issues, as Toulin explains: 'the food industry's co-option of [health and safety] ideals and rhetoric exemplifies the increasing power of big business over both public policy and mainstream

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[148] Frieda Moran, "From Curried Wombat to Rendang and Doro Wat: A Brief History of Curry in Australia," *Conversation,* 28 December 2020.
[149] Scholliers argued advertisements 'aimed not only at selling products, but at modelling the consumer'. Scholliers, "Novelty and Tradition", 336.
[150] Toulin, "Old Methods", 462.
[151] Queensland Health Education Council, "Food and Nutrition Booklet".
[152] Ibid., inside cover.
[153] Ibid., inside cover, 4, 6.
[154] Ibid., "Food and Nutrition Booklet", 4, 6, 22, 26, 28, 30.
[155] Ibid., 34.

cultural discourse'.[156] From the food advertisements discussed in this chapter, and their placement, it is evident commercial interests contributed to understandings of good and healthy food in 20th century Australia.

Public health regulations and food safety authorities then, as they do today, favoured the larger, more industrial production of food. In 1937, the size of the Peter's business was presented as evidence of their quality. Peter's claimed to be the 'largest manufacturers of ice cream in [the] Southern Hemisphere'; 'It had to be good to get where it is'.[157] As DuPuis has argued, food safety legislation – 'ostensibly to keep dangerous bacteria out of food' – necessitated expenses that, for the most part, only large industrial food companies could achieve. Yet food scares were predominately the products of the same industrial food producers.[158] Scrinis has acknowledged some vitamin-fortified foods, such as vitamin B enriched bread in the American context, did work to counter health issues such as rickets, but emphasises that the industrialisation of food 'seems to have contributed to a new wave of nutrient deficiency diseases'.[159]

Conclusion

Industrial food production has created many of the conditions that allow food safety incidents or breeches to occur, particularly through the intensification of livestock production. Many of Australia's (and global) food safety guidelines assume industrial production.[160] Marion Nestle has spoken damningly of this: 'for reasons of history, inertia, turf disputes, and just plain greed, government oversight of food safety has long tended to provide far more protection to food producers than to the public'.[161] Research into food safety and diet have been, problematically, funded by corporate interests, sometimes leading to biased results.[162]

As late as 1976, Peter's Ice Cream were advertising foods like butterscotch ice cream cakes using 'the health food of a nation' slogan.[163] By 1982, the tagline had been dropped,

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[156] Toulin, "Old Methods", 461-2.
[157] *Warwick Daily News*, 31 December 1937, 3.
[158] DuPuis, *Dangerous Digestion*, 114; Bobrow-Strain, *White Bread*, 96.
[159] Scrinis, *Nutritionism*, 65.
[160] Standards Australia New Zealand, "Safe Food Australia - A Guide to the Food Safety Standards".
[161] Nestle, *Safe Food*, 41, 44.
[162] Ibid.; Cristin E. Kearns, Laura A. Schmidt, and Stanton A. Glantz, "Sugar Industry and Coronary Heart Disease Research: A Historical Analysis of Internal Industry Documents," *JAMA Internal Medicine* 176, no. 11 (2016): 1680-85; Jane Dixon, Colin Sindall, and Cathy Banwell, "Exploring the Intersectoral Partnerships Guiding Australia's Dietary Advice," *Health Promotion International* 19, no. 1 (2004): 5-13; Lisa Bero, "Essays on Health: How Food Companies can Sneak Bias into Scientific Research," *Conversation,* 2 November 2016; Warwick Anderson, "New Dietary Guidelines – Evidence for Healthy Choices More Certain," *Conversation,* 18 February 2013.
[163] *AWW*, 21 April 1976, 134.

promising instead that Peter's was 'natural', with a new slogan: 'a taste that's quite unique in this artificial world'.[164] The company continued to tap into health and safety concerns, deploying a sentiment with historical resonances that highlighted the naturalness of their product in an age characterised by industrial and processed foods. Food safety concerns shifted between 1901 and 1964, from fears of adulteration to a preoccupation with health. Nutritional, contamination and contagion theories were entwined and co-opted by commercial interests, who drove and moulded narratives of food safety for popular audiences. Advertisements from food companies such as Peter's and Milo have demonstrated how businesses sought to allay potential anxieties around, and to develop consumer tastes for, industrially produced foods, using a vocabulary of vitamins and germs, enrichment and fortification, and bacteria and microbes. Certain people and places were marked in this discourse using binaries of safe or unsafe. Reductionist interpretations and the permeation of ostensibly scientific information by food brands have shown how commercial interests influenced ideas of food safety. In the following chapter, attention is turned to a now ubiquitous aspect of food safety: temperature control and cold technologies. We move from the industrial production and representation of food to looking at a specific industrial food technology: refrigeration.

[164] *AWW*, 10 November 1982, 44.

7.

‘One of Our Serious Domestic Problems’: Preservation and Cold Technologies[1]

In 1859, *Melbourne Punch* hailed the innovation of mechanical ice: ‘Harrison and Brooke, beneficent men, give to hot Australia delicious cheap ice’. But Australians did not yet have a taste for ice, *Punch* reported, and would have to be taught, ‘it will be years before H. and B. can make it pay, in the simple speculation of rendering Man better able to bear the world!’.[2] The pleasant and healthy cooling effects of ice were not yet recognised by Australians for, it was reasoned, ‘when the world is offered anything truly serviceable, the world resists, angrily!’. *Punch’s* humour speaks to an argument critical to this chapter and thesis. That is, ice and technologies of cold were not immediately recognised as a need, or even necessarily desirable. Tastes are culturally constructed: people had to be *taught* to appreciate and want ice and cold. Ice creams and chilled wines were pleasant diversions, but the food safety possibilities of the substance, year-round, were yet to be realised.[3]

The relationship between lived experience and material culture should not be taken for granted. As other scholars have noted, refrigeration has changed what people eat and where our food comes from. It helped shaped our physical movements, daily lives and physical landscapes.[4] Carroll W. Pursell notes that ‘technology is not simply embedded in our culture, it is a distinctive part of it’.[5] Ice and refrigeration allowed for the preservation of foods in a more recognisably ‘fresh’ state than previous techniques.[6] With the aid of motor cars, it became possible to shop for a week’s worth or more of groceries. In turn, this has assisted in the spread and growth of suburbia and cities, distant from shops and agricultural areas. Food is freighted by air, sea and land, across national borders and continents. Crops for

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[1] W. H. J. Holloway, “The Modern Domestic Refrigerator,” *AHB*, 2 January 1928, 43.
[2] *Melbourne Punch*, 10 November 1859, 3-4.
[3] Ibid.
[4] Susanne Freidberg, “Moral Economies and the Cold Chain,” *Historical Research* 88, no. 239 (2015): 125-37; Kostas Gavroglu, “Historiographical Issues in the History of Cold,” in *History of Artificial Cold, Scientific, Technological and Cultural Issues,* ed. Kostas Gavroglu, (Heidelberg: Springer, 2014), 14.
[5] Carroll W. Pursell, “Technologies as Cultural Practice and Production,” *Technology and Culture* 51, no. 3 (2010): 715-22.
[6] Susanne Freidberg, *Fresh: A Perishable History* (London: Belknap Press, 2009); *Fresh*, 4.

export have transformed rural landscapes. Perishables, such as asparagus from Peru, can be kept in the vegetable humidifier of our fridges, defying time and the seasons to be cooked days, if not weeks, after harvest. Frozen chicken, hatched and killed in Thailand, defrosted, 'tumbled', turned into nuggets, and re-frozen in the Netherlands, before being packaged, branded and sold in Ireland, can sit in our freezer safely for months, until desire strikes.[7]

The variety of foods we eat has dramatically increased with refrigeration and cold chains – the low temperature-controlled international and local transport and distribution networks. Refrigeration is an important example of 'culinary infrastructure', demonstrating the relationship between material culture and lived experience.[8] As Tarulevicz has established, refrigeration shifted people's understandings of food safety, or, as Kostas Gavroglu argued, 'hygiene rules had to be re-defined'.[9] For many, it is almost impossible to imagine life without refrigeration, but this view is relatively new.

Approach

Today, temperature control is the most ubiquitous and fundamental aspect of food preservation and safety in Australia, yet this was not always so. Following Susanne Freidberg and Frances Steel, refrigeration and other cold technologies are considered as not inevitable.[10] If we accept cold technologies as a natural progression of food safety, we miss critical elements of their development, take them for granted, and cease to see them as the construction of capitalist concerns. That is, concerned with profit rather than food safety and public health. In this chapter, I trace why and how infrastructures of cold were developed and taken up, and show how food safety knowledge and practices were changed by ice and refrigeration.

This chapter follows the development of food preservation and technologies of cold in Australia through the 19th and 20th centuries, focusing primarily on domestic use. Food safes

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[7] Felicity Lawrence, "Fowl Play," *Guardian*, 8 July 2002.
[8] Jeffrey M. Pilcher, "Culinary Infrastructure: How Facilities and Technologies Create Value and Meaning around Food," *Global Food History* 2, no. 2 (2016): 105-31;
[9] Nicole Tarulevicz, "Food Safety as Culinary Infrastructure in Singapore, 1920–1990," *Global Food History* 2, no. 2 (2016): 140; Gavroglu, "History of Cold", 14.
[10] The term 'refrigeration' was historically used to describing any kind of cooling device. Here, it describes mechanised refrigeration – whether electric, gas, or kerosene; Freidberg, *Fresh*; Frances Steel, "Tropical Cool: Refrigeration & Food in the Colonial Pacific," (lecture transcript, National Library of Australia, 5 December 2017), https://www.nla.gov.au/audio/tropical-cool (accessed 1 April 2019); Choi Hyungsub, "The Social Construction of Imported Technologies: Reflections on the Social History of Technology in Modern Korea," *Technology and Culture* 58, no. 4 (2017): 905-20; Nicolo Paolo Ludovice, "The Ice Plant Cometh: The Insular Cold Storage and Ice Plant, Frozen Meat, and the Imperial Biodeterioration of American Manila, 1900-1935," *Global Food History* 7 no.2 (2021): 1-25.

are briefly examined, then natural and mechanical ice. I argue that the association of captured cold with food safety was not immediately correlated: ice was a luxury. The gradual uptake of refrigeration is traced. From here, focus shifts to examine the commercial discursive themes that promoted and discussed the technology, suggesting that food safety concerns were not always a priority. Advertising was critical in creating a culture of cold. The 'intense meaning-making' surrounding captured cold illuminates the construction of social difference.[11]

Without Captured Cold


[12]

Figure 40. 'Jessie Marsh stowing a side of lamb in the open air, fly proof meat safe, Werrimull South, Mallee, 1936'.

Foods need to be protected from heat, dust, insects and animals. In 1832, Tasmanian colonist Sabina Meredith wrote to her family on the east coast: 'send salt mutton for the servants – and I should think if roasting pieces of beef were cut off and flavoured or peppered, they would keep very well'.[13] Keeping food from deterioration was a constant concern, and so salt and spices were employed, also enabling transportation. Five decades later, another Meredith continued to grapple with preventing spoilage. Hot weather made 'it difficult to keep the milk sweet', Maria wrote, and so, 'I make butter every day from the fresh cream instead of letting it [turn]'.[14] Food preservation methods employed before the use of ice and

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[11] Hobart, Hi 'ilei Julia. "Snowy Mountaineers and Soda Waters: Honolulu and Its Age of Ice Importation." *Food, Culture & Society* 19, no. 3 (2016): 461-83.

[12] Frank March, "Jessie Marsh Stowing a Side of Lamb in the Open Air, Fly Proof Meat Safe, Werrimull South, Mallee, 1936," Museums Victoria.

[13] Sabina Meredith to unknown, 20 May 1832, Private Deposits, University of Tasmania, G4/58 445 9.

[14] Maria Meredith to Fanny Meredith, 26 Dec 1882, Private Deposits, University of Tasmania, G4/568.

refrigeration altered the nature, taste and/or texture of foods. Methods of ensuring safe food can be found in print culture, instructing how to keep milk cool and covered, for example; or to keep meat sweet by covering with cloth and hanging, or rubbing with bran, peppers, charcoal or vinegar.[15] Advertisements offered butter and milk coolers (figures 43 and 44), which used water evaporation to prevent spoilage and rancidity.[16] Chemical additives such as 'Condy's Crystals', borax, 'Icealine', and 'Ovo' were promoted to home cooks for food preservation, and discussed in scientific literature.[17]

[18]

Figure 41. Homemade Coolgardie Safe ca. 1900-10.

[15] For example: *Eastern Districts Chronicle*, 19 April 1879, 2; *Australian Woman's Mirror*, 11 December 1928, 38.
[16] Anthony Hordern & Sons, "Trade Catalogue," (Sydney: Anthony Hordern & Sons 1895), 168; Foy and Gibson, "Summer Catalogue," (Melbourne: Foy and Gibson, 1906-7), 98; *AHB*, February 1932, 54.
[17] Condy's: *Age*, 18 November 1858, 7; *Brisbane Courier*, 1 May 1899, 6; *Wallaroo Times* 31 January 1866, 59; Borax: *Zeehan and Dundas Herald*, 16 November 1899, 4; Icealine: *Barrier Miner*, 2 January 1897, 4; *Register*, 11 March 1927, 10; *Clarence and Richmond Examiner*, 27 November 1900, 7; Ovo: *Australian Woman's Mirror*, 30 September 1930, 39; *Herald*, 23 October 1909, 1; "Food Preservatives," *Journal of the Royal Sanitary Institute* 19 no. 3 (1898): 360-79; R. J. Salton, D. I. Annear and D. F. Ohye, "Chemical Preservatives in Foodstuffs," *CSIRO Preservation Journal* 6 no. 1 (1946): 10-13.
[18] *Australian Coolgardie Safe, 1900-1910*, MAAS.

[19]

Figure 42. 'Trafalgar Cold Safe', 1927.

[20]

Figure 43. 'Milkool', 1932.

'Safes' were a popular technology that performed a protective role (see figures 40-44).[21] Basically, they were a box or cylinder made of wood or metal, with hessian or metal mesh panels allowing airflow. More complex versions utilised water evaporation and capillary or wicking action to draw water through fabric draped over the sides which, as it evaporated, absorbed heat from surrounds and cooled the interior of the safe. Breezes assisted the process, so safes were placed in cool, shady places. Insects were deterred by bowls of water in which the legs of the safe sat. The most iconic of meat safes was the 'Coolgardie' safe, reputedly invented in the 1890s by Arthur Patrick McCormick in the hot, arid and

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[19] *AHB*, January 1927, 48.
[20] *AHB*, February 1932, 54.
[21] Jacqueline Newling, "Baked, Boiled, Roasted, Steamed and Stewed: Domestic Kitchens and Cooking Appliances as Culinary Artefacts, 1788-1900," in *The Archaeology of Food in Australia*, ed. Madeline Shanahan (Sydney: Sydney University Press, forthcoming, 2022).

remote mining town of the same name.[22] Adaptations of this technology were often made at home (figure 41).

[23]

Figure 44. Cooling and storage devices, 1906-7.

Ice

Ice-chests built on the technology of food safes, containing foods to protect them from elements, heat, dust and pests. Likewise, mechanical refrigeration was prefigured by ice and ice-boxes. Because ice was the first form of captured cold used to extend the life of food, its use encompasses many of the issues and hesitations relevant to refrigeration anxieties more broadly. Chemically produced ice was the first form of captured cold discussed in Australian newspapers as being used for chilling consumables.[24] Internationally, ice became increasingly available during the 19th century, due primarily to a natural ice trade out of America. The business of Fredrick Tudor is well documented.[25] Large blocks of ice (from approximately 30cm^2) were cut from frozen Massachusetts water bodies and stored in large warehouses or shipped, insulated, and kept dry by straw, peat and other materials.[26] Tudor targeted tropical colonial, as well as domestic, markets. Although suffering initial losses, from the 1840s

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[22] *Australian Coolgardie Safe, 1900-1910*, MAAS.
[23] Foy and Gibson "Summer Catalogue", 98.
[24] 'Wheeler's Patent Convoluted Refrigerator, and Archimedes Condenser', *Hobart Town Courier*, 29 October 1831, 1; Patterson's, in 1847, was 'excellent for chilling wines'. *Port Phillip Gazette,* 13 December 1847, 2; 'Master's Patent Freezing Machine' used nitre chemical, *Cornwall Chronicle*, 27 December 1848, 259.
[25] Gavin Weightman, *The Frozen Water Trade: How Ice from New England Lakes Kept the World Cool* (London: HarperCollins, 2001); Jonathan Rees, *Before the Refrigerator: How We Used to Get Ice* (Baltimore: John Hopkins University Press, 2018).
[26] Jonathan Rees, *Refrigeration Nation: A History of Ice, Appliances, and Enterprise in America* (Baltimore: John Hopkins University Press, 2013), 12.

regular markets were established and serviced, enabled by critical infrastructure, such as insulated ice warehouses around ports, and smaller commercial and domestic ice-chests.[27] In time, competitors to Tudor entered the business.[28] Australia received its first shipment of American ice in January 1839.[29]

The substance came to the attention of the local press and was greeted with incredulity: 'the Americans are really speculative people. Here they have sent us all the way from Boston – Ice!'.[30] Although apparently wholeheartedly embraced by the residents of Havanah and Calcutta, Sydney settlers were more sceptical, 'plenty of ice in the Colony; yet it appears to excite no more interest than if the *natives* skated upon it every winter'. Despite noting the practical application of ice for the preservation of food, the article dismissed the 'congealed water' with a word that would characterise ice in Australia for many years to come: 'the Colonists here will do well to avail themselves of an indulgence in this luxury – for *luxury* it may well be called'.[31]

Ice was not perceived as a natural need or necessity in the sub-tropical climate of Sydney, but as a luxury. Although Nigel Isaacs suggests that natural ice was used to cool 'Sydneysiders and their food', my research suggests ice was used primarily, if not exclusively, for novelties such as chilled wines, punches, and cold desserts.[32] This first shipment was purchased by confectioner Thomas Dunsdon, who advertised his range of ice and ice cream flavours, and ice for cooling wines, deliverable to private homes.[33] That ice was primarily advertised by confectioners reiterates its novelty.[34] Around this time, articles on ice from international sources were reprinted in Australian newspapers. In Charleston, USA, meat was reportedly preserved in an icehouse 'avoiding putrefaction', 'for days or weeks, or, indeed, for any length of time whatever'.[35] Ice was fantastical. That it was said to offer infinite preservation, signals an unfamiliarity with the method and the food safety limitations of chilling foods.

Perhaps nowhere was the 'extravagance' of ice more emphasised than in Hobart, a town with a more ready natural supply of frozen water than the mainland colonies. In 1849,

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[27] Nigel Isaacs, "Sydney's First Ice," *Sydney Journal* 3 no. 2 (2011): 30.
[28] Rees, *Refrigeration Nation*, 26.
[29] *Sydney Monitor and Commercial Advertiser*, 16 January 1839, 2.
[30] *Sydney Herald*, 21 January 1839, 2.
[31] Ibid.
[32] Isaacs, "Sydney's First Ice", 26-35; *Sydney Herald*, 8 February 1839, 2.
[33] *Sydney Herald*, 6 February 1839, 1.
[34] *Port Phillip Gazette,* 1 March 1848, 3; *Sydney Morning Herald,* 13 December 1848, 1.
[35] *Adelaide Observer*, 7 March 1846, 7.

the construction an icehouse above Hobart on Mount Wellington called for public subscriptions, and a 'probation gang' of convicts had been promised for the 'bantling' (offspring) of Governor Denison.[36] Local newspapers were scathing in their response: 'how many more objects there are more worthy of the attention of our rulers than throwing away the public labor in…expending money in the procuration of the luxury of snow'.[37] Ice was not viewed as an essential, or even suggested for keeping food safe for longer. The *Hobartian Guardian* decried that necessary street works were neglected for:

> a little bit of picturesque pleasantry…in the shape of an icehouse…wines will, henceforth, be iced, after the most approved and luxurious fashion of the most dainty epicurism…for the exclusive enjoyment of the higher classes. [38]

Further accusations of exclusivity, nepotism and 'gormandism' were directed at subscribers whose 'liberal salaries' were 'paid by the colony'.[39] The icehouse was built, with the first block of 'Van Diemen's Land ice' delivered to Government House in June that year, an event reported in Melbourne and Sydney newspapers.[40] In 1855, a Sydney icehouse was similarly controversial. Although not recognised in press reports, its construction was provided for with authority from the same Sir William Denison, as the new Governor-General of NSW. The icehouse was granted, 'for nominal rent', and occupied a prime position in Circular Quay.[41] Even in the hot climate of Sydney, ice was dismissed as a pleasant, but unnecessary substance. One observer commented, 'great as my love is for sherry cobblers, ice creams, &c…no one will assert that ice is of the same value to the community as flour'.[42]

Ice shipments from America between 1839 and 1856 generated mixed responses and rapid melting.[43] One poorly received shipment was reputed to have been unloaded and left in a quarry to melt; another load travelled on to San Francisco from Australia for the Northern

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[36] *Hobarton Guardian*, 17 March 1849, 2; Jack Thwaites, "The Mount Wellington Ice Houses," *The Tasmanian Tramp*, no.21 (1974), 82-5; Tim Buxbaum, *Icehouses* (Buckinghamshire: Shire Publications, 2014).
[37] *Launceston Examiner*, 21 March 1849, 6.
[38] *Hobarton Guardian,* 26 September 1849, 2.
[39] *Hobarton Guardian,* 17 October 1849, 2.
[40] *Courier*, 30 June 1849, 3; *Argus*, 9 July 1849, 2; *Sydney Morning Herald*, 18 July 1849, 3.
[41] *Sydney Morning Herald,* 24 January 1855, 8; *Sydney Morning Herald*, 27 January 1855, 5.
[42] *Sydney Morning Herald,* 24 January 1855, 8.
[43] Isaacs, "Sydney's First Ice", 28; *Adelaide Times*, 2 October 1848, 2; *South Australian Gazette,* 7 October 1848, 1; *Adelaide Times*, 23 October 1848, 2; Melbourne: *Age*, 14 December 1855, 5; *Argus*, 10 November 1857, 4; *Argus,* 8 December 1858, 4; Hobart: *Mercury*, 26 December 1860, 3; *Mercury*, 26 December 1860, 3; *Argus*, 26 September 1860, 8; *Age*, 17 November 1860, 6; Tasmanian ice was exported to Sydney, although with more of the 'appearance of snow than ice'. *Sydney Morning Herald,* 21 November 1860, 3.

summer – over a year and a half after leaving Boston.[44] The ice trade appears to have suffered from a double-bind: supply not regular enough to justify setting up adequate infrastructure; but also that the infrastructure and popularity of ice was not enough to justify a regular supply.

In September 1859, two advertisements appeared in the Melbourne *Age* signalling a shift in the source of ice. One offered 'Pure Crystal Wenham Lake Ice' from America, while the other promised 'pure ice manufactured under Harrison's patent'.[45] Mechanical ice was to be sold to the Australian public, likely for the first time.[46] James Harrison, a Scottish-emigre journalist-newspaper-editor-publisher-parliamentarian living in Geelong, had developed, patented and manufactured an ice-making machine, using a 'vapour compression' system with sulphuric ether.[47] Harrison's machines were used from around 1856 in breweries in London, Geelong, Calcutta, South America and Europe.[48] His ice plant, established in Melbourne in 1859, produced ten tons a day, but supply outstripped demand.[49]

Potential consumers were educated and instructed about their unrealised 'need' for ice. Between 1859 to 1861, promotions for and extracts from the 'Explanatory Pamphlets' of the Patent Ice Company were published in Victorian newspapers.[50] 'Ice, and its Uses' related that ice consumption in Australia had so far been limited by its 'exorbitant price', but it was predicted, 'ere long, ice will be considered as much a necessity of life in summer as fire is in winter'. Suggested uses included recipes for ice creams and cocktails, and the 'more obvious applications of ice to the cooling of drinks, and to the preparation of creams'. It was also mentioned that ice was 'most economical…in the preservation of meat, butter and other

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[44] Isaacs, "Sydney's First Ice", 28; Antarctica was not discussed in newspapers as a potential source of ice.
[45] *Age*, 30 September 1859, 8.
[46] Isaacs argues mechanical ice was sold a year earlier (1857) in Melbourne, citing no ice was included in imports since December 1856, but that ice was listed as an export for Melbourne. Isaacs, 'Sydney's First Ice', 30, 34. Newspapers, however, recorded ice as cargo on the ship *Alma.* It arrived from Boston on 13 October 1858 with 'no passengers', and named the agents as the 'Melbourne Ice Company'. *Argus,* 14 October 1858, 4; *Argus,* 19 October 1858, 4. The company later advertised they had 'received a supply of ice' and were now 'prepared to deliver' it. *Age,* 28 October 1858, 8.
[47] Keith Farrer, *To Feed a Nation: A History of Australian Food Science and Technology* (Canberra: CSIRO Publishing, 2005), 51-58.
[48] Matthew Churchward, "James Harrison, Inventor, Newspaper Proprietor & Mayor of Geelong, Victoria (1816-1893)," Museums Victoria.
[49] L. G. Bruce-Wallace, "Harrison, James (1816–1893)," Australian Dictionary of Biography.
[50] *Argus,* 11 October 1859, 6; *Geelong Advertiser,* 6 December 1859, 2; *Geelong Advertiser,* 29 November 1860, 4; Sinnett & Co., of Adelaide, 'manufactured under the Harrison's Patent' from 1860, *South Australian Advertiser,* 2 May 1860, 3; Sinnett &Co., "Ice and Its Uses: Prices and Recipes," (Adelaide: David Gall, circa 1860); A 1926 article asserted that 'Sinnett did not make the business a success', *Register*, 9 January 1926, 3.
[50] Sinnett &Co., "Ice", 3.

perishables', and increasingly used by butchers and in dairies. The very presence of ice in a chest was a guarantee of safety: 'perishable food' was kept 'perfectly wholesome'.[51]

Trusting Ice

The Patent Ice Company pamphlets reassured hesitant Australians, and promoted the many benefits and pleasures of ice. It was thought that 'some prejudice may naturally exist against ice produced by artificial means', acknowledging that industrialisation, with its mechanisation of natural processes, created new concerns. Contamination emerged as the first issue. While previous methods of ice-making relied on chemicals, the Harrison Patent 'was purely a mechanical one' using steam, 'no chemical substance whatever is brought in contact with the vessels containing the pure water from which the ice is made'. Detailing the process by which Harrison's machine operated – in lay but detailed terms – gave people the impression of transparency and knowledge, critical elements in creating trust in food.[52]

Perceptions around the colour of artificial ice were suggested as a significant hurdle to overcome, reiterating the importance of sensory perception as a tool in assessing the safety of food. While whiteness was believed 'a recommendation' in sugar and salt, the pamphlet stated, in ice, it was viewed with prejudice. But whiteness in ice was actually a sign of superiority, it was argued, and compared it to, 'alpine glaciers and icebergs', thereby realigning the mechanically produced with nature.[53] The reputation of place was used to advertise the product: Harrison's ice was said to bear 'remarkable similarity with the ice of the Mere de Glace in Switzerland'. This ice was as hard, as cold, and lasted as long as the natural product. The process and product were finally endorsed by the authority of experts, European male professors, 'eminent scientific men', building trust using the trope of 'professional knowledge'.[54]

While the pamphlet attempted to dissuade suggestions that ice was inherently dangerous – there existed 'a certain amount of fear lest injurious results should be experienced from free indulgence in so delicious a luxury' – other sources warned of perils.[55] Ice's 'tempting coolness' could lead to overindulgence and sickness, said a commentator in 1861: 'to eat sixpennyworth of ice, as sweetmeats are eaten, is a most ridiculous mistake' and

[51] Ibid., 6-16.
[52] Karin Zachmann and Per Østby, "Food, Technology, and Trust: An Introduction," *History and Technology* 27, no. 1 (2011): 1-5.
[53] Sinnett &Co., "Ice", 5.
[54] Ibid.; Anthony Giddens in Zachmann and Østby, "Food, Technology, and Trust", 3.
[55] Sinnett &Co., "Ice", 5.

‘a very dangerous feat at this time of the year’.[56] Several cases of ice-induced ‘serious indisposition’ resulted, and ‘great prostration was experienced, followed by threatenings of low fever. Diarrhoea and dysentery are also evils which might be expected’.[57] It seems more probable that such illnesses stemmed from contaminated water.

Safe ice had certain characteristics. In 1860 Sydney, it was not only the source of the water, but also the form and solidity of the ice that mattered. Harrison’s ice, ‘made from Botany water’ was as pure and ‘fully equal to that imported from North America. It had ‘greater firmness and durability’.[58] In 1863, another Australian ice machine was said to make a ‘perfectly pure’ product, unaffected by the chemicals used in the process.[59] Pure meant the quality of the water, but also the absence of chemicals. Transparency was a qualifying quality in this advertisement, and this ice was comparable to the internationally renowned Wenham Lake ice.

The turn from ice as luxury to a tool for keeping foods longer emerged slowly. A reportedly reliable supply saw the suggestion that it be used in dairy operations.[60] In 1864 another article stated: ‘it is unnecessary to refer to the many valuable applications of ice, particularly in the preservation of food; and though it is at present regarded chiefly as a luxury, it will probably at no distant period become a necessity’.[61] A British article reprinted in Australian newspapers in 1868, related that in American cities, ice deliveries were as regular as the milkman in London, with ice ‘almost as essential an article of diet as bread’.[62] Yet even when hailed as a fundamental need, comfort, not health, was at stake. In the summer of 1873, ice, an ‘indispensable necessity of everyday life’, became unavailable in Melbourne, ‘occasioned by a succession of little mishaps to the Victoria Ice works’, but the only use discussed was its ability to chill alcohol, with ‘Thirsty would-be customers’ entering and leaving ‘hotel after hotel’ when discovering ‘the most healthy drink’ of summer – ‘brandy and water, but iced’ – was only available ‘in a par-boiling state’.[63]

Change in form could mask the corruption of water. While impurities like dirt and ‘vegetable matter’ might be visible, more sinister bacteria was imperceptible to the naked

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[56] *Adelaide Observer,* 12 January 1861, 6.
[57] Ibid.
[58] *Sydney Morning Herald,* 28 December 1860, 5.
[59] *Sydney Morning Herald,* 26 February 1863, 5.
[60] *Sydney Morning Herald,* 21 December 1860, 9.
[61] *Sydney Mail,* 19 November 1864, 8.
[62] *Sydney Morning Herald*, 17 November 1868, 6.
[63] *Herald*, 9 December 1873, 2.

eye.[64] By the 1880s, ice made with contaminated water had been connected to outbreaks of diseases such as typhoid, but newspaper reports into the 20th century continued to suggest that 'most people' thought ice was inherently pure or that the action of freezing rendered water sterile.[65] Ice, an 'apparently harmless and attractive substance', instructed an 1890 article, could actually 'fairly reek with disease germs and filth of all kinds'.[66] Ice was only as good as the water from which it was made: 'unless it is known from whence the ice comes, its use may be more dangerous than the use of water'. And sometimes sources were hazardous: 'ice is sometimes derived from water which no one would think of drinking, as for instance, from ponds in cemeteries and from rivers in the neighbourhood of sewer outlets, and as a result may be indescribably foul'.[67] Opinions differed whether natural or artificial ice was safer, although commercial ice in Australia was almost certainly machine-made by this point.[68] In 1906, the Western Fresh Food and Ice Company raised doubts about purity of the Perth metropolitan water supply, instructing that their ice was purified. They twice boiled and skimmed water, then filtered it through 'animal charcoal', a sponge filter, and 'finally through swansdown and specially prepared porous paper'.[69] Another article asserted impurities coalesced in the centre of machine-made ice-blocks, and were thus removable; further, harmful bacteria was not killed by freezing, but if penetrated by sunlight 'practically all the bacteria will be dead in a short period of from two weeks upward'.[70] Cold temperatures, shocking the digestive system causing 'gastric debility', continued to be cited by some as a more common cause of ice-induced sickness than germs.[71]

[64] *Age*, 8 September 1926, 15; *Canberra Times*, 28 December 1950, 2.
[65] *Leader*, 9 December 1882, 8; *Gawler Standard*, 21 March 1884, 4; *Evening Journal*, 10 February 1899, 2; *Advertiser*, 20 October 1909, 12.
[66] Reprinted from the *Scientific American. Pictorial Australian*, 1 August 1890, 10.
[67] *Pictorial Australian*, 1 August 1890, 10.
[68] *Evening Journal*, 10 February 1899, 2; Philip E. Muskett, *The Art of Living in Australia* (Melbourne: Eyre and Spottiswoode, 1893), 213-6.
[69] *Sunday Times*, 4 November 1906, 8.
[70] *Advertiser*, 20 October 1909, 12.
[71] *Armidale Express and New England General Advertiser* 5 April 1904, 5; *Sunday Times*, 31 January 1904, 8.

[72]

Figure 45. Ice-chests circa 1895.

The cleanliness of ice-chests also received more attention than the purity of ice itself. Ice-chests and ice-'refrigerators' (see figure 45) were imported alongside the earliest shipments of North American ice, and later constructed in Australia. These devices became more explicitly designed for food preservation, and so popular (and professional) food safety concerns were increasingly apparent in discussions around them. Philip E. Muskett made the case for ice-chests in his 1893 *The Art of Living in Australia*, a work that sought to rectify the 'food-life' choices of Australian settlers who 'live in direct opposition to their semi-tropical environment'.[73] While formerly a 'not-to-be-thought-of-luxury', ice-chests were increasingly affordable.[74] Reducing or eliminating waste, Muskett instructed, they thus offered a safety of economy. There was the convenience of unmelted butter, and safety 'from the hygienic standpoint' – meaning here, a stimulated appetite in hot weather to promote health. The ice-chest enabled the housewife to utilise leftover 'odds and ends', and serve up cool, somewhat novel, dishes, such as a 'dainty salad' or 'delicious little breakfast dishes', providing variety to the 'chops and steaks so universally served'.[75] Transforming the dull and ordinary into fine, ethereal dishes, ones that defied time and heat, offered safety from monotony and drudgery. Freiberg has argued that ice-chest sales in America benefited from a fashion for light, French-

[72] Hordern & Sons, "Trade Catalogue", 302.
[73] Muskett, *Living in Australia*, xvii-xviii.
[74] Ibid., 213-16.
[75] Ibid.

style and thus sophisticated fare such as salads. This trend, discussed later, is also evident in 20th century Australian refrigeration advertisements.[76]

Advice was given as to the use, maintenance and safety requirements of ice-chests. The most affordable types required 'only a small quantity of ice to keep them charged'.[77] Muskett recommended keeping ice blocks whole, and the larger the block the better. Newspapers placed on top of the ice would force cold air down, he continued, and the simpler the better, with no need for repairs, but most importantly, keep them clean. It was critical to wash them out with 'soap and soda at least once a week', and remove any scraps of food, 'for these morsels will cause an unpleasant smell and quickly taint anything that may be put in afterwards.[78] Newspapers headlines such as 'Dirty Ice Chest', 'Filthy Ice Chest', 'Ice Chest Hint', Ice Chest Drainage', suggest common and ongoing concerns. From the 1910s, articles detailed prosecutions for storing food in ice-chests that were dirty, greasy or worse. A caterer in Parramatta was fined ten pounds for keeping 'plum pudding, blanc mange and dripping' over a tray 'containing black slime, which was trickling on to the floor of the ice-chest. The shelves were covered in grease, and on the floor were mouldy bones, sticky matter and decomposed meat'.[79]

Guidance around ice-chests was given long after domestic mechanical refrigeration arrived in Australia, highlighting continued use of the technology and accompanying concerns. Anyone who has used an icebox for a few days has some idea of the inherent issues – waterlogging, cross-contamination of smells, the need for regular replacement of ice.[80] In addition, early varieties were wood inside, which absorbed smells, moisture, and often went mouldy. Ice burns, caused by direct contact between ice and food (some, such as leafy vegetables, being more susceptible than others) were eliminated by separation using physical barriers.[81] Compartmentalising ice also helped prevent waterlogging as ice melted. Dampness remained an issue, not only leaving foods soggy, but allowing bacteria to thrive if temperatures rose before ice was replenished. Moisture drains, often awkward to access,

[76] Freidberg, *Fresh*, 23.
[77] Muskett, *Living in Australia*, 215.
[78] Ibid.
[79] *Sun*, 11 March 1926, 13.
[80] Eskys, as they are known in Australia, are the trade name of the device built by Malley's, became popular as car ownership increased mobility, and supported picnics and other outdoor activities. *Queensland Times*, 1 September 1947, 3; *AWW*, 21 November 1956, 72.
[81] Alex Smith, "How to Build the Home Beautiful Ice Chest," *AHB*, February 1936, 42.

required thorough cleaning, and were places where scraps of food and dirt could lodge and decay.[82]

Ice-chests became increasingly sophisticated, with zinc, porcelain or enamel linings. The development of technology reflected and informed safety concerns. In 1902, the Adelaide-designed 'Snowflake Refrigerator' was announced as a 'new form of ice-safe', and the only one built on 'acknowledged scientific principles'.[83] The Snowflake had 'overcome fatal faults of every other form of ice-safe…ventilation, not merely circulation of air within the safe…means replacing foul air by that which is pure'.[84] The interior was 'iron, enamelled white, so that it is clean, sweet and perfectly hygienic'. Again, colour and texture played into people's sensing of safety – white, as it so often was, was equated with purity, safety and cleanliness. Associations of 'hygiene, civilisation and whiteness' were manifest in 'the materiality of furnishings', and carried 'racial overtones'.[85] Enamel was smooth and white, ostensibly showing up potential contaminants. The very name of the 'Snowflake' ice-chest, reiterated safety – being associated with whiteness, cold and purity. In contrast, zinc-lined ice-chests were thought hazardous, as they 'become encrusted with poisonous exudations, and generate noxious gases'. Further, no wood inside meant dryness: food did not become 'wet and "clammy"' in the Snowflake.[86] While domestic powered refrigerators were becoming available in Australian markets from the 1920s, the discussion of the necessity of ice was still being had, not only in rural areas, but in cities too. In Perth, one ice company's slogan was 'spare the ice and spoil the food', working to convince people of the utility of cold.[87]

Ice-Chests Linger

Ice-chests and mechanical refrigerators were often positioned as interchangeable. Some even insisted a food safe was as good. In 1929, the suburban homemaker journal, *Australia Home Beautiful*, ran a special on household appliances 'Making Work Easy', stating, 'ice-chests in town, Coolgardie safes in the country, but they serve the same

[82] *AHB*, 2 August 1926, 31.
[83] *Table Talk*, 2 January 1902, 8.
[84] *AWW*, 5 December 1936, 34.
[85] Nayan Shah, "Cleansing Motherhood: Hygiene and the Culture of Domesticity in San Francisco's Chinatown, 1875-1900," in *Gender, Sexuality and Colonial Modernities*, ed. Antoinette Burton (London: Routledge, 1999), 26-28; E. Melanie Dupuis, *Nature's Perfect Food: How Milk Became America's Drink* New York (New York: New York University Press, 2002), 11, 117-8; René Alexander D. Orquiza, *Taste of Control: Food and the Filipino Colonial Mentality under American Rule* (New Brunswick: Rutgers University Press, 2020), 137.
[86] *Table Talk*, 2 January 1902, 8.
[87] "Western Ice Company Delivery Truck, 1927," (Photograph), State Library Western Australia.

purpose'.[88] The only obvious advantage of electric refrigeration over ice, according to some, was the ability to make ice cubes: 'for everyone knows that a warm cocktail is worse than no cocktail at all'.[89] Some of the most comprehensive overviews of ice and refrigeration use in Australia come from American sources.

US Department of Commerce reports, with their eye on Australian markets, provide insight into the use of cold technologies. In 1911, the report noted that given the warm climate of Australia, the potential for American manufactures was good.[90] By 1927, Australia represented a strong potential market for American refrigerators.[91] The extent of ice use was surveyed, and described as varying with climate, season and levels of wealth, while still being viewed by many as an extravagance or simply unpopular.[92] Ice refrigerators were not 'commonly used in Australia', but ice was used in 'practically all homes during the warmer months', and was 'quite generally employed' in the main cities. Electrical refrigerators were becoming the 'standard form' of cooling in butchers' shops and hotels. Adelaide used ice, although it was 'not so great a necessity as in Sydney, Newcastle and Brisbane'. Meat safes were still more generally used than ice refrigerators in Victoria and Tasmania, where many still held ice as a 'luxury'. Country towns also, failed to use ice 'although the temperature is such that refrigeration really is a necessity'. The report reinforced the argument that a demand had to be created for cold technologies: 'a great deal of work', 'active sales work', and a 'progressive sales campaign' were required 'to develop the preliminary stages of the market'.[93]

Another American, visiting in 1927, concurred with the need for 'a little educational propaganda' to heighten Australian sales.[94] The 'refrigerator expert, from Chicago' found the idea of ice 'as an essential…[was] poorly developed in Adelaide', and ice plants only operated seasonally for 'five or six months'. He saw the potential for significant increases in production and consumption, pointing to the price, reliability and quality of the ice as factors

[88] *AHB*, February 1929, 49.
[89] *Sun*, 6 January 1929, 2.
[90] Henry D. Baker, "Australia: Its Resources, Industries, and Trade, with Suggestions as to its Development as a Market for American Merchandise," United States Department of Commerce and Labor, no. 47 (1911), 94-5.
[91] A 1924 survey had argued 'little opportunity existed for Americans in the current climate', where loyalty was strong to home and British industries, and tariffs protected local markets. "Ice-Making and Cold-Storage Plants in Australia and New Zealand," United States Department of Commerce and Labor, no. 280 (1924); Three years later, there was no mention made of import duties or loyalties. Lawrence D. Baston, "Guide to Marketing of Electrical Equipment in Australia," United States Department of Commerce, no. 487 (1927), 24-5.
[92] Baston, "Electrical Equipment", 24-5.
[93] Ibid.
[94] *News*, 15 October 1927, 5.

inhibiting sales. Increased production with 'modern equipment' would bring the price down and ensure it was always available, particularly during 'hot spell[s]'. Thawing could be reduced through larger blocks, and, moreover, American ice was more desirable, being 'crystal clear' and not like the 'hard snow' of Adelaide.[95] Despite the high hopes for refrigeration sales, a 1931 US report observed that cold storage was still regarded 'purely as a luxury', lamenting that Australia had not developed the same 'ice and cold storage habit' as the United States.[96] In Melbourne, it was estimated that only half of the 200 000 houses had some form of refrigerator. Hopes for a '100 per cent increase' in electric refrigerators sales after a 1929 'intensive sales and advertising campaign', had been stalled by the depressed economic situation and higher than indicated tariffs.[97]

Ice-chests continued to be advertised and sold into the middle of the century.[98] A guide to building an ice-chest was featured in *AHB* in 1925, 1936 and 1948, with very few changes. Most notably, a drip-tray was added for keeping salad greens crisp in 1936, and the name was changed to 'ice refrigerator' in 1948.[99] In 1932, a Brisbane newspaper posed the question, is 'ice a necessity?'. A local man argued ice deliveries on a Sunday should be allowed, as milk was. His family's double-order of ice on Saturday often melted before Sunday morning in summer, and perishables became 'unpalatable'.[100] Advice continued to be given on how to keep food safe without ice or refrigeration.[101]

Labour and petrol shortages due to World War Two restrictions impacted on the availability of ice in Sydney during the summer of 1942-43. Reports detailing fears of an impending ice shortage suggest that ice was increasingly appreciated and perceived as an essential, at least in summer: 180 000 people had 'suddenly decided to order ice' after a recent heat-wave.[102] Manufacturers warned of 'epidemics resulting from the consumption of tainted food…thousands would face health tragedies'.[103] Around Christmas, concerns heightened. Customers were forced to collect ice from factories, in all manner of containers.

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[95] Ibid.
[96] Wilbur Keblinger, "Australia as a Market for American Goods in 1931," United States Department of Commerce, no. 745 (1931), 19-20.
[97] Ibid.
[98] "Official Souvenir Catalogue," Royal Adelaide Exhibition, 1947, 90.
[99] *Home Builder,* January 1925, 50-1; *AHB,* February 1936, 42; *AHB,* January 1948, 36-8.
[100] *Courier*, 12 January 1932, 8; See Melbourne prosecutions for selling ice on Sundays, *Herald*, 4 December 1902, 4.
[101] *AWW*, 11 January 1936, 20; *Townsville Daily Bulletin*, 3 January 1942, 6.
[102] *National Advocate*, 7 October 1942, 1.
[103] *Daily Examiner*, 30 December 1942, 2.

Housewives were told to ask neighbours with refrigerators to help them keep meat cool.[104] After almost a week with no ice delivered, one Manly resident related that her food had turned: ‘we will have to live on tinned food till after the holidays’.[105] On the 29th of December, a Chatswood ice factory was ‘stormed’ after ‘thousands of families’ had been ‘without ice for a fortnight’. A union representative decried the hierarchy of needs created by the war effort: ‘ice production in Australia is 18th on the priority list. It is third on the list in USA, where the authorities apparently realise the menace of contaminated food’.[106] Men had been released from the army so animals could be slaughtered for food, another factory foreman related, yet there was not enough labour to make the ice that chilled the meat.[107] This episode cannot tell us what percentage of people relied on ice or refrigeration, but it signals a shift in infrastructure in this urban centre – the need for cold storage, from production to consumption, now existed.

[108]

Figure 46. The 1936 Bebarfeld Bluebird ice refrigerator, boasted ‘air conditioning principals’.

[104] *Sun*, 27 December 1942, 5.
[105] *Daily Telegraph*, 27 December 1942, 6.
[106] *Sun*, 29 December 1942, 3.
[107] *Newcastle Morning Herald and Miners' Advocate*, 30 December 1942, 2; Ice shortages were reported across the nation during the war: Perth, WA: *Sunday Times*, 20 December 1942, 6; Mackay, Qld: *Daily Mercury*, 4 January 1944, 2.
[108] *AWW*, 5 December 1936, 34.

But while ice was in heightened demand in urban areas, proponents in rural areas were still working to convince people cold storage was a necessity. In 1954, a Scone newspaper related, 'in our climatic conditions, it is advisable for every householder to possess or have the use of an ice-chest or refrigerator'.[109] Ice refrigerator companies attempted to emulate, improve-on, and out-science mechanical refrigeration. Brands such as Frigid-Icer and Bebarfald Bluebird (see figure 46) promised complex features and modern materials, with their 'air-conditioned refrigeration' expelling stale air, and circulating 'clean washed air'.[110] As late as 1959, some advertisements still positioned ice-chests as the norm. A Peck's fish and meat pastes advertisement from that year ran 'A little Peck's goes such a long way – it keeps so well in your ice box'.[111] By 1961, the method of preservation had changed: 'Peck's keeps well in your refrigerator'.[112]

Refrigeration

[113]

Figure 47. Refrigeration in Australian homes, 1936.

Winding back the clock to examine the introduction of mechanical domestic refrigerators, electric refrigeration was, in the 1920s, hailed as 'the perfect method of preserving food'. The 'results of dry cold [are] surprising' with milk keeping 'sweet for week or more'; eggs chilled for eleven months were 'as fresh as when taken from the nest'.[114] In

[109] *Scone Advocate*, 17 December 1954, 4.
[110] *Sun*, 16 September 1937, 26; *AWW*, 5 December 1936, 34.
[111] Jan O'Connell, "Timeline," *Australian Food History Timeline*; *Canberra Times*, 1 October 1959, 6.
[112] *Canberra Times,* 15 June 1961, 9.
[113] *AHB*, November 1936, frontcover.
[114] *AHB*, January 1927, 48; *AHB*, January 1928, 43-5, 53; echoing earlier claims: *Border Watch*, 3 November 1869, 352.

1936, the mechanical refrigerator (see figure 47), 'keeps the food for an almost indefinite time', and removed the hassle of ice-chests with their overflowing drip-pans and infrequent deliveries, 'food waste is entirely eliminated…oh, and the joy of being able to say goodbye to the iceman'.[115] Even before the introduction of domestic cold technologies to Australia, the 'logical result' of general and correct use of refrigeration, promised a member of the Royal Sanitary Institute in 1909, was 'prosperity and health, and therefore happiness'.[116]

Domestic refrigeration technologies evolved gradually and simultaneously in various sites across the world. Driving development were commercial ventures, maintaining cool and freezing temperatures in breweries and on ships, which exported meat to population centres in the Northern Hemisphere.[117] Ice-making machines and refrigeration utilised fundamentally the same technology, with the first chilling water and the latter cooling air.[118] The mechanical creation of cold, being the absence of heat, requires the drawing of heat away from a specified area. Chemical refrigerants, such as ammonia and sulphur dioxide, absorb the heat and displace it elsewhere. The 'compression refrigeration cycle', as used in the early era of mechanical refrigeration and still common today, circulates a refrigerant through stages of 'compression, evaporation and expansion'.[119]

Australians were early innovators of refrigeration technologies. Thomas Mort constructed frozen storage facilities in Sydney in 1875, and while he and his business partner Eugene Nicolle attempted to develop shipboard refrigeration for meat export, it was the French who first succeeded in 1878, transporting frozen carcasses from South America to Europe.[120] Domestic machines required another set of innovations, with machines gradually made to be self-contained and smaller, and companies trialling varying processes and chemical refrigerating agents.[121] Discussions of the technology coalesced around commercial potential for dairies and meat export.[122] It was not until the 1920s that viable domestic mechanical refrigerators became available on Australian markets.[123]

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[115] *AHB*, November 1936, 18-19.
[116] P. Bryce, "The Science of the Preservation of Foods by Cold," *Journal of the Royal Sanitary Institute* 30 no. 1 (1909): 20-31.
[117] For more detail, see Farrer, *Feed a Nation*, 51-8.
[118] Rees, *Refrigeration Nation*, 37.
[119] Rees, *Refrigeration Nation*, 36-7, 40.
[120] Farrer, *Feed a Nation*, 54-5.
[121] Steel, "Tropical Cool"; Freidberg, *Fresh*, 38.
[122] *Illawarra Mercury*, 1 October 1875, 2.
[123] Farrer, *Feed a Nation*, 58.

[124]

Figure 48. . 'A Summer time necessity', 1936.

In the early 1920s, American company Kelvinator patented and advertised an electric refrigerator for Australian homes, and by 1928 for apartments.[125] Other brands emerged towards the end of the decade. Australian Edward Hallstrom developed and patented a kerosene-operated refrigerator in 1928, designed particularly for rural households, and from the early 1940s, sold 'Silent Knights', electric and gas models (see a 1936 model, figure 48).[126] Other Australian models were produced, such as Quirks, Charles Hope, Kero Koola, and ElectrICE, utilising various power sources.[127] By-and-large, however, the market was dominated by the larger American, and (to a lesser extent) British firms. Kerosene obviously appealed in rural areas, and in urban areas electric interests came to dominate over gas.

Connecting the Cold Chain

Domestic refrigerators, as Steele has argued, are the 'last link in the cold chain'.[128] Discursive evidence suggests Australian people were well informed about the cold technologies that supported food distribution and consumption. In 1914, a newspaper article detailed the innovations of the 'Adelaide Crystal Ice Company' in creating a 'hygienic distribution' network, utilising 'cool storage vehicles' to deliver food in dustproof packages

[124] The Australian kerosene 'Hallstrom Refrigerator', *Warialda Standard and Northern Districts' Advertiser*, 13 January 1936, 6.
[125] *Express and Telegraph*, 2 November 1912, 4; *Daily Commercial News and Shipping List*, 5 October 1921, 11; *Sunday Times*, 25 November 1923, 17; *Sunday Times*, 25 November 1923, 17; *Advertiser*, 19 December 1928, 21.
[126] *Daily Commercial News and Shipping List*, 20 June 1928, 8; *Construction*, 17 July 1940, 11; *Sydney Morning Herald*, 7 May 1943, 9.
[127] *West Australian*, 27 November 1930, 20; Charles Hope Ltd., "Instructions," (Brisbane: Charles Hope, circa 1940s-1950s); *Northern Champion*, 25 January 1941, 5; *Sunday Mail*, 7 November 1937, 3.
[128] Steel, "Tropical Cool".

protected from 'blood, flies and dust…[with] no danger of meat taint'.[129] Commercial companies as well as educational sources reminded consumers of the cold chain, and used their brand's participation in it to promote the use of refrigeration in the home. In what appears to have been the first extensive cold chain in Australia, from 1875 the NSW Fresh Food and Ice Co. began connecting producers and consumers through a network of milk chillers, cool stores, ice-refrigerated railway carts, and shops with chilled display cabinets. By 1895, the company distributed and/or produced milk, butter, meat, seafood and baked goods, and participated in the international meat trade. The *Bulletin* listed a few delights viewed at a site visit, expressing heightened trade in international perishables and signalling a shift in the culinary infrastructure of Australia: 'English halibut, turbot, kippers, herring and bloaters; Maoriland flounders, soles and blue cod; American salmon from Vancouver and Sacramento. In another chamber, Maoriland venison, pheasants and quail'.[130] While the need for cold storage in the home was still contested, cold infrastructures permeated and underpinned food supply chains.

In 1932, *AHB* informed readers that 'without refrigeration, big cities could not exist'.[131] An ElectrICE full-page newspaper special promoted refrigeration as a 'commercial and domestic necessity', advertising models for both settings, and detailed uses in hotels, butchers shops, ice creameries and dairies.[132] Businesses advertised having refrigerating technologies, and newspaper articles appeared under headings such as 'Polar Conditions at Katanning: Kelvinator Arrives', and 'Frigidaire System at Molloy's Hotel', which promoted the refrigerator brand as well as the business that sold perishables or chilled drinks.[133]

A Queensland medical correspondent in 1937 indicated the quiet presences of cold technologies in the modern food system:

> Refrigeration is already influencing our food habits, whether we realise it or not. Even though we may not have one in our home, we benefit by the use of refrigerators in dairies, pasteurisation plants, green groceries, delicatessens, and the smaller mixed businesses. In this way a hygienic control is maintained at all points in the path of distribution.[134]

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[129] *Register*, 9 May 1914, 11.
[130] *Bulletin,* 9 March 1895, 22.
[131] *AHB*, February 1932, 52.
[132] *Argus,* 20 January 1932, 11.
[133] *Southern Districts Advocate*, 28 October 1929, 3; *Daily Mercury*, 27 November 1936, 9.
[134] *Sunday Mail*, 7 November 1937, 26.

In 1939, a refrigeration special connected the cold chain from source to consumption: 'if charity begins at home, refrigeration in a tropical country begins at the dairy, abattoir or orchard, continues through the transport and distribution stages, and ends in the home'.[135] Discussing the cold chain placed food safety responsibility firmly in the home space: it showed how foods were protected until retailed, after which consumers, namely housewives, became accountable for keeping food wholesome. Consumers were positioned as co-producers (or to borrow the French term, *consomacteurs*), making decisions that affected the safety of a food.[136] As *AHB* explicitly stated in 1932, home was where the 'real danger' existed, particularly if cold technologies were not used, or not used correctly.[137] Housewives needed to be educated.

Hesitations

It was not until after World War Two that refrigeration was increasingly adopted by Australians. Kate Darian-Smith, describing Melbourne kitchens using a 1941–1943 Melbourne University survey, showed under 8% owned a refrigerator, approximately half used an ice-chest, and in some lower socio-economic areas such as Collingwood, 40% had no chilling devices, only meat safes; nearly 60% had 'no water in the kitchen', and across Melbourne more broadly, less than a fifth had a 'hot water service'.[138] But by 1957, a *Times of London* report suggested significant change, documenting percentages of household with a refrigerator: in the United States of America, 90+ % had a machine, Canada 84%, Australia 70%, Sweden 50%, New Zealand 26%, France 12%, Italy 11% and in Great Britain, less than 10% of households had a refrigerator.[139] While some have posited 94% of Australian homes had refrigeration by 1964, this statistic, as discussed in the thesis introduction, appears flawed.[140] Within Australia, reliable figures are scarce, but refrigeration take-up was uneven across social divides and geographies, from urban to rural, tropical to temperate.[141]

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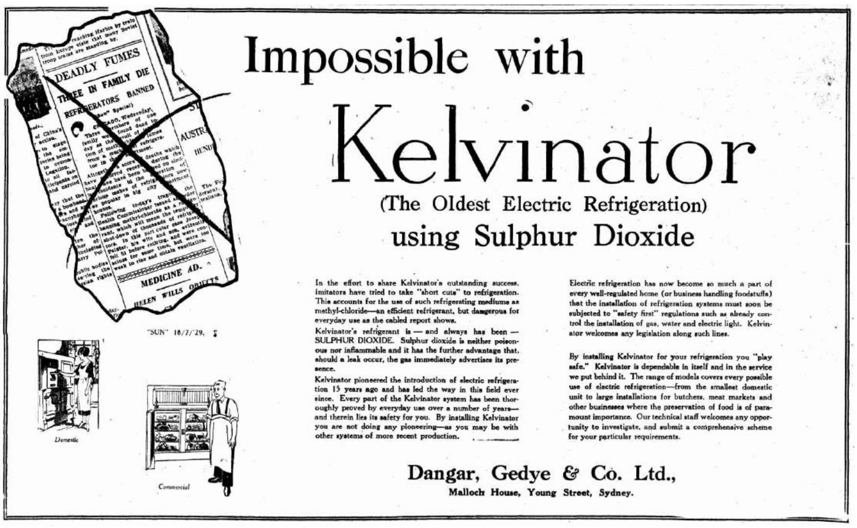
[135] *Courier-Mail*, 13 November 1939, 17.
[136] Alexia Moyer, "'All Kinds of Dirty': Supermarkets, Markets, and Shifting Cultures of Clean," *Cuizine* 2, no. 1 (2009): 17.
[137] *AHB*, February 1932, 9.
[138] Kate Darian-Smith, *On The Home Front: Melbourne in Wartime 1939-1945* (Oxford: Oxford University Press, 1990), 98-99.
[139] Rees, *Refrigeration Nation*, 179.
[140] C. Smith, "Domestic Refrigeration & Refrigerators," Museums Victoria (2005); Anthony Dingle, "Electrifying the Kitchen in Interwar Victoria," *Journal of Australian Studies* 22, no. 57 (1998): 119-27.
[141] The 1961 Census did not ask about kitchens, and data collected on kitchens in the 1966 Census was for 'office use only' and was not 'tabulated'. Australian Bureau of Statistics, "Census of the Commonwealth of Australia, 1961"; Australian Bureau of Statistics, "Census of Population and Housing, 1966".

Just as ice was slow to be adopted, so was refrigeration, but there were many reasons for the gradual uptake. News of refrigerator-related accidents and deaths may have caused concern among potential purchasers. International as well as local incidents were covered by the Australian press. In what was perhaps the most widely reported event, twenty-two people were asphyxiated by leaking methyl chloride refrigerants during a 1929 Chicago heatwave.[142] Over forty newspaper articles discussing the deaths were published across Australia. Readers were reassured about 'certain reports from America', by Sydney University Professor Priestly, who stated 'there is practically no possibility of poisoning' from methyl chloride refrigerants, a view supported by 'leading authorities…in England, Germany and U.S.A.'.[143] American authorities worked quickly to stem anxieties, banning the refrigerant in question.[144] Kelvinator used the Chicago deaths to advertise their product, reassuring potential customers their machines were completely safe because they used sulphur dioxide, not methyl chloride (see figure 49).[145] Rees documents widespread reliability issues creating distrust in 1920s American markets, but in Australia, household refrigeration units only became available late in the decade, when such issues had largely been rectified.[146] Many other refrigerator fires and explosions in Australia and elsewhere were reported by the press, but these were most commonly in commercial settings, and were framed as unusual accidents.[147] More generalised articles on refrigeration were not concerned with leaking refrigerants or fires, but whether this reflects a lack of consumer concern or vested interests is not clear.

[142] *Geraldton Guardian and Express*, 22 July 1929, 3; *Kalgoorlie Miner*, 26 July 1929, 1.
[143] *Daily Telegraph Pictorial*, 19 August 1929, 10.
[144] *Great Southern Herald*, 20 July 1929, 1.
[145] *Sun*, 21 July 1929, 6.
[146] Rees, *Refrigeration Nation*, 147.
[147] *Geraldton Guardian*, 10 February 1925, 2; *Canberra Times*, 7 March 1944, 18;



[148]

Figure 49. Safe refrigeration, 1929.

The effect of refrigeration on the nutritive value of food was another safety concern, with the use of the technology said to disguise old or stale products.[149] In 1935, the Victorian Housewives Association criticised the Milk Board for their use of refrigeration, citing concerns that milk was several days old upon delivery. The association president demanded 'it should not be more than 36 hours old'.[150] It had previously been discovered that milk had been kept in refrigeration 'for three weeks', reiterating conceptions of 'freshness' and 'safety' are unstable and changing. Aspects of milk production that are today considered basic procedure, and sometimes enforced by food safety regulations (such as pasteurisation), were not always welcomed or accepted. Mr Attridge of the Associated Metropolitan Dairy Farmers' League stated that 'refrigeration was dangerous', causing 'bacteria to lie dormant, only to become active when the temperature increased'. Refrigeration of milk was perilous because the cold chain was incomplete: housewives did not have access to refrigeration at home. Milk in Melbourne 'smelt bad by the time it had been in the house for half an hour'. Heat treatment of milk was dismissed as 'equally wrong' as refrigeration – 'the dirty man's expedient' in attempting 'to make bad milk good'.[151]

Concerns around freshness also coalesced around eggs. In 1925 the *Argus* informed Australian housewives of French discussions about eggs and cold storage, calling into question what could be considered 'fresh'.[152] It detailed a court case in which 'unscrupulous

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[148] *Sun*, 21 July 1929, 6.
[149] *Age,* 18 September 1935, 17.
[150] Ibid.
[151] *Age,* 18 September 1935, 17.
[152] *Argus*, 13 February 1925, 14.

dealers' in Paris sold refrigerated eggs as fresh, with public prosecutors insisting the foodstuff showed 'signs of decomposition 24 hours after being removed from the refrigerator'. By fining the dealers, French law insisted refrigerated eggs were to be considered and sold as 'preserved eggs'; keeping 'their comestible qualities' through 'processes which prolong artificially the period during which they can be used'. Refrigeration was seen as an artificial method of preservation that altered the qualities of a food.

Australians may have been reminded of an old and oft-reprinted story told of an unsuspecting Englishman being fed an egg that had been kept in a 'patent refrigerator' by a chemist.[153] The protagonist ran from the room in disgust after being told, 'you are the only living Englishman who has so far eaten a two-year-old fresh egg. What a triumph! You must tell everybody about it'.[154] For NSW officials, the goodness of a two-year-old egg kept in cold storage was 'convincing proof of the complete success of this mode of preservation'.[155] Discourse around milk, eggs and freshness reminds us that refrigeration was not a pre-determined success.[156]

The ongoing seasonal use of ice is significant in helping explain adoption rates of mechanical refrigeration. If cold storage was a necessity for only part of the year, then why bother with the large expense of a refrigerator? As late as 1961, it was suggested that cold storage for foods was used only periodically in Australia. An Electrolux guide and recipe book argued for year-round use of refrigeration:

> A commonly held belief is that refrigeration is necessary only in the summertime. This is a misconception because on the contrary – in a climate such as ours with constant temperature fluctuations in the colder months, food is constantly undergoing changes…[having] a very undesirable effect upon nutritive value.[157]

Yet refrigerators were advertised seasonally and promoted as a tool to cope with coming summers.[158] As late as 1963, a 'Crosley' refrigerator was advertised 'at off season price'.[159] For most Australians, namely the urban, the culinary infrastructure was in place to keep

[153] First printed in 1899 and reprinted in 1902 and 1903, in at least fourteen different newspapers nationally.
[154] *Advertiser*, 28 August 1899, 6.
[155] *Leader*, 16 December 1899, 11.
[156] Pilcher, "Culinary Infrastructure", 105-31.
[157] Electrolux Pty. Ltd., "Making the most of your Electrolux," (Melbourne: Victorian Printing Works, 1961), 4.
[158] "Ice for the Coming Summer," *Avon Argus*, 14 September 1928, 3.
[159] *Canberra Times*, 15 July 1963, 7.

households supplied with safe and fresh foods, from meat safes and ice-chests, designed cool areas of houses (such as cellars), to proximity to food retailers. Mobile vendors regularly brought foods to the door by cart, reducing the need for shopping expeditions and potential food safety incidents by centralising and limiting exposure of foods to the elements.[160] Travelling vendors increasingly used ice, and later mechanical refrigeration, thus reducing the need for domestic cold storage. Put another way, 'eating and shopping habits…didn't require the protection and convenience' offered by refrigeration.[161]

The cost of refrigeration obviously restricted sales: promised savings in food and ice costs were a large part of promotional messages. The price of a Kelvinator in 1924 was described as 'a little prohibitive, perhaps', starting at £220.[162] In 1927, refrigeration was 'still at a stage when most of us can only look at them in the pages of illustrated magazines'.[163] While the ongoing expense of ice was a consideration, so was the cost of electricity and up-keep. The up-front cost was significantly less for an ice-chest: in 1936 a General Electric (GE) refrigerator was priced as 'starting from £67'10'; the Australian Kerosene-operated 'Hallstrom' from £34'10; but a Bebarfald Bluebird air-conditioned, insulated, ice-cube-making ice 'refrigerator', was just £8'17'6 (figure 46).[164] Moreover, the Bluebird advertised that it was, 'without any mechanical worries', ostensibly countering ice costs. Echoing earlier conversations around ice, powered refrigeration had 'passed out of the luxury class and [into] the necessity department', according to *ABH* in 1936, while acknowledging they were still out of reach for many, and predicted they would remain so for some, where electricity and gas was unavailable.[165] A prize-winning poem signalled fiscal matters continued to hinder sales in 1952: '*The cost too high / The frig, to buy / We just fall back on the old ice chest*'.[166] Refrigerators were only one of many new 'labour-saving' technologies that became available at this time. By 1947, 80% of all Australian homes were wired. The availability and

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[160] Anna Monea, ed., "Ice Chests to Microwaves: Oral History Group," (Melbourne: Learn for Yourself, 1997), 12.
[161] Freidberg, *Fresh*, 28; Faidra Papanelopoulou, "'Fresher Than Fresh': Consumer Attitudes Towards the Development of the Cold Chain in Post-2WW Greece," in *History of Artificial Cold, Scientific, Technological and Cultural Issues*, ed. Kostas Gavroglu (Heidleberg: Springer, 2014), 267-79.
[162] *Daily Telegraph*, 4 January 1924, 4; £120 pounds equates to approximately AUD$10 000 in 2020. Reserve Bank of Australia, "Pre-Decimal Inflation Calculator," https://www.rba.gov.au/calculator/annualPreDecimal.html (Accessed 10 December 2021).
[163] *AHB*, January 1927, 46-9.
[164] *AWW*, 5 December 1936, 34; *Warialda Standard*, 13 January 1936, 6; *Truth*, 29 November 1936, 33; £67'10 equates to $AUD6 645; £34'10, $AUD3 400, and £8'17'6, $AUD880. Reserve Bank of Australia, "Pre-Decimal Inflation Calculator,"; The basic male weekly wage in 1937 was 75s, the equivalent of $AUD370. Australian Bureau of Statistics, "Basic Wage Inquiry, 1904 and 1937".
[165] *AHB*, January 1936, 43.
[166] *Port Adelaide District Pictorial*, 19 June 1952, 2.

reliability of electricity and gas dictated refrigeration purchases, but conversely, the expense of devices such as refrigerators also hindered power connection uptake.[167]

Creating a Need

Advertising and pedagogical materials were often indistinguishable, as Gavroglu explained: 'much of this "education" went hand in hand with the propagation of commercial interests'.[168] Cold had to be equated with safety and health: 'it was not self-evident that some foodstuffs should be preserved in cold in order for them to be safe for consumption or to retain their nutritional value'. People had to 'find ways to accommodate the presence of cold in their everyday dealings'.[169] Educational materials, appearing in women's and home magazines, newspapers, books and government publications, shaped knowledges. Most of these sources had vested interests in promoting refrigeration. Public health authorities supported refrigeration, while advising on cold technologies and food preservation more broadly. Refrigeration companies also published brochures and recipe books, relating to the why and how of refrigeration. Much of this information was imported directly from the USA, reflecting brand ownership, and demonstrating an earlier American influence on Australian food culture than the more conventionally positioned timeframe of post-World War Two.[170] Sources openly observed that a need was being created. In 1936, a 'Let's Refrigerate' newspaper feature observed that 'civilisation is daily transferring luxuries into necessities'.[171]

Across the decades examined, promotional messages and themes were remarkably consistent, reinforcing Jessamyn Neuhaus's and Katherine Parkin's arguments that advertising, in relation to housework and food respectively, has not changed as much as could be expected, given the social and political developments of the 20th century.[172] Refrigeration publicity generally addressed a mass market, targeting middle-class nuclear families, with attention on the wife and mother. Use, and advertising, of ice and ice-chests had primed potential refrigerator consumers for their use in food preservation and safety. Refrigerator companies did offer safety, and safety of many kinds. These included fiscal safety, social safety, the safety of convenience and reliable mechanisms and dependable cold. Refrigeration

[167] Dingle, "Electrifying the Kitchen", 124; Baston, "Electrical Equipment", 22-3.
[168] Gavroglu, "History of Cold", 14.
[169] Ibid.
[170] Susan Sheridan, "Eating the Other: Food and Cultural Difference in the Australian Women's Weekly in the 1960s," *Journal of Intercultural Studies* 21, no. 3 (2000): 322.
[171] *Sunday Times*, 6 December 1936, 20.
[172] Jessamyn Neuhaus, *Housework and Housewives in Modern American Advertising: Married to the Mop* (New York: Palgrave Macmillan, 2011); Katherine J. Parkin, *Food Is Love: Food Advertising and Gender Roles in Modern America* (Philadelphia: University of Pennsylvania Press, 2006).

advertisements, Freidberg demonstrated, ‘showed people how to keep up, and keep safe’.[173] And arguably, they did so in that order.

[174]

Figure 50. Anticipating the tropes of refrigerator advertising, 1923.

The first Kelvinator advertisement from 1923 set the scene for tropes of safety common to refrigerator advertisements into the 1960s (see figure 50). It depicted a model with the motor separate from the cabinet, in a cellar or perhaps outside, connected through the floor.[175] Under the heading ‘Refrigeration for Your Home: Clean, Cold, Convenient: Makes its Own Ice’, the refrigerator was differentiated from ‘the ordinary ice chest’. The preservation of food warranted only a sentence, and it appeared less about preventing sickness as maintaining quality indefinitely, making food more ‘palatable’: ‘in a state of perfect preservation till required’. Safety here was a particular kind of cold. The *dry* cold of the air, as opposed to the implied wet and potentially dangerous air of most ice-chests; and the ‘dainty’ cold of the ice blocks that promised housewives the ‘joy’ of social safety with the ability to thrill guests with impressive displays of ‘small’ ice cubes, thus signalling wealth and the status of a household refrigerator. The safety of convenience – time and ease – was also offered, as the Kelvinator was ‘fully automatic’, requiring ‘no attention’.[176] These themes characterised refrigeration advertisements into the 1960s.

[173] Freiberg, *Fresh*, 15.
[174] *Sunday Times*, 25 November 1923, 17.
[175] Ibid.
[176] Ibid.

Gendered Safety

[177]

Figure 51. Gifting cold, 1939.

As in the first Kelvinator promotion, it was the 'housewife' that was singled-out for attention in nearly all refrigerator advertisements from the 1920s to the 1960s, as the user of the refrigerator, not the purchaser.[178] Refrigeration first and foremost benefitted housewives, according to advertisements. Francesca Bray notes that 'one fundamental way gender is expressed in any society is through technology', with knowledge and use coded by sex around particular technologies.[179] As Peter Scholliers has reminded us, advertisements 'aimed at not only selling products, but also at modelling the consumer'.[180] Refrigeration advertising can show us how gendered ideals were discursively produced: women were white, housewives, standardly middle-class, attractive, and under forty years old. For the four decades in question, promotions typically portrayed a woman standing beaming by a refrigerator. If they appeared in imagery at all, men were always accompanied by a woman, or by woman and children. When addressed to men, it was suggested they purchase a machine for their wives. GE promised their product was 'a really wonderful Xmas present', for the unnamed 'Her'; 'she will thrill with pleasure, pride and delight'.[181] Refrigeration was, 'the supreme gift to your wife', men were encouraged to 'bestow on your wife lifelong

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[177] *AHB*, December 1939, 6.
[178] *Farmer and Settler*, 16 December 1927, 7.
[179] Francesca Bray, "Gender and Technology," *Annual Review of Anthropology* 36 (2007), 37.
[180] Peter Scholliers, "Novelty and Tradition: The New Landscape for Gastronomy," in *Food: The History of Taste*, ed. Paul Freedman (Berkeley: University of California, 2007), 336.
[181] *Argus*, 19 December 1928, 31.

happiness'.[182] A 1939 electricity promotion depicted a wife and mother, delighted and surprised by the proud husband's Christmas gift of a refrigerator (see figure 51). A smaller image depicts another critical function of a refrigerator – showing it off to social acquaintances.[183]

In others, male salesmen demonstrated the simplicity of electric refrigeration, gesturing the cord toward the electrical socket, to the watching female.[184] The assumed intelligence of women was low, with early advertisements emphasising the uncomplicated nature of the technology. In 1928, GE wrote 'there is nothing she needs to "understand"'; the simplicity of the Icy Ball in 1929 was such, that 'any housewife can operate it'.[185] Meanwhile, women who chose or convinced their husbands to buy refrigeration, were praised for their cleverness and modern outlook.[186] Advertisements asserted men were benefactors, 'male geniuses', who designed, made and sold machines, while women were grateful recipients.[187] As late as 1964, refrigerator promotions reiterated existing gendered and raced power structures and social relations, designating a white feminine subjectivity that was based in the home, and responsible for the safety and wellbeing of her nuclear family.

Refrigerator advertisements, Freidberg argued, sold 'both goods and reassurance', but in the Australian example, they did more.[188] Beyond reassurance, women were offered liberation – freedom from the drudgery of household chores. Refrigeration was heralded as the 'emancipator of woman-kind', but this liberation was very particular, not offering equal political rights, but promising 'a new freedom' from the drudgery of household chores: 'only old-fashioned women toil in the house. The modern woman…the *sensible* woman…the woman who wants to save *money* as well as time and effort', used a refrigerator. The ice-chest was a 'symbol...of drudgery...out of date and wasteful'.[189] Messages played on insecurities: modern household appliances – 'magic servants' – were said to transform the very physicality of a woman: the 'drooping figure' and 'toil-worn hands' became 'youthful'. Devices such as refrigerators also blessed women with time, 'her days are her own…her

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[182] According to AGE Hotpoint. *Examiner*, 6 December 1939, 5.
[183] *AHB*, December 1939, 6.
[184] *AHB*, February 1929, 71.
[185] *Argus*, 19 December 1928, 31; *Northern Argus*, 19 April 1929, 2.
[186] *AWW,* 6 February 1935, 33.
[187] Jackson Lears, *Fables of Abundance: A Cultural History of Advertising in America* (New York: Basic Books, 1994), 19; *Argus,* 26 August 1948, 12; *Warwick Daily News*, 4 October 1950, 6; General Motors, "Your New Frigidaire," (Australia: General Motors, circa 1950); Electrolux, "Your Electrolux"; *AHB*, January 1964, 22.
[188] Freiberg, *Fresh*, 15.
[189] *AWW,* 6 February 1935, 33; *Sunday Times*, 6 December 1936, 20; Australian General Electric, *The Story of a Great Australian Industry* (Australia: Australian General Electric Ltd., 1937), 28.

hours are free'.[190] But new labour-aids, as Cowan demonstrated, only changed the appearance of women's duties, heightening standards and expectations around hygiene and food.[191] Of course, it was men that enabled liberation: 'world progress is marked and measured by man's success in lifting the burden of daily life from his family'.[192] Moreover, a refrigerator would improve social standing and impress all the right people.

Social Safety

The social benefits of refrigeration were emphasised over food safety concerns. In these promotions, the model housewife and ideal woman was portrayed as the perfect hostess, and the refrigerator the key to her success. Refrigerators were 'labour-saving status symbols'.[193] The material object impressed social acquaintances, symbolising wealth and comfort. The food that came out of the machines not only kept the hostess safe from the embarrassment of not being able to feed 'unexpected guests', but also impressed guests with the 'dainty novelties' that emerged from the refrigerator's cool depths. As in the 1926 Servel brochure (figure 52), women were often depicted gathered, marvelling around a refrigerator, while the proud owner demonstrated.[194]

[195]

Figure 52. Social safety in front of the iceman's looming shadow, 1929.

[190] Australian General Electric, *Great Australian Industry*, 28.
[191] Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).
[192] Australian General Electric, *Great Australian Industry*, 28.
[193] Freidberg, *Fresh*, 45.
[194] Frigidaire, "Frigidaire - Better Than Ever Before!," (1938); Servel Corporation, "Servel Coldery," (New York: Servel Corporation, 1926).
[195] Servel Corporation, "Servel Coldery".

Groups of women, and sometimes men too, appeared in social settings, relaxing with chilled drinks at hand. Because entertaining was so easy with refrigeration, the housewife was left free to socialise with her friends, making parties 'more delightful', and 'less work'.[196] In 1936, Werner 'Majors' Refrigerators announced their machine was 'the secret of a popular hostess', and the key to successful social status (figure 53). A breaming woman in a floor-length evening gown stands in the open door of a refrigerator, backed by a sketch of her seated at a table with a suited man. 'There is no doubt about her popularity', the caption below reads, 'her personal charm is complimented by the perfect refrigerator'. Flawlessly chilled drinks and 'lusciousness' of foods enhanced the personality of the hostess.[197]

[198]

Figure 53. 'The Secret of a Popular Hostess' revealed, 1936.

Refrigerators were promoted on their appearance, securing both physical and social safety for the owner. From the 1930s, they were 'attractively designed', 'beautiful', and a 'handsome article of furniture'.[199] Timelessness was promised, with 'no unnecessary frills or fripperies' to 'date' the machine.[200] As with iceboxes, colour and materials connoted hygiene. Whiteness was again conflated with cleanliness and purity. Austral featured 'beautiful white porcelain' and the GE refrigerator was 'CLEAN…snowy-white'.[201] Refrigeration, while innately sanitary, had to be kept clean. Smooth surfaces such as enamel and 'seamless porcelain enamel lining' were easy to wipe, and framed as markers of promised food

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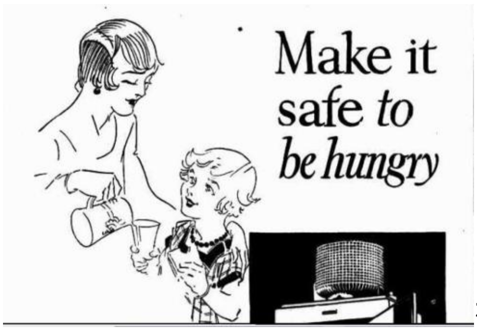
[196] *Sun*, 13 September 1930, 32.
[197] *AHB*, February 1936, 2.
[198] *AHB*, February 1936, 2.
[199] *West Wyalong Advocate*, 16 November 1934, 8 *Advertiser*, 23 August 1939, 23; *Gloucester Advocate*, 10 April 1952, 3; *Sunday Times*, 6 December 1936, 20.
[200] *Advertiser*, 23 August 1939, 23; *Gloucester Advocate*, 10 April 1952, 3.
[201] *AHB*, February 1932, 52; *AHB*, December 1928, 73.

safety.[202] For Hollstrom in 1934, 'the gracious porcelain-lined cabinet…represents the acme of hygiene and is scrupulously clean'.[203] Beauty was of utmost priority for Kelvinator, listed as number one on a list of 'six essentials to safe, satisfactory electric refrigeration'.[204] Number two was safe temperatures. The aesthetics of machines reified intrinsic hygienic values: 'beautiful, streamlined models'.[205] For refrigeration companies, safety was inextricably bound with values of 'modernity, hygiene, and purity'; values manifested in the machines themselves.[206] While social safety was usually at the forefront of promotions, women were not allowed to forget their responsibility in maintaining the health and wellbeing of their family.

Fear



[207]

Figure 54. Safeguarding the family, 1929.

Refrigeration companies used scare-tactics to encourage sales. 'Fear', Joanna Bourke has pointed out, 'has been one of the most influential emotions in humanity's history', likely motivating refrigerator purchases.[208] Contrasting sharply with their calls for rational, scientific assessment of food, the language and tone used by advertisers was emotive. 'Make it safe *to be hungry*', cautioned GE in 1929 (figure 54). Give children 'plenty of nourishing food', but 'just be sure of one thing – that the food you give them is thoroughly fresh and wholesome. And you can't be absolutely sure unless you have scientifically correct refrigeration'.[209] Refrigeration was made 'synonymous with family wellbeing', with the cry,

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[202] *Argus,* 20 January 1932, 11; *AHB*, February 1932, 52.
[203] *West Wyalong Advocate*, 16 November 1934, 8.
[204] After beauty came, '2. Safe Temperatures, 3. Reserve Cold, 4. Faster Freezing, 5. Low Running Cost, 6. Experience'. *Advertiser*, 23 August 1939, 23; *Gloucester Advocate*, 10 April 1952, 3.
[205] General Motors, "Your New Frigidaire".
[206] Helen Zoe Veit, "Eating Cotton: Cottonseed, Crisco, and Consumer Ignorance," *The Journal of the Gilded Age and Progressive Era* 18, no. 4 (2019): 409.
[207] *Sun*, 15 October 1929, 17.
[208] Joanna Bourke, "Fear and Anxiety: Writing about Emotion in Modern History," in *History Workshop Journal*, 55, no. 1, 111-133.
[209] *Sun*, 15 October 1929, 17.

'safeguard your family', a message taken up by some companies.[210] As mothers and housewives, women made or broke the health of their family. Fear, as invoked in this discourse, was a form of 'emotional labour' according things – here, the refrigerator – with 'meaning and power'.[211] As Parkin has shown, advertisers used the '"food is love" dictum to sanctify the connection between women and food'.[212] Refrigeration provided a critical link to the provision of safe food: depicting a blissfully calm mother pouring milk for her two children in front of an open ElectrICE, women were assured they could 'keep YOUR family's food free from risk of contamination by installing a ElectICE today' (figure 55).[213] 'Advancing medical science has not ignored the housewife,' readers were told. Lending an air of authority, 'scientific and pseudoscientific findings' legitimised advertising claims.[214] Ostensibly, science was the rational binary opposite to the unknowing and irrational mother.

[215]

Figure 55. 'The Danger Point', 1932.

Maternal responsibility was a theme taken up by not only advertisers, but also newspaper and magazine articles. *AHB* – aimed at men and women – informed readers that the government and its regulations ensured a safe food supply up until the retail point, at which a breakdown occurred: 'there are no statutes governing the housewife. It is at this point

[210] Inés Pérez, "Comfort for the People and Liberation for the Housewife: Gender, Consumption and Refrigerators in Argentina (1930–60)," *Journal of Consumer Culture* 12, no. 2 (2012): 170; *Central Queensland Herald*, 17 November 1932, 47; *Telegraph*, 11 September 1939, 14; *Daily Advertiser*, 3 October 1949, 1; *Australian Jewish News*, 9 September 1955, 2.
[211] Bourke, "Fear and Anxiety", 124; Sara Ahmed, "The Organisation of Hate," *Law and Critique* 12, no. 3 (2001): 349.
[212] Parkin, *Food Is Love*, 8.
[213] *Argus*, 20 January 1932, 20.
[214] Parkin, *Food Is Love*, 9; *Sunday Times*, 6 December 1936, 20.
[215] *Argus*, 20 January 1932, 20.

where the real danger of food contamination occurs'.[216] According to this logic, it was not possible for food to be compromised before it reached the home. Wives and mothers were the weak link in the cold chain, threatening the health and safety of their men and children, with their unreliable sensory assessments and potentially haphazard sanitary practices. Women were taught to distrust themselves, and instead, trust cold technologies, and/or a brand.[217] Discourse around refrigeration, as with packaging, brought danger into the conventionally depicted sacred safe space of the home. Women were not only accountable for the health of their family, but for Australia's health also. 'The housewife', ran a 1936 article spruiking refrigeration, 'cannot in conscience stop her ears to the insistent demand for an extreme of domestic hygiene. The health of the nation depends on pure, wholesome food'.[218]

Ensuring 'Nutritive Hygiene'

Companies actively sought to shape food safety knowledges, instructing consumers how to keep food safe and how to judge the safety of food. Overall, messages from refrigerator brands were consistent: the only certain way of knowing if a food was 'wholesome', was if it had been kept in a refrigerator; the senses could not be relied on to assess the safety of food.[219] In other words, the only guarantee of safe food was a refrigerator, or more specifically, a refrigerator of the brand advertised: 'General Electric Refrigeration means Safe Food Preservation' ran one, but then, 'Food needs Frigidaire' claimed another.[220] A Hallstrom, in 1934 was, 'a necessity', for the vaguely-scientifically termed 'nutritive hygiene'.[221] It seemed that food, if kept in a refrigerator, could not be the source of illness. Newspaper articles reiterated advertisements.[222] 'The People' were under threat, West Australians were warned in 1936, from dangerous 'organisms…ever ready to attack', and directed, 'there is but one safe course – the refrigerator'.[223] Governmental authorities also positioned cold technology as a requirement of safe food. In an article entitled 'Safe Food'

[216] *AHB*, February 1932, 9.
[217] Zachmann and Østby, "Food, Technology, and Trust", 1-10.
[218] *Sunday Times*, 6 December 1936, 20.
[219] Electrolux, "Your Electrolux", 1-2.
[220] *AHB*, February 1929, 71; General Motors, "Your New Frigidaire".
[221] *West Wyalong Advocate*, 16 November 1934, 8.
[222] Not all newspapers took this view. A 1930 article cautioned refrigeration was not 'a miracle worker'. It could not rectify pre-existing impurities, but only 'hindered' danger and further decomposition by 'preventing further multiplication of germs'. *Sunday Mail*, 19 October 1930, 21.
[223] *Sunday Times*, 6 December 1936, 20.

from the NSW Department of Health in 1954 instructions were largely limited to keeping food cool – every household needed to use cold storage, ‘in our climatic conditions’.[224]

Refrigerators produced a certain kind of cold, argued companies. Safety was a ‘determined temperature’ in a 1934 refrigeration special, as proven by science.[225] Although the scientific discovery of the role of temperature in retarding and killing bacterial growth was descried in detail, what the safe temperature was, was not specified. Instead, electric refrigeration stood in for this ‘determined’ safety measurement. The need for a particular brand of refrigeration was justified by certain kinds of cold and their ‘scientifically proven’ safe temperatures. ‘Safety Zones’ and ‘Danger Points’ proliferated in promotions. ‘Bacteria!’, shouted GE in 1929 under a picture of a cowering child drinking from a cup, ‘swiftly, stealthily they develop unless food is kept in the safety zone’.[226] For Frigidaire in 1938, their ‘Safety Zone Refrigeration’ was the only assurance of wholesome food (figure 56).[227] ‘You Cannot Take Risks With Food!!’, threatened the brand, ‘Spoiled Food Warns Too Late’. Above images of a cautious but mistaken housewife looking, smelling and taste-checking the goodness of her food, sat four circles depicting bacterial growth in milk over thirty-six hours. Outside of the ‘Margin of Safety’, fuzzy dots (apparently bacteria) engulfed the circles: ‘dangerous microbes...cause serious harm’. Frigidaire’s message about spoiled food was ‘recognised by authorities throughout the world’. [228]

[229]

Figure 56. The ‘Margin of Safety’, 1938.

[224] *Scone Advocate*, 17 December 1954, 4.
[225] *Daily News,* 20 October 1934, 9.
[226] *Sun*, 19 February 1929, 18.
[227] Frigidaire, “Better Than Ever Before!”.
[228] Ibid.
[229] Ibid.

Brands did not agree on safe temperatures, although they were similar, ranging from 32°F to 50°F – that is 0 to 10°C. Different foods require different temperatures to keep safe, a point not acknowledged by refrigeration companies. Promotions were filled with specified, but varying, degrees indicating the 'safety zone' or 'danger point': 'no germ can live in dry cold under 50 degrees', that was 'the safety line to perfect health'.[230] Scientific information gave consumers certainty; specific temperatures underscored a brand's legitimacy and thus safety. As Zachmann and Ostby have pointed out, 'when quantification works as a strategy to achieve objectivity it also operates as a technology of trust'.[231] More than just a prescribed temperature, however, certain types of cold were safer than others.

Safe cold was, at various times, alternatively and simultaneously dry, frosty, constant, crisp and so forth. In attempting to convince consumers their technology was better than ice-chests, companies argued they maintained temperatures, 'colder than ice'.[232] Mountain air was a popular trope that re-aligned machines with nature and emphasised the 'purity' associations. Kelvinator produced and circulated 'a fresh, dry, crisp, clean cold…like a mountain breeze', keeping foods safe with its cool embrace 'in a way that ice cannot'.[233] Outside temperatures were countered by Hallstrom with its 'fresh and crisp...mountain air', while Frigidaire preferred the 'freezing Arctic'.[234] Safety here was the captured and tamed 'raw energies' of nature.[235] GE provided the right cold: foods were 'only safe to eat when they have been stored in the frosty, dry, even chill'.[236] Cold needed to be dry, explained ElectrICE in 1932, because moisture allowed bacteria and mould to thrive at much lower temperatures.[237]

For Kelvinator, safe cold was 'un-interrupted' cold, which the brand promised through automatic temperature maintenance, switching the motor on and off as needed. Safety was measurable, delineated and visible – the 'limit of safety (normally about 48°F)' could be read on the 'accurately graded thermometer'. Kelvinator was the 'first to prove

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230 *Herald,* 22 January 1929, 18; *Sun*, 19 February 1929, 18; *Argus,* 20 January 1932, 11; *Courier-Mail*, 13 November 1939, 17; Frigidaire, "Better Than Ever Before!"; *Northern Standard*, 25 August 1939, 4; *Morning Bulletin*, 22 July 1939, 6.

231 Zachmann and Østby, "Food, Technology, and Trust", 4.

232 *AHB*, April 1925, 7.

233 *Australasian,* 15 December 1923, 1267.

234 *West Wyalong Advocate*, 16 November 1934, 8; *AHB*, December 1925, 75.

235 Lears, *Fables of Abundance*, 172.

236 *AHB*, February 1929, 71.

237 *Argus,* 20 January 1932, 11.

cold'.[238] Cold also needed to be plentiful to be safe. The Kelvinator had '5 times the cold making power required for average needs.' The same brand in 1952 stated their technology had enough cold power to counter 'record-breaking heat waves' with 'enough reserve to keep five ordinary refrigerators cold'.[239]

If cold was safety, then heat was danger. Summer heatwaves, warm leftovers and un-chilled perishables were equated with illness. In 1929, GE instructed readers 'you need it all the year to keep safe food'.[240] 'Remember', warned Kelvinator in 1940, 'it is summer time all year round in your kitchen', although the same company also offered their machine as the solution to the trials of summer: 'when the tropics come to town'.[241] Refrigeration continued to be associated with summer, with seasonal reminders about heightened food dangers appearing in articles and advertisements. A 1934 WA feature said 'the summer food problem' was food 'preservation and the prevention of contamination'.[242] Echoing earlier debates around ice, Australia's climate was dangerous: 'refrigeration is not a luxury, but a necessity, in a tropical or sub-tropical climate'.[243] 'Summer ailments' could be eliminated by utilising a refrigerator.[244] ElectrICE refrigerators were built and tested for 'Australian conditions in a heat of 110 degrees' (43°C).[245] According to advertisements, the dangers of heat could only be countered by their refrigerator brand. What was natural – Australian summer temperatures – as Tarulevicz demonstrated in relation to Singapore, became 'an adversary', that could be rendered harmless by technology.[246]

National Prosperity

W. J. White's 1929 *Refrigeration: An Essential to National Health, Security and Progress* conflated the health of the nation, race, and the cold technologies that allowed the 'safe storage of food'.[247] Cleanliness and clean living were fundamental to the whole 'food question' and needed to be practiced at every stage from production to consumption, and

[238] Kelvinator Australia Limited, "The Refrigerator Guide," (sales brochure, n. d.).
[239] *Gloucester Advocate* (NSW), 10 April 1952, 3.
[240] *Herald,* 22 January 1929, 18.
[241] F. V. McKenzie, ed., *Electrical Association for Women: Cookery Book and Electrical Guide*, 3rd ed. (Sydney: Harbour Press, 1940), 204; *Cairns Post*, 3 February 1940, 14.
[242] *Daily News,* 20 October 1934, 9.
[243] *Courier-Mail*, 13 November 1939, 17.
[244] *Sunday Times*, 6 December 1936, 20.
[245] 43 degrees Celsius. *Argus,* 20 January 1932, 11.
[246] Tarulevicz, "Food Safety as Culinary Infrastructure", 132-56.
[247] W. J. White, *Refrigeration: An Essential to National Health, Security and Progress* (Adelaide: Gillingham & CO., 1929), 1, 224.

certainly in the preservation of food.[248] According to White's logic, cleanliness and refrigeration promoted the constitution of the Australian people, thus ensuring the health and safety of the nation and British Empire, which in turn safeguarded the wellbeing of the human world. As Nicolo Ludovice stated, 'the infrastructure of the cold chain not only remained a physical assemblage but also enjoined the bodies of citizens to power the imperial network'.[249]

National concerns were a theme that became prominent in refrigeration advertisements most overtly with the Depression in the 1930s. In 1932, Austral was 'all Australian production', Werner's were 'All Australian Made' by the 'largest and oldest refrigeration engineers in Australia', and Kelvinator attempted to capitalise on their Adelaide factory – 'Kelvinator means thousands of pounds to Australia every year!' – while not mentioning the company was American owned.[250] ElectrICE also advertised on being Australian made for Australian conditions, explicitly linking sales to national and financial health: 'every ElectrICE sold is a step back to national prosperity, for one sale means five weeks work for an Australian workman'.[251] For a WA newspaper in 1936, it was the physical health of the country that was at stake: 'refrigeration protects the nation', with 'the health of the nation rel[ying] upon pure, wholesome food...There is but one safe course – the refrigerator'.[252] In 1939 Kelvinator invoked wartime patriotism to nation and empire: 'food must be saved. The Empire relies on Aus. supplies. Wastage must be rigidly controlled. The shop that is Kelvinator equipped to prevent spoilage is rendering a valuable service to the nation'.[253]

Refrigeration was again linked to the safety of the social body by the 'Guardian of Public Health' in a 1937 Brisbane newspaper.[254] Food habits, it was asserted, determined 'his destiny, and the destiny of his race'. Refrigeration was aligned with narratives of nation and progress. Paying tribute to the 'pioneers' who extended the 'frontiers of civilisation', the correspondent argued their suffering – from nutritional deficiencies, food-related illnesses and high infant mortality – had been 'conquered' by the science of refrigeration. Not only did it prevent disease and sickness by restricting bacteria growth, but domestic consumption of a

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[248] White, *Refrigeration*, 31-33.
[249] Ludovice, "Ice Plant Cometh", 12.
[250] *AHB,* February 1932, 52; *AHB*, December 1932, 18; Kelvinator Australia, "Refrigerator Guide".
[251] *AHB,* February 1932, 53; *Argus*, 20 January 1932, 11.
[252] *Sunday Times*, 6 December 1936, 20.
[253] *Advertiser*, 14 November 1939, 15.
[254] *Sunday Mail*, 7 November 1937, 26.

variety of nutritious foods had increased, improving nutritional health, benefitting local incomes, and leading to an all-round 'improvement of human welfare'.[255] The technology of refrigeration connected food, people, health and the wellbeing of the nation. Companies established associations around safety and cold that carried over to the foods that would be kept within refrigerators.

The Taste and Sensation of Safety

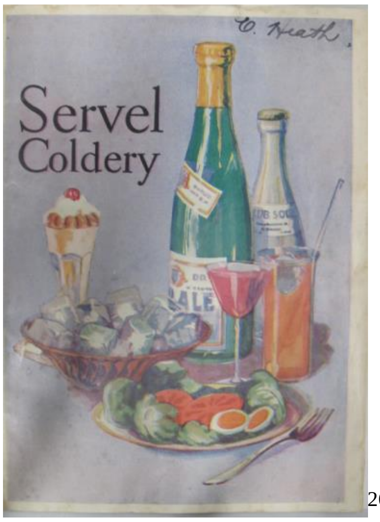
[256]

Figure 57. Safety and plenty in 1932 and 1964.

Open refrigerators revealed mouth-watering delights: glistening bottles of milk and beer, large, prime cuts of meat, whole plump chickens, fat colourful fruits, ornate jellies and sophisticated desserts in crystal glasses. Refrigeration offered a bounty of affluence, kept safely in one's very own home (see figures 57-58). As one journalist anticipated in 1895, refrigeration was 'Heaven of the Ultra-Convivialist'.[257] This show of plenty fits with Jackson Lears' argument that 20th century advertising shifted 'the source of abundance from the fecund earth to the efficient factory', or in this case, the refrigerator.[258] The imagery and discourse of food helped sell refrigerators to Australians, while also instructing people to value and associate certain qualities with both physically and socially safe food.[259] As Pilcher has suggested, refrigeration has 'affected the economic values, social meanings, and sensory experiences of foods'.[260] While the sensory assessment of food safety was dismissed, refrigeration companies sought to establish new senses of safety, primarily through temperature and textual sensations.

[255] Ibid.
[256] Werner Refrigerators, *AHB*, December 1932, 19; Kelvinator's 'Foodorama', *AHB*, January 1964, 22.
[257] *Bulletin*, 9 March 1895, 22.
[258] Lears, *Fables of Abundance*, 18.
[259] Tarulevicz, "Sensing Safety", 6.
[260] Pilcher, "Culinary Infrastructure", 112.

GE condemned the old ice-chest, with its 'melted butter…milk on the turn' and 'wilted and uninviting' lettuce, offering instead 'a well-stocked' refrigerator, with 'cool, tempting meats…a crisp head of lettuce…a frozen dessert…frosty-cold drinks clinking with delicious ice-cubes'.[261] Texture and temperature were important, as was the right colour: 'thin cut meats and white-fleshed poultry'.[262] Hollstrom promised greens, 'fresh and luscious', butter 'firm and delicious' and fruits 'fresh and cooly appetising'.[263] Elsewhere, vegetables had that 'fresh-from-the-garden taste'; meat was 'juicy and tender'.[264] The 'dewy coolness' of fruit kept in a 'Major' refrigerator was celebrated, with the moistness certainly not counting as the bacteria-encouraging humidity.[265] Refrigerator cold 'improved' the very qualities of foods, 'in their texture and flavour' informed one newspaper feature, echoing advertisements.[266] Time could be reversed by Hallstrom: 'meat keeps fresher than you received it'.[267] The assurance of safety enhanced qualities of foods, which 'taste twice as good when you know they are pure, untainted and as fresh as they could ever be – when you know they have just come from the 'safety zone' of G E Refrigeration'.[268]



[269]

Figure 58. Cool delights, 1929.

Foods actively associated with refrigeration supported the social safety of the wife and owner. The dainty and novel dishes refrigeration enabled allowed women to impress (see

[261] *Brisbane Courier*, 13 February 1929, 3; *AHB*, January 1929, 58.
[262] Ibid.
[263] *West Wyalong Advocate*, 16 November 1934, 8.
[264] *AHB*, October 1936, 8; *AWW*, 7 December 1935, 24.
[265] *AHB*, February 1936, 2.
[266] *Sunday Times*, 6 December 1936, 20.
[267] *West Wyalong Advocate*, 16 November 1934, 8.
[268] *AHB*, February 1929, 71.
[269] Servel Corporation, "Servel Coldery".

figure 59). The sentiment of a 1929 advertisement – 'clever new dishes guests exclaim over' – was sustained for several decades, promising novelty and social kudos.[270] Newspaper features on refrigeration, as well as brand advertisements, often included recipes. These, almost exclusively, were dishes for entertaining – cocktails and appetizers, hors d'oeuvres, delicate salads, souffles and frozen desserts.[271] Refrigeration stopped time – preparations for social events could be done well in advance, with 'dainty' jellies and sandwiches stored in the refrigerator, to be 'brought out just as tempting looking as they were when they were made'.[272] In contrast to delicate and cool delights, other companies advertised their refrigerator's ability to contain 'a whole carcase of mutton'.[273] In 1928, the advantages of refrigeration were expected to greatly assist those in 'the backblocks': 'just fancy being able to cut a sheep in four quarters and hang them in the refrigerator to keep till they are gradually consumed. This is not romancing, but is an actual instance of what has been done'.[274]

Rather than sharply change food habits, France Steel has argued refrigerator advertising reaffirmed existing dietary preferences, with meat, milk and dairy the forefront.[275] But refrigeration did gradually shift diets, food habits and tastes. Foods within the refrigerator were familiar, yet somewhat novel. Expectations around entertaining foods were likely heightened, at least for the middle-class women targeted by advertising. By emphasising socially performative foods, refrigeration gradually assisted in turning 'treat' or special occasion foods, into the 'everyday' category. Refrigeration not only promoted certain kinds of foods, but conferred particular qualities of texture, temperature, appearance and flavour to foods, creating both the taste and sensation of safety.

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[270] *AHB*, January 1929, 58; Charles Hope, "Instructions".
[271] Electrolux, "Your Electrolux", 4; *Daily News,* 20 October 1934, 9.
[272] *Sunday Times*, 6 December 1936, 20.
[273] *Goulburn Valley Stock and Property Journal*, 23 January 1935, 3.
[274] *AHB,* January 1928, 43-4.
[275] Steel, "Tropical Cool".

Conclusion

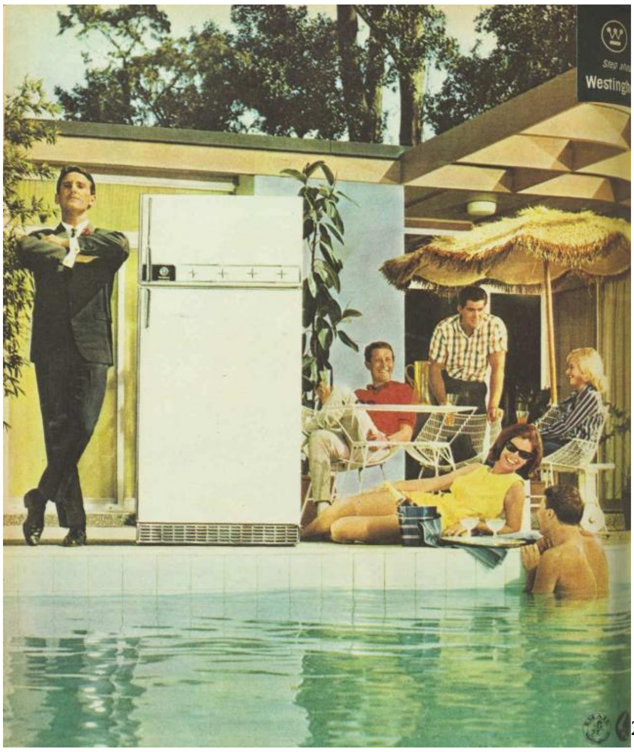
[276]

Figure 59. 'The good life – 1964 style'.

Refrigerators were not the given endpoint of food preservation. Chemicals and other methods were trialled: in 1951, newspapers announced 'refrigeration not necessary' with the discovery of a technique inspired by nuclear experiments.[277] American chemists had developed a method of exposing food to 'a short burst of high speed electrons', killing bacteria and allowing the food to be kept at 'room temperature' for 'several years with no change in appearance or loss of essential nutrients'.[278] A leg of lamb, 'atom-bombed' three years earlier, was eaten by scientists who, 'smacked their lips and said it was as fresh and tasty as the day they wrapped it up'.[279]

By 1964, refrigeration had become more than an essential, at least according to advertisers. Westinghouse rhetorically asked if regarding the refrigerator as 'a dutiful necessity' was not an 'ice-age' way of thinking (see figure 60).[280] Over the course of the 19th and 20th centuries, refrigeration or cold technologies transitioned from a 'not-to-be-thought-

[276] *AWW*, 5 August 1964, 46.
[277] *Beaudesert Times*, 9 November 1951, 4; *Advertiser*, 12 July 1952, 7.
[278] *National Advocate*, 5 April 1951, 8.
[279] *Beaudesert Times*, 9 November 1951, 4; *Advertiser*, July 1952 - 7.
[280] *AWW*, 5 August 1964, 46.

of-luxury', to an essential infrastructure of food safety in Australia.[281] Westinghouse was attempting to shift perspectives again, with their refrigerator offering not only physical and social safety, but good-looks, abundance and leisure, in short: 'The good life – 1964 style'.[282] Refrigerators were *more* than a necessity. For prosperous citizens, according to *AHB*, who were 'now looking for a few extra luxuries…one of the early considerations may be a second refrigerator'.[283] The term 'luxury' presents a synchronicity in how far conceptions of ice and refrigerators had come in Australia. Advertisements emphasised lifestyle, suggesting a small refrigerator for the shack, caravan or boat, or larger sizes in attractive new colour schemes with special features, different temperatures and capacity to produce 120 ice cubes – novelty needed to be made anew.[284] Advertisements were aspirational and unfailingly representing white, middle to upper-class subjects.

Evident here is the culmination of many themes discussed in this study. Refrigeration discourse continued to intersect with, and contribute to, ideas of race, class and gender. Pedagogical articles produced, for example, by the 'Nutrition section of the Department of Public Health', gave instructions for maintaining 'food sanitary conditions', and were directed at women.[285] Addressing 'popular misconception[s] amongst housewives', such articles directed weekly cleanings and spoke of 'the woman' who wisely 'shopped' from her 'frig', saving herself trips to the shops. Notably, some mentioned labour outside of the home – 'if you combine housework with a career' – but social expectations remained consistent: a woman in an evening gown served a tray full of drinks.[286] Food safety was gendered and written into the very design of the technology itself: in 1960, the Frigidaire was 'even more gracious and feminine'.[287]

In another article, the misuse of a refrigerator was used to mark difference and inferiority in colonised others: 'outside a mud hut in the remote Congo village a gleaming white refrigerator stood in the dust as a Congolese woman swung open the door and extracted a plateful of rotting fish'.[288] Here, the refrigerator – 'looted from...a fleeing Belgian planter' – was said to be 'the bright symbol of independence...badges of new-found status'; but the

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[281] Muskett, *Art of Living in Australia*, 213-216.
[282] *AWW*, 5 August 1964, 46.
[283] *AHB*, January 1964, 34.
[284] *AHB*, January 1948, 57.
[285] *Western Herald*, 22 April 1960, 3; *Cumberland Argus*, 2 March 1960, 8; *Cumberland Argus*, 16 August 1961, 13.
[286] *Canberra Times*, 22 November 1960, 17.
[287] *Windsor and Richmond Gazette*, 7 December 1960, 20.
[288] *Canberra Times*, 15 March 1961, 2.

Congolese were mocked for their apparent ignorance and misappropriation of the machine, of which the 'use value is unimportant'. As it was nearly two centuries earlier in the contact zone of colonial Australia, cultural ideas of food safety were used as evidence of racial hierarchies.[289]

Commercial interests shaped the use of cold and food safety knowledges in both overt and more subtle ways. In the summer of 1964, refrigerators were reported as being installed in Sydney schools 'to chill milk'. The experiment was not explicitly said to be a safety measure, only a bid to counter the large numbers of Sydney children not drinking their school milk. Significantly, it was not the State who were installing the machines, but the NSW Milk Board, hinting that business interests had stakes in the program. What was ostensibly a nutritional measure to improve the health of the Australian population appears to have been less successful than desired, with children rejecting milk – whether for safety or taste reasons. This example reminds us of the entanglement of safety and nutrition, and how food safety knowledges, infrastructures and practices were produced, challenged and adopted though negotiations between individual, community, institutional and commercial actors. Inaugurated through the introduction of mechanical ice, interests created a need for cold technologies, and shaped food safety knowledges. Dominant discourse held technology and science to be the key. Safety was measurable and quantifiable, i.e. a certain temperature. Material culture helps us explore social change: refrigeration gradually altered the movement and taste of people's lives, and changed standards of food safety.

[289] *Canberra Times*, 15 March 1961, 2.

Conclusion

Safety is the condition of being free from harm or injury; it affords freedom from danger. Injury and danger are not only physical, but social and moral too. Food safety has been an underappreciated and underexamined element of food choice and food culture in Australian history. Food safety issues have not disappeared or been relegated to other places. In Australia, the cost of food fraud is estimated at AUD$2-3 billion annually.[1] Widespread concerns, as cited by a recent AgriFutures report, include mislabelling of quality, provenance and expiry dates; counterfeiting products, and the dilution or substitution of ingredients. The report concluded, 'Australian food standards laws and regulations seem not to be supported by active surveillance', and called for wide-ranging solutions both familiar and novel to a reader of this thesis: transparency, traceability, internationally consistent definitions of fraud, 'smart' packaging and other technological methods, such as DNA testing for meat and wine-grape verification and QR barcode verification. The report suggests fraud is particularly motivated by shortages of raw ingredients – a problem intensified with COVID-19 causing interruptions to supply chains.[2]

Drawing connections between the themes explored in this historical study and today's global pandemic seems obvious, yet is instructive. COVID-19 has had significant implications for food, food safety, food access, and ideas of health, reminding us we are not above our biology, but also that the disease and its spread are cultural, and the product of globally interconnected societies.[3] Using lessons learned here, we can recognise historical resonances and the xenophobic function of disgust in popular media representations of Chinese wet markets as the 'origin site' of the disease. Social media feeds filled with expressions of outrage and repulsion at unfamiliar food choices and the apparent cruelty of these markets. These comments, however, had little cultural or contextual understanding of the actual places. In Australia, as elsewhere, people of Chinese – or any Asian – appearance

[1] Michael Smith, Mahmud Ashraf, Chris Austin, and Rebecca Lester, "Product Fraud: Impacts on Australian Agriculture, Fisheries, and Forestry Industries," *AgriFutures Australia,* November 2021, 5.
[2] Ibid., 10
[3] Frieda Moran, Nicole Tarulevicz, Fred Gale and Ella Horton, "'Don't Panic!': Tasmanian COVID-19 Coping Strategies Help Them Prepare for Future Food Disruptions," *The Tasmania Project,* 18 January 2022.

were subject to racist slurs and physical assaults.[4] As with earlier fears, ideas of food choices and hygiene practices help in the othering of groups of people, in turn working to justify discrimination and violence.

Food supply chains have been impacted, and meat-processing plants were deemed an essential service over other aspects of agriculture and food production.[5] The plants provided excellent conditions for disease transmission, physically and culturally. The close quarters of workers, ideal temperatures and high pressure hoses amplified aerosol spread. The casualised workforce, where personnel worked long shifts for low wages and under conditions that discouraged them from taking leave when unwell, likewise facilitated spread.[6] Early Covid vaccines relied on precise cold chains – established first for food distribution – reinforcing global inequities.[7] Ideas of race and class, then, continue to inform experiences of food safety.

Lockdown sourdough starters and homemade bread offered their makers calming processes, but also cultural capital through photographs shared on social media. In parallel, scholars have observed how human contact with food has again become problematic. Here, we can see the re-establishment of sentiments encapsulated by the early 20th century 'untouched by human hands' phrase, which then emerged with burgeoning knowledge of germs and the increasing industrialisation of food production and distribution.[8] Australian food safety guidelines at present state 'there is currently no evidence' of foodborne or food packaging transmission, but recent studies show evidence that Covid remains stable in low temperature, suggesting it *may* be transmissible via cold chains, 'probable' via faecal-oral routes, and that it can survive on different surfaces for varying periods depending on temperature and humidity: cucumbers longer than apples, on plastic considerably longer than glass and much longer than paper.[9] While actual epidemiological links have not been made, food safety advice may be adapted, or the risk may be considered minimal, or methods may be developed to minimise the risk of transmission using, for example, irradiation or heat

[4] Michelle T. King, Jia-Chen Fu, Miranda Brown, and Donny Santacaterina, "Rumor, Chinese Diets, and Covid-19: Questions and Answers About Chinese Food and Eating Habits," *Gastronomica* 21, no. 1 (2021): 77; Elspeth Probyn, "Doing Cultural Studies in Rough Seas: The Covid-19 Ocean Multiple," *Cultural Studies* 35, no. 2-3 (2021): 565.
[5] Nino Bucci, "Meatworks and Coronavirus: The 'Domino Effect' from Victoria's Abattoirs Pushing COVID-19 Case Numbers Higher," *Australian Broadcasting Corporation,* 26 July 2020.
[6] Carlotta Ceniti, et. al. "Food Safety Concerns in 'Covid-19 Era,'" *Microbiology Research* 12, no. 1 (2021): 54.
[7] Timothy Ford and Charles M. Schweik "The Cold Supply Chain Can't Reach Everywhere – That's a Big Problem for Equitable COVID-19 Vaccination," *Conversation,* 4 January 2021.
[8] Benjamin R. Cohen, Michael S. Kideckel and Anna Zeide, "Epilogue," In *Acquired Tastes: Stories About the Origins of Modern Food*, ed. Benjamin R. Cohen, Michael S. Kideckel and Ania Zeide (Cambridge, MA: MIT Press, 2021), 191.
[9] Ceniti et. al., "Food Safety Concerns", 546-8.

treatment.[10] Many of these examples will be rapidly out-dated as our scientific understandings improve, but meanwhile they remind us that food safety is constantly changing and informed by the questions we ask.

Thinking about food safety can also shed light on the wellness industry, particularly during Covid. Perhaps as a reaction to industrialised food systems, individuals following these principals seek out unprocessed, raw, 'clean' and 'natural' foods to protect their personal health, trends that have heightened during the pandemic.[11] Commercial interests tap into and promote concerns: with taglines to the tune of 'we are Nature™', and offering 'elixir powders' with names such as 'immunity' and 'purity' that promise to 'rejuvenate and strengthen'. Recipes instruct how to make 'protection potions', and to 'consume with deep self love'. Seductively attractive packaging and marketing are accompanied by premium price points.[12] Vocabularies infer scientific legitimacy and muddy lines between food and medicines, using words such as 'functional', 'adaptogenic' and 'antioxidants'. Simultaneously, rejections of conventional medicine reflect a lack of confidence in the state and established experts, encouraging unquestioning trust in alternate authorities.[13] Products often use plant substances with strong associations to global Indigenous cultures, but with scant evidence of recognition or understanding of their cultural significance. Wellbeing through food and health are framed as a kind of spirituality: with 'your re-awaking', diets and products promise higher awareness and authenticity of being.[14] Social media algorithms produce self-perpetuating sets of information, reinforcing existing understandings and ontologies.

By promoting one 'good' and 'pure' way of eating, advocates insist that other dietary choices are not, creating binaries and performing boundary work. 'Clean' eating, for example,

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[10] Investigation methods used for foodborne outbreaks have not been 'employed for source tracking of COVID-19', ibid., 56, 62-3.
[11] Recognising that there is no simple binary between 'processed' and 'unprocessed' foods.
[12] Orchard St.: We are Nature™, "Orchard Street," https://orchardstreet.com.au/ (accessed 19 October 2021); Pete Evans: Healthy Everyday, "Thoughtful Food Range," https://peteevans.com/product-range/gelpro-natural-protein-products/ (accessed 19 October 2021).
[13] I use medicine here to refer to products that are primarily intended to treat or prevent disease; Darren N. Wagner, Alessandro R. Marcon, and Timothy Caulfield. "'Immune Boosting' in the Time of Covid: Selling Immunity on Instagram," *Allergy, Asthma & Clinical Immunology* 16, no. 1 (2020): 1-5; Lifecykel™, "The Power of Functional Mushrooms," https://lifecykel.com/blogs/mushrooms/the-power-of-functional-mushrooms (accessed 19 October 2021); Stephanie Alice Baker and Chris Rojek, "The Scandal that Should Force Us to Reconsider Wellness Advice from Influencers," *Conversation,* 21 May 2019.
[14] Balanced Blonde, "The Celestial Diet™ & Lifestyle 7-Day Program," https://thebalancedblonde.podia.com/celestial-7-day-program (accessed 19 October 2021).

presupposes there is a 'dirty' or wrong way to eat.[15] Wellness is about individual health, and a healthy body is central: the body is a 'temple' that one worships through nourishment.[16] By keeping our immune systems strong, we ostensibly can remain healthy in the face of diseases such as Covid, and even cure cancer.[17] Personal health is then a matter of choice, and unhealthy bodies can be seen as a kind of moral failing.[18] It follows that vaccines are unnecessary. With the desire to control what one chooses to put into one's body absolutely fundamental, vaccines are also seen to violate bodily autonomy.[19]

These wellness discourses recall how ideas of 'pure' foods were often bound up with ideas of race and class in the early 20th century. 'Correct' ways of eating were used to enforce social difference: Donica Belisle argues the clean eating movement 'has roots in the pure food movements'.[20] To be clear, this is not to suggest people who ascribe to wellness principals are motivated by racist ideals or the maintenance of social difference, or hold extreme political views. It is important to recognise these movements are not the same phenomena, but, as Belisle has noted, there are parallels and semblances to earlier discourses of food safety that are deserving of more attention.[21] We also should ask what movements and diets such as wellness and clean eating offer people, and how these choices make them feel comfortable and safe with the foods they eat and their place in the world.[22]

Fear of a food is a powerful motivator, but one that does not always have much to do with the food itself. The lens of food safety has allowed me to draw together sometimes seemingly disconnected, important, but also often underexamined, elements that contribute to

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[15] Gina Florio, "11 Clean Eating Instagram Accounts You Definitely Should be Following," *HelloGiggles*, https://hellogiggles.com/lifestyle/food-drink/clean-eating-instagram-follow/ (accessed 20 October 2021); Innovative Health and Wellness Group, "Foods Containing Gluten Could Create Vitamins Deficiency," 6 September 2015, https://www.innovativehealthdallas.com/gluten-is-toxic-and-should-be-avoided/ (accessed 20 October 2021).

[16] Close McCurdy, "PracticallyClose," https://www.pinterest.com.au/pin/130534089185204282/ (accessed 20 October 2021).

[17] *AAP*, "Facebook Deletes Pete Evans's Instagram Account Over Repeated Coronavirus and Vaccine Misinformation," *ABC*, 17 February 2021; *AAP*, "Pete Evans Fined $80,000 by Health Department for Alleged Unlawful Spruiking of Devices and Medicines," *Guardian*, 25 May 2021; Baker and Rojek, "Wellness Advice".

[18] According to chef Pete Evans, we 'manifest our reality', in Chervin Jafarieh, "#11 Questioning Societal Norms with Pete Evans," *Wake the Fake Up*, 19 May 2021, https://www.youtube.com/watch?v=WPX0e3ngW9Y (accessed 19 October 2021).

[19] E. Melanie DuPuis, *Dangerous Digestion: The Politics of American Dietary Advice* (Berkeley: University of California Press, 2015).

[20] Donica Belisle, "Eating Clean: Anti-Chinese Sugar Advertising and the Making of White Racial Purity in the Canadian Pacific," *Global Food History* 6 no.1 (2020): 41.

[21] Ibid., 41-59.

[22] Catie Gressier, *Illness, Identity, and Taboo among Australian Paleo Dieters* (Cham, Switzerland: Springer, 2017); Catie Gressier, "Food as Faith: Suffering, Salvation and the Paleo Diet in Australia," *Food, Culture & Society* (1 August 2021): 1-13.

the shape and fabric of everyday lived experience, from material technologies to the rise of scientific theories, commercial and government intervention, fraud, and ideas of social difference. Concerns over safety have played a critical role in evolution of Australian food culture.

Food safety in Australia emerged through connections between the local and the global. The interplay of international circulations of knowledge and local conditions forged ideas, practices, material culture and regulation of food safety. No single individual or organisation dictated understandings of food safety: knowledge was generated through negotiations and relationships between governments, communities, commerce, various organisations, and always interpreted by individuals. Popular understandings often differed from the science. Particular food safety issues have been revealed to reflect, and contribute to, broader societal concerns of certain historical moments, whether regarding the industrialisation of foods, the construction of a white Australia, or one's social standing. Commercial interests constructed, channelled and reinforced anxieties. These themes emerged and were developed through case study chapters examining various facets of food safety through the colonised history of Australia.

Food was a contact zone during the British colonisation of Australia, a meeting space of control and oppression, but also possibility, agency and accommodation. From the destruction of Indigenous Australian foodways, to shared knowledge that allowed British settlers to produce a 'very splendid' bread from the potentially lethal macrozamia, or the 'strong rancid taste' of abalone, food was central to the colonial project, physically and discursively.[23] Food was used to create, maintain and perform bodily and social difference. Categories of civilised and savage were evidenced through food habits, as expressions of disgust underpinned racial hierarchies, and edibility was challenged and bound up with sovereignty. Inadequate cultural knowledge left colonists sick, with sometimes fatal consequences. Using the lens of food safety to examine the records of British colonists has demonstrated how ideas and representations of foods functioned in the construction of power – then and into the future.

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[23] Marie Fels, "Culture Contact in the County of Buckinghamshire, Van Diemen's Land, 1803-11," *Papers and Proceedings Tasmanian Historical Research Association* 29.2 (1982), 48, 58; Mary E. Bundock, "Notes on the Richmond River Blacks," in *Records of Times Past: Ethnohistorical Essays on the Culture and Ecology of the New England Tribes*, ed. Isabel McBryde, (Canberra: AIATSIS, 1978), 261-266; Norman J. B. Plomley, ed., *Friendly Mission; the Tasmanian Journals and Papers of George Augustus Robinson, 1829-1834* (Kingsgrove, NSW: Halstead Press, 1966), 155-6.

Trustmarks are mental shortcuts that help us make sense of the world and of complex food systems. How we make ourselves feel safe and comfortable with the foods we eat is, for most of us, a matter of choice. Every choice seeks to balance competing desires, needs and capacities. 19th century place of origin marketing functioned as a trustmark, inferring transparency and connectivity of supply chains, and communicating culturally specific information to potential customers. Discursive sources shaped ‘imaginative geographies’, which, accurately or not, likely informed ideas of food safety.[24] Place marketing imbued foods with wider cultural values, such as race, labour, civilisation and progress. English cod may have been the ‘taste of home’, or a performance of social belonging; American sardines perhaps indicated dangerous cottonseed oil or technological safety, depending on the period. Ceylon Plantation coffee had its dependability guaranteed by British oversight, but Java coffee – produced ‘with the forced labor of its millions’ – was injurious to one’s moral safety. Reports of the poor hygiene of Turkish ‘peasants’ were possibly ignored by Australians, who maybe bought Smyrna figs as a cheap and, from previous experience, harmless option.[25]

Discursive sources from the period 1850 to 1912 constructed consumers as critical in protecting their own safety in fighting the adulteration of food. Private, state and public interests sought to equip the public through education: Australians needed to develop a palate for safety. ‘Good’ taste was inherently ‘safe’ and aligned with ideas of race and class. Capitalist concerns, as tea illuminated, intersected and worked with colonial and state authorities in the production of food safety. Tea was said to be adulterated and contaminated by unscrupulous and ‘filthy’ Chinese, with companies offering ‘British’ – but apparently less popularly palatable – ‘safe’ tea in its place. Racialised rhetoric of adulterated and contaminated tea worked to exclude Chinese from a Federated Australia. An outcry around beer in 1875 called into question the legitimacy of adulteration charges where the public preferred the apparently fraudulent product. Popular tastes demanded the ‘fresh’ characteristics that the fast-fermentation methods that ‘adulterated’ sugar beers produced.[26] Australia’s first broad food regulations emerged as a response to perceived adulteration problems, and the expectation that governments had a role of responsibility in protecting their citizens and intervening in markets. The effectiveness of regulations were questioned, as legislation went through multiple iterations. In the 20th century, standards defined foods, codified norms, and restricted difference and variation.

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[24] Edward Said (1978), *Orientalism: Western Representations of the Orient* (London: Penguin, 1995), 54-5.
[25] *South Australian Weekly*, 2 February 1867, 3.
[26] *Mount Alexander Mail*, 4 March 1875, 2.

Packaging functions materially and semiotically. As bulk packaging shifted to unit 'consumer' packets over the 19th and 20th centuries, food companies shaped the discursive space around the foods they produced. Labels and seals told customers they were buying the genuine, unadulterated product.[27] Packaging was proof of factory production, insisting human contamination was not possible: McAlpin's Flour, for example, was safe, because it was in 'germ-proof cartons', filled by 'hygienic automatic' machines.[28] Packaging reminds that science and technologies both prevent and enable food safety issues. As a physical barrier around a food, it protects from environmental factors, but packaging can be hazardous in itself: tin cans contaminated food with lead soldering, and plastic can leach or exacerbate the conditions in which microbes thrive.[29] Industrial production and transport were rationalised, new foods such as breakfast cereals were enabled, and the sensory regimes of everyday life shifted.

In the 20th century, safe became healthy. Emergent scientific theories of bacteria and nutrition were part of the cultures that produced, interpreted and adopted them. Newfound regimes of knowledge required new authorities and institutions, created novel measurements of order and control, and were used to bolster existing social hierarchies. Certain spaces of food production were declared safe, as others were deemed dangerous: factories protected while homes threatened. The food habits and hygiene of individuals were of concern to the nation's wellbeing: safe food was critical to healthy and productive citizens. Ideas of social health and progress sometimes spilled into euthenics and eugenics.

Food businesses were a prominent part in the landscape of popular discourse around food safety during the same period. Vocabularies of safety and nutrition were appropriated by commercial interests, as potential unease around industrial food production and other issues were re-routed: Horlicks, for example, promised to protect against typhoid in 1943, being a 'protective' food, and 'absolutely' free from germs.[30] Brands were a 'guarantee' of safety, and ideal consumers and citizens were modelled in promotions. White male doctors and scientists endorsed the hygienic and health-giving properties of foods. White females were mothers and housewives who kept their own bodies trim, youthful and 'regular', and their children and husbands happy and robust through the consumption of the 'right' foods.

[27] Lea and Perrins advertisements, *Evening News*, 7 July 1877, 7.
[28] McAlpin's Flour, "McAlpin's Flour," Museums Victoria.
[29] *Western Herald*, 11 October 1957, 1.
[30] *Argus*, 5 April 1943, 3.

Advertisements for processed branded foods appeared in government health texts, blurring boundaries between scientific and economically-driven information.

Sometimes ‘needs’ had to be created, as the study of cold technologies shows. Before ice-chests and refrigeration were common, food systems were supported by culinary infrastructures, such as food safes, backyard livestock, and regular – sometimes twice daily – home deliveries. Ice was not necessarily associated with food preservation or perceived as an essential for safe food: cold was long discussed as a luxury, even as food chains were increasingly reliant on captured cold. Mechanical refrigeration too, at least in eyes of vested American interests, was slow to be adopted by Australians. Advertising for refrigerators showed how companies fostered demand, promising physically and socially safe food through cold. Here, the influence of America on Australian food culture is evident, earlier than the conventionally posited periodisation of World War Two. Cold chains epitomise the significant relationship between everyday life and technologies. Refrigeration changed what we eat and how food was transported to us, radically altering landscapes and lives. But, as argued, refrigeration was not an inevitable culinary infrastructure of food safety, and not necessarily the end-point of food preservation. This thesis has explored many aspects of the cultural history of food safety in Australia, but there are plenty of gaps to be filled.

Safety construed broadly is a productive way to think about how people make food choices in a period dominated by climate change and a global pandemic: how do people attempt to ensure their food is sustainably, and correspondingly morally, safe, meeting not only personal health requirements, but protecting the health of the planet? How do diets change? What role does food safety play in this? To plan for a reduction in plastic packaging, for example, it would be useful to know more about the cultural logistics of food distribution and protection in a pre-plastic past. This study encourages food safety case studies of other international sites, as well as transnational and global research focusing on themes presented here.

This study contributes to works pushing out the boundaries of Australian food histories, showing Australian food culture to be deeply woven into an international fabric, but locally refined. Further avenues of research are not restricted to food safety. Delving deeper into representations of food in a wider range of colonial sources would add depth and nuance to studies of the colonial contact zone, and that theme was obviously missing perspectives and understandings from Indigenous Australian peoples. The lived experiences of food safety of various groups in Australian history through oral histories could enrich understandings. Sensory studies of Australian history more broadly would be illuminating of Australian cultural formation.

The management of food waste (both consumed and not) is an important food safety issue deserving of more attention in the Australian context, particularly as climate change makes production, consumption, and disposal of food more contentious and pressing activities. What is 'waste'? How have other cultures safely (or unsafely) managed waste? Do understandings of decay shape cultures' attitudes towards waste? Waste connects to ideas of 'pests', such as flies and rats. Who gets to define what is a 'pest', and how do different cultures interact and manage them? This thesis ended at a time – the mid-20th century – when the absence of human presence in food production was valued – how did this shift? Why do claims such as 'handmade' and 'bespoke' carry more cultural capital today, and is this again morphing with the resurgence of contagion fears due to the global pandemic? When archives re-open after pandemic restrictions, trade journals and company records could add further detail to understandings of food safety histories.

Food safety is, as we have seen, culturally constructed. Well into the 20th century, recipes periodically appeared in Australian print media, challenging our conceptions of what constitutes 'safe' meat. In 1828:

> Meat, fish, or poultry, that has been, flyblown, or become tainted, may be effectually restored, by putting a few pieces of charcoal into the pot or saucepan to boil with the fish or flesh, which will be found to come out perfectly sweet, frequently when it has appeared to have been too far gone to be eatable.[31]

According to these recipes, food safety conventions of the day dictated that spoiling meat did not need to be discarded, but could be 'revived'.[32] The charcoal method was promoted in 1870 to revive fish 'in a state of corruption'; 'the turbot came to the table perfectly sweet and firm'.[33] In 1879, 'a pair of fowls quite green' were 'made fresh and sweet as ever'.[34] Food

[31] *Colonial Advocate,* 1 April 1828, 80.
[32] Such instructions continued at least until the 1930s. *Australian Woman's Mirror*, 11 December 1928, 38; CWA WA, *The CWA Cookery Book and Household Hints* (Perth: E. S. Wigg &Son Ltd, 1936), 57.
[33] *Cornwall Advertiser*, 8 November 1870, 5.
[34] *Eastern Districts Chronicle*, 19 April 1879, 2.

safety has been embodied – materially and symbolically – in Australian history; it has altered and been contested.

At the end of World War Two, a newspaper related the suffering of Australian prisoners of war in the 'Naoetsu' camp in Japan. Experiencing beatings, freezing temperatures, starvation, dysentery and a range of other illnesses. The tribulation emphasised most, however, was the novel foods prisoners had to eat: 'Seaweed diet in Jap. Camp' ran the title.[35] Forming the main basis for their diet, the men supplemented it with 'grasshoppers, snails, dogs, and snakes'. Some of the Australians, 'although half starved', could not force themselves to eat the 'sticky glue-like' seaweed stew. With time, they managed 'to acquire the habit'.[36] The confronting foods provided a sensational and visceral platform for the newspaper to communicate the ordeals of the men to the Australian public. Disgust at seaweed cultivated a shared Australian identity. Our tastes and cultural ideas of safe foods can override health and nutritional needs, even in life-or-death situations. How we make ourselves feel comfortable and safe with our food choices matters.

This study has used food safety to look at the relationship of major historical processes – colonialism, industrialisation, capitalism – with ideas of race, class, gender, and identity in the Australian context. The temperature of our refrigerators, the taste of our beer, and our breakfast choices are all culturally produced and have histories deeply embedded in food safety. Being attentive to construction, dissemination, interpretation, and contestation of food safety is revealing. As a critical feature of daily life for people everywhere, food safety is more than its science and more than the physical experience of compromised food. Food safety shapes, and is shaped by, the lived experience of people everywhere, every day.

[35] *Northern Star*, 30 November 1945, 5.
[36] Ibid.

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