The Social Lives of Superfoods

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Abstract

Superfoods have emerged as an increasingly significant category of health food products and related popular discourse about food, health, and values. They are celebrated for their purported extraordinary nutritional and/or medicinal values, ‘natural’ qualities, associations with ‘exotic’ or ‘pristine’ places of origin, and histories of traditional or indigenous use. However, the term ‘superfood’ defies precise definition, and both products and discourse are poorly understood by the public and regulatory bodies.

Existing scholarship has examined social, cultural, political, and economic aspects of related concepts and products, such as functional foods and low-carbohydrate diets, demonstrating ways in which new forms and ideas emerge through the convergence of nutritional science discourse, globalised food provisioning, and the commodification of food and health. These studies have largely focused on the nutritional anxieties felt by Western consumers. Other literature has paid greater attention to the impacts of the globalisation and industrialisation of food and agriculture on producers, often located in the developing world. Research bridging worlds of food production and consumption is called for, but only recently beginning to emerge in the scholarly literature.

There is currently no existing scholarship examining superfoods in particular. Because superfoods can be understood both as a discourse about food and health and a group of agro-food products, they offer a distinctive lens through which to conceptually bring together geographically (and, often, socioculturally) distant worlds of production and consumption. In drawing together these diverse worlds, I have employed a ‘biography-of-things’ approach inspired by the work of Appadurai and Kopytoff. Drawing upon assemblage theory, actor network theory, and circuits of culture theory, and employing a case study design encompassing diverse social science methodologies, this study examines the emergence of superfoods as a sociocultural form.

The research demonstrates how a range of seemingly disparate existing elements, including developments in nutritional science, neoliberal trade agendas, traditional indigenous knowledge, food processing and transportation technologies, changing ideas about food, health, and ethics, and the proliferation of digital media, are drawn together in the creation of a new form with broad social and environmental impacts. It has implications for future research into the cultural power of in-between (food) objects and the ways in which they enable us to examine the tensions that pull at contemporary food culture.
Thesis Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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Jessica Loyer

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Introduction

Thinking with Superfoods

In recent years, ‘superfoods’ have emerged as a new category of food products celebrated for their purported extraordinary nutritional values and histories of indigenous use. These products are marketed as something between medicine and foodstuff, and many originate in ‘exotic’ locales, such as maca from the Peruvian Andes or acai from the Brazilian Amazon. They arrive in the hands of Western consumers with a plethora of information regarding their health benefits, production circumstances, and suggested uses, but with little cultural or culinary context. The sudden ubiquity on supermarket shelves of these previously unfamiliar foodstuffs raises a number of questions, starting with the term ‘superfood’ itself. There is no standard definition of this term, leading to confusion as to just what a food with such a label promises (Lunn, 2006). This lack of clarity has led the EU to institute a regulation requiring companies to prove health claims before using the term on packaging, and has some dieticians concerned about misinformation promoted by eager marketers. There is an urgent need for a deeper understanding of the ways in which superfood products are produced, represented, and consumed because they are so poorly understood by both the public and regulatory bodies.

There is currently no existing scholarship examining superfoods in particular. However, scholarship has examined social, cultural, political, and economic aspects of related concepts and products, such as functional foods (Heasman and Mellentin, 2001; Schroeder, 2007; Scrinis, 2013; Williams and Ghosh, 2008) and low-carbohydrate diets (Jauho, 2014; Knight, 2008; 2011a; 2011b; 2012a; 2012b, 2015), demonstrating ways in which new forms and ideas emerge through the convergence of nutritional science discourse, globalised food provisioning, and the commodification of food and health. These studies have largely focused on the nutritional anxieties felt by Western consumers. Other literature has paid greater attention to the impacts of the globalisation and industrialisation of food and agriculture on producers, often located in the developing world (Arce and Marsden 1993; Cook 1994; Friedland 1994; Sobal 1999). Research bridging worlds of food production and consumption is called for, but only recently beginning to emerge in the scholarly literature. Because superfoods can be understood both as a discourse about food and health and a group of agro-food products, they offer a distinctive lens through which to conceptually bring together geographically (and, often, socioculturally) distant worlds of production and consumption.

This thesis develops an understanding of the emergence of superfoods as a sociocultural form by looking at superfoods as both a distinctive group of food products and a discourse about food, health, and values. As products, superfoods are represented as objects that span the categories of food and medicine. As discourse, superfoods integrates often conflicting concepts about what makes food ‘good’, including understandings derived from nutritional and medical science, traditional and indigenous knowledge, and ethical frameworks of socially and environmentally responsible production and consumption. Superfoods are ambiguous in their representations and, as I shall show, the ways in which they are consumed and understood also suggest ambiguity. It is this very in-between-ness that makes them such a rich object of study, for their ambiguity hints at their cultural power (Douglas,
2002). Objects between food and medicine are, to paraphrase Levi-Strauss, good to think with – they challenge taken-for-granted social categories and open up new possibilities for critical reorganisation of the social world.

But it is not only social categories to which objects between food and medicine present a challenge. These ambiguous objects also challenge the disciplinary boundaries of academia, and as such encourage new forms of inquiry that resist methodological and theoretical orthodoxy. Like milk, antibiotics, and genetically modified organisms, superfoods are objects that are carried by both science and culture (e.g., Landecker, 2015; Wiley, 2007). They remind us that our cultural obsessions and anxieties feed into practices of science, and the sciences reciprocally nourish our cultural fixations. They require recognition of the intricate interweaving of the natural and the cultural, the social and the biological, and demand methodologies that cut across disciplines to embrace a framework of holism.

Superfoods are also a broad object of study, because as both a group of products and a discursive construct, they encompass a wide range of foodstuffs from around the globe and a diverse collection of ideas. Each superfood product has its own long and distinctive history of interaction with humans. Similarly, each idea that contributes to a superfoods meta-discourse has evolved in its own way through a confluence of natural and social factors. The benefit of looking at an object of study that spans such a large temporal and spatial scale is the ability to observe patterns of social change. It allows me to use ethnographic observations in the present to ask questions of the past, and historical inquiry to ask questions of the present. It challenges me to engage with the subject from different angles of view: as the gaze shifts so does the object of study, revealing not only the interconnectedness of the physical and the social, but also the always emergent and ephemeral quality of the human experience of our world.

On the surface, it may seem easy to dismiss the entire superfoods concept as a creation of marketing designed to dupe gullible consumers. Yet I suggest that this is exactly why we need a better understanding of the kinds of representations that are occurring, the variety of production practices behind them, and the ways in which consumers interact with and understand superfoods products and discourse. Superfoods are not only symptomatic of the individualisation of food, medicine, and health, they also offer a critique, however flawed, of contemporary foodways and their underlying social structures. Understanding the real fears, anxieties, and moral dilemmas expressed through superfoods enables us to locate points of possibility to broaden discussions about ‘good’, ‘healthy’, and ‘fair’ food and food systems, and how to achieve these goals.

It should be noted that this is not a typical dissertation: it does not follow one product in depth, embrace one singular methodology, or conform to a strict disciplinary framework. Instead, it follows three case study superfoods – cranberry, maca, and chia seed – tracing the biographies of these products as each has transitioned from local staple to global superfood in its own distinctive way. As each case study exemplifies different aspects of superfoods as global health foods, so too do the issues explored in each chapter represent various threads of superfood production, representation, and consumption. Rather than read as a linear narrative, the chapters are organised thematically. Many of these chapters are intended for publication as
Developing a Working Definition of Superfoods

It is not my goal in this thesis to define superfoods, but rather to examine the way in which the term is used as part of a discourse about food and health. Nor is it my intention to provide a definitive verdict on the efficacy or ethicality of superfoods, but rather to describe the way in which these foods, and information about them, are produced, consumed, and challenged. Rather than critique the concept of superfoods, I seek to place this concept both within narratives about food and health and within the globalized networks of agricultural production and consumption that constitute much of contemporary food provisioning.

While I refrain from developing my own definition of what constitutes a superfood, it is necessary to have a working understanding of what I mean when I use the word. The *Oxford English Dictionary* groups the word superfood under the heading ‘super-, prefix’. The prefix, derived from Latin, is defined as one used in forming adjectives: ‘prefixed to nouns (and related adjectives) denoting a person, animal, or thing which markedly surpasses others of its class’. Thus superfood is understood relationally to other terms using the prefix, such as supercapacitor, supercyclone, superprofit, and superweed. Superfood itself is defined as ‘a food considered especially nutritious or otherwise beneficial to health and well-being’. The widespread use of the prefix super- in contemporary English helps place the word as part of a linguistic pattern. It also gives us a sense of the way the word superfood is used in practice: by adding the

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1 Johnston and Baumann (2010: 3) develop the concept of ‘foodscape’ as ‘a dynamic social construction that relates food to specific places, people, and meanings’. The term has two advantages: ‘First, it recognizes that our understandings of food and the food system are mediated through social mores and cultural institutions like the mass media; second, it suggests the interrelationship between culture, taste, and physical landscape, or ecology’.
prefix super-, the word denotes a food that is represented as superior within the category of comestibles, usually in relation to nutrient content or health benefits.

This understanding provides us with a good starting point, but, as I shall show, nutritional superiority is only one of several discursive elements upon which the superfoods concept draws. Superfoods are also portrayed as ‘natural’, that is, they are placed in binary opposition to foods produced through blatant technological intervention. They are often associated with indigenous peoples and ‘traditional’ production practices, often in remote locations, and as such draw upon a discourse of primitivism characterised by nostalgia for and valorisation of the world of precivilised man (Bell, 1972; Torgovnick, 1990). Knight (2008; 2012b; 2015) has observed a similar convergence of discourses of naturalism and primitivism in low-carbohydrate diet books to create a meta-discourse that she terms ‘nutritional primitivism’, elements of which are incorporated in superfoods discourse. Finally, many superfoods have come to be associated with a discourse of critical consumption (Yates, 2011), in which ethical concerns relating to social, political, and environmental issues are incorporated into production and consumption practices. These discourses are constructed and deployed, with various degrees of emphasis on each element, throughout the production-consumption circuit of each superfood product and in broader representations of superfoods in general.

There is, of course, an element of faddishness to superfoods, and media and marketing play a large role in the promotion of the concept. Several chapters in this thesis therefore take marketing or media representations as starting points for exploring not only how these representations are constructed, but also the practices and voices that are hidden or silenced through such representational politics. However, I reject the claim that superfoods are entirely a creation of marketing and media because of the way in which this claim focuses all of the creative power at one place in the production-consumption circuits of superfood products. It denies power to consumers, whose creative uses of superfoods shape their meanings as they engage in what Miller (1987) calls ‘consumption work’. It assumes that consumers are passive vessels waiting to be filled with the ideas of marketers, while scholarship has shown that the act of consumption involves diverse creative engagements (Gillespie, 1995; Johnson, 1986; Lewis, 2008; Miller, 1997; Miller and Woodward, 2007; 2011). However, the argument that superfoods are a creation of marketing and media does at least tacitly acknowledge that consumers exist, as they can be assumed to be the targets for said marketers. What troubles me even more is that to assume that superfoods are the exclusive creation of media and marketing denies any power at all to the act of production. It assumes that superfoods suddenly appeared as blank products waiting for marketers to fill them with meanings. It misses entirely the fact that these are agricultural products as well as culturally embedded foodstuffs. They have existences prior to their appearance on the Australian marketplace in both a temporal and geographical sense and may continue to exist after the superfoods concept has given way to new understandings of food and health. Further, the argument that superfoods are nothing more than a creation of marketing and media is often supported by physicians and nutritional scientists, who have an interest in representing their expertise and knowledge regarding health and diet as superior (Scrinis, 2013; for example see Hill, 2007; Scott, 2015). Thus rather than examining the ways in which media and marketing have created a fad around the idea of superfoods, I examine superfoods as a process of assemblage created by many actors...
who engage in the production, exchange, consumption, and promotion of these foods and related products. In doing so I recognize that humans actively engage in the creation of our social worlds through our daily practices. I follow Miller (1987; 1997) in viewing material culture as something that we shape and are shaped by as we both give meaning to things and draw meaning from our interactions with them.

The growth of the idea of superfoods and the discourses from which it draws can be seen as occurring through endless feedback loops embedded in the production-consumption circuits of superfood products. The image of ever-expanding concentric circles is a useful construction to understand this process, as uses, meanings, knowledge, and ideas produced at each stage within the life of the superfood circle around to inform other stages. This process occurs as familiar foods – that is, foods that are already part of the Western culinary cannon, such as broccoli, apples, and cranberries – are reimagined as superfoods by cookbook and diet book authors, health and lifestyle magazine columnists, and savvy food producers. The concept of superfoods gains momentum as the foods described under its rubric are validated through two knowledge frameworks: that of folk wisdom, and that of nutritional science. This information can be generated, spread, interpreted, and challenged by many different actors, including primary producers, intermediate producers, marketers, nutrition researchers, the media, retailers, and consumers. Finally, with the concept of superfoods firmly in place, novel foods like goji berries and quinoa begin to enter the Western market as superfoods, portrayed as miracles of both ancient tradition and modern science and technology. As the category of superfoods evolves to emphasise these novel foodstuffs, a greater quantity of branded superfood products appear on the market. These products incorporate a discourse of critical consumption into their representation, including labelling initiatives such as fair trade, organic, and sustainable.

Although the term superfoods can refer to a broad group of food products, it is also useful to understand superfoods as one of the many ways that people talk about foods that draws upon particular understandings of what foods are and how humans interact with them. In order for some foods to be superfoods – foods that are superlative in some way – there must be an understanding of the relative value of foods, some sort of hierarchy. And this hierarchy has to be based upon a system of understanding what makes a food ‘good’ and what makes it ‘bad’. If we consider for a moment the possible systems by which foods might be ranked, we can begin to understand what makes superfoods a particular discourse. For example, foods might be ranked by taste, making the most delicious foods the superfoods. In this scenario, foods would be primarily understood as vehicles for sensory pleasure, and perhaps fried chicken and ice cream might be labelled as superfoods. Alternatively, we can imagine a world in which foods are ranked by convenience, and the superfoods are those that require the least labour to prepare – a microwavable dinner, for example. In this scenario, food would be primarily understood as a biological necessity, but not an important cultural or sensory practice, nor as an activity that plays a crucial role in bodily health. In the discourse of superfoods, the foods that are regarded as the most super are those that are considered to be the most nutritious, with one caveat – they have to be ‘natural’, that is, not altered much by human technology. In this understanding, foods are primarily understood in two ways: as products of nature, and as sources of nutrients. Those that are the most natural AND the most nutrient dense are therefore the best.
Of course, we don’t live in a world where food is exclusively valued for being natural or being nutritious; flavour, convenience, cultural relevance, and price, among other factors, are sometimes given more weight when making food choices. Jacobsen (2004) identifies the three predominant connotative fields in which food’s significance is debated as those of nature, commodity, and culture, all of which are ‘inseparably linked in the physical shape and substance of food’ (62). By emphasizing particular aspects of food, various actors seek to advance their understandings of food as nature, commodity, or culture. For example, economists often talk about food as a commodity, while anthropologists may see it mostly as part of cultural life. These disagreements over the constitution of food are more than semantic, because ‘the definition of what food is and should be thus serves as an argumentative premise in struggles over economic and political resources of different kinds’ (Jacobsen, 2004: 63). Whether we understand food primarily as nature, commodity, or culture impacts regulatory and policy decisions, the allocation of funds, and the way in which we interact with the natural world. For example, when food is purified as a commodity, efficient production becomes the goal, often at the expense of local environments and public health. When food is purified as nature, cultural practices become secondary to nutritional and environmental concerns. This struggle over how food is best understood is embodied in superfoods production-consumption circuits, as actors at different points throughout the circuit give more weight to nature, commodity, and culture aspects of the foods they produce and consume. Superfoods at various moments embody all of these elements, for ‘the fields are “linked” in the mundane practices of farmhouses kitchens, dining rooms and restaurants, places where food is produced, prepared and consumed’ (Jacobsen, 2004: 63).

The struggle to define food and its significance in our lives is seen in the academic sphere, in which production and consumption have frequently been kept analytically distant, the former viewed through the lens of political economy and the latter as a cultural act. Recent attempts to connect these distinctive categories of social life have begun to acknowledge the roles of consumers and the plethora of intermediaries involved in food provision ‘as relational actors in recursive, mutually constituted networks’ (Goodman et al., 2012: 34). Such studies recognise that a great deal of creative work takes place outside of the physical realm of production, which in turn feeds back into the production sphere in a conversational way; this is what Goodman, DuPuis, and Goodman call ‘the contested processes of interaction between how we “grow food” and how we “know food”’ (2012: 34). Production and consumption, long kept analytically separate, are seen as mutually constitutive processes; they are reframed as parts of the same phenomenon as feet and hands are part of the body.

The difficulty in attempting this reframing, however, is not necessarily in the nature of food but in the nature of the commodity. Goodman et al. ask, significantly, ‘are commodities illusory fetishes hiding true social relations, as Marx would argue? Or are they, as Durkheim would have it, meaningful totems representing society itself? In other words, how do we “know” food: as fetish or as totem?’ (2012: 34). They argue the centrality of this question, because if food commodities are fetishes, mere illusions of social relations, then the so-called politics of consumption is also illusory and cannot represent actual knowledge about the politics of food. But if food commodities are totems inscribed with symbolic meanings, then their production, exchange, and consumption becomes a way of communicating such politics, and the
The above discussion obscures the fact that not all superfoods are commodities, and even those that do act as commodities at particular moments may not be commodities at other times. Further, the very concept of commodity itself proves slippery as the ways in which superfoods are produced, exchanged, and consumed vary vastly from one case to the next. I have attempted to rectify this confusion by adopting a biography-of-things approach, tracing particular superfoods across space and time, as they move in and out of the commodity state (Appadurai, 1986). This approach recognises that being a commodity – that is, being exchangeable – is not an inherent property of a thing, but is socially imposed; thus economic value and social values intersect and render an object exchangeable in different ways at different times and places. I discuss this approach in detail in the following chapter.

Development of Superfoods Discourse

The concept of superfoods is itself a composite of ideas about food, health, and nutrition, and their associated politics, deeply embedded in Western thought and practice. Superfoods have emerged and developed at the intersection of discourses of functional nutritionism, nutritional primitivism, and critical consumption.

Functional Nutritionism

Superfoods are both a product of and backlash against the dominant food and health discourse of nutritionism, which Scrinis defines as ‘a reductive focus on the nutrient composition of foods as the means for understanding their healthfulness, as well as...a reductive interpretation of the role of these nutrients in bodily health’ (2013: 2). Since the birth of modern nutritional science in the mid-nineteenth century, nutritionism has served as the primary paradigm – that is, the framework of understanding within which scientific knowledge is generated and interpreted – guiding nutritional research and its application (Scrinis, 2013: 11-12). Several sub-paradigms have characterised nutritional science research and its interpretation at

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2 The word ‘commodity’ is defined differently by different scholars across different disciplines. I use it here in the sense developed by anthropologist Arjun Appadurai (1986), indicating any thing that can be exchanged for another thing. In economics, ‘commodity’ indicates the ability of a thing to be exchanged for capital, and thus situates the meaning of the term within the capitalist system. ‘Commodity’ can also refer to a thing which is rendered anonymous prior to exchange, and whose value is equated to all other things of its class, such as ‘commodity corn’ or ‘commodity wheat’.
different times in response to changing scientific discoveries as well as changing social conditions; however, while each sub-paradigm reflects changing ideas about what constitutes good science and its application in terms of practical nutrition, they all ultimately maintain a nutrient-reductionist orientation (Scrinis, 2013: 45-50). Scrinis also describes nutritionism as an ideology because of its similarity to other political, social, or economic ideologies in the way that it ‘constructs and preserves the scientific authority and material interests of nutrition experts’, ‘ultimately serves the financial interests of the food, dietary supplement, and weight-loss diet industries’, and ‘profoundly shapes how the lay public understands and experiences food’ (2013: 13). I also understand nutritionism as a discourse because it has become deeply embedded in the way that we communicate about food and bodily health. Nutrition experts, cookbook and diet book authors, health journalists, food marketers, and the consuming public alike all know what carbs, fats, and proteins are. In casual conversation, we talk about foods as being low-GI, high fibre, nutrient dense, high in vitamin C, or a good source of omega-3s. The invisible actions of nutrients on the body dominate our understandings of food and health.

In particular, superfoods have arisen against a backdrop of what Scrinis (2013) calls the ‘era of functional nutritionism’. Since the mid-1990s, nutritional research, dietary advice, and popular nutrition discourse has moved beyond the avoidance of ‘bad’ nutrients such as saturated fat and instead has shifted focus to increasing consumption of ‘good’ nutrients such as omega-3 fatty acids and antioxidants. This era, and the corresponding paradigm under which nutritional science knowledge is generated and interpreted, is characterized not only by a greater emphasis on the nutrient composition of foods, but also by increased attention to the role of particular nutrients on particular bodily functions and health outcomes as measured by biomarkers. In this era, ‘rather than just aiming to be healthy, some of the imperatives of functional nutritionism are that you enhance your health and target particular bodily functions and processes’ (Scrinis, 2013: 4). Foods are increasingly represented as vehicles for nutrients – both those that are naturally occurring and those that are added through fortification or alteration – and nutrients are represented as a means of optimizing both general health and specific bodily processes. Just as foods become viewed as functional, so too does the human body become a nutritionally optimized ‘functional body’ (Scrinis, 2013: 48).

A characteristic of the functional body is that its health and performance can be enhanced through the consumption of the right nutrients and, by extension, foods containing these nutrients. This understanding of foods as vehicles for functional nutrients has given rise to the concept of ‘functional foods’, a concept that is notoriously difficult to define given the fact that all foods can be demonstrated to

\[\text{3 The concept of paradigm shift is attributed to Kuhn (1970), and contends that scientific knowledge does not proceed linearly, but rather through a series of shifts in overarching frameworks produced when the current framework, theory, or world view becomes insufficient to encompass new observations or discoveries. Santich (2005) also uses the concept of paradigm shifts in relation to nutrition and dietary advice, while Heasman and Mellentin (2001) talk about ‘revolutions’.}

\[\text{4 Santich (2005) also describes changing dietary advice in Australia in terms of shifting paradigms and ideologies, and defines ‘food ideology’ as ‘the knowledge, beliefs and values of the Australian population’ (152).}\]
have some effect on particular bodily functions. Functional foods are deeply tied to the application of nutritional science and food processing technologies to the development of food products designed to deliver health benefits, as well as the ability of food manufacturers to make health claims about products in a deregulated market and the unprecedented level of marketing of food, nutrition, and health associated with such products (Heasman and Mellentin, 2001; Loyer, 2013).

Functional foods can refer to any food product marketed for a health benefit, though often in industry and scholarly usage the term refers to processed foods which have been fortified, enriched, or altered in some way – for example, vitamin-D fortified milk, omega-3 enriched eggs, or gluten free pasta. Thus functional foods represent ‘corporate nutritionism’ in which large food corporations ‘set the nutritional agenda’ not only through their power to advertise health claims with huge marketing budgets, but also through the funding of scientific research and related health and nutrition institutions and the lobbying of government officials for relaxed regulation (Scrinis, 2013: 49). Functional foods are often highly processed, technologically developed foods, and thus represent the epitome of the reductive logic of nutritionism in equating nutrients artificially added to processed foods with nutrients naturally occurring in whole foods.

The discourse of functional nutritionism, along with the development of functional foods and the rise of corporate nutritionism, has set the stage for consumer ambivalence. In the era of functional nutritionism, the individual is responsible for her own health, and she is expected to make rational choices about which foods to eat to maximize her own wellbeing. As Scrinis observes, ‘to achieve this enhanced and optimized state of health and bodily functioning, we must keep up with the latest nutrition research and expert advice if we are to identify the whole foods or processed “functional foods” that deliver the desired health benefits’ (2013: 4). Yet nutrition research and expert advice is often conflicting and fragmentary, leaving consumers confused about what, indeed, constitutes the ideal functional diet. Further, many consumers are well aware of the influence of the food industry’s use of health claims in the marketing of functional foods, and view such claims with scepticism (Williams and Ghosh, 2008). However, a widespread discourse of nutrient scarcity, in which ordinary foods and dietary patterns are portrayed and perceived as insufficient to meet nutritional needs, continues to drive consumers to seek ever more ‘nutrient-dense’ whole foods, functional foods, and supplements (Scrinis, 2013: 162).

It is at this point of nutritional anxiety and ambivalence that superfoods enter the scene. Superfoods are, in many ways, the ideal answer to the ideology of functional nutritionism. They can be seen as a sub-category of functional foods, in that they tend to be marketed using nutrient content or health benefit claims. However they are not nutritionally engineered, fortified, enhanced, or altered foods. Instead they are either whole foods like chia seeds, quinoa, or seaweeds, or minimally processed foods such

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5 Corporate nutritionism occurs in the context of the rise of transnational food corporations in the production and distribution of food products worldwide, which itself is largely a result of decreasing barriers to international trade and the deregulation of food production and marketing. Friedmann (2005) and McMichael (2005) refer to the control of the food supply by large, powerful corporations as a ‘corporate food regime’.
as cold pressed coconut oil, dried goji berries, frozen açai berries, or dried and ground maca powder. Yet their naturally healthy aura allows them to avoid the quagmire of consumer distrust towards technologically developed functional foods. They are a product of functional nutritionism in that their development, promotion, and consumer popularity relies on an understanding of the relationship between food and health in terms of the sufficient consumption of the right nutrients. But they are also a backlash against formulated functional foods, a ‘natural’ way to get all those vital nutrients without relying on a technological fix. Like other functional foods, their healthfulness is validated through a framework of scientific knowledge. But they also skirt the problem of consumer distrust of technologically developed and highly processed foods by further validating their healthfulness through frameworks of folk and indigenous wisdom and naturalness.

**Primitivism and the Natural**

While superfoods can be viewed as embracing the premise of functional nutritionism – that is, the idea that foods are made up of specific nutrients that directly impact health outcomes – they also serve to challenge the reductive aspect of this discourse that equates the health value of supplemental nutrients with those occurring naturally in foods. Superfoods challenge the discourse of functional nutritionism in two ways. The first is by offering an alternative framework for validating knowledge about food and health, which I call the framework of folk and indigenous wisdom. Within this framework, knowledge about food and health is valued not because it has been demonstrated using the scientific method but because it has been passed down through generations and carries an aura of tradition and authenticity. In superfoods discourse, the framework of folk and indigenous wisdom does not displace the paradigm of functional nutritionism; rather, the two types of knowledge are often presented side by side. The second challenge to the discourse of functional nutritionism is in the valuing of the natural over the technological. This naturalism presents a challenge to the material manifestation of functional nutritionism in the form of fortified, enhanced, or otherwise modified functional foods, rather than to the premise of functional nutritionism as a whole.

I group these two challenges to the discourse of functional nutritionism together because of the way that they converge to form a critique of contemporary attitudes towards food and health as well as the systems of provision with which these attitudes are intimately tied. By referencing the framework of folk and indigenous wisdom, superfood discourse challenges the idea that science is the highest arbiter of truth. It recognises that nutritional science, while valuable, can offer only a partial view of the complex relationship between food and the body – a relationship that is mediated socially and culturally, not only biologically. By privileging foods that are naturally nutrient dense, rather than those foods that have been altered to improve their nutrient content, the discourse of superfoods critiques industrial food production. It simultaneously questions the reductionist logic of functional nutritionism and its application in the formulation of functional foods.

The appeal to nature and the natural in relation to food and health is not unique to superfoods discourse. Knight (2012a) has observed similar use of the natural/unnatural dichotomy in low-carbohydrate diet discourse, and movements privileging culinary authenticity in opposition to industrialised, highly processed
foods such as Slow Food also employ naturalist discourse. Rozin et al. (2004) have shown a preference for foods or medicines perceived as natural rather than those perceived as processed or synthetic among the American public, and both Lupton (1996) and Santich (1994) have observed similar associations between foods perceived as natural – that is, ‘fresh, uncooked, unprocessed foods’ – and a sense of goodness and healthfulness among Australian consumers. While the meaning of the word natural, both in relation to food and in general, is far from clear, it tends to be used discursively to set apart those foods ‘that had not been changed in any significant way by contact with humans’ (Rozin et al., 2004: 148) from those that humans have deliberately manipulated through either production or processing. In other words, ‘nature is what man has not made’ (Williams, 1976: 223). The nature/technology dichotomy is problematic; even what we consider to be very basic agricultural practices, such as the process of selective breeding whereby humans sow seeds from cultivars with qualities that they consider to be favourable, are forms of technologies in the sense that they mediate the relationship between humans and the natural world, as well reveal nature as a standing reserve of resources for human use (Heidegger, 1977). The concept of superfoods is man-made, as are the technologies for cultivating, preserving, transporting, and retailing such products. Thus the appeal to the natural in superfoods and other food and health discourses raises the question of where to draw a line between the natural and the unnatural, and ‘illustrates the extreme malleability of these concepts in different nutritional paradigms’ (Knight, 2012a: 119).

In their critique of science-based knowledge frameworks and their technological applications, superfoods also draw upon a discourse of primitivism. Bell defines primitivism as ‘the nostalgia of civilized man for a return to a primitive or pre-civilized condition’ (1972: 1), which manifests in a romanticisation of the ways of life of remote, isolated, indigenous peoples and a celebration of their material culture. As Torgovnick points out, primitivism can only exist in opposition to a post-industrial present, and thus she calls it ‘a discourse fundamental to the Western sense of self and the Other’ (1990: 8). The primitive becomes a foil through which to voice discontent with the ‘civilized’ present; therefore ‘the needs of the present determine the value and nature of the primitive’ (Torgovnick, 1990: 9). Dissatisfied with the medicalization of food and health and the techno-fixes offered by big food manufacturers, those involved in the production-consumption circuits of superfoods look towards the primitive for more intuitive and natural ways of pursuing health through foods. Knight calls this application of primitivism to health and diet discourse ‘nutritional primitivism’: ‘the pursuit of ostensibly simpler, more natural and authentic ways of eating as part of a quest for health through diet’ (2015: 442).

Within a discourse of nutritional primitivism, superfoods are desired because they are not modern. This places a strong emphasis on foods that have a long history of indigenous culinary and medicinal use, and thus are seen as traditional and authentic. It also emphasizes foods that are natural, that is, perceived as not obviously altered by technology in either the field or the factory. These two aspects of nutritional primitivist discourse are not applied evenly to all superfoods; some, such as cranberry, draw more heavily upon the naturalism aspect, while others, such as maca, draw strongly from the primitivist aspect. It is those superfoods that were not already known as foods in the West and have entered the Western market as superfoods that rely most heavily upon the use of primitivist discourse. In the following chapters, I
will demonstrate some of the ways that the tropes that make up the discourse of primitivism are applied in superfoods discourse. However I wish to emphasize that the use of primitivist discourse in relation to superfoods is not simply a matter of how Western consumers justify their purchasing decisions; it has consequences for many superfood producers and their communities that are worth closer examination. While primitivist discourse may valorise superfoods because of their seemingly timeless, pristine origins, it is important to remember that these foods are produced in places and by people that exist in the tangible, temporal, real world.

Critical Consumption and ‘Foodie’ Culture

Many superfood consumers are, indeed, aware that some of the products they purchase are acquired through a global system of provision that has widespread and diverse social, economic, and environmental impacts. Therefore a third theme that has acquired significance within superfoods discourse is that of critical consumption.\(^6\) Yates explains that ‘critical consumption can be read as a way of participating that renders consumption behaviour conscientious and diligent, over a multitude of political and ethical agendas’ and therefore ‘refers to cases where consideration of the implications of a product or service’s production or consumption result in a consumer decision to boycott or buycott’ (2011: 192). 'Buycott' is a term coined by Friedman (1996) and, set in relation to 'boycott', is a positive behaviour model through which consumers act critically through the purchase, rather than the non-purchase, of goods for ethical, political, or environmental reasons. In the case of superfoods, it is the buycott aspect of critical consumption with which we are concerned. Other scholars refer to political consumerism (Micheletti, 2003; Stolle, Hooghe, and Micheletti, 2005), ethical consumption (Harrison et al., 2005), and sustainable consumption (Spaargaren, 2003), but the difficulties in defining the boundaries of the political, the subjective nature of the individual beliefs and values that constitute the ethical, and the ambiguity surrounding the constitution of sustainability render each of these terms imprecise for the present study. I therefore adopt Yates’ terminology in the use of critical consumption, which emphasizes the nature of consumers’ critical engagements with the consequences of the production and consumption of goods without limiting such engagement to environmental, ethical, or political spheres. I do, however, find the ‘consumption’ part of this term limiting, as it is not only at points of consumption that actors in the production-consumption circuits of superfoods act critically. Critical activity can take place during production, transformation, marketing, retailing, and other points within the circuit. I will occasionally refer to critical production, which I see as a process deeply tied to critical consumption through feedback loops.

The discursive element of critical consumption is a relatively new addition to the superfoods discourse, and it is not used as consistently as those of nutritionism and primitivism. Critical considerations about social welfare and environmental impacts have, however, become an increasingly significant part of the way in which superfoods are produced, represented, and consumed. This theme has become more

\(^6\) Consumption itself is a slippery concept. In this thesis consumption refers to the appropriation through purchase or other means and any subsequent activity, including personal use or non-use, sharing or gifting, and disposal, of goods or services.
prominent as superfoods have gained popularity and ever more new, exotic superfood products have appeared on the market. Thus the discourse has evolved to emphasise not only the healthfulness, naturalness, and authenticity of superfoods, but also their socially and environmentally responsible provisioning. This may, in part, be a factor of the type of consumer who is drawn to purchase superfood products. Although no data exists describing consumers of superfoods specifically, studies have found that the majority of functional foods consumers are educated women aged 30 to 50 (Schroeder, 2007). A similar demographic slant has been demonstrated in several studies of critical consumers (Andersen and Tobiasen, 2004; Friedman, 1999; Gallego, 2007; Stolle, Hooghe, and Micheletti, 2005; Yates, 2011). In Chapter 7, I present qualitative data derived through focus groups with superfoods consumers, adding to an understanding of superfood consumption behaviour.

While the discourse of critical consumption has certainly made inroads in superfoods representations, particularly in marketing and on product packaging where labels such as ‘fair trade’ and ‘organic’ are prominent, its significance should not be overstated. The dissertation data indicates that critical consumption has not had as much influence as expected, particularly among consumers, suggesting that superfoods remains primarily a discourse about individual health. These findings are consistent with previous scholarship that indicates that consumers frequently prioritise health in relation to long-distance ethical issues, and identifies a disjuncture between ethical ideals and practices (Carfagna et al., 2014; Johnston, 2008; Szasz, 2007; Willis and Schor, 2012). This disjuncture can be better understood by briefly considering a cultural phenomenon that has much in common with superfoods: the rise of ‘foodie’ culture.

In their book *Foodies: Democracy and Distinction in the Gourmet Foodscape*, Johnston and Baumann (2010) describe foodie culture as the modern-day answer to the gourmet culture of yesteryear. Like gourmets, foodies are intensely concerned with good food – learning about it, identifying it, preparing it, discussing it, and eating it – but they reject the elite and snobbish attitude associated with past gourmet cultures. They insist that foodie culture is broadly accessible, because it relies upon having a strong interest – some might even say ‘passion’ or ‘obsession’ – in not only eating, but also learning about, good food. Yet as Johnston and Baumann demonstrate, foodie culture ‘has emerged at the crux of an ideological tension between two competing poles: A democratic pole that eschews elite cultural standards and valorizes the cultural products of “everyday” non-elite people, and a pole of distinction that continues to valorize standards that are rare, economically inaccessible, and representing significant amounts of cultural capital’ (2010: 61). Through this tension between democracy and distinction, products seen as ‘authentic’ or ‘exotic’ come to have value because of both their non-elite origins, often associated with ‘traditional’ or ‘peasant’ cultures, and the degree of cultural (and sometimes economic) capital necessary for a Western consumer to access and appropriately consume them. Heldke (2003) refers to this preoccupation with ‘authentic’ and ‘exotic’ food, often associated with ‘ethnic’ or indigenous populations, as ‘cultural food colonialism’, drawing an association between practices of ‘food adventuring’ and deeply entrenched colonial attitudes of appropriation and economic subordination. While genuine human connection may indeed be found by sharing foods across cultures, she argues that food adventuring risks becoming a form of cultural colonialism when it is
‘motivated by a deep desire to have contact with, and to somehow own an experience of, an Exotic Other, as a way of making [one]self more interesting’ (2003: xvi).

Like superfood consumers, foodies are indeed increasingly aware of the systemic social, environmental, economic, and cultural exploitation and appropriation that make many ‘exotic’ and ‘authentic’ foods available to them. Yet foodie discourse, particularly as it is presented in the media, tends to simplify these issues by framing the solution to such ethical dilemmas in terms of changing individual consumption habits: ‘Rather than highlight the complexity of these issues, the consumer-ethics framing commonly works to resolve such tensions by offering simple, clear prescriptions to ease a conflicted foodie conscience, while still allowing for the maximization of delicious eating’ (Johnston and Baumann 2010: 149). While Johnston and Baumann certainly commend this growing consumer attention to the political and ethical dimensions of eating, they are wary of the limitations of the consumer-ethics frame, because ‘the framing of these issues predominantly as a matter of individual consumer ethics and shopping choice…works to lessen collective understanding of the severity of environmental problems in the food system, and mitigate the need for collective action above and beyond individual commodity consumption’ (2010: 153).

Similarly, superfoods discourse presents critical consumption as a win-win solution that benefits the environment, distant producers, and the health of Western consumers. But in practice, this sub-theme of critical consumption is often in tension or subservient to other concerns such as health, taste, price, and convenience. For the foodies Johnston and Baumann interviewed, ‘individual consumer ethics permit the entry of other considerations beyond cost, taste, and convenience’, but ‘they do not trump consumer concerns’ (2010: 153). In her book Food and the Self: Consumption, Production and Material Culture, de Solier (2013) argues that the prioritization of personal over ethical concerns, even among those with stated ethical commitments, is due to the fact that critical consumption is situated within what she terms ‘morailities of self-making’. Ethics, she explains, ‘refers more to a direct concern for others – indeed, putting the interest of others before those of the self – and morality is concerned with more general values of good and bad, or right and wrong behavior’ (2013: 5). Foodies engage in processes of self-making through the consumption of food and food culture, and they strive to construct a moral self concerned with ‘good’ food. But ‘good’ food is a broad category, and notions of what makes food ‘good’ are often in tension with one another. For the foodies in de Solier’s study, food shopping is guided by a ‘morality of quality’ that incorporates ethical and political concerns but ultimately subordinates them to other factors such as taste and rarity. Similarly, as we shall see in Chapter 7, superfood consumers are governed by a ‘morality of healthfulness’ that provides a framework for weighing competing claims about what makes a food ‘good’.

**History of Superfoods Discourse**

The word superfood itself predates the way in which it is used in contemporary discourse. This section provides an examination of its evolving usage throughout the twentieth and early twenty-first centuries to show how it moves from a general concept of highly nutritious foodstuff to acquire specific connotations over time.
Early Uses of the Term ‘Superfood’

The *Oxford English Dictionary* indicates that the word ‘superfood’ was first used in 1915, when an article in the Kingston, Jamaica newspaper the *Daily Gleaner* stated, presumably satirically, that ‘He had changed the tenor of his mood, And [sic] wisely written wine as super-food’ (OED online, 2014). The digitised newspaper collection of the National Library of Australia, which is searchable through the database *Trove*, provides a good reference for investigating the historical use of the word in the twentieth century in Australia. The oldest Australian reference I have located through this collection is also satirical, and is found in an article titled ‘Turn Waste to Wealth: A Plea for Prohibition’ published in the *Newcastle Morning Herald and Miner’s Advocate* in 1916. In the article, a Martian visiting earth is surprised at the amount of money spent on alcohol, and asks the earthlings, ‘May I assume that it is indispensable? It is obviously some form of super-food without which your people cannot fight or work’. In both of these articles, the concept of ‘super-food’ is fictional, but refers to a highly nutritious food, with no indication as to whether such a food occurs in nature or is developed with the assistance of human technology.

The word appears infrequently in the following decades, and is used in several different ways. The first is in advertising, and is used to refer to processed foods that are portrayed either as nutritious, such as a 1924 advertisement for raisin bread in *The Argus*, or as a complete meal, such as a 1928 advertisement for K. R. Camp Pie in *The Brisbane Courier*. In 1929, a beekeeping columnist in the Tasmanian newspaper *Huon Times* writes about royal jelly as an human superfood, and discusses scientific studies on its efficacy. This is the earliest reference that I have found using the word superfood in a manner similar to its current usage, by referring to a singular food item existing in nature – that is, not a food developed through the intervention of human technology – that has nutritional and/or medicinal benefits as verified by science.7

An interesting case of the use of the word superfood that foreshadows the contemporary functional foods trend is found in a short article published in 1943 in the New South Wales newspaper *The Farmer and Settler*. The article, titled ‘Medicine in Eggs’, reads as follows:

> Food is the fuel that keeps the body working, and medicine is the means of adjusting faulty working of the body; accordingly deficiencies in food have to be made up by the medicine and in many cases the demarcation line between food and medicine is very indefinite.

> If the product of the fowl, the egg, is deficient in food qualities the consumer suffers, but, correspondingly, if the egg carries higher special qualities it may be a super-food – or in some cases a medicine.

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7 As illustrated previously, the nature/technology dichotomy is problematic; however I aim to distinguish between foods with very similar wild ancestors, such as the cranberries, maca, and chia studied here, and those foods that have been manipulated in more obvious ways, by processes such as fortification, hybridisation, and genetic engineering.
The article discusses research to develop eggs with high vitamin and mineral contents, which they argue will provide these nutrients to human consumers in an easily digestible form. The article uses a body-as-machine metaphor, whereby food becomes fuel and medicine becomes a tool for mending a broken human machine. This metaphor is one of the rhetorical tropes often found in contemporary accounts of superfoods and is employed in the nutritionism discourse (Jacobsen, 2004; Scrinis, 2013). The story also foreshadows the trend of enriched foods – of which eggs are but one example – that forms one type of functional food popular today. Similarly, a 1976 article in the Canberra Times describes the development of triticale, a 'new man-made crop, a cross between wheat and rye...described by outsiders as a high-protein superfood that could soon banish starvation'. Again, this is an example of the use of the word superfood to describe what today would be grouped more broadly under the functional food category, but would not be called a superfood because it is a product of human technological intervention.

Another case of the use of the word superfood to refer to human-created functional foods is found in a 1987 feature in The Canberra Times, which uses the word 'superfoods' to refer, rather critically, to new developments in food biotechnology, including the controversial cattle growth hormone bovine somatotropin (BST) and genetically modified grains that produce higher yields and are herbicide resistant. This same usage appears again in two articles in the early 1990s. In a 1992 Wall Street Journal article titled ‘Report aims to whet palate for superfood’, the word superfood refers to ‘bioengineered food’, and a 1993 article in Self magazine uses the word superfood interchangeably with the word nutraceutical to describe a process by which ‘food scientists are removing nutrients from foods we do not want to eat and placing large doses of them in processed foods we do want to eat’. This meaning of superfood, as nutraceutical or technologically altered food, peters out over the next decade as the word takes on a ‘natural’ association.8

In 1979, the Australian Women’s Weekly published a piece titled ‘Overweight: The Latest Research’ which includes a section with the subheading, ‘Ten Foods for Longer Livelier Lives’. This article resembles many contemporary pieces in that it presents a list of ‘10 superfoods that can add anywhere from 15 to 30 years to your life’. The list includes ‘skim milk, bananas, potatoes, tomatoes, spinach, fish, whole grain cereal, citrus fruits, beans and polyunsaturated vegetable oil’. The superfood status of each food is substantiated using a discourse of functional nutritionism, highlighting not only the significant nutrients in each food but also the health impact of each nutrient. For example, whole grain cereals are described as ‘high in fibre content which keeps your intestines in good shape’ while ‘the vitamins A and C found in tomatoes are invaluable in keeping your skin and scalp healthy, and help reduce stress’. While there may be some differences in content between this and similar types of lists that begin to proliferate several decades later, this article is the first of a genre.

8 Two exceptions to the abandonment of the meaning of superfood as technologically altered food are the books Superfoods: Genetic Modification of Foods by Sally Morgan (2002) and Superfood or Superthreat: The Issue of Genetically Engineered Food by Kathlyn Gay (2008). Thus this usage does not disappear completely, but it largely gives way to a meaning that is associated with naturally occurring foods.
Only a handful of articles and books using the word superfood appear throughout the 1980s, but they similarly set the tone for the way in which the concept develops in the 1990s. For example, in a piece published in Glamour magazine in 1986, broccoli is called a ‘glorious new superfood’ and ‘one of nature’s unheralded greats’. The article states that ‘though broccoli has been around a long time, what we are learning about its nutritional impact does make it one of the new superfoods’. The article cites information about broccoli’s nutritional profile, including its content of vitamin A, vitamin C, calcium, phosphorus, thiamin, niacin, iron, protein, and dietary fibre, and also references the National Cancer Institute’s recommendation that the risk of colon cancer may be reduced by eating cruciferous vegetables. Thus the piece develops some of the tropes that begin to arise around superfoods: they are ‘natural’ foods, their health benefits are verified by nutritional science, and they can play a role in disease prevention or impart a particular health benefit.

Books about superfoods begin to appear in the late 1980s and increase in number throughout the 1990s. Examples include The Superfoods Diet Guide: The Best Foods and Key Vitamins for Better Health published by Prevention magazine in 1987, Michael van Straten and Barbara Griggs’ 1990 Superfoods and 1992 The Superfoods Diet Book, and Delores Riccio’s three titles: Superfoods: 300 Recipes for Foods that Heal Body and Mind in 1992, Superfoods for Women: 300 Recipes that Fulfill Your Special Nutritional Needs in 1996, and Superfoods for Life: 250 Anti-Aging Recipes for Foods that Keep you Feeling Fit and Fabulous in 1998. These books all advocate a diet of unprocessed whole foods for general health as well as providing information on the specific nutrient content and disease-fighting properties of individual foods. The foods that they describe under the name superfoods are foods familiar to most Western readers: fruits such as apples, apricots, bananas, and berries, vegetables such as peas, peppers, and potatoes, animal products such as fish and yogurt, and other staples such as lentils, oats, and olive oil. Similarly, many magazine articles from this period focus on the scientifically verified health benefits and disease fighting properties of familiar whole foods. From 1995 to 1997, Prevention magazine published a series of short articles featuring a different ‘superfood’ in many issues. These articles describe the nutritional qualities and health benefits of common foods, and include recipes for preparation. Foods profiled in the series include oatmeal, watermelon, pomegranate, prunes, watercress, tofu, lentils, carrots, and cranberries.


The concept of superfoods as we know it today is substantially different from the concept introduced to readers in the late 1980s. A comparison between early books on superfoods and more recent popular titles allows us to see how the discourse has evolved over time. To this end, I have undertaken discourse and thematic analysis of superfoods books published from 1987, when the first book explicitly about superfoods appeared, to 2012, when this research began (Belsey, 2005; Griffin, 2011). Books were selected through two parameters: their sales rankings on the online media megastore Amazon.com, and their representivity of the entire twenty-five year span with which the study is concerned. Based on these criteria, four books were selected: The Superfoods Diet Guide, published by the editors of Prevention Magazine in 1987; Superfoods, published by Van Straten and Griggs in 1990; Superfoods: The Food and Medicine of the Future, published by David Wolfe in 2009; and Superfood Kitchen, published by Julie Morris in 2012.
The Superfoods Diet Guide (1987) promotes an overall diet of unprocessed whole plant and animal foods, and defends this dietary position using primarily a discourse of functional nutritionism, with a sprinkling of nutritional primitivism. In advocating ‘foods fresh from the supermarket and produce stands’, they point to ‘healthy people like the Eskimos, whose snacks of whale blubber should make them prime candidates for heart disease before 40 but whose fish diet actually seems to protect their hearts from harm’ (Prevention, 1987: 1). This reference to the diet of the Eskimos (Inuit) likely refers to the epidemiologic studies of Greenland Eskimos published by a team of Danish researchers in the 1970s and 80s (Bang and Dyerberg, 1972; Bang, Dyerberg, and Hjorne, 1976; Bang, Dyerberg, and Sinclair, 1980) and reflects the emerging fascination among nutritional scientists with the essential fatty acids and their role in cardiac health. Although drawing upon contemporary nutrition research, this reference is primitivist in its valorisation of indigenous lifestyles, engaging in practices of ‘othering’ by casting Eskimos as a uniform group of ‘healthy people’ and fetishising their ‘fish diet’ while ignoring diversity among the Inuit as well as overlooking enormous health inequalities between Inuit and European populations due to a range of social, economic, and political factors (Knight, 2012b). However, beyond this brief appearance in the introduction, primitivist discourse gives way to a more science-oriented tone throughout the rest of the book.

The Superfoods Diet Guide corroborates primitivist evidence for the healthfulness of superfoods with ‘evidence from the laboratory too’ (1987: 1). Each superfood is described in terms of its nutrient content and the role of these nutrients in health promotion or disease prevention, as this passage on beans illustrates:

If you don’t know beans about beans, consider this: In several tests on patients with high blood lipids (a risk factor for heart patients), a bean diet brought down cholesterol and triglyceride levels significantly, with no serious side effects. Beans are also high in magnesium, a good heart mineral, and the B vitamins thiamine, B6 and riboflavin. They’re also an excellent nonmeat source of iron (1987: 2).

This sort of information is repeated for each superfood. It embraces the paradigm of nutritionism as the primary knowledge framework through which the healthfulness of foods is understood by emphasizing the nutrient content of foods and their impact on health as proven by nutritional science. It also relies on a sense of the functional body, whose health can be improved by the consumption of certain foods as measured by biomarkers. It employs the reductive logic that views foods as the sum of their nutrients and the impact of said nutrients on bodily health, as opposed to other ways of conceiving of healthy eating.

Similarly, Van Straten and Griggs’ Superfoods (1990) brings together discourses of nutritional primitivism and functional nutritionism with a heavier emphasis on the latter. In the introduction, they refer to foods used as medicines in ancient civilizations, such as a mention in the 3,000 year old Ebers papyrus of the use of roast ox liver to cure night-blindness and the ‘daily doses of garlic’ given to ‘slaves who toiled to build the pyramids’ to ‘keep them disease-free at work’ (1990: 8). But they also back up this ancient knowledge with modern nutritional science, stating that scientists have now verified the high vitamin A content of liver and studied the
antiseptic properties of garlic. While they give evidence of ‘the effective food medicines used by people the world over, long before we learned to rely on manmade drugs’, they also emphasize the importance of scientific studies in identifying the mechanisms that make these food medicines so effective: ‘In ordinary everyday foods – carrots, apples, sage, rosemary, onions, celery, beans – scientists are discovering an enormous range of valuable medicinal properties: bactericides, antiseptics, antivirals, stimulants, sedatives, vaso-dilators, hypotensives, antispasmodics, hypnotics, and cardiac tonics, giving scientific validation to the instinctive wisdom of traditional medicine’ (1990: 8). Thus while traditional knowledge influences Van Straten and Grigg’s understanding of superfoods, it is ultimately scientific knowledge that proves their effectiveness. For example, ‘a night on the tiles in Paris traditionally ends with a steaming bowl of onion soup – which actually helps your body get rid of excess cholesterol’ (1990: 9).

In their explanation of why we need superfoods, Van Straten and Griggs draw upon a discourse of nutrient scarcity. ‘Our bodies suffer the daily insult of pollutants, and the stress of food that is often deficient in essential micro-nutrients’ – foods that are ‘the product of agribusiness and global contamination’ (1990: 14). Therefore ‘even if you eat the healthy diet all the experts advise, vegetables, fresh fruit, salads, wholegrains, nuts and seeds, you may be short of the vital nutrients that you think you are getting in abundance’ (1990: 14). They recommend ‘to ensure Super-resistance, you must know how to supplement your diet – not with pills and capsules, but with the Superfoods which are extra-rich sources of the natural goodness we all need’ (1990: 15). The idea that modern diets are insufficient to meet human nutritional needs is commonly employed in the era of functional nutritionism and feeds the demand for supplements, functional foods, and superfoods (Scrini, 2013). But they also employ a discourse of naturalism in favouring the ‘natural goodness’ of superfoods over ‘pills and capsules’.

Books about superfoods published in the 1980s and 1990s rely heavily on a discourse of functional nutritionism and the related discourse of nutrient scarcity. They also employ a nature/technology dichotomy and a sense of nostalgia for a primitive way of life. These discourses are made even more explicit in Wolfe’s *Superfoods: The Food and Medicine of the Future* (2009). Wolfe embraces nutritional primitivism in advocating superfoods because they ‘help to guide us toward a more natural and aboriginal diet’ (3). He points to Chinese medicine, Aztec legend, Andean shamans, and Egyptian beekeepers as inspiring sources of knowledge about superfoods. But he also credits the scientific knowledge of functional nutritionism for ‘finally discovering the power of adding into our diet an entirely new class of foods that benefits everyone with maximum nutrition, protein, flavor, health, energy, as well as minimum calories and no trans-fatty acids’ (2). While he explains that his approach to superfoods ‘approximates what I perceive as the underlying approach of the great Taoist herbal masters of Chinese history, which is to add in the most powerful superfoods and superherbs’ (9), he also provides detailed nutritional scientific information about each superfood that he presents as well as references to scientific studies in the appendix. He uses the language of functional nutritionism, referring to ‘empty calories’ and ‘nutrient density’. He also draws upon a sense of nutrient scarcity, explaining that ‘due to the depletion of nutrients in conventional (and to some degree, even organic) foods, we have continued to turn towards new possibilities for whole and balanced nutrition’ (4). Thus his book follows the pattern
Wolfe’s book differs from the earlier superfoods titles in three ways. The first is by explicitly questioning the limitations of nutritional science, even while drawing upon studies from this field. This is because ‘what we understand about nutrition by listing vitamins, minerals, protein, fats, and carbohydrates on the sides of packages does not give us a complete picture’ (4). He suggests that eating superfoods is a good solution to the incomplete knowledge of nutritional science because they are natural, and thus ‘provide an abundance of synergistic elements in their natural state that work together in the human body in ways that scientists have not yet begun to fully comprehend’ (3). Yet while he keeps nutritional science at a distrustful distance, he relies on it to defend his list of superfoods.

The second way that Wolfe’s book differs from earlier superfoods books is by featuring different foods. Wolfe’s ‘top ten superfoods’ are mostly what I call novel superfoods – that is, foods that were not well known among North American, European, and Australian consumers before being introduced to the market as superfoods. These include goji berries, cacao, maca, spirulina, AFA blue-green algae, marine phytoplankton, aloe vera, and hempseed. He also lists the more familiar foods coconut and bee products, although the latter include familiar products like honey alongside more novel products like bee pollen. Wolfe defines superfoods not simply as highly nutritious natural foods, but as sitting somewhere along a spectrum between ordinary foods and medicines, calling them ‘a class of the most potent, super-concentrated, and nutrient-rich foods on the planet’ (2).

The third difference in discursive; Wolfe adds a discourse of critical consumption to superfoods discourse. Superfoods are foods whose time has come, he argues, because ‘more and more people are opening up to organic foods and natural health’ and therefore ‘we are approaching a critical mass of consumers shifting their purchasing power toward organic products’ (1). Here he employs the logic of political consumerism, in which consumers are seen to cast ‘votes’ with their dollars (Jacobsen and Dulsrud, 2007). But it is not clear from these statements alone whether Wolfe advocates consumer purchasing power of organics for reasons of individual health or social, ethical, or environmental concerns. A few pages later, he makes a more altruistic statement: ‘because superfoods have a high level of inner vitality and life-force energy, they can be grown organically without chemicals or artificial fertilizers. Superfoods are not only great for you, they also help the planet, because their consumption encourages organic agriculture and appropriate use of farmland’ (4-5). However, most of the book focuses on health as the primary reason for eating superfoods, and the discourse of critical consumption is only a minor theme. Further, his argument that superfoods are great for the planet is overly simplistic, ignoring the fact that processes such as packaging and transporting superfoods might also impact the environment in detrimental ways. His argument also does not take into account the social and environmental impacts of production of these novel superfoods in developing countries for Western consumers.

Morris’s Superfood Kitchen (2012) also incorporates a discourse of critical consumption as a minor theme, although she addresses the question in more depth
than Wolfe does. She uses the voting metaphor of critical consumption, encouraging her readers to purchase organic whole foods not only for their own health, but also ‘to send a monetary message to the companies who use chemicals at the expense of public health’ (13). Thus purchasing superfoods becomes an issue of public health and environmental activism. In her ‘Frequently Asked Questions’ section, she examines other issues related to critical consumption, in particular the question of locally grown versus imported foods. She concedes that while she supports the local food movement, most superfoods are not grown locally in North America (where she and, presumably, much of her readership reside). But she gives two justifications for choosing to eat these foods. The first is that if consumers can cultivate more demand for superfoods, many of them could be grown in North America in places where the climate is suitable; thus, ‘when, as consumers, we can prove to our farmers (and our government) that a strong demand exists for these nutrient-dense super-crops, we may see a shift in the foods that are grown locally’ (227). The second justification is that the purchase of fairly traded goods benefits ‘our global neighbors’ and is a practice ‘that often strengthens struggling farming communities, providing stable income for women and families’ (227). Superfoods consumers are therefore construed as activists for social and political issues.

Like previous superfoods authors, Morris defines superfoods in functional nutrition terms with an emphasis on the natural: ‘I personally define a superfood as a natural food containing an exceptionally high nutrient density, as well as phytochemicals and antioxidants’ (5). Nutrient density is central to her definition of superfoods, and she includes an entire sub-chapter on the concept. In this section she puts forth the argument that we need additional sources of nutrition in our modern world because of the imbalances of the modern diet as well as the nutritional insufficiencies of foods grown through large-scale agriculture. She draws upon a discourse of nutrient scarcity to argue that ‘today, more than ever before, we have increasingly urgent reasons to pursue the abundant rewards of superfoods’ (11). In particular, she argues that ‘efforts to increase food production have resulted in natural food that is less nourishing’ (14), but ‘luckily, most superfoods have not been subjected to this methodology, as they have never been popularized by Big Agriculture’ (14). Therefore ‘superfoods are the answer to finding a natural low-calorie source of the nutrition that is desperately lacking in even the best of diets’ (14). She also emphasizes the impact of superfoods on the functional body, explaining that a functional food is ‘a food that supports a well-functioning organism’ and that ‘every superfood fits into this category’ (6). Therefore it is not just their nutrient content that makes superfoods valuable, but the fact that ‘they have a valuable effect on the body as well’ (6).

Morris also employs a discourse of nutritional primitivism in her arguments for superfoods:

I believe that the reason superfoods were so prevalent in the past is largely due to the fact that food was harder to grow and not as readily available, so it only made sense for our ancestors to cultivate crops and forage foods that offered the most “bang for their buck.” And though these cultures may not have had the means to perform fancy scientific testing and medical reviews (measuring the quantity of specific nutrients in a food, etc.), that wasn’t important for their purposes. Instead, these “less sophisticated” cultures were
able to empirically discern which foods made them feel good, have more energy, and perform better – all by simply listening to their bodies. Meanwhile, as modern culture has evolved, our food, ironically, has not. It goes without saying that we have an exciting amount to learn from the simpler, more natural diets of civilizations long before us. (6)

Morris offers no evidence to support her hypothesis that ancient cultures cultivated and consumed more superfoods than we do now in order to more efficiently produce nourishing food. There are myriad other reasons why ancient peoples may have chosen to cultivate particular crops aside from their nutrient density, such as their caloric density or their ability to produce high yields. But as with much nutritional primitivist discourse (and primitivist discourse in general), this statement isn’t really about past cultures. It is about what she perceives to be lacking in modern food and agriculture. If today we cultivate crops that are unhealthy, in the past people cultivated crops that ‘offered the most “bang for their buck”’. If today we are overly obsessed with scientific analysis of our foods, back then people relied on their intuition, ‘simply listening to their bodies’. If today our foods have become too complex and technologically produced, we can look to the past for ‘simple, more natural diets’.

Morris’ book is similar to Wolfe’s in her selection of what she calls ‘specialty superfoods’. These foods are ‘chosen for their efficient contribution to a healthy lifestyle’ and ‘offer nutrition in a dramatically higher concentration than other foods’ (19). Many of these are novel foods, including acai berry, algae, cacao, camu camu berry, chia seed, goldenberry, goji berry, hemp seed, maca, maqui berry, pomegranate, quinoa, sacha inchi, sea buckthorn, and yacon. She also includes some more familiar foods on this list, such as North American berries, flaxseed, green leafy vegetables, mulberry, sea vegetables, and sprouts.

Comparing these books published over more than two decades demonstrates that early superfoods books emphasised functional and natural qualities of foods as a basis for healthfulness, and slowly, as the discourse matured, newer books increasingly emphasised tropes of primitivism and critical consumption. Further, the superfoods concept has broadened from a focus on familiar whole foods to encompass a wider range of novel, more exotic foods. While these changes are at least partly related to selling products, they also reflect some of the concerns and anxieties prevalent in contemporary food culture, such as fears about the environmental and health effects of industrialised agriculture and the unknowability of globalised systems of provision.

Books about superfoods are just one way that ideas and knowledges about superfoods develop and spread. I have used them here because they present themselves neatly for discourse and thematic analysis, and thus allow us to see how the representation of superfoods has evolved over time. In practice, there are many other places where ideas are shared, knowledges shaped, and discourses employed. The rest of this thesis is devoted to a closer look at the practices related to the production and consumption of superfoods and the people whose worlds they shape.
Chapter One lays out the theoretical underpinnings and methodological approaches of this thesis. This thesis is theoretically inspired by Appadurai’s (1986) and Kopytoff’s (1986) suggestion that ‘things’ have social lives, and that tracing the movements of things through space and time reveals the social and material relations that give them their varying meanings and significances. It further draws upon assemblage theory, actor network theory, and circuits of culture theory, to investigate how the particular intersections of ideas, processes, values, things, and people give rise to surprising and unstable forms with often profound ripple effects on the social and material worlds. It employs a case study research design, drawing upon diverse social science methods including ethnography, analysis of historical materials, focus groups, personal interviews, and discourse analysis. Chapter One also introduces the three case studies, each of which revolves around a particular superfood with a distinctive story.

In Chapter Two I introduce the first case study, the American cranberry. While companies search for the world’s next superfood, I investigate the history of a fruit celebrated for its nutritional and medicinal properties long before the concept of superfoods originated. This case study illustrates that the cranberry has a long history of human interaction as a food, medicine, and commodity. It has been produced for exchange since the early nineteenth century and marketed for its health benefits since at least the 1930s. Its early marketing demonstrates the use of nutritionism, as well as the longstanding relationship between scientific research and food and health marketing, two key elements in the construction of superfoods products and discourse today.

While superfoods are celebrated for their scientifically proven health benefits, they also represent a reaction to formulated functional foods designed by food processors to provide additional health benefits. Superfoods are represented as ‘natural’, and marketing material often draws heavily upon this association with natural environments and production methods. Chapter Three problematises this nature/culture divide, arguing that the natural and social worlds are everywhere intertwined. It then provides ethnographic ‘thick description’ of the production practices of three Massachusetts cranberry growers as an illustration of the ways in which the natural and social worlds are mutually constitutive, despite differences in the farming and livelihood-making practices of each grower.

Chapter Four is concerned with the processes of value creation by which the Peruvian root maca has, in a short period of time, been transformed from marginal Andean relic to celebrated global superfood. Value is conceptualised as the product of human creative action, thus synthesising concepts of economic value and social values under a single framework. The interaction between economic value and social values are shown to influence one another through processes of global flows, as people, things, ideas, images, and capital move about the world, at times harmonising and at other times clashing violently.

Chapter Five critically considers applications of primitivism in superfoods representation. This chapter analyses representations of maca on product packaging and websites and contrasts these representations with lived experiences of maca.
production in the central Andes. The chapter shows how an imaginative geography of maca production taking place outside of intersubjective space-time is created as part of a discourse of primitivism and questions how this representation impacts worlds of production. It also locates points of disjuncture within and between knowledge claims on product packaging and websites, suggesting that such disjunctions serve as points of possibility for challenging primitivist representations.

Chapter Six is concerned with the emergence of chia seed as an agricultural product and health food in Australia. This chapter examines the trajectory of chia seed from ancient Mesoamerican staple to popular global superfood and antipodean agricultural industry darling. It employs assemblage theory to show how a number of disparate elements, including the fetishisation of omega-3 fatty acids, the availability of irrigated land in the Ord Valley, an existing body of agronomic and food science research, the ‘lively materiality’ of the chia seed itself, and the agency of farmer, international business scholar, and The Chia Company founder and CEO John Foss, have come together to create a new form: Australian chia. It also considers factors that may impact or support the long-lasting stability of the assemblage.

In Chapter Seven, consumption is put front and centre as I interrogate understandings of superfoods and practices of superfoods consumption among Australian consumers. Using qualitative data from focus group interviews, this chapter identifies a sense of ambiguity around the ways in which superfoods are used and understood, as well as feelings of ambivalence regarding their effectiveness and the trustworthiness of information sources. Superfoods consumers are sceptical, but they continue to consume these products in the hope that they will derive some benefit.

The conclusion argues that the case studies demonstrate a wide diversity of histories, production practices, popularisation mechanisms, and consumer uses among superfoods, leading to the observation that there is no ‘standard’ superfood but rather a range of people, places, plants, and practices that assemble under this banner. They are drawn together by the very quality that makes them such a good object of study, the quality of being-between. Their ability to blur categorical boundaries – between food and medicine, nature and culture, science and tradition, ethics and economics, social values and capitalist value – is the source of their power. Drawing from my research on superfoods, I develop a framework of being-between in order to support future research into how in-between (food) objects illuminate the particular anxieties and challenges that characterise contemporary (food) culture.
Chapter 1 – Theoretical and Methodological Foundations

The term ‘superfood’ defies precise definition. It is not a legal or regulatory category as are ‘organic’ or ‘fair trade’, nor is it widely used by scholarly convention as is the term ‘functional food’. It appears prominently in marketing, on food packaging, and in the media. This study does not seek to define the term; rather, it aims to understand how it has come to represent a group of health food products, the ways in which these foods are used and what they mean to both traditional and new consumers, and the various transformations that have accompanied the transition of local staples into global agricultural commodities. The study contends with two understandings of superfoods: first, as a discourse about food and health, and second, as a number of distinct and separate foods. From a theoretical perspective, superfoods are an interesting case study because they alternately – and sometimes simultaneously – act as commodities and as foods. They cannot be fully understood within a single rubric; therefore this study draws upon theoretical foundations in both commodities studies and agro-food studies.

The conceptual starting point for this project is the group of superfood products as they appear in the Australian marketplace. It is in this setting that these historically diverse foodstuffs come together with shared meanings. Yet this embodiment represents only one temporal and geographical moment in a greater narrative. These foods have not been, are not always, and may not always be superfoods.

In a historical sense, before they came to be superfoods, these things were plants (and sometimes animals). They had interactions with people as foods, medicines and in other applications such as building materials. So too do they differ in a geographical sense; their uses and meanings are significantly different in their places of origin than at new sites of consumption. Further, they have had to travel across significant distances to arrive on the Australian market. In a material sense, they have been transformed by various food processing technologies and packaged in different ways. Finally, in a cultural sense, these staple foods and medicines have been re-imagined and symbolically constructed as products for health-conscious Western consumers. However, even purchase is not an endpoint. Superfoods acquire new meanings when consumers take them into their homes and put them to various uses, which in turn influences other stages in the life of the food in a constant feedback loop (Wilk, 2004).

Superfoods, then, are at once ancient and modern, local and global, natural and processed, material and symbolic. They are products of tradition and technology, politics and culture, health and aesthetics. In challenging these dichotomies, they provide an example of the problematic nature of polarized understandings of food and our complex relationships with it, and they enable a nuanced exploration of the tensions that pull at contemporary global food and commodity networks.

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9 Superfood products also appear in many other countries, but this study limits its focus to the Australian marketplace as explained below.
The Biography-of-Things Approach

In order to understand not only the transformations of superfoods as both commodities and foods but also the ways in which their meanings are negotiated (thus leading to further transformations), this project adopts a biographies-of-things approach. This method is appropriate because it is ‘things’ that are at the centre of this story. Following them and their transformations as they move through space and time, in and out of the commodity state, reveals the roles of different actors, events, and forces in shaping their evolving uses and meanings (Figure 1).

Figure 1: Biography-of-things approach: Superfoods at the centre

The biographies-of-things approach is based on Appadurai's (1986) and Kopytoff's (1986) influential essays developing a new method for the study of commodification in *The Social Life of Things*. Appadurai argues for a biographical approach to things in motion, shifting attention from the function of exchange to the things themselves that are being exchanged. In tracing the biography of things, he recognizes that at some moments and places they are commodities, at others they are not – in other words, they don’t always have exchange value. Thus being a commodity is not an inherent quality of a thing; rather, it is socially imposed. Tracing the movements of things across time and space as they move in and out of the commodity state reveals insight into the social and cultural processes that give things value, as well as the links between different cultural arenas.
To this approach I add the argument that the things in question need not be considered as static or homogenous entities. In the case of superfoods, the changing material properties of and variations among the objects of study are of equal significance to the social meanings imposed upon them. It is not just the movement of foods, but the influences that humans have upon them that is the object of this study. As de la Peña and Lawrance argue, 'by jointly considering mobile foods and their human communities (at points of origin and consumption), we break free from notions that commodities have had their truest, or most profound, influence when they remain single objects moving through space unencumbered by the impact of humans' (2012: 5). The ways in which humans and superfood 'things' interact is a particularly important aspect of this study precisely because these things are also foods that exist within a global, industrialised food system, which I discuss in detail below.

As sites of production and consumption move both geographically and conceptually farther apart through increasingly complex systems of provision described under the globalisation rubric, tracking commodities in motion seems an especially relevant approach. The question at stake is the cultural dimension of globalisation; the method is to follow the movement of things in order to reveal 'the social relations and material linkages that this movement creates and within which the value of commodities emerges' (Foster, 2005: 285). The biographies-of-things method is concerned with the multiplicity of meanings acquired and constantly renegotiated by actors at all stages of the life of the thing as it moves about the globe. These shifting meanings are significant not just as social reproduction but also in how they inform value creation and thus the distribution of wealth.

**Studying Global Commodities-in-Motion**

Scholarship adopting a biographical approach to studying globalisation through commodities in motion is typified by three theoretical approaches: global commodity chains, cultural commodity circuits, and hybrid commodity networks. While recognising the significant contribution of the former to the political-economic understanding of commodity circulation, this study is theoretically oriented towards the latter two methods because of their emphases on local social contexts. Both of these approaches challenge the global/local dichotomy by recognizing that action and value creation always occur locally, yet each local context constantly informs, shapes, and supports the others. The hybrid commodity network approach is useful in understanding the construction of superfoods collectively as a type of commodity and distinctive discourse. The ways in which the uses and meanings of each superfood product are constructed and negotiated is better understood through the cultural commodity circuits approach. Therefore, this study combines elements of both approaches.

**Global Commodity Chains**

Global commodity chains (GCC) provide a political-economic model for understanding the connections between production and consumption. Based upon Wallerstein's world-systems theory that defines a commodity chain as 'a network of
labor and production processes whose end result is a finished commodity’, this approach focuses on vertically oriented production-distribution-consumption structures and traces linear connections (Hopkins and Wallerstein, 1986: 159). Proponents contrast ‘core’ areas of consumption with ‘peripheral’ areas of production. The GCC model explains how the shifting of competition and risk to ‘peripheral’ regions as sites of production for controlling firms in the ‘core’, where value is accumulated, leads to economic inequality (Hughes and Reimer, 2004: 287).

The strength of the GCC approach is its emphasis on the politics of value creation and distribution. Analysis of buyer-driven commodity chains has done much to identify causal mechanisms by which the developing world is exploited. However, the method is limiting in that it views consumption only as a starting point through which to trace its adverse effects in areas of production, rather than as a creative process which influences other stages in the life of the commodity (Leslie and Reimer, 1999). For the present study, the GCC view of consumption is insufficient to reconcile the fragmentation of knowledge, power, and value creation throughout multiple sites in the commodity’s circulation. Further constraints of the GCC model include its linear approach and lack of attention to cultural and geographical factors (Hughes and Reimer, 2004: 3). Similarly, Cook, Crang, and Thorpe (1996) criticise the macro-economic bias of the method for focusing on large-scale production at the expense of local cultural richness. While the method’s goal is identifying sites at which exploited parties can add value and therefore increase their share of the economic pie, it demands a focus on exchange value over use value. Ignoring the uses to which the consumer puts the product and the new meanings that arise as a result obscures the processes by which consumption informs production, a key theme for the present project (Foster, 2005).

**Cultural Commodity Circuits**

The cultural commodity circuits\(^{10}\) (CCC) approach directly addresses the idea of value creation as a multifaceted social process. It is concerned with understanding contextual meanings assigned to commodities at the various times and places where value is articulated (Cook and Crang, 1996; Jackson, 1999; Jackson and Taylor, 1996; May, 1996), and is grounded in an anthropological understanding of material culture as both a product and a reflection of social context (Miller, 1987). This method treats the movements of commodities as nonlinear, removing the dichotomy of production and consumption as endpoints. However, the circuit is more than a loop, as it implies interdependencies between various points of value creation. It points to ways in which meanings expressed at all stages of the life of the commodity inform and reshape each other. Within this production-distribution-consumption circuit, the uses, meanings, and values of commodities are negotiated.

\(^{10}\) This approach is alternatively called ‘circuits of culture’ by Cook & Crang (1996), ‘commodityscapes’ by Foster (2005) in reference to Appadurai’s (1990) concept of cultural flows as ‘perspectival constructs’, and ‘commodity circuits’ by Hughes and Reimer (2004), among other terminology. I’ve combined keywords to create a term that recognizes what I see as the significant features of the approach: its emphasis on the cultural, its focus on commodities, and its (roughly) loop-shaped structure.
With production no longer privileged as the key site in the biography of the commodity, the significance of other sites in determining value emerge. Cook’s (1994) discussion of the role of supermarket executives in the symbolic construction of tropical fruit in the UK demonstrates an example of value creation through intensive marketing activities. Further, he reveals that the significance of tropical fruits to executives is more than producing profit; it also allows creation of a point of differentiation for the supermarket. Thus the executives continue to intensively market such fruits through processes of constructing consumer knowledge even without seeing direct economic returns. Once the consumer is convinced not only to shop at Tesco’s but also to buy that mango, what she does with the fruit becomes part of the conversation. CCCs recognise that commodities are often put to different uses and given different meanings by consumers than those intended by producers. This recognition is based on an understanding that consumption is ‘...neither a terminal nor a passive activity, but is itself a source and site of value creation’ (Foster, 2005: 288).

In contrast to GCCs, CCCs do not aim to unveil processes of exploitation. Instead the framework takes a cultural geography approach in suggesting a process of displacement, whereby through the movement of the commodity from one site to another, new uses and meanings arise in a contextual manner. Further, the process of displacement implies that while use is contextual, various contexts influence each other by shaping cultural and geographical knowledges and their representations (Crang, 1996). Drawing upon this concept, Cook and Crang's ‘circuits of culinary culture’ view food commodities ‘not only as placed cultural artefacts, but also as displaced, inhabiting many times and spaces which, far from being neatly bounded, bleed into and indeed mutually constitute each other’ (1996: 132-133).

**Hybrid Commodity Networks**

The hybrid commodity network (HCN) approach is similar to that of CCCs in its recognition of the significance of local contexts and the ways in which these various contexts shape each other. Similarly, its goal is to produce a more horizontal, less hierarchical model of commodity circulation that recognizes the multi-directional flows of knowledge and value. Rather than a linear or circular model, this framework uses the image of a network connecting the various actants (a term developed by Latour (1993) to refer to all agents, human or otherwise, enrolled in a network) involved in processes of production and consumption in a web of interdependence.

The HCN approach draws heavily upon actor-network theory (ANT). This approach was developed in the context of the sociology of scientific knowledge, and it proposes as a primary tenet that agency in the network is driven not only by humans but also

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11 Cook and Crang (1996: 147) suggest that ‘a complementary set of critical approaches may therefore be to focus less on deepening and thickening superficial consumer knowledges, and more on working on the surfaces that commodities have.’

12 Again this is my own terminology. Hughes and Reimer (2004) refer to ‘commodity networks’ while Foster (2005) uses the term ‘hybrid actor networks’. The key concepts here are the focus on commodities, the image of the network, and the hybrid influence of both human and non-human forces.
by non-human agents. It holistically includes people and their organisations, such as firms or governments, as well as the material characteristics of things, in considering the shape, length, stability, and evolution of the network. The second tenet of actor-network theory is that networks are always localized, in that they are only knowable by their actions at specific places, and therefore only global in the sense that they physically extend across space in practice (Murdoch, 1997). In attempting to trace the nodes of the network, ‘one never crosses the mysterious lines that divide the local from the global’ (Latour, 1993: 121).

Both of these tenets seek to break down binary notions of local and global (or core and periphery) and of human society and the natural world. An excellent illustration of the latter is Busch and Juska’s (1997) study of the Canadian rapeseed oil network, in which they identify the material property of erucic acidity present in rapeseed as a key actant in shaping the network. Other key actants in this narrative include the Canadian Defence Board, whose post-World War II intention was to produce a self-sufficient vegetable oil market, scientists who worked to breed Low Erucic Acid Rape (LEAR), and the opening of the Japanese market to imported oilseeds in the 1970s. Similarly, Callon’s (1986) study of three marine biologists’ attempt to revive the scallop population of St. Brieuc Bay identifies the declining scallop population of *pecten maximus*, the body of local fishermen and their representatives, and the researchers’ scientific colleagues as equally crucial actants whose enrolment in the network must be procured and repeatedly renegotiated in order for the project to proceed. Each actant, then, is itself the product of historical, cultural and environmental factors, and the network as a whole is only able to perform in the precise way that it does because of their interdependency. This example demonstrates two key elements of networks: their hybridity, and their connectivity – or, as Callon and Law (1995) put it, hybrid *collectif*.

Actor-network theory, as applied to globalisation, provides an explanation for action at a distance that removes the locus of power from monolithic forces such as nation-states or transnational corporations. It is the lengthening and strengthening of networks that creates a sense of global reach and of unified geographical space. For example, Law (1986) explains fifteenth and sixteenth century Portuguese trade expansion in terms of a network consisting of situated elements: documents such as maps, navigational devices such as quadrants, and ‘drilled people’ such as navigators. These elements held together a network that ‘arrange[d] matters so that a small number of people in Lisbon might influence events half-way round the world and thereby reap a fabulous reward’ (1986: 235). Hence networks are ‘by nature neither local nor global, but more or less long and more or less connected’ (Latour, 1993: 122).

Whatmore and Thorne’s (1997) application of actor-network theory to the UK-Peru Fair Trade coffee network demonstrates the centrality of connectivity to the success of a global alternative food network. They demonstrate that while the ways in which this alternative network lengthens its reach are similar to those of the mainstream coffee network, the key difference ‘is how they strengthen relationships amongst formerly “passive” actants in commercial networks – the producers and consumers – through a mode of ordering of connectivity which works for non-hierarchical relationships framed by “fairness”’ (1997: 301). The promise of such findings is the recognition that global reach is not only the domain of TNCs but is the social
composite of the actions of many actants. Commodity networks that attempt to address asymmetries of power can exist as strong entities alongside commercial food networks by considering how to strengthen connectivity.

One risk of relying too heavily on the HCN approach in this project is the possibility of missing the significance of key personalities in the development of superfood commodities. Raghuram (2004) takes issue with all three frameworks for assuming a Marxist view of commodity culture in which labour is always alienated from production, assuming that producers are never consumers and vice versa. She adopts a personal biography approach, tracing the story of a South Asian female entrepreneur in the UK, in order to reveal the complex agency of those who may appear on the surface to be passive producers or consumers. While this project does not directly adopt Raghuram’s approach, it does recognize that power is not always equally distributed throughout the network, and that the role of each actant cannot always be reduced to a single stage in the life of the commodity. Therefore, some actants have received more attention than others in both the research and reporting stages in accordance with the weight of their influence on the food in question. The flexible nature of the research design, as discussed below, has enabled me to determine which actants required greater scrutiny as the research progressed. Further, while I have looked to the HCN approach in explaining the construction and reach of superfood commodity networks, this research also encompasses the CCC understanding of the ways in which meanings and uses across time and space inform one another. By doing so I intend to reduce the limitations of both approaches.

A further theoretical approach closely related to HCNs is that of assemblage, a concept derived from Deleuze and Guattari’s (1987) anti-structuralist account of the social world and developed through an ‘after networks’ literature (see Hetherington and Law, 2000). Like HCNs, assemblage theory focuses on heterogeneity and hybridity, attributing agency to human, multi-human, and non-human entities. Yet the approach differs from those employing images or metaphors of networks; assemblage ‘seems structural, an object with the materiality and stability of the classic metaphors or structure, but the intent in its aesthetic uses is precisely to undermine such ideas of structure’ (Marcus and Saka, 2006: 102). Underpinning the concept of assemblage is the verb ‘to assemble’; thus as an analytical approach it stresses process rather than form. The act of gathering disparate elements requires work, as Anderson and McFarlane observe: ‘assemblage emphasises gathering, coherence, and dispersion. In particular, this draws attention to the labour of assembling and re-assembling sociomaterial practices that are diffuse, tangled and contingent’ (2011: 124-125). Assemblage also emphasises emergence and decay, recognising that even as elements assemble they maintain their heterogeneity and promiscuity in ways that influence the enduring stability or instability of the assemblage. Scholars across the humanities and social sciences have embraced assemblage theory ‘as a broad descriptor of disparate actors coming together, as an alternative to notions of network emerging from actor-network theory, as a way of thinking about phenomena as productivist or practice-based, as an ethos that attends to the social in formation, and as a means of problematising origins, agency, politics, and ethics’ (Anderson and McFarlane, 2011: 126; see, for example, Bennett, 2005; Henry and Roche, 2013; Le Heron, Le Heron, and Lewis, 2013; Li, 2007; 2014; McFarlane, 2009). I have found assemblage to be a useful analytical approach to
studying the emergence of Australian-grown chia seeds as a distinctive form, and thus elaborate upon the concept and its applications further in Chapter 6.

Multi-Locale Ethnography

The theoretical methodology for this study is multi-locale ethnography, an approach conceptually and ideologically derived from the application of world systems theories such as those explained above to the anthropological method. This emergent mode of ethnography ‘arises in response to empirical changes in the world and therefore to transformed locations of cultural production. Empirically following the thread of cultural process itself impels the move toward multi-sited ethnography’ (Marcus, 1995: 97). In tracing and translating both the material and cultural production of superfoods, this approach is attractive not only because it allows me to ‘follow the thing’ but also because it is both contextual and culturally focused.

One strength of the multi-sited ethnography approach is its ability to break down notions of monolithic global cultural production into a web of distinct yet overlapping local sites at which meanings and values are negotiated and redefined. It is a useful approach in moving beyond what De la Peña and Lawrance (2012: 10), in response to Ritzer (1993), term the ‘McDonalization of Everything narrative’ to a more nuanced understanding of why and how people adopt and adapt food and other cultural practices with external origins. A key example of the application of this approach is the collaborative ethnographic work-in-progress on denim. By conducting ethnographies of denim across sites in Brazil and in the UK, Miller and Woodward have shown variation in use and meaning of an object often either taken for granted or viewed as a symbol of ‘Americanisation’ (2007).

Cook (1994; 2004) also takes up the multi-locale ethnography approach in his work on symbolic construction and representation of knowledge surrounding the global trade in tropical fruit. In one study, he uses what Marcus (1995: 110) calls ‘strategically situated (single-site) ethnography’ to illustrate connections between UK supermarket executives and geographically distant growers of tropical fruits (Cook, 1994). His more recent essay juxtaposing moments in the lives of people tenuously connected across time and space by the papaya network tactically employs the multi-sited ethnography method with the explicit intention of provoking ‘moral and ethical questions for participants in this exploitation who might think they’re decent people’ (Cook, 2004).13

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13 This ‘follow the thing’ approach is seen among journalistic accounts of food, although with the significant difference that journalists need not always disclose their methods and sources. For example, see Arthur Allen, *Ripe: The Search for the Perfect Tomato* (Berkeley: Counterpoint, 2010), and Michael Pollan, *The Omnivore’s Dilemma: A Natural History of Four Meals* (New York: Penguin Press, 2006). Conceptually similar but employing different methods are historical food studies focusing on a single commodity; a few examples include Mark Kurlansky, *Salt: A World History* (London: Vintage, 2003), Mark Kurlansky, *Cod: A Biography of the Fish that Changed the World* (New York: Walker and Co., 1997), Andrew F. Smith, *The Tomato in America: Early History, Culture and Cookery* (Columbia, S.C.: University of South Carolina Press, 1994), John Reader, *The Untold History of the Potato* (London:
Ethnohistory

In explicating methodology for multi-sited ethnography, Marcus references Mintz’s (1985) Sweetness and Power as ‘an exemplar of the “follow the thing” technique, but also within a conventional political economy framework that depends on a master historical narrative of the workings of colonialism and capitalism’ (1995: 107). As Marcus and Mintz suggest, I cannot consider the development of superfood commodities without examining their historical significance. In Mintz’s historically informed anthropology, or culturally informed history, he proposes that one cannot do without the other:

Social phenomena are by their nature historical, which is to say that the relationships among events in one ‘moment’ can never be abstracted from their past and future settings. Arguments about immanent human nature, about the human being’s inbuilt capacity to endow the world with its characteristic structures, are not necessarily wrong; but when these arguments replace or obviate history, they are inadequate and misleading. Human beings do create social structures, and do endow events with meaning; but these structures and meanings have historical origins that shape, limit, and help to explain such creativity. (1985: xxx)

As this argument suggests, superfood commodities arise out of historically situated relationships between plants and people. Therefore this study includes a cultural reading of historical texts for evidence both of the uses to which the selected plants were put, and the meanings that these uses may have implied. The intention here is more than to establish a baseline against which to measure contemporary uses and meanings. It also is to reveal the events, relationships, and distinct set of both natural and human factors that underlie the transformations of these substances.

In constructing a cultural history of old world foods and medicines, I look to Coe and Coe’s (1996) ethnohistory of chocolate as a model. This work engages with archaeological sources, Mesoamerican historiographies, pre-contact Codices, reports of Spanish explorers, and ethnographies written by missionaries, among other sources. This text is exemplary because it describes not only how pre-contact Mesoamerican peoples used chocolate, but also what this substance meant to them. For example, they examine Aztec chocolate use in regard to class differentiation, economics, and religious ritual. While the historical sources for each of my case studies are generally not so rich or extensive as those available for cacao – or, in the case of cranberry, of quite a different nature – I do refer to Coe and Coe’s approach in their interpretation.

The other aspect of Coe and Coe’s work which informs the present study is their explanation of how chocolate came to be accepted as a food in European cuisines. According to Coe and Coe, its integration required not only transformation to suit European tastebuds, but also acceptance within the prevailing health and medicine

paradigm of the day, the humoral system.\textsuperscript{14} They report that Europeans first accepted chocolate as a medicine, but before long it was ‘...appreciated for its taste, its filling nature, and its stimulation’ (1996: 126). The similarity to the integration of superfoods via their validation through the current nutritionism paradigm is striking. Therefore one way in which superfoods may gain acceptance and come to be understood is through their association with scientifically proven nutrient content and/or health benefits. However, Coe and Coe’s interpretation is not uncontested; Norton (2008) argues that the European acceptance of chocolate represents a gradual internalisation of Native American aesthetics, and reminds us that the integration of novel foodstuffs is rarely a one-dimensional process. Similarly, it is not nutritional science alone that supports superfoods’ popularity, but rather a combination of frameworks through which a food is valued.

\textbf{Contextualizing Superfoods within the Global Food System}

The subjects of this research are not just any commodities, but edible – and sometimes medicinal – substances. Therefore I must engage with literature on food in a post-industrial world. Several assumptions underpin contemporary understandings of the global production, distribution and consumption of food, and these require attention in order to move forward with this project.

Globalisation of the food system, in terms of the widespread exchange of culinary knowledge (and, to a much more limited extent, food ingredients), is not in itself a new process. Human societies have been sharing foods and preparation techniques for as long as they have moved from one place to another. But the scale of exchange within preindustrial food systems was limited by the cost of transportation, the difficulty of preservation and the time required for international communication. The contemporary globalized food system as we know it – both in scale of production and complexity of linkages throughout its networks – is indebted to social and technological changes brought about through industrialisation (Sobal, 1999). The globalised food system is understood as a recent historical development, dependent not only upon technological innovations such as those which increased durability of foodstuffs, but also changing social and cultural assumptions, for example increased consumption of fresh produce in developed countries (Friedland, 1994; Sobal, 1999).

A significant impact of the transformative processes that have their origins in industrialisation is that many foods have become something different, both in substance and in meaning, as their production has changed from small, local, and manual to large, global, and industrial. These transformations are far from obvious, and are the results of both technological and social factors. For example, Boisard’s (2003) study of camembert shows how the application of technology, in the form of pasteurisation and commercially-produced rennet and bacteria, has led to production

\textsuperscript{14} Integration of a new foodstuff via the medical paradigm is only one among many ways a new food may be accepted, but it is the only one addressed in detail here because of the nature of the integration of superfoods. Different mechanisms are explored in the food history literature, including integration via existing culinary paradigms (such as vanilla), the embracing of a new food as a novelty (such as the pineapple), and the food seeming to appear in the right place at the right time (such as the potato).
of a significantly different cheese today than that of the same name in the nineteenth century. Boisard further illustrates how the meaning of this cheese has been transformed into a national symbol as a result of its physical transformation – its standardisation through technology, its distinctive packaging, and its national distribution networks. When a food changes in both substance and meaning, then one must question to what extent the social, cultural and nutritional implications of its production and consumption also change (see also Dixon, 2002; DuPuis, 2002).

To illustrate a range of changing implications, I turn to the ubiquitous tomato. In his book Tomatoland: How Modern Industrial Agriculture Destroyed Our Most Alluring Fruit, Estabrook (2011) questions how it is that in the middle of New England winter, one can buy this seasonal fruit native to the hot, dry coast of Peru and Ecuador. The answer, in a word, is Florida. In beds of artificially enriched soils, under blankets of pesticides and herbicides, perfectly uniform and utterly tasteless tomatoes are grown to feed the rest of the East Coast. The environmental and social implications of this industrialised agricultural industry are bleak: poisoned lakes devoid of aquatic life and exploitation of migrant workers, for a start. From a nutritional standpoint, U.S. Department of Agriculture analyses have shown that ‘100 grams of fresh tomato today has 30 percent less vitamin C, 30 percent less thiamine, 19 percent less niacin, and 62 percent less calcium than it did in the 1960s’ (Estabrook, 2011: x). Asking similar questions about superfoods allows some of the consequences of their increased availability to come to light.

In order to reach Australian consumers, superfoods are frequently processed, packaged, distributed, and marketed. The application of such technologies results in a physically altered food. Even as superfoods are praised for their outstanding health benefits, one must question to what extent such alteration effects these celebrated properties. Further, as demand for superfood products increases, traditional growing and harvesting methods change. When a food that was once grown in a particular climate, at low yield, and using biodynamic methods is suddenly subject to intensive agricultural production, it may be nutritionally inferior. One must also consider the social and environmental impacts of increased production and global attention on the community and ecosystem of origin.

With physical changes in foods come symbolic changes as their values are redefined. The meaning of a superfood product as a consumer plucks it from an Australian supermarket shelf is significantly different to its meaning as a staple food and medicine as a forager picks a ripe fruit from a wild tree. But symbolic changes do not stop there: with global recognition of the value of their food product, the indigenous community redefines its significance within their culture. Thus the feedback loops described above are not only responsible for the increased economic value of superfoods, but also their changing social significance.

Applying the biographies-of-things theoretical framework allows me to weave together the above approaches to produce a nuanced understanding of superfoods as global commodities, historically situated cultural artefacts, products of the contemporary food system, and a discourse about food and health.
Research Design and Methods

To connect the different worlds that constitute superfoods, this project employs what Marcus calls a ‘research design of juxtapositions’:

Thus, in multi-sited ethnography, comparison emerges from putting questions to an emergent object of study whose contours, sites, and relationships are not known beforehand, but are themselves a contribution of making an account that has different, complexly connected real-world sites of investigation. The object of study is ultimately mobile and multiply situated, so any ethnography of such an object will have a comparative dimension that is integral to it, in the form of juxtapositions of phenomena that conventionally have appeared to be (or conceptually have been kept) ‘worlds apart.’ Comparison reenters the very act of ethnographic specification by a research design of juxtapositions in which the global is collapsed into and made an integral part of parallel, related local situations rather than something monolithic or external to them (1995: 102).

The project therefore integrates multiple sites and methods of data collection. In order to structure this seemingly open-ended research, the project consists of a series of three case studies. Each case study combines the methods of oral history and interviews, focus group research, ethnographic fieldwork, and analysis of historical and archival material.

Research Design: Case Studies

Novel superfood products occupy a significant market share at the moment (Mellentin, 2014). But these foods have long histories of human use and, therefore, cultural meanings. They did not simply appear magically on the supermarket shelf; they had to be placed there in both a material and symbolic sense (Cook and Crang, 1996). The primary objective of this study is to examine how this has happened, what these processes reveal about the social construction of contemporary global (food) commodity networks and changing ideas about food and health, and the broad implications of transforming medicinal foodstuffs from staples to superfoods.

In order to achieve this objective, the project seeks to answer the following research questions:

1. How do the uses and meanings of superfood plants and products compare in different times and places? What are the historical uses and meanings of these plants? What are the uses and meanings of these plants in their folk or indigenous settings? What are the uses and meanings of superfoods among new consumers in a Western setting?

15 While Mellentin does not discuss superfoods per se, he contends that ‘naturally functional’ is the biggest trend in functional foods and ‘is growing in importance every year and has become the key driver of innovation in health’ (34).
2. In what ways and to what degree have these foods changed in both substance and meaning through processes of transformation from local staple to global commodity? What are the implications of these changes?

3. Who are the agents in the construction and representation of superfoods and what are their roles in creating knowledge and value? How much do producers, distributors and consumers of superfood products know about these foods, what kinds of knowledge do they have, and where does this knowledge come from?

4. What does an historical and multi-locale biography of superfoods reveal about the cultural construction of contemporary global agricultural commodity networks more generally?

Answering these questions requires an interdisciplinary research design that draws upon practical methods for collecting and interpreting qualitative data. The study also calls for a research design that enables the construction of a general picture of superfoods as concept and commodity in their new setting, as well as a specific understanding of the particular uses and meanings of these plants in their indigenous and historical contexts. Therefore the project is structured as a series of case studies examining several different superfoods, each of which integrates data collection methods from across the social sciences.

The rationale for choosing case studies as the research design for this project is that the strength of the method neatly overlaps with the goals of the study: to merge a number of disparate data sources under a thematic umbrella. This approach ‘allows an investigation to retain the holistic and meaningful characteristics of real-life events’ (Yin, 1984: 14). It is an apt method for exploring contemporary events over which the researcher has no control; there are no variables that can easily be manipulated, so an experimental design is not appropriate. In many ways the case study design is similar to historical methodology, and this study draws upon analysis of historical material as part of the case study investigation. However, the use of case studies enables the integration of both past and contemporary events, and in doing so includes additional sources of evidence – for example, direct observation and interviewing – beyond those traditionally used by historians. As Yin observes, ‘although case studies and histories can overlap, the case study’s unique strength is its ability to deal with a full variety of evidence – documents, artifacts, interviews, and observations’ (1984: 19-20).

There is great diversity among the products grouped under the superfoods umbrella; therefore this project uses three case studies examining different superfood networks. While I began with a replication approach, in which the same methodology is applied to each case, I soon realised that each case required a slightly different approach as each offers different resources. The data collection methods for the case studies are outlined below.

Criteria for Selection of Cases

One aim of this project is to construct three case studies examining the biographies of foods explicitly positioned as superfoods in Australia. By juxtaposing the social
contexts of production, distribution, and consumption, these case studies not only explore the ways in which a new category of food products has developed in a Western setting, but also construct the distinct story of each plant as cultural artefact. By comparing three different cases, this study demonstrates variations among three distinct yet overlapping food commodity networks. The construction of the concept of superfoods as a distinct food product category is instrumental in holding these networks in place, but other factors are equally important in each case. While each case reveals unique historical circumstances and cultural significances, there are points of similarity that help to explain their contemporary convergence.

In selecting cases for this study, the guiding principle was diversity. There is no such thing as a ‘typical’ case for this study, because the products currently popularized as superfoods come from all over the world, have been used in multiple ways and with different meanings in their places of origin, and have achieved global recognition through different mechanisms. Each case tells a unique story, but with implications for understanding the construction and consequences of global agricultural commodity networks more generally. Therefore the cases have been specifically selected to express variation among geographical, historical, and method-of-popularization parameters.

In accordance with the biographies-of-things approach to the study of commodity culture, the primary units of analysis of this study are the foods themselves. However, while the study is concerned with the transformation of each plant, this is not a biological or nutritional analysis. Rather, the plants, the foods and medicines derived from them, and the ways in which they have been transformed serve as windows through which to explore the relationships constructed through their movements and meanings. Comparing different uses and meanings of the same plants across time and space provides a concrete way in which to measure the cultural dimension of the globalisation of food and agriculture.

**Cranberry**

The first case is cranberry, the sour North American fruit most familiarly known in its incarnations as bottled juice and sauce. Cranberry was chosen because it first entered the Western market as a food, and then a health food, before becoming a superfood. It thus provides an example of a food that was already popular but was transformed into a superfood as various actors in its production-consumption circuit tapped into changing ideas of food, nutrition, and health in the 1990s. In fact, cranberry was among a handful of foods profiled in Prevention magazine’s superfood article series from 1995 to 1997 (Nagle, 1997). Cranberry’s superfood credentials may seem questionable because the most prominent form of everyday cranberry consumption is as processed, and often highly sweetened, juice. However, it should be noted that where cranberry is represented as a superfood, emphasis is often placed on fresh and dried fruit. This superfood association then bleeds over to other forms of consumption such as juice. Further, despite the fact that juice and sugar are both anathema to contemporary health food discourses, cranberry juice also capitalises on its historical association with urinary tract health.

Exploring the differing uses and meanings of cranberry among Native Americans pre- and post-contact, New England colonists, and eighteenth, nineteenth, and early
twentieth century Americans provides a clear demonstration of the historically situated nature of a superfood. An examination of the early days of the cranberry industry reveals the significance of intentionality in its foundations, as well as the importance of the marketing of health attributes to the industry's growth – two themes that are echoed in the later development of agricultural industries around the other two case studies. Thus this case study also enables an examination of the historical foundations of the nutritionism discourse, a central element in the way that superfoods are currently represented. Further, as a long-established agricultural industry in North America, cranberries provide an excellent case study of the way in which the production of superfoods is embedded in issues of local environments, family livelihoods, and global industrial food production.

While all of the cranberries and cranberry products that are available on the market today are cultivated commercially, this was not always the case. Native Americans have long wild-harvested cranberries from naturally-occurring bogs throughout North America, and at one time these foraged berries were sold alongside cultivated fruit. Today foraged cranberries are no longer sold, but the Wampanoag Tribe of Martha’s Vineyard, an island off the coast of Massachusetts, continues the practice of wild-harvesting the fruit each October. The practices of this group provide an interesting contrast to the large-scale commercial production of cranberries. Therefore the cranberry case study includes fieldwork among commercial cranberry growers of different scales and orientations, as well as fieldwork among the Martha’s Vineyard Wampanoag during cranberry harvest season. For this case study, I made two visits to Massachusetts, one during the spring (planting season) of 2013 and another during the autumn (harvest season) of 2014. In addition to conducting a number of interviews and visits to farms and facilities, I also attended harvest festivals and visited museums and archives. These included the following institutions, to whom I am indebted for the assistance of staff and the use of research materials:

- The University of Massachusetts, Amherst, Special Collections and University Archives
- The University of Maine Folklife Center, ‘Cranberry Culture in Massachusetts’ oral history collection
- The Martha’s Vineyard Museum
- The Aquinnah Cultural Center
- The Museum of the Mashpee Wampanoag
- The officers and elders of the Wampanoag Tribe of Gay Head

**Maca**

Maca is a small root vegetable that resembles a turnip and grows at extremely high altitude in the Central Andes of Peru. While it has been cultivated within a small geographical area surrounding Lake Junín for between 2,000 and 5,000 years, there is little evidence that it was ever widely consumed beyond the region of its cultivation. As recently as 1982, it was declared in danger of extinction, but in the 1990s it sparked the imagination of a few local actors who began to promote it in Peru’s urban centres based on locally perceived health benefits (Hermann and Bernet, 2009). Thus began the maca revolution, which would take this humble root vegetable from its remote mountain origins to far corners of the globe. Maca has been promoted as a general health food high in a number of nutrients and also as an aphrodisiac and/or
fertility supporting health supplement. A number of scientific studies have investigated these claims with varying results, and such claims, both true and false, have spread rapidly through the Internet (e.g., Gonzales, Gonzales, and Gonzales-Casteñeda, 2009; Rubio et al., 2006; Torres, 1984; Wang et al., 2007). As a result, maca powder is now available in health food stores, and increasingly in mainstream supermarkets and chemists, throughout the world.

Maca provides an ideal case study of a food that entered the Western market as a superfood, despite its history of local use as a food. Unlike cranberry, it was unknown to Western consumers before its entrance as the ‘Andean Viagra’ or ‘superfood of the Incas’. Further, maca is the product of a distinctly bounded geographical region and culturally similar people, a quality similar to other new superfoods such as açai, goji berry, camu camu, and agave. It is also a product of the ‘developing’ world, produced for consumers in the comparatively wealthy ‘developed’ world. Thus maca allows me to study how a second discourse, primitivism, has become intertwined with the superfoods concept.

My research for this case study largely took the form of ethnographic fieldwork conducted in Peru during the maca harvest season (June through September) of 2014. I am grateful to the staff of the International Potato Center for their assistance and insights, as well as for access to the extensive holdings of their library. I am also incredibly grateful to the many people involved in maca production in the central Andes towns of Junín and Huancayo for their time and patience in assisting me with my inquiries.

**Chia**

Chia is a rather unassuming little seed, somewhat resembling a poppy seed but with an outer coating that becomes gelatinous when introduced to water. It was once an Aztec staple, but its cultivation and use declined after Spanish conquest. While it was never forgotten entirely, its cultivation was, until recently, limited to a few small indigenous communities on the Mexico-Guatemala border, and its consumption in mainstream Mexico limited to a drink known as *chía fresca*. While there were some reports of its excellent health benefits, in particular its high omega-3 content, throughout the later decades of the twentieth century, it never made its way into the mainstream, in part because no reliable supply source had ever been created despite efforts to establish chia as an alternative commercial crop in northwestern Argentina. That began to change in 2003, when a group of entrepreneurial farmers, headed by multi-generation wheat farmer and international business scholar John Foss, began growing chia seed in the Ord River Valley of Western Australia.

The chia boom in Australia has been recent and rapid. By 2008, Australia was the world’s largest producer of chia, and Foss’s brainchild The Chia Company was (and remains) the largest producer of branded chia worldwide (Brann, 2008; and personal communication with John Foss, 2014). The Chia Company’s distinctive orange packets of chia seeds began popping up on supermarket shelves, in Baker’s Delight breads, and in Nudie Juice smoothies. When I ran focus groups with Australian superfoods consumers in 2013 and 2014, chia was the most commonly mentioned superfood that participants consumed and enjoyed.
Thus chia presents a distinctive case study of a superfood that has been a rather late entry but has enjoyed enormous success on the health food market. This case allows me to focus on the role of agency in the creation of a new agricultural product, as well as the way that various elements have come into place by assemblage to create a strong chia production-consumption network. Further, the case of chia demonstrates the way that a third discourse common in understandings of superfoods, the discourse of critical consumption, is made explicit. As chia is now largely grown in Australia, I chose to locate my fieldwork regarding chia here rather than in its region of origin. This decision was strategic, as it enables greater contrast with the other case studies.

**Methods**

This study was divided into three phases of data collection. Phase one consisted of interviews which I conducted with significant actors in the development of superfood products in Australia. Phase one also included an investigation into the history of the word ‘superfood’ and discourse analysis of books about superfoods published from 1987 to 2012. Phase two consisted of focus groups with superfood consumers in Australia. Phase three consisted of ethnographic fieldwork, primarily taking the form of participant observation techniques, with producers and consumers of the three case study superfoods in their countries of origin and/or current production. Phase three also consisted of a substage, in which I analysed historical material regarding the human use of each of the case study plants. Despite describing the data collection as divided into three phases, these phases were not strictly chronological, and some overlap naturally occurred. For example, in the course of ethnographic fieldwork as described in phase three, I came into contact with key actors as described in phase one. In such cases I conducted systematic interviews with these figures. The flexible nature of a case study research design enabled the various data collection phases to overlap comfortably. At the conclusion of the data collection segment of the study, the various data sources were analysed and integrated to portray significant elements of each case study as well as the ways in which they come together conceptually under the superfoods banner.

Aside from the fact that I conducted this study at an Australian institution, I chose to examine Australia’s superfood market rather than that of another country for several reasons. In some ways, the Australian market can be seen as exemplary of those of developed countries in general: a wide variety of both domestic and imported foods are widely available for purchase and financially accessible to many consumers, and foods marketed for health benefits are a rapidly growing market. However, the benefit of conducting this study in Australia is that the global financial crisis has had considerably less impact than in most other developed countries, and as a result consumer spending behaviour has been more stable. Further, there is a large emphasis placed on agricultural innovation in Australia, which has given rise to the introduction of new superfood crops such as chia seed and quinoa.

**Oral Histories**

Conventional historical sources on the development of superfoods are extremely limited. Therefore a significant source for phase one is oral histories which I have
produced, which have been combined with analysis of other available material such as industry reports and media representations of superfoods. This method is helpful in constructing a complete analysis of the development of superfoods as this information does not exist in any other form. Oral history is increasingly recognized as a significant historical methodology, particularly when archival documentation is insufficient to construct a thorough history on its own (Ritchie, 2003). It also allows for the inclusion of many different voices who have participated in an event from different perspectives.

Oral history interviews were conducted in Australia, Peru, and the United States with a range of primary producers including growers and representatives of grower and industry organizations, secondary producers including distributors, importers, and product developers, tertiary producers and retailers, and others instrumental in promotional or educational activities surrounding these products, such as natural health practitioners and educators. These participants include particular actors and organizations known to have played a significant role in the history of superfoods, as well as more general categories of actors and organizations. I initially aimed to conduct approximately twenty interviews in total; in the end I recorded twelve interviews. The reason for the lower number is twofold: first, I found a number of potential interviewees to be reluctant to be recorded, and second, I found that I was often able to obtain richer material by forgoing recording and engaging in open-ended conversation instead, the results of which I would write down as field notes after such encounters. This is largely because as my research progressed, it began to take a more ethnographic and less historical approach, as seemed suitable to the largely fieldwork oriented nature of the work.

In the case of formally recorded oral history interviews, contact was made using publically accessible contact information, by email in the first instance, with follow-up phone calls as necessary. Interviews took place in person when possible, as well as by telephone or similar technologies when required. One interview occurred by sending questions via email and soliciting written responses as other options were not deemed viable. Interviews were digitally recorded and written notes were taken during the interviews. Following the interviews, I prepared typed transcripts for most of the interviews – the exception being those few interviews which were conducted in Spanish, in which my oral proficiency exceeds my writing abilities. I have provided interviewees with opportunities to review any typed transcripts and to make deletions and corrections if they so desire. Recruitment letters and general interview questions are attached (Appendix A).

**Focus Groups**

The second phase of the project documents the ways in which Australian consumers engage with superfood products, and thus required a sample of superfood consumers. Participants were self-identified superfood consumers and were recruited in Adelaide, South Australia, via advertisements at both specialty and mainstream shops that sell these products, as well as through a media release by the university that generated local print and radio coverage. These participants were organized into a series of three focus groups, with whom I conducted group interviews with regards to the uses, meanings, and knowledges associated with superfoods. This methodology is largely based upon the work of Lyons, Lockie and
colleagues (Lockie et al., 2002; Lockie et al., 2006; Lyons, 2006; Lyons, Lockie, and Lawrence, 2001) with regards to consumer views of organic foods. Further details of the methods used in this phase of the research are provided in Chapter 7, where the results are also reported and discussed. The focus group recruitment material and interview questions are attached (Appendix B).

**Ethnographic Fieldwork and Textual Analysis**

Traditionally, ethnographic fieldwork has been concerned with studying a single community over a long period of time, taking into account all aspects of social and ritual life in order to explain the cultural logic that binds them together. However, it is beyond the scope of this study to situate each case study food within the complexity of the wider system of classification that both constitutes and replicates the social order of each community. Therefore, the ethnographic fieldwork portion of this study is focused on the social and symbolic significance of each food across different social contexts and among different actors. The study seeks deliberate variation in the ‘fields’ within which fieldwork occurs; the ‘fields’ are the social contexts surrounding each food, including production, preparation, consumption, ritual, healing, and exchange. Further, by deliberately seeking variation in subjects who have different experiences with the food, the study aims both to present rich detail surrounding each food. This method draws upon Archetti’s (1997) work on conflicting concepts of the guinea pig as food, symbol, and commodity in Ecuador, as well as references other studies of single foods across multiple social contexts, such as Tsing’s (2013) work on matsutake mushrooms and Cook and Harrison’s (2007) work on ‘West Indian hot pepper sauce’.

The practicality of multi-sited ethnographic fieldwork has been called into question, as it challenges the deep knowledge of and contact with a community that has been the domain of traditional fieldwork. While acknowledging variability in access and depth of research across different sites, the strength of the method is its ability ‘to bring these sites into the same frame of study to posit their relationships on the basis of first-hand ethnographic research’ (Marcus, 1995: 100). Further, multi-sited ethnographic research builds upon the crucial ethnographic function of translation, both literally in terms of language and figuratively in terms of different cultural assumptions and idioms. In multi-sited ethnography, this process of translation moves beyond the traditional dualism of ‘us’ versus ‘them’ found in classic ethnography to a more complex form of translation that connects distinct and often disparate views and voices across geographic and social divides (Marcus, 1995).

In practice, the methodology for the third phase of this research involved interaction with local producers and traditional consumers of each food using the multi-sited ethnographic fieldwork described above. The overarching methodology was participant observation in communities where these foods are traditionally grown and consumed, which provided a deeper understanding of the ways in which these plants are used and produced and the significance attached to them. Techniques included participant observation, informal interviews, systematic visits to sites of production, exchange, and consumption, and photographic work. Discussion themes and interview questions were initially developed and were adjusted and administered as necessary in conjunction with guidance from local research organizations, community leaders, and my own experiences during the course of
fieldwork. Potential participants were identified through existing contacts with local research bodies, grower organizations, and superfood producers, as well as through passive snowballing, and were asked to participate in low-pressure settings. As standard ethnographic practice, detailed fieldnotes were recorded daily and transcribed into searchable digital documents.

Fieldwork, oral histories, interviews, and focus groups were supported by analysis of primary and secondary sources for each case study and for superfoods as a whole. These sources varied from case to case, but included documents such as:

- Historic cranberry advertising material
- Scientific studies investigating botanical characteristics, chemical compositions, health benefits, and commercial applications of each food
- Historic and contemporary newspaper and other popular media accounts
- Accounts of colonial chroniclers and historic correspondence
- Botanic and culinary records and reports
- Government policies and reports

The particular sources considered for each case study are explained in greater detail in the following chapters.
Chapter 2 – Cranberry as Food, Health Food, and Superfood: Foundations of Nutritionism

On July 10, 2013, on the front page of its Life and Culture section, the Wall Street Journal ran the headline ‘America’s Next Top Super Berry?’ above an array of photographs of richly coloured fruits (Chaker 2013). Detailing several lesser known varieties of those juicy orbs contemporary nutritional science has shown to be rich in a range of health promoting compounds, the article comments on the berry craze that has recently swept the health food world. The article does not mention the ubiquitous Thanksgiving staple, the American cranberry, focusing instead on lesser known up-and-coming berries. I suggest that it is worth taking a closer look at the history of America’s original super berry in order to provide historical insight into today’s search for the next top superfood. Long before loganberry and bilberry captured the imaginations of producers, marketers, and consumers, the cranberry was embraced for its health-giving qualities.

I begin delving into the three case studies with an historical look at the cranberry because of its long history of human use as a food and medicine, then a health food, and eventually a superfood. The other case studies that this thesis investigates have entered the Western market as superfoods, but cranberry is an example of a product that was already widely available internationally as a food before it was transformed into a superfood. Cranberry is one of those products mentioned in the introduction that already existed as a healthful food in the Western culinary canon before being reimagined as a superfood. When Prevention magazine ran a series of articles featuring different superfoods from 1995 to 1997, cranberry was among the foods profiled. Its superfood status was justified through its high content of fibre and vitamin C, as well as its therapeutic benefits for the respiratory system and urinary tract (Nagle 1997). This reductive focus on the scientifically proven nutrient content of cranberries and their biological action on the body is a key feature of nutritionism, one of the key discourses employed in the concept of superfoods.

This chapter has two functions. The first is to consider the importance of history in the construction of superfoods; these foods did not just arise out of nowhere, they have a history of human use that informs their current status as superfoods. This history includes understandings of the healthfulness of cranberries as both food and medicine that predate the investigations of modern nutritional science. The second is to show that the nutritionism element of the superfoods discourse is built upon a foundation of reductive understandings of the relationship between food and health, as well as the marketing of health using these reductive understandings, that has its origins in the earlier half of the twentieth century. To these ends, this chapter sets out to answer the question of how the cranberry has changed in substance and meaning through its gradual transformation from a local staple to a global food, health food, and superfood product. There are two dimensions to the ways in which cranberries have been transformed: they have changed materially through human influence, and they have changed conceptually as a result of changing ideas about food and health. The method for tracing these transformations is a biographical approach to the study of things in motion, following the cranberry through time and space as it moves in
and out of the commodity state, as it is materially manipulated in both field and factory, and as its uses are reimagined and its value renegotiated in line with shifting scientific and popular conceptions of food (Appadurai, 1986; Kopytoff, 1986).

Botanical Background

To begin with, there is more than one cranberry. This study is concerned with what is known as the American cranberry, *Vaccinium macrocarpon*, alternatively classified by some botanists as *Oxycoccus macrocarpus*. It is native to northeastern North America, extending across a wide swath of the region wherever a suitably cool, wet, and boggy environment exists. A number of similar types of cranberries within the genus are also harvested from the wild in both North America and northern Europe; however the American cranberry is the only one that is cultivated commercially. At the time of European and Native American contact, other types of cranberries were eaten across northern North America, including *Vaccinium oxycoccus* (the small or European cranberry) and *Vaccinium vitis-idaea* L. (partridge berry, foxberry, rock cranberry, mountain cranberry, upland cranberry). Some of these species were known to Europeans, the latter being especially popular in the Scandinavian countries (Eck, 1990: 43-45). They are all generally smaller than the American cranberry, and often considered inferior in taste.

The plant itself grows slender and low to the ground, extending vines of up to six feet across soggy ground to form a dense mat. The vine develops uprights, which are short branches extending vertically, upon which flowers and new shoots grow. The tiny flower has a peculiar appearance; as Eck describes, ‘just before opening, the pedicel (stem), calyx, and corolla (petals) of the flower resemble the neck, head, and bill of a crane’ (1990, 49). Some etymologists attribute the fruit’s English name to this animal resemblance. From this flower the fruit develops, varying in size, colour, and roundness, and covered with a protective waxy cuticle which helps it retain moisture.

Native American Cranberry Use Pre-Contact

On the eve of European contact, the cranberry played multiple roles as staple food, medicinal resource, and exchangeable commodity. However its various uses are not always strictly differentiated. The culinary and the medicinal spheres often overlapped, with cranberry acting both to season a dish and to provide vitamins on long journeys or during the snowy winter. It is, perhaps, the distinct character of cranberry to simultaneously serve so many functions that lends the fruit is significance among Native Americans. The cranberry is the last fruit to ripen late in the autumn, marking the end of the harvest season and the beginning of the harsh winter months. Its natural preservative qualities enable it to be kept and eaten long after less hardy fruits linger only in memories of warmer days, providing both a welcome burst of sweet, tart flavour and a nutritional boost over the winter. These same qualities make it transportable, and thus of value in trade among tribes. Given the cranberry’s general usefulness, it is perhaps not surprising that it rose to the status of symbol of peace, that cranberry tales are still recounted in folklore and legend, and that its harvest continues to be celebrated by the Wampanoag Tribe of Gay Head, Massachusetts, each October.
Evidence describing the particular uses of the cranberry by Native American peoples at the time of contact is sparse, but its significance can be teased out through synthesis of archaeological, textual, and oral sources such as legends and folklore. The textual evidence comes from the writings of early English explorers and settlers, and thus must be read with their particular biases in mind. Oral sources are particularly important, as the northeastern Native American tribes have historically relied on oral tradition to pass down their history and values. Thus even as oral legends and folklore change over time, these changes themselves reflect the incorporation of new beliefs and worldviews into ancient tradition.

Cranberry as Diplomatic Symbol

The use of all types of cranberries, including the large American cranberry, the small European cranberry, and the mountain cranberry, by native peoples was widespread at the time of contact. According to Kuhnlein and Turner (1991), the various types of bog cranberries were treated similarly by indigenous people, without distinguishing among the species. Cranberries were wild harvested across their wide geographic range by different Native American populations, and they were also both traded and gifted among tribes (Cox and Walker, 2012). Their diplomatic significance is hinted at in Joseph White Norwood's *The Tammany Legend* (1938: 186), in which he refers to a Delaware sachem known as Pamimitzen, 'Cranberry Eater', who was known for making a treaty with the rebellious Tawa. Further, in explorer James Rosier's 1605 *The Land of Virginia* – whose title is somewhat deceiving in that it describes an exploratory voyage along the coast of present day Maine – he recalls being presented with ‘great cups made very wittily of barke, in forme almost square, full of a red berry about the bignelle of a bulls, which they did eat, and gave us by handfuls; of which (though I liked not the taste) yet I kept some, because I would by no meanes but accept their kindnesse’. The cranberries were presented as a sign of diplomacy during a trading session, after sharing tobacco and before sharing other foods. As LaCombe (2012: 4) observes, the offering and accepting of these foods serves as ‘a clear sign of not just a desire for an alliance but the beginning of one’.

Culinary Uses

As Rosier suggests, fresh cranberries were unpleasently sour to English tastebuds. However, many native peoples, including the Iroquois, Ojibwa, Huron, Algonquin, Cree, Micmac, and Malecite, ate American cranberries fresh (Kuhnlein and Turner, 1991: 173-174). They also cooked them in various savoury preparations; for example, the Woods Cree ate a dish of stewed cranberries and smoked fish, and cooked cranberries were served with animal or fish grease along the British Columbia coast (Norton, 1981). Many tribes made pemmican, consisting of a mixture of berries, dried meat, and animal fat pounded together and dried into cakes for later use (Crosby, 1990: 18). Cranberries served both to flavour and preserve the meat. The Narragansetts beat dried berries to a powder, mixed with parched corn, to create a dish called *sautauthig*. In Roger Williams' 1643 *A Key Into the Language*, he describes it as ‘a delicate dish….which is as sweet to them as plum or spice cake to the English’ (Cox and Walker, 2012: 23). In a lone reference to an American Indian sweetened cranberry dish, Crosby contends that the Chippewa tribe boiled dried cranberries and mixed them with maple sugar (1990: 18).
While evidence suggests that most American Indian cranberry dishes before contact were unsweetened or minimally sweetened, not long after contact, the Indians began sweetening their cranberries with sugar they acquired through trade with English settlers. In John Josselyn's 1672 New-Englands Rarities Discovered, he writes: ‘the Indians and English use them much, boylung them with Sugar for Sauce to eat with their Meat’ (66). John Heckewelder provides a description of ‘an excellent preserve from the cranberry and the crab-apple, to which, after it has been well stewed, they add a proper quantity of sugar or molasses’ in his History, Manners, and Customs of the Indian Nations Who Once Inhabited Pennsylvania and the Neighboring States, first published in 1819 (1971: 194). However, these references come from the writings of the English settlers themselves, so it is possible that they may have been biased towards those uses more similar to their own. It seems likely, however, that Native Americans began incorporating sugar into their cuisine, at least to some degree, as sugar was readily available and increasingly inexpensive in the colonies during the seventeenth century and beyond. Further, as Mintz points out, sugar quickly became a symbol of British colonial power, infiltrating native cuisines and serving as a potent sign of ‘progress’ among Native North Americans, Eskimos, Africans, and Pacific islanders’ (1985: 193).

**Medicinal Uses**

In addition to providing a source of flavour to accompany meats through the long winter months, the cranberry plant also proved useful as a medicine to many native people. Writings of early settlers provide some evidence of their medicinal value; both Williams (1643) and Josselyn (1672: 66) describe their use for treating fevers. According to turn of the century anthropologist Arthur C. Parker, the Iroquois of upstate New York considered cranberries to be ‘good for the blood and liver’ (1910: 97). In her 1832 volume The American Frugal Housewife, Lydia Maria Child writes that ‘the Indians have great belief in the efficacy of poultices of stewed cranberries, for the relief of cancers’ (116). Moerman’s Native American Ethnobotany provides a longer list of medicinal uses: the Montagnais made an infusion of cranberry branches to treat pleurisy, the Ojibwa used an infusion of the plant to treat nausea, and the Mohegan were known to use the plant for unspecified medicinal purposes. The Clallam used cranberry leaves as a tea, and the Inuiktitut added them to their smoking mix (Moerman, 1998: 583-585).16 I have not located any primary sources specifically indicating that cranberry was used in relation to supporting urinary tract health, its primary medicinal use today.

Perhaps the most significant medicinal use of the cranberry occurs in the space where it overlaps with food use. As Etkin and Ross (1991) point out, the use categories of food and medicine often overlap in practice, and these interdependent uses together influence health outcomes; the distinction between these two use categories of plants is often a product of the disciplinary focus of the researcher

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16 Many secondary sources give examples of further medicinal uses, including cranberry leaves used for urinary disorders, diarrhea, diabetes, and as a diuretic, smoked to protect against malaria, use as a lotion to treat venereal disease, and to treat swollen glands and mumps; however I have not found primary sources that verify these uses and mention them here only anecdotally.
rather than the worldview of her subjects. Many sources detail preparations of cranberries kept either fresh or dry to eat over winter, mixed with meat and eaten fresh or dried, or taken along on journeys.\textsuperscript{17} The medicinal importance of the fruit is hidden in its culinary use; cranberries in the above preparations did more than flavour other foods or assuage hunger. Their high vitamin C content prevented diseases of malnutrition such as scurvy, particularly at times when no other fruit or vegetable sources were available. Their ability to keep over the winter without preserving puts them in a distinct category that today we might call a dietary supplement. In this sense, prior to contact the cranberry was already used in a manner quite similar to many of today’s so-called superfoods, in that its regular inclusion in the diet provided an important health benefit of a preventative, rather than curative, nature.

**The Place of the Cranberry in Wampanoag Culture**

The Wampanoag Tribe of Martha’s Vineyard provides a useful reference point in the biography of cranberries, for this tribe has continually harvested and consumed wild cranberries from pre-history to the current day. A great deal of their oral history survives through legends and folklore, much of which has been recorded at different periods by anthropologists. The Tribe continues to maintain a range of social, cultural, and political institutions. Further, despite their relatively isolated geographical position on the peninsula of Cape Cod and the island of Martha’s Vineyard, historically the Wampanoag existed as part of a vast social and commercial network, communicating and trading with other tribes of the northeast, a practice which continues to this day and contributes to the dynamic nature of Wampanoag life on this small island (Dresser, 2011: 35).

Evidence from an archaeological excavation on Martha’s Vineyard suggests that until about 1000 years ago, when domesticated plants were introduced, the Wampanoag of Martha’s Vineyard subsisted on a combination of fishing, hunting, and wild plant collecting (Richardson III, 1985). The importance of the cranberry in this culinary triangle is found in legend. Moshup, a benevolent giant who aided the Wampanoag, and his wife, Squant or Squanit, are believed to have abandoned the island after the arrival of European settlers. In the legend, Squant disappeared into the cranberry dunes ‘without one solitary backward glance’. In the continuing Wampanoag harvest celebration of Cranberry Day, a child takes a basket of food into a remote spot in the dunes ‘as a gift to old Granny Squanit, and cautioned to hurry away without ever looking back’ (Speck and Dexter, 1948, as cited in Dresser, 2011: 29). The appearance of cranberry in legend and tradition signifies its place in the Wampanoag economy.

As the above legend hints by associating ‘Granny Squanit’ with cranberry dunes, harvesting wild foods, as well as farming, was the domain of Wampanoag women. Women also foraged for medicinal plants, and handed down herbal healing knowledge (Dresser, 2011: 58, 68). Their view of health melded the spiritual with the physical. According to 1920s anthropologist Gladys Tantaquidgeon, even as an herbalist applied her practical knowledge to heal, she explained that it worked by ‘expelling the spirit Cheepi from the patient’s body’ (Simmons, 1986: 76-77). Similarly, the tribal medicine man was and continues to be as much as a spiritual

\textsuperscript{17} For an exhaustive list of examples of such preparations, see Moerman, 1998.
leader as a healer; during a Cranberry Day community dinner that I attended it was the medicine man who spoke for the tribe in offering up thanks for the harvest before the feasting began. This is not simply an overlapping of spheres, but rather an expression of a holistic worldview. As one tribal elder explained to me during my investigation, the cranberry cannot be understood without considering the whole of Wampanoag life: the cycles of the seasons, the relation between food, medicine, and health, the importance of community, the connection with the land. Much of these understandings of what it is to be Wampanoag have remained strong even as colonisation and assimilation have infiltrated much of Native American life, and the yearly celebration of Cranberry Day serves as an assertion of continuity.

The fact that Wampanoag culture continues to flourish today is not to dismiss the impact of colonisation by English settlers. While the two groups lived in relative peace and with a degree of mutual respect on Martha’s Vineyard, the colonists’ missionary work was highly successful in assimilating many of the natives to the Christian religion and, in turn, other aspects of English culture. But even as many Wampanoag became Christians, their communities remained largely intact. Some traditional practices remained, and communities continued to fill the traditional roles of sachems and medicine people, a practice that persists to this day in tandem with contemporary tribal government structures (Dresser, 2011: 83). Religion was not the only area of conflict; the indigenous concept of communal land contrasted with the English concept of private ownership. Eventually they were subjugated to the English system and much communal land was sold, despite conflicts with the Wampanoag worldview (Dresser, 2011: 100). Dresser describes deliberate attempts by the English to destroy tribal culture and community through assimilation, in particular enfranchising individuals and privatizing land (Dresser, 2011: 105-106). Nevertheless, the Wampanoag managed to keep these ideas alive to a large degree (Dresser, 2011: 92). Leonard Vanderhoop Sr., a tribal member born in Gay Head in 1895, recalls that during his childhood in the early decades of the twentieth century, some 230 acres of natural cranberry bogs were located on common lands and were delegated for communal harvesting, while other natural and cultivated bogs were on privately owned land. He recalls some conflicts arising over this land when one landowner kept moving his fence, posted with ‘no trespassing’ signs, into the common lands of Gay Head (Vanderhoop, 1983). Eventually in 1987 the Wampanoag of Martha’s Vineyard received federal recognition as a tribe, and much of their territory has returned to communal ownership. Their constitution refers to the importance of caring for the land, and tribal common land includes cranberry bogs, which are cared for by the Tribe’s Natural Resource Management Board.

In Vanderhoop’s time, the significance of Cranberry Day was more than symbolic. Cranberries served as important sources of both food and livelihood, as they were collected to feed families through the winter and to sell to other communities on the island and mainland. Vanderhoop recalls that most people would pick for at least a week, and in a good year a family could harvest ten bushels or more. Some people would sell some of the cranberries and buy other winter provisions with the profits; as he recalls, ‘you could buy quite a lot of food for a bushel or two of cranberries’ (Vanderhoop, 1983). Families also cooked with the berries, making cranberry bread and sauce as well as drying some fruit to keep through the winter. While Cranberry Day marked the opening of the wild cranberry harvest with communal picnicking, it also served a practical function: it regulated when community members could start
picking the fruit so that nobody went in and gathered the berries before they were ripe. It ensured that everyone had an equal opportunity to pick fruit and share in the harvest. Vanderhoop reports that wild cranberries were superior in quality and flavour to cultivated fruit: firmer and more solid. Yet despite their superiority, the practice of wild harvesting declined in the late 1930s. In large part this was due to a major hurricane in 1938 that dumped damaging salt water and sand on the bogs, killing many of the cranberry vines. The bogs were never cared for in the same way after this, and bayberry and other bushes and weeds began to fill in much of the cranberry lands. This decline may also be partly due to the growth of the fishing industry on Martha’s Vineyard; as Vanderhoop (1983) observes: ‘When they first started the scallop business...why then there wasn’t much attention paid to the cranberrying. But they’d go a day or two and then fishing. Of course, scallop fishing paid better than cranberrying’.

Although today the wild cranberry has moved entirely out of the commodity state for the Gay Head Wampanoag, the practice of celebrating Cranberry Day each October continues to be central to the preservation of their distinctive culture. It is considered their most important holiday, marking the seasonal shift and recalling links between generations. It has also taken on a new function, signifying connection with the greater community of the island of Martha’s Vineyard, as the Wampanoag open their tribal building to the public for a potluck dinner in the evening following the harvest. In this way cranberry comes full circle for the Wampanoag, once again serving as a symbol of diplomacy and good relations between peoples.

Cranberry During the Colonial and Early American Periods

While certainly many early colonists learned to forage for wild cranberries, most were introduced to the American cranberry through the commodity sphere – that is, by exchange for money or other goods. The cranberry appears in many of the very early exchanges between natives and white settlers, beginning with Rosier’s description of diplomatic cranberry sharing. In another early source thought to refer to cranberries, John Smith writes ‘of certain red berries, called Kermes, which is worth ten shillings the pound, these have been sold for thirty or forty shillings the pound, and may be yeerly gathered in a good quantity’ (Smith, 1616). It is notable that the aspect he focuses on here is the monetary value of the fruit, suggesting that it held a place of esteem in commodity exchanges. Further, in describing his success in converting the ‘salvages’, missionary John Elliot lists ‘craneberries’ among those items the converted natives sell to settlers as ‘they begin to grow industrious’ (as quoted in Shepard, 1648: 28-29). In a 1689 letter written from New Jersey, Mahlon Stacy notes that ‘We have them [cranberries] brought to our homes by the Indians in great plenty’. In the journals of Lewis and Clark, 1805, they note that they were able to purchase cranberries from the natives along the journey (find reference). As far afield as Alaska, a report from the Alaska Agricultural Experiment Stations observes that in 1880, ‘hundreds of barrels of wild cranberries were picked annually in Alaska by the Indians and shipped to San Francisco’, and that while the practice had dropped off in recent years, in 1929 about 2,300 pounds of the wild fruit were harvested by local residents (whether natives or not is not specified) and shipped to the States by a local merchant (‘Cranberries and Blueberries’, 1929).
The above observations hint at underlying tensions between English and Native American worldviews relating to land ownership and the market economy. The indigenous concept of communal land contrasted with the English concept of private ownership. Land and its resources were provided by the creator for the benefit of all, and each person was expected to take only what they needed. While the increased gathering of cranberries by both natives and settlers to sell at markets may not have seemed problematic at first, as demand grew indigenous communities began to recognize the activity as a threat. By the early 1800s, the Massachusetts towns of Barnstable and Gay Head passed laws protecting the harvest of cranberries from common lands for town residents only. Further, in 1845, ‘An Act for the Protection of Cranberries on Gay Head’ was passed, allowing tribal leaders to fine those who picked the berries outside proscribed harvest dates (Cox and Walker, 2012: 41). By this point, it was not only their food source that was at risk, but also an important source of income as they became further intertwined with the market economy.

Adoption and Adaptation: Integration of Cranberries into American Food and Medicine

How did the modest cranberry become such a popular commodity by the middle of the nineteenth century that communities felt their common lands at risk? While we know that it was held in great esteem among Native American cultures, it is not necessarily a given that it would have been readily adopted by English settlers. After all, the English were presented with a plethora of new foods, and not all of them became important staples. Davidson suggests that the novel foods most likely to be embraced were those that fit into known culinary categories; thus the first step to acceptance of this novel food was likely its familiarity (1996: 2-3). When English settlers arrived in the new world, they were not entirely unfamiliar with the cranberry and its relatives. Similar berries were known and used in Europe, and references to their culinary and medicinal uses can be found in late sixteenth and early seventeenth century English herbals. This similarity to known plants – both culinary and medicinal – may have helped gain the cranberry some favour among the English.

Settlers also absorbed what they learned from natives. In fact, the early English settlers owed their survival to the generosity with which Native Americans shared their knowledge of plant use and cultivation (McIntosh, 1995: 71-72). Seventeenth century publications full of rich description of flora and fauna such as Roger William’s A Key Into the Language and Josselyn’s New England Rarities Discovered demonstrate more than curiosity towards the plants and animals of the new world. Their detailed descriptions of native medicinal and culinary uses of cranberries suggest that this was vital information for the new settlers.

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18 For example, Thomas Muffett’s Health’s Improvement, 1588: “Vacinia palustria. Fen-berries grow not only in Holland in low and moist places, but also (if I have not forgotten it) in the Isle of Eli. They are of like temper and faculty with our whortles, but somewhat more astringent. Being eaten raw or stewed with sugar, they are wholesome meat in hot burning fevers, unto which either fluxes of humors or spending of spirits are annexed. Likewise they quench thirst no less then Ribes, and the red or outlandish Gooseberrie’ (119-20). See also Lyte’s A Nievve Herbal, 1619, and Gerard’s The Herbal, 1633.

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Cranberries as Food

Among the first ways in which colonists used cranberries was in combination with meat, a pairing that was likely copied from their native neighbours. One preparation that the colonists learned from the natives was the combination of meat, animal fat, and berries, pounded together and dried to form pemmican. This is thought to be the predecessor of jerky. Pemmican had long been an important travel food for Native Americans, and settlers adopted it to take on exploratory journeys through the continent (Thursby, 2008: 67-68). The settlers also made a sauce of cranberries cooked with sugar to eat with meat, the predecessor to today’s Thanksgiving turkey accompaniment. In 1672 Josselyn observes that: ‘The Indians and English use them much, boyling them with Sugar for Sauce to eat with their Meat; and it is a delicate Sauce, especially for roasted Mutton’ (65-66), and Stacy’s (1680) letter notes that ‘an excellent sauce is made of them for venison, turkeys, and other great fowl’. These two examples demonstrate both adoption and adaptation: venison and turkey are native to North America and were widely eaten by natives, while mutton, derived from sheep, was brought over from England and creatively dressed with the new sauce.

Settlers also adapted the new fruits to old world recipes, among them the sweet pastry dishes of which the English were fond. ‘Some make Tarts with them as with Goose Berries’ (1672: 65-66) observed Josselyn, and Stacy concurs that ‘they are better to make tarts than either goosberries or cherries’ (1680). When Amelia Simmons published American Cookery, the first American-authored and published cookbook, in 1796, she too included a recipe for cranberry tart. By the early nineteenth century, sweet cranberry recipes were significant enough for Lydia Maria Child to include three of them in her 1832 volume The American Frugal Housewife. All of the recipes are sweet, and all reminiscent of common English desserts:

CRANBERRY PUDDING. – A pint of cranberries stirred into a quart of batter, made like a batter pudding, but very little stiffer, is ver nice, eaten with sweet sauce (64).
CRANBERRY PIE. – Cranberry pies need very little spice. A little nutmeg, or cinnamon, improved them. They need a great deal of sweetening. It is well to stew the sweetening with them; at least a part of it. It is easy to add, if you find them too sour for your taste. When cranberries are strained, and added to about their own weight in sugar, they make very delicious tarts. No upper crust (68).
CRANBERRY JELLY. – Mix isinglass jelly, or calf’s-foot jelly, with a double quantity of cranberry juice, sweeten it with fine loaf sugar, boil it up once, and strain it to cool (119).

Notable here is Child’s observation that cranberries ‘need a great deal of sweetening’, and her instruction that they must be ‘added to about their own weight in sugar’. It is presumptuous to say that cranberries would not have been so readily adopted by settlers were it not for the addition of sugar, however it is certainly clear that settlers preferred to sweeten their cranberries heavily. This observation, combined with the fact that sugar was increasingly widely available and affordable in the Atlantic world from colonial times onward, suggests in large part that cranberries owe their widespread adoption among settlers to sugar.
Cranberries as Medicine

Just as American cranberry cookery became a fusion of two cultures, so did the medicinal use of cranberries. The English learned a great deal about cranberry's medicinal properties from observing the natives, including their use against fevers, cancers, and corns (Williams, 1643; Josselyn, 1672; Child, 1832). However their acceptance of cranberry as a medicinal plant also relied upon their understanding of it within contemporary understandings of health and medicine as a system of humours. Williams (1643) describes cranberry as ‘another sharp, cooling fruit’, and Josselyn (1672) describes them as ‘good to allay the fervour of hot Diseases’. Thus cranberry was placed within the humoural medicinal paradigm of the time, and its use deemed similar to other cooling medicines.

The most significant medicinal use of cranberries among the colonists and early Americans was as a preventative for scurvy. Although vitamins had not yet been discovered, and the explicit connection between scurvy and vitamin C deficiency not yet known, the fact that certain fruits seemed to prevent scurvy was widely accepted. As early as 1672, Josselyn notes that cranberries ‘are excellent against the Scurvy’. Cranberries were commonly taken on American ships to provide nutrition and prevent scurvy during long sea voyages, just as English ships carried the limes that earned British sailors the nickname ‘limeys’. The significance of cranberries to American sailors is memorialized in that most American of novels, Moby Dick:

Go out with that crazy Captain Ahab?
Never! He flat refused to take cranberries Aboard. A man could get scurvy, or worse,
Whaling with the likes of ‘im.

This use of cranberries to fight scurvy, as a food eaten with a preventative, medicinal purpose, is similar to the way in which the Wampanoag incorporated cranberries into their diet over winter, providing much-needed nutrients when other fruits and vegetables were scarce. This type of use – eaten regularly as a food, but with an intended health benefit of a preventative nature – is similar to the ways in which many superfoods are consumed today.

Industrial Transformations

By the end of the eighteenth century, cranberries had become a key ingredient in New England cooking. They were considered so iconic in the Boston area that they were served alongside turkey at a banquet celebrating the installation of a new president at Harvard in 1707 and again thirty years later for the installation of his successor. The demand for cranberries also increased outside of New England, and throughout the late 1700s records indicate their appearance at markets and ports along the east coast, from New York to South Carolina (Cox and Walker, 2012: 39-40). In the early years of the eighteenth century, as the wild harvesting of cranberries reached a concerning level among some indigenous communities, a few opportunistic Cape Cod agriculturalists began experimenting with cultivation of this previously wild fruit. During these formative years, from Henry Hall’s first cultivation attempts in the 1810s through to the 1830s, wild and cultivated fruit were sold undifferentiated on
the market in Boston, where they were shipped throughout the United States and to England in barrels packed with water (Eck, 1990: 6-7). But according to the cranberry's first biographer Benjamin Eastwood, cranberry production as an industry did not begin in earnest until 1840, when cultivation spread through Barnstable, Middlesex, and Plymouth counties, and most growers began practicing improved horticultural techniques (Eastwood, 1856). By the middle of the century, cranberry growing was firmly established as a means of livelihood, and bogs were built rapidly throughout Massachusetts and New Jersey. Although cultivation required considerably more investment and risk than wild harvesting, it also opened up the possibilities of increased control of production, higher yields, better quality fruit, and personal profits.

Growers continued to enjoy high prices as demand for the fruit, known for its keeping quality and its usefulness in preventing scurvy, increased among whaling outfits. At the same time, the key industries in southeastern Massachusetts – iron mining, shipbuilding, and fishing – were declining. Much of the land in the region was considered worthless, swampy and stripped of nutrients from years of iron mining and depleting agricultural efforts. But these same wastelands proved ideal for cultivating cranberries, and suddenly abandoned iron bogs and neglected millponds were productive assets that sold for as much as $100 per acre (Burrows, 1976; Cox and Walker, 2012). Two major publications detailing methods of cranberry cultivation appeared in the middle of the nineteenth century, cementing the foundation of an agricultural industry (Eastwood, 1856; White, 1870). Cranberry production across the country more than tripled between 1872 and 1899, from 91,666 barrels to 328,333 (Eck, 1990: 9). By 1900, there were 21,500 acres of cranberry bogs in cultivation in the United States, with more than half located in Massachusetts (Eck, 1990: 20).

At first, as demand remained higher than supply, there was a lot of money to be made in cranberry cultivation. Nineteenth century challenges were largely on the agricultural production end of the process, and much scientific research during this century focused on horticultural methods. However as agricultural science progressed and more New Englanders – as well as growers in New Jersey and Wisconsin – turned to cranberry bogs for their livelihoods, production began to outstrip demand. While cranberries were well known in the region, outside of New England they were primarily associated with the iconic sauce served beside the Thanksgiving turkey. In the early decades of the twentieth century, cranberry growers were presented with the problem of how to convince Americans to consume more cranberries.

The large-scale promotion of this tart little berry is a great food marketing success story. There are three major elements that took cranberry from a regional holiday fruit to an international food product: cooperation, industrial processing, and creative marketing. Alongside these elements, the collaboration of the cranberry industry with food, nutritional, and agricultural scientists at the University of Massachusetts was a crucial element in the development of cranberry products and their marketing for health.

Cooperation
The cranberry industry has long been one that has favoured the sharing of resources through growers’ associations, collectives, and cooperatives. As cranberry production increased in Massachusetts, New Jersey, Wisconsin, and the west coast, formal growers associations began to spring up in the late nineteenth century, providing opportunities for growers to share production knowledge. The first state to form a grower organisation was New Jersey, where the American Cranberry Growers Association was founded in 1871, followed in 1887 by the Wisconsin State Cranberry Growers’ Association and in 1888 by the Cape Cod Cranberry Growers’ Association (which, despite its name, includes growers from all parts of Massachusetts) (Eck, 1990: 11-12).

An important early activity of the latter was a persistent effort to petition the Massachusetts State Legislature to assist in establishing a centre for agricultural research in cranberry production. In 1910, the Cranberry Experiment Station was founded in East Wareham, signalling the beginning of a longstanding research relationship between the Massachusetts cranberry industry, the Massachusetts State College (now the University of Massachusetts), and the state government. Collaboration between industry, through such associations and cooperatives, and the state, through the University and Experiment Station, has proved vital to the development of improved agriculture, processing, and marketing of cranberries.

Cooperation among cranberry growers did not end with growers’ associations. The cooperative business model has also been crucial to the successful production and marketing of cranberries. The first marketing cooperative, the Wisconsin Sales Company, was created in 1906, followed shortly by the New England Cranberry Sales Company in Massachusetts and the New Jersey Cranberry Sales Company. The three quickly merged to form the National Fruit Exchange, which merged again with the Growers’ Cranberry Company in 1910 to form the powerful American Cranberry Exchange (ACE). Nearly all growers belonged to the ACE, an organization that oversaw promotion, grading, and sales nationwide. The ACE organised contracts between grower members and sales companies, as well as managed an extensive system of sorting fruit by grade, type, and state. Fresh fruit from the ACE was sold under the Eatmor brand, and profits were divided based upon not only the quantity but also the quality of cranberries that each member provided (Jesse and Rogers, 2006).

The ACE dominated the cranberry industry for two decades, until a competing cooperative arose in 1930. Cranberry Canners, Incorporated (CCI) was the brainchild of Marcus L. Urann, a successful cranberry processor who had been selling his tinned cranberry sauce under his Ocean Spray brand since 1912. Urann’s prowess in both producing and promoting cranberry sauce had earned him the nickname ‘The Cranberry King’. He was also known for his strong belief that the future of the industry was in canning and processing, not in fresh fruit sales, which was a point of contention with many ACE growers. But Urann believed both in his vision for the future of the industry, and in the conviction that his ability to market and sell cranberries would be greatly increased by joining forces with other growers and processors. In 1930 he convinced competitors from Makepeace Preserving Company and Enoch F. Bills Company to join forces. His persuasive argument was that given the novelty of canned cranberries, competition between the businesses would limit their reach, and that cooperation would extend their marketing power. Though the
cooperative was known as CCI, they continued to sell their products under the familiar Ocean Spray name (Pederson, 1994). Throughout the 1930s and 40s, as the cooperative business expanded its product line and marketing efforts, more and more growers joined as they observed the growth of the processed food industry and recognized the benefits of being part of the vertically integrated cooperative. The ACE eventually folded in 1954, due to a combination of declining fresh cranberry sales and political manoeuvring on the part of CCI.19

**Industrial Processing**

While cooperation was crucial to the growth of the cranberry industry, its significance must be considered hand in hand with the development and application of food processing technology. Before the advent of tinned cranberry sauce and, eventually, pasteurized cranberry juice and shelf-stable packaging technology, cranberries were sold in only one form: as fresh fruit. Although fresh cranberries kept very well and could be transported long distances, selling only fresh fruit did limit the market. During the days of the ACE in the early twentieth century, the crop was sold and marketed exclusively as fresh fruit, the majority of which was sold shortly after the October harvest for consumption during the upcoming Thanksgiving and Christmas holiday seasons. Further, unlike many other fruits such as apples or cherries, cranberries required cooking and sweetening before consumption.

Despite the marketing and sales efforts of the ACE, growing and selling cranberries was still a volatile activity in the early decades of the twentieth century. Yields, impacted by weather variations, differed wildly from year to year, and prices similarly swung up and down drastically. The pressure to sell the entirety of the years’ crop within a month of harvest limited the scope of marketing to a seasonal activity. In response to this challenge, a few innovative individuals began experimenting with ways to preserve cranberries to extend the marketing season beyond the late autumn.

Urann is reportedly the first person to attempt the commercial canning of cranberries in 1912. He had experimented with small scale canning in his own kitchen, but applying the latest technology to produce tinned cranberry sauce on a large scale was a tremendous innovation. His Ocean Spray brand of canned cranberries proved a market success and spawned several competitors, which whom he formed the CCI cooperative. Although fresh fruit sales continued to outstrip cranberry products until the 1950s, the application of technology slowly began to transform the industry. Not only did it allow producers to market cranberry products year round, it also diversified their product offerings and provided a use for those cranberries not of high enough quality to sell as fresh fruit.

Beginning in the late 1920s, a strong relationship between food technology scientists at the University of Massachusetts and the cranberry growers’ associations and cooperatives fed the development of new cranberry products. As a 1930 bulletin from the Massachusetts Agricultural Experiment Station tellingly reports:

19 For a detailed discussion of the rivalry between the ACE and CCI and the eventual decline of the former, see Jesse and Rogers, 2006: 25-26.
Cape Cod cranberries have long had an enviable reputation. In order that their popularity with the consuming public may continue, it is essential that their nutritional value be known and that a high standard of quality be maintained. This investigation was undertaken in an attempt to define chemically standards of quality and nutrition in this product (Morse, 1930).

Further food science, technology, and nutrition studies by Massachusetts State College researchers throughout the 1930s and 40s explore best practices for storing fresh cranberries and for manufacturing various products including juice, the effects of manufacturing on nutritional aspects of cranberries, and the development of cranberry syrup as a pharmaceutical delivery vehicle (Clague and Fellers, 1934; Fellers, 1932; Isham and Fellers, 1933; Levine, Fellers, and Gunness, 1940; Licciardello, Esselen Jr., and Fellers, 1952; Lubitz, Fellers, and Clague, 1940; Rice, Fellers, and Clague, 1939). These studies were often conducted in partnership with industry with the assistance of funding from the ACE or CCI; as the 1936 ACE Annual Report states, ‘for several years the Exchange from its advertising fund has supported a fellowship for the express purpose of making research for the food value of cranberries’ (ACE, 1936: 6).

During the second world war, processors expanded into dried fruit and other processed products in order to satisfy military needs. After the war research and development efforts continued, bolstered by the food science research coming out of the State College, and leading to new products such as frozen fruit, relishes, and the first cranberry cocktail beverages. Although it would still be several years until the iconic cranberry juice cocktail took hold, its foundation was clearly established by the successful cranberry processing of CCI (which changed its name to the National Cranberry Association (NCA) in 1947) and their Ocean Spray brand.

Juice processing was also an immeasurably important innovation for the cranberry industry. Ocean Spray was the first to create shelf-stable juices that did not require refrigeration, beginning with the first Cranberry Juice Cocktail (CJC) in 1931. The significance of this product was perhaps not realized at the time, as most cranberry sales were still in fresh fruit or canned sauce, but by the 1960s CJC and cranberry juice blends had become central to Ocean Spray’s production. They were also the first company to introduce the ‘juice box’ – a single serve, cardboard box-shaped container with its own drinking straw attached – in 1981, planting their juice in the hands of children and active adults. In more recent years, the craisin – the dried hull of the cranberry infused with cranberry juice and sugar syrup – has proved highly popular among consumers and has also enabled producers to sell a part of the fruit that would previously have gone to waste.

Marketing and the Foundations of Nutritionism

During a personal interview in 2013, a marketing executive of a large cranberry handling company explained that there are many attractive attributes to the cranberry, including its colour, flavour, visual appeal, and health, and their marketing incorporates all of these elements. Historic marketing of cranberries is no different. For as long as cranberries have been advertised, they have been portrayed as healthful, flavourful, economical, and convenient, often all in the same advertisement. The visual appeal of the vibrant berry has also been drawn upon frequently through
colourful depictions of the fruit and its products and heavy use of the colour red. As early as 1907, an advertisement for Makepeace Evaporated Cranberries describes their product as ‘pure healthful and appetizing’ and ‘more convenient and economical than fresh fruit’ (A. D. Makepeace Co., 1907). These attributes of the cranberry have been drawn out in different ways as new products have been developed and different market segments targeted. While not every campaign focused on the health value of cranberries, this attribute has proven to be a crucial element in the continued popularity of the fruit.

While individual producers did advertise here and there in the early days of the twentieth century, the large-scale marketing of cranberries began with birth of the cooperatives. The initial purpose of the ACE was to provide the infrastructure for growers to get their fruit from the field to the market, but in 1916 they began to try their hand at marketing the fruit as well. Their first major advertising campaign was conducted in 1918, and by 1928 the ACE Annual Report included a chart detailing the increased value of cranberries year by year in relation to advertising dollars spent which supported the continued practice of investing cooperative money into marketing. The report states that ‘hundreds of thousands of people do not know how good and how economical cranberry sauce really is – and to increase the sale of cranberries, we must continue with good sound advertising and merchandising’ (ACE, 1928: 10). In 1934 they ran a campaign for six weeks during October and November, including advertisements in 142 daily newspapers, six national medical journals, two national retail grocery journals, and seven national women’s magazines. They also distributed ten million recipe cards in boxes of their branded cranberries, along with 136,360 recipe books to consumers (ACE, 1934). Advertisements focused on communicating three ideas to the consumer: that cranberries were economical, that they were healthful, and that they were easy to prepare. Print advertisements focused equally on all three attributes, while free recipe cards and booklets strategically introduced consumers to practical uses for the fruit. An example is a 1919 full-page magazine advertisement for the ACE’s Eatmor brand of fresh cranberries, stating that ‘cranberries should be on the table every day. They are the most delicious – healthful – economical of fruits’ alongside four cranberry recipes with illustrations in a vibrant shade of red (ACE, 1919). As cranberry sales were generally limited to Thanksgiving and Christmas time, their advertising was limited to this season as well.

The intensive marketing of cranberry that marks the beginning of the fruit’s transition from seasonal specialty to everyday foodstuff is inextricably linked to Ocean Spray, processed cranberries, and the indomitable presence of Urann. With the advent of canned cranberries, CCI and their Ocean Spray brand began to take advertising to a new level as they marketed their products year round. The overall strategy for marketing Ocean Spray cranberry products was similar to that of the ACE: to convince their buyers – who were nearly all women – that this was a delicious, healthy, and convenient food to feed their families. However, the additional goal of extending the season and convincing people to use cranberry sauce year round led to much more extensive and varied marketing campaigns than ever before.

Although healthfulness is mentioned in earlier cranberry advertisements, it often appears as a general theme, drawing upon the fruit’s reputation for wholesomeness rather than any particular nutritional knowledge (e.g., ACE, 1919; Makepeace, 1907). With the introduction of the first processed cranberry beverage, that began to change.
When the first incarnation of Ocean Spray Cranberry Juice Cocktail appeared in 1933, it was touted as ‘a pleasant, smooth drink with delicious flavor and sure relief from faintness, exhaustion, and thirst. A glass when retiring promotes sleep and a clean mouth in the morning – even to the smoker’ (Pederson, 1994: 416). While this advertisement still draws upon a general idea of healthfulness, it appears to be the first to make specific health claims for cranberries. Another advertisement from circa 1940 proclaims: ‘Cranberry Juice Cocktail, a food drink! Contains iron, iodine, phosphorous, calcium, manganese, copper, vitamin A, vitamin C. Aids Digestion!’ and ‘for stamina and endurance, Ocean Spray brand cranberry juice (with only enough sugar and water to make palatable), a food not a beverage’ (as cited in Zarritt, 169). This advertisement draws upon the budding field of nutritional science, and in particular the research on cranberry’s nutritional profile conducted by food scientists at the Massachusetts State College, which intensified in the 1930s.

The 1940 advertisement is typical of what Scrinis calls ‘the era of quantifying nutritionism’ (2013). Nutritionism, as Scrinis defines it, is a way of understanding food that is ‘characterized by a reductive focus on the nutrient composition of foods as the means for understanding their healthfulness, as well as by a reductive interpretation of the role of these nutrients in bodily health’. Scrinis argues that the foundation of nutritionism was laid in the late nineteenth and early twentieth centuries, when the budding field of nutritional science set out to identify the chemical constituents of foods and quantify the necessary intake of these nutrients to support human health, both in terms of healthy development and the avoidance of disease. It was during this era of quantifying nutritionism that the familiar food composition units of proteins, carbohydrates, fats, and vitamins were first discovered and analysed, as well as the role of vitamins in common nutrient deficiency diseases. Thus foods containing these vitamins became known among nutrition experts as ‘protective foods’ (Scrinis 2013: 66). The lay public, as well, developed a fascination with vitamins and their ability to soothe their anxieties about the nutritional deficiency of modern foods (which many nutrition experts vocally emphasized) and their fears about diseases of deficiency. Apple calls this fascination ‘vitamania’, a craze in part driven by a ‘consumer culture’ in which ‘vitamins became a symbol of the benefits of science available to all’ (Apple, 1996: 179; see also Levenstein, 2003). As Scrinis observes, ‘food manufacturers played on this new fascination with vitamins and concerns over vitamin deficiencies in advertisements that highlighted the health benefits of the vitamins naturally occurring in their foods or those added during processing’ (2013: 67).

The media, loving a bit of sensationalism, reported on the deficiency of the American diet, fuelled by government studies showing that many Americans were deficient in at least one important nutrient. While it seems that the recommended daily allowances upon which such studies were based were inflated by today’s standards, the damage was done: ‘a wave of anxiety swept across the middle class regarding the nutritional inadequacy of industrially produced foods and unbalanced diets’ (Scrinis, 2013: 68). The vitamin craze contributed to a developing ‘perception of nutrient scarcity among those with access to a diverse and plentiful food supply’ (Scrinis, 2013: 68). As this suggests, it was not those whose diets were deficient who bought into vitamania, but rather the more affluent middle class. This fascination with vitamins went beyond the avoidance of deficiency diseases, since by the early 1900s middle class Americans did not generally suffer from pellagra or scurvy. Rather, vitamania captures the ‘better
living through chemistry’ zeitgeist, fuelled by consumers’ desires to live better and longer by consuming more vitamins, and food manufacturers’ response to and harnessing of these desires. These expectations are the direct foundations of the discourse of functional nutritionism that fuels a great deal of the promotion and consumption of superfoods today.

Throughout the 1930s, 40s, and 50s, cranberry juice cocktail remained a minor – yet growing – product, and the majority of cranberries were still sold either fresh or as cranberry sauce. Thus marketing focused mostly on distributing recipes. During the war years marketing ceased altogether as the majority of the crop was dried and sent to troops overseas. It was not until the early 1960s that Ocean Spray shifted its focus to juice, and it took a nationwide cancer scare to do so. In 1959, a small portion of the national cranberry crop was found to be tainted with the carcinogenic agricultural chemical aminotriazole. The alarm raised by the federal government rendered the entire crop unsellable and marred the reputation of the industry. Ocean Spray executives realised that their business was too dependent upon seasonal sales, and began to diversify.

Recognizing the beginnings of a consumer preference trend towards health-oriented food products, Ocean Spray focused its attention on improving its cranberry juice cocktail and developing a range of cranberry juice blends. While these juices were also promoted for their flavour and visual appeal, their health benefits were nearly always emphasized. For example, a 1964 print advertisement for cranberry juice cocktail describes it as a ‘dynamic new partner for orange juice: cranberry juice – healthy and rich in Vitamin C’ (Ocean Spray, 1964). In the early 1970s, the Ocean Spray juice line was marketed with the slogan ‘It’s good for you, America!’ in response to an increasingly health-conscious public. Ocean Spray juices were positioned as a healthy alternative to soda and other carbonated beverages. A survey in the early 1980s found that consumers associated the Ocean Spray brand with healthy, ‘natural’ products. Throughout the 1980s and 90s marketing sought to associate Ocean Spray with the healthy, active consumer by introducing single-serve paper packaging and by working in tandem with major athletic events such as the 95th Boston Marathon (Pederson, 1994). The perception of cranberry as a ‘natural’ source of nutrients continues to contribute to its popularity as a superfood; as a 2007 article in the trade journal Functional Foods and Neutraceuticals notes, ‘in a world increasingly perceived as degraded, especially when it comes to modern food production, the naturalness of the fruit sell and its intrinsic healthfulness – backed by convenient delivery platforms and innovative packaging – have propelled many of these [superfood] fruits into the public eye’ (Starling, 2007: 22). The article goes on to explain how the marketing of familiar fruits with a reputation for naturalness and healthfulness, such as cranberry and blueberry, set the scene for the popularity of superfruit products: they ‘took scientifically backed nutritional payloads and developed sophisticated marketing campaigns to educate the public and entice it to purchase equally sophisticated end products’ (Starling, 2007: 22). By the 1980s it was, and continues to be, a combination of cranberry’s perceived naturalness, nutritional science research

20 The popular phrase ‘better living through chemistry’ is actually a shortened form of DuPont’s 1935-1982 advertising slogan ‘Better Things for Better Living...Through Chemistry’. 
confirming the fruit’s health benefits, and the marketing of both that sold cranberry products.

**The Relationship Between Research, Product Development, and Health Marketing: Superfood Foundations**

Long before the cranberry was considered a superfood, it was a food and medicine for many Native American peoples. It also quickly became valued by English settlers through processes of adoption of Native American food and medicine practices and adaptation of the fruit to European culinary and medicinal paradigms. Prior to its large-scale commercialisation that began with widespread cultivation of the fruit in the mid-nineteenth century, cranberry already held great significance in the cultural, social, and economic spheres of both indigenous and colonial communities. Further, the cranberry continues to anchor contemporary Wampanoag tribe members to their heritage, their history, and their lands. Its historical and cultural embeddedness reminds us that the cranberry has not always been, and may not always continue to be, a superfood – nor is its superfood status of primary significance to many people today.

Throughout the recorded history of its human use, the cranberry’s success has relied on its synthesis of aesthetic appeal in both appearance and taste, pharmacological value, and ease of use, being both convenient and long-lasting. Despite these attractive qualities, its transformation from a regional staple to an international food product was never a given. Why should one particular sour berry from a soggy corner of the Americas have achieved such global recognition? The answer to the commercial success of cranberry as a global food product rests on the trinity of alliances with researchers, industrial processing and distribution, and the marketing of health.

Alliances between the cranberry industry and university researchers have been crucial to the success of the cranberry industry, and there are three types of research that these alliances have produced that have enabled the industry to develop its agronomic, product development, and marketing facets. The agricultural science work of the state experiment stations has enabled growers to increase yields, decrease risk, and produce more consistent crops. Food science research has assisted producers in the development of processing technologies, which has enabled the physical transformation of cranberries from sour berries requiring cooking and sweeting to a variety of ready-to-eat products. And nutrition and health research have improved the public profile of cranberries and bolstered health-focused marketing efforts. These impacts are visible in publications, reports, and marketing materials from the 1920s through the present day.

The cranberry is a fruit that has limited appeal in its fresh form, as it is generally considered too sour to eat without sweetening. Thus while the industry did meet with success selling fresh fruit until the middle of the twentieth century, it was the processing of the fruit into convenient, ready-to-eat products that brought it to the level of international commercial success enjoyed today. The international presence of cranberries is, of course, also related to more extensive and faster food transportation networks and related technologies, but, I would argue, to a lesser
extent than many other fruits, because of the fact that the vast majority of the fruit is sold in processed forms with very long shelf lives, and has been for some time. Very few people consume cranberries as fresh fruit today, purchasing nearly ninety-five per cent of the fruit as juice and a smaller portion as cranberry sauce, sweetened dried cranberries, and nutraceutical products (Geisler and Huntrods, 2013). Thus the physical transformation of the cranberry from a sour berry to a sweet sauce, juice, snack, and medicine through large-scale industrial processing is a second key element in the fruit’s success.

Finally, the cranberry has undergone an ideological transformation through the extensive marketing of cranberry products, and in particular the marketing of cranberry’s health benefits. While it has always been considered a healthful product, in its early history as a commercial product it was primarily associated with either holiday consumption as an accompaniment to turkey or chicken, or as an ingredient in sweet desserts. These limited uses had to be surpassed if consumers were to buy enough cranberries to support a constantly growing scale of production. The development of cranberry juice cocktail and juice blends and the positioning of these beverages for the health conscious consumer through extensive marketing campaigns have increased consumer knowledge and preference for the fruit.

But it is not marketing alone that has contributed to the ideological transformation of cranberry from food, to health food, and eventually to superfood. This transformation is inextricably linked to the way in which the healthfulness of food has been increasingly studied, interpreted, and represented by nutritional scientists and understood by the public through the paradigm and discourse of nutritionism. Nutritionism, or the nutrient-reductive view of foods, functions as a paradigm for nutritional science by providing a framework of understanding in which scientific knowledge is generated (Scrinis, 2013: 11). But it also functions as a discourse, or a way of communicating, through which not only nutrition scientists but also food producers and the public talk about and understand food. In particular, the discovery of vitamins and the vitamania that swept the consuming public set the stage for cranberries to become celebrated not just as folklorically understood healthful foods, but as scientifically validated nutritional vehicles. Cranberry producers were among the early adopters of the use of nutritionism to market their products through an advertising focus not only on the general healthfulness of cranberries, but their particular vitamin content and therapeutic actions on the body.

In recent years, a number of studies have been published associating cranberries, and in particular cranberry juice, with urinary tract health. Other studies have begun to emerge exploring a range of other health benefits of the cranberry, including antimicrobial activities, anti-cancer properties, cardiovascular benefits, and dental health support (Cranberry Institute website, http://www.cranberryinstitute.org/health_research/Healthresearch_HR.html accessed Nov 3, 2014). The industry has assisted in funding many of these studies, and has distributed the findings through media and health professional education campaigns. A 2002 consumer study found that 68% of consumers purchase cranberry products for health benefits, while 91% purchase them for the taste (Barnes, Kagan, and Pinto, 2002). As such the cranberry industry has also begun to branch out into the production of nutraceutical products, such as cranberry extracts sold as supplements for the support of bladder health (see Decas nutraceutical document).
Thus the marketing of cranberry for health as substantiated by science that began over a decade ago continues today.

The other side of the coin of the focus on cranberry’s nutrient profile and therapeutic benefits is the perceived ‘naturalness’ of cranberries and cranberry products. This aspect of the fruit is not emphasized in older advertising or marketing campaigns, most likely because the Western diet had not yet become so heavily dependent upon highly processed foods. This changed by the late 1950s; a 1959 advertisement describes Ocean Spray cranberry sauce as a ‘natural mate for every meat’ with ‘14 vitamins and minerals plus more natural fruit pectins than oranges, apples, bananas or any other fruit!’ (Ocean Spray, 1959). Today cranberry marketing material combines the emphasis on cranberry’s scientifically substantiated health benefits with its perceived naturalness and transparent production practices to secure its superfood status.
Chapter 3 – Problematising the ‘Natural’: Superfood Production and Human/Nature Relationships

In Ocean Spray’s ‘Straight from the Bog’ campaign, which launched in 2005, two charismatic actors portraying growers stand amidst a sea of vibrant red cranberries, discussing the healthfulness and deliciousness of their crop in a humorous tone (Figure 2). The scenery of the campaign, which was shot in an actual cranberry bog in Oregon, is breathtaking: bright red fruit, deep green pine trees, and clear blue sky dotted with fluffy clouds. The ‘growers’ are Henry, the old veteran, and Justin, the enthusiastic young farmer, and both wear rubber waders and baseball caps as they speak to their audience ‘straight from the bog’. The campaign not only builds upon cranberries’ reputation as healthful, but also embeds cranberry production in the natural world and represents cranberry growers as down-to-earth small farmers. ‘The unspoken, implied message the actors deliver: Because cranberries come straight from the bog, they are fresh, natural, authentic, the real deal,’ observes New York Times journalist Stuart Elliott (2005). The campaign met with enormous success, with market share increasing and cranberry juice sales rising over ten per cent in its first year (Petersen, 2006).

Like past advertising, this campaign places a strong focus on communicating the healthfulness, deliciousness, and versatility of cranberries to consumers. The content of the campaign hinges on the core ideas that cranberries are rich in nutrients that purify the body and protect the immune system and that cranberries are sweet and versatile as both food and drink. However, the implicit messages, communicated through the setting of the advertisements and the portrayal of the growers, mark this campaign as different from previous advertising by creating a picture of cranberry production. Primary production, which was never mentioned in past campaigns, is suddenly front and centre as consumers are addressed by two growers standing knee-deep in cranberries. Although this advertisement is a carefully constructed representation of production, it is also a public acknowledgement that cranberries are agricultural products that must be grown somewhere, by someone. In the images of the ‘Straight from the Bog’ campaign, cranberry production is placed firmly in nature, in all her autumnal beauty, and conducted by the kind of small farmer that our grandparents might have known. This naturalised and nostalgic representation of primary production recognizes the rise of what Barendregt and Jaffe term ‘eco-chic’: ‘a combination a lifestyle politics, environmentalism, spirituality, beauty, and health, combined with a call to return to simple living’ (2014: 1).

This advertising campaign brings up a central aspect of superfoods discourse that requires closer scrutiny: the discourse of naturalness, in which superfoods are explicitly represented as products of nature and not of industry. In superfoods discourse, the natural stands in opposition to the industrial and the technological, both in terms of the foods themselves – that is, superfoods are set apart from other functional foods and nutraceuticals produced through blatant technological intervention – and in terms of how they are produced using ostensibly natural practices that take place on a farm, not a factory, and are conducted by farmers, not scientists or businessmen. Yet this discourse is built upon deeply rooted contradictions in how humans conceive of nature and what makes something natural,
as well as an overly simplistic binary opposition between industrial and natural food production.

This chapter takes a closer look at how the discourse of naturalism is deployed in superfood production-consumption circuits, and the tensions that exist between representations of superfoods as natural and production practices. I continue to look at the case of cranberries, moving from history to primary production. I draw upon fieldwork conducted in 2013 and 2014 among cranberry growers in Massachusetts, the historic home of cranberry production, to examine issues arising as part of contemporary agricultural production that is at once local and global in scope. By taking this approach I aim to acknowledge the significance of primary production in superfood networks, and to emphasize that no amount of savvy media or consumer desire can create a superfood product without someone, located somewhere, getting her hands dirty. I further aim to take a closer look at this dirty-handed producer and her world in order to illustrate the complex and varied ways in which primary production is tied up with the natural world, as well as the ways in which the natural, the social, the technological, and the economic are everywhere entangled.

**Problematising Nature and the Natural**

The advertising campaign with which this chapter began acknowledges that ‘nature sells’. Consumers often show a strong preference for naturalness in foods (Rozin et al., 2004), prizing ‘natural’ foods because they perceive them to be healthier, safer, and of higher quality than ‘industrial’ foods (Buck et al., 1997; Lupton, 1996; Santich, 1994; Tovey, 1997). Privileging the natural over the technological is a key part of superfoods discourse. Superfoods are celebrated not only because they are nutrient dense, but also because they naturally possess this quality. As early as 1987, The Superfoods Diet Guide describes superfoods as ‘foods Mother Nature blessed with a cornucopia of nutrients’ (1987: 1). By focusing on their inherent nutritional value, they are set in opposition to supplements and so-called functional foods, which are fortified, enhanced, or otherwise altered to increase their nutrient contents. For example, in advocating blue-green algae as a superfood in The Blue-Green Algae Revolution, Cribbs derides supplements as ‘synthetic combinations of isolated vitamins and minerals’ that ‘the body cannot recognize...as food and therefore does not absorb them completely’ (1997: 20), but ‘unlike other supplements, blue-green algae contains vast reserves of naturally occurring minerals which the body can assimilate very easily’ (19). Supplements are described as ‘synthetic’ and therefore not appropriate for the ‘natural’ body, while blue-green algae’s nutrients are ‘naturally occurring’ and therefore more suitable for nourishing ‘natural’ bodies.

Underlying superfoods’ naturalness is an assumption that their production, too, is a natural process rather than an industrial one. Privileging the naturalness of superfoods in both their materiality and their production is one way in which the discourse of superfoods critiques industrial food production – both its products and its methods. The rationale for why consumers need superfoods draws from this critique: in Superfoods, Van Straten and Griggs explain that foods that are ‘the product of agribusiness and global contamination’ are ‘often deficient in essential micronutrients’ (1990:14). Similarly, Cribbs explains that ‘over-refined food, chemical residues and pollution are leaving us severely malnourished and in poor health’ and
'food in our shops is less nutritious than even twenty years ago' (1997: 17). Superfoods, on the other hand, are described by advocate David Wolfe as ‘clean, hormone-free, pesticide, and chemical-free’ sources of nutrients that ‘can and should be consumed in raw and organic form’ (2009: 4). Wolfe further explains that ‘because superfoods have a high level of inner vitality and life-force energy, they can be grown organically without chemicals or artificial fertilizers’ (2009: 4). These arguments outline a dichotomy in which foods that are the products of ‘agribusiness’ and industrial processing are cast not only as insufficiently nourishing, but also as the culprits in the degradation of public health, while superfoods are represented as the solution to unhealthy modern diets precisely because they are free from the taints of industrial agriculture.

The ‘Straight from the Bog’ campaign plays upon this dichotomy by portraying cranberry production as a process embedded in nature, with nothing to suggest the industrial or technological in sight. There is, of course, an element of truth to this portrayal: every cranberry begins its life in the dirt under the open sky. But there is also a great deal missing in this production story. For example, no cranberry grower would ever stand waist-deep in a flooded bog without harvesting machinery close by. Cranberry bogs are flooded to make harvesting easier; flooding the bog and then agitating the vines causes the fruit to float on the surface of the water where they can then be rounded up by farmers and herded into a machine that sucks up the fruit and dumps it into waiting trucks (Figure 3, Figure 4). This process is known as wet harvesting, and it is the primary way that cranberries are harvested today. However, this method is only suitable for fruit that is destined for processing into juice, sauce, or dried sweetened cranberries; the small number of cranberries that are to be sold fresh or frozen must be dry harvested. This is one example of how contemporary commercial cranberry production entails much more than a plot of land and a couple of rough blokes; it is at once a process that engages with the natural world and a highly technological and industrialised process, conducted by farmers who are as much cosmopolitan businesspeople as down-to-earth folk.

What does it mean, then, to portray cranberries and their production as ‘natural’? In order to understand not only the implications of this portrayal, but also the basis of consumer preferences for naturalness in foods and its use in superfoods discourse, it is important to situate cranberry production within the rubric of globalization. Globalization of food refers to the processes – technological, political, economic, social – through which food production can take place at great physical distances from places of food consumption (Bonanno et al., 1994). Complex linkages involving a range of actors, relationships, and technologies connect sites of production and consumption in such a way that producer and consumer are often unknown, and unknowable, to one another (Goodman et al., 1987; Goodman, 1999). Technologies of standardized production, transformation, preservation, transportation, and communication contribute to these processes, but it is not technology alone that is responsible for the globalization of the food system. The flow of capital across international borders through the figure of the transnational corporation is a significant driving factor, made possible by the institutionalising of neoliberal ideology through deregulatory policies encouraging the growth of international trade and development of export markets (Harvey, 2005).
Globalized food provision attempts to control the biological and physiological characteristics of food in order to make food transportable across great distances and time spans. Paraphrasing Goodman et al. (1987), Murdoch and Miele explain ‘how capital seeks to “outflank” nature in the food sector’ through the two interrelated processes of appropriationism, ‘the attempt by industrial capitals to replace previously “natural” production processes by industrial activities’, and substitutionism, ‘the way industrial capitals seek to substitute their products for natural products in the food system’ (1999: 467). Examples of appropriationism include the use of chemical fertilizers, pesticides, herbicides, and fungicides, and the production of hybrid, and, more recently, genetically modified seed, while examples of substitutionism include synthetic supplements and fortified or enhanced functional foods. The processes of appropriationism and substitutionism work in tandem to remove biological constraints from food production processes, ‘so that, in some sense, nature is “domesticated”’ (1999: 467).

Although the standardized products of globalized food provision are ubiquitous, recent years have witnessed increasing backlash against this complex, distanced system and its inherent disconnection of humans from nature and from each other. This renewed interest in local and traditional foods is, in part, a result of affluent consumers seeking distinction, but it is also a reflection of the sense of distrust that many consumers feel regarding industrialized food production. Food safety concerns are central here, as a number of high profile contamination scares have led consumers to question the way in which food is produced. Activism, too, plays a role; consider the vocal outcry against and general public distrust of genetically modified foods. The processes of appropriationism and substitutionism by which foods are denaturalized are often seen as the culprits, contaminating foods’ natural goodness with the taint of human intervention. Although there is clearly a strong moral element at play, whereby nature is associated with goodness, there is also a more rational fear of the unknowability of the provenance of globalised, industrial foods. ‘Natural’ foods whose origins can be traced to a specific, knowable place and whose production processes appear to be transparent are seen as safer and of higher quality than standardised, globalized, ‘unnatural’ foods (Nygard and Storstad, 1998). Thus ‘locally recognizable foodstuffs, which bear clear traces of the “clean” and “green” environments in which they have been produced, become desirable objects of consumption for they enshrine both product differentiation and proximity to nature’ (Murdoch and Miele, 1999: 469). The preference to consume one’s vitamins in the form of a purportedly natural superfood instead of a lab-created supplement or functional food can, in part, be attributed to this backlash of distrust towards standardised, globalised food production.

The contradiction inherent in the privileging of superfoods for their natural qualities and production practices is that many superfood products are not, in fact, particularly natural in either attribute. For example, cranberries are very rarely eaten as whole, fresh fruit. Over ninety-five per cent of cranberries grown are processed, primarily into juice but also into cranberry sauce, dried sweetened cranberries, and nutraceutical products (Geisler and Huntrods, 2013). To make cranberries into juice, the fruit not only has to be crushed and filtered but also sweetened and mixed with water. Fruit is sometimes frozen and transported to a handling facility before juicing, and cranberries from many different farms can go into a single batch of juice. Most cranberry juice is made in factories, using industrial machinery, packaged in
manufactured bottles, and transported to shops around the world for retailing. Although the juice is based upon ‘natural’ cranberries, it is also dependent upon a number of technological and industrial processes. Even the naturalness of a fresh, unprocessed cranberry is debatable when one considers standard cranberry production practices that include the use of machinery and agricultural chemicals; as Friedland (1994) has observed, the ‘freshness’ of fresh produce is often something that has been manufactured.

This naturalness conundrum does not only apply to cranberries, but to other superfoods as well; the other case studies reveal similar contradictions. Maca, for example, is dried and ground to a powder using industrial machinery, and sometimes encapsulated, before packaging it and transporting it halfway around the world for consumption. Chia seed is frequently sold in its whole form, but it is often either packaged or transported great distances, or both. And while both of these products may make claims about sustainable production practices, they are still produced as mono-crops using various agricultural technologies. Thus the natural versus industrial dichotomy is rather misguided; even my own assertion that superfoods may not be as natural as they appear is based upon what Goodman (1999: 17) calls ‘the modernist nature/society dichotomy’ in which nature and society are dualistically separated, when in fact they are mutually dependent and constitutive. This dichotomy is at the heart of the naturalness conundrum: where does one draw the line between what is natural and what is human-made, particularly in the realm of food, where food is both produced and consumed through the interaction of social and natural processes?

In this sense, the preference for ‘natural’ superfoods instead of functional foods or isolated supplements can be read as a recognition of the ‘shared corporeality’ of social and natural processes, that is, ‘the relational materiality of ecologies and bodies that characterizes agro-food networks’ (Goodman 1999: 18). Food production and consumption are processes that are both natural and social; they involve humans working on the natural world but they also involve the natural world working on humans. Studies that apply actor-network theory, and, more recently, assemblage theory, to the analysis of food provisioning make a large contribution to understanding how non-human actants can be seen as having agency in this regard. Consider, for example, the role of Callon’s (1986) scallops, whose refusal to anchor contributed to the collapse of the St. Brieuc Bay cultivation project, or Henry and Roche’s (2013) description of the ‘lively materiality’ of animal bodies that disrupt profitability in New Zealand’s red meat sector. Cranberry production can be viewed in this way, and we don’t have to look very far into the origins of commercial production to find an example: nearly immediately, as soon as large, mono-crop cranberry bogs were planted, growers began having problems with pests – nature struggling against being domesticated (Webb, 1886). While for much of the recent history of agricultural production, the story line has seemed to be humans using technological fixes to subdue nature, superfoods are placed as part of a competing story line in which humans must recognize the integratedness of the natural and social, and produce and consume food with respect for our interdependence.

These competing story lines of food production point to the duality of contemporary engagements with nature as both a resource to be used by humans and an abstract moral good that humans must care for, or what Eder calls ‘the double structure of the
modern experience of nature’ (1996: 143). Nature is at once something to be studied, measured, and taken advantage of, and something to marvel at from a distance with a ‘look but don’t touch’ reverence and respect. It is the source of raw materials for building human societies, but also the simple, pure, and clean foil to our increasingly complex and polluted built spaces. The tension between these two understandings of nature leads to ‘antagonism between cultivated land and wilderness’ and ‘antagonism between dominance and protection of nature’ (Eder, 1996: 147). Nowhere is this tension more apparent than in the field of food production. Consumers’ perceptions of nature are often tinged with morality, not only viewing foods perceived to be natural as inherently good, but also expecting food production to be conducted in such a way so as to conserve nature in her fragility. Thus we see the rather benign image of cranberry production in Ocean Spray’s campaign, in which the growers are not shown to be doing anything to nature but rather standing amidst her splendour in a touristic manner. This image implies that foods perceived as natural are produced in a way that is in harmony with nature, and hides the uncomfortable tension between utilizing nature for the benefit of humans and caring for nature for her own sake.

This tension is significant because one’s view of nature informs how one interacts with the natural world, with particular emphasis on the practices of primary agricultural production. Yet there is not necessarily a black and white distinction between those who view nature as a resource for human use and those who view nature as an abstract moral good. One way to address this inherent blurriness of worldview is to focus on the practices of individual producers. Thus the latter part of this chapter, which takes a closer look at discourses and practices in relation to nature in cranberry production, culminates in a discussion of producers’ practices as they relate to nature and the natural. This approach is inspired by calls to move beyond nature/culture dichotomies (e.g. Haraway, 1991; Ingold, 1995) and instead explore the worlds we inhabit as ‘a “hybrid” enterprise...concerned with the living fabrics rather than abstract spaces of social life; relational configurations spun between the capacities and effects of organic beings, technological devices and discursive codes within which people are differently and plurally articulated’ (Whatmore, 2000: 266). As we shall see, producers conceive of and interact with the natural world in different ways that are deeply connected to the social, economic, technological, and political circumstances in which their work and lives are embedded.

**Background to the Massachusetts Cranberry Industry Today**

Southeastern Massachusetts is Cranberry Country – or so it is affectionately referred to by locals. Driving through the region along the aptly named Cranberry Highway, one cannot miss the name and image of the cranberry adorning everything from cafes to churches. But this nickname is more than a tourism slogan; it sums up the intimate relationship between the region’s populace and its iconic fruit that pervades all spheres of social life. Cranberry production is not simply an industry here. Local livelihoods, identities, and values are deeply tied to these humble vines.

**Environmental Aspects**
It is the low-lying cranberry bogs, surrounded by native vegetation, that gives this part of the state its distinctive rural landscape (Sears, 2009). But these commercial cranberry bogs are not exactly natural, although they may appear to be so to a casual observer because they are ‘unobtrusive in a way that crops like corn and tobacco, which are planted in rows, can be never be’ (Gillespie, 1999: 69). They are made by humans, created by clearing and digging out an area to produce a uniform, rectangular plot that sits slightly lower than the surrounding land. As Gillespie points out, although ‘cranberry bogs are subtle landscape features, so embedded in their surroundings that the outside viewer may not realize that they are humanmade…the truth is that a great deal of work is involved in constructing the bogs’ (1999: 69). Naturally occurring cranberry bogs do exist; they are the predecessors of the commercial bogs that began to be built in the mid-nineteenth century. One such naturally occurring bog is found on Wampanoag tribal land on the island of Martha’s Vineyard. As any Wampanoag can tell you, you can’t rely on a large harvest from a naturally occurring bog. In 2014, the harvest was virtually non-existent, producing only enough fruit for ceremonial use despite some management efforts including weeding and draining by tribal authorities. Other years have produced more bountiful harvests, but production is inconsistent. Naturally occurring bogs do bear some resemblance to commercial bogs in their swampy nature and low vegetative cover, but they tend to have more weeds, less drainage, and much more irregular shapes than their commercial counterparts (Figure 5, Figure 6, Figure 7, Figure 8).

As the description of bogs suggests, cranberries are a wetland fruit, and the industry is heavily water intensive. Growers rely on water for frost control, flooding to control pests, and wet harvesting, the dominant harvesting method in the industry. Therefore, water quality is an ongoing concern. Historically, cranberry growers have used a variety of pesticides, herbicides, and fungicides that are today recognized as highly toxic, and residues of these chemicals can be found in riverbeds and soils. Chemical inputs are now regulated, but are still used systematically; regular bulletins published by the University of Massachusetts Cranberry Experiment Station instruct growers on when and under what conditions various pesticides should be applied. Environmental Protection Agency records show that most years, the Massachusetts cranberry industry applies for and receives exemptions in order to use banned pesticides deemed necessary for cranberry production (USEPA, 2014). Many bogs attempt to address the issue of water pollution by operating closed water systems, meaning that they recapture and hold the water they use on the bog. Chemigation, the application of chemical inputs through irrigation systems, also reduces the amount of chemicals needed and ensures that they are applied only in appropriate areas. Further, those wishing to apply pesticides must be licensed and are audited.

However, it is impossible to completely prevent chemicals from leaving the farm, particularly in the event of a heavy rain storm, which is hardly an unusual occurrence in southeastern Massachusetts.

In addition to the approximately 14,000 acres of harvested cranberry bogs, the Massachusetts cranberry industry manages approximately 48,000 acres of wetland and upland necessary to support the bogs’ ecosystem (CCCGA, 2013). This is a significant amount of land that is saved from development in a region where residential density is high, and these lands provide habitat for native species. At the

same time, one cannot stop many of these same species from visiting the bog after it has been sprayed. Wildlife may be impacted by exposure to pesticides, herbicides, and fungicides (e.g., Wan, Watt, and Moul, 1994; Pettis et al., 2013; Notestine, 2010). While a great deal of research has and continues to focus on ways to minimize the impact of cranberry cultivation on the environment, potential environmental and human health consequences of chemicals exiting cranberry bogs do exist (Aschengrau et al., 1996; Bannon, 2010; Hanson and Bender, 2007). In short, cranberry cultivation has a complex relationship with its immediate environment, both benefitting and harming it in various ways that are hard to measure precisely.

**Economic and Social Aspects**

The cranberry industry was born in Massachusetts, and while cranberries remain the single largest agricultural product of the state, it has not been the leading producer of the fruit for some time. Wisconsin surpassed Massachusetts’ cranberry production in the 1980s, and the Canadian provinces of Quebec and New Brunswick have been rapidly expanding production in recent years. Both Wisconsin and Canada have two advantages in terms of production volume that Massachusetts cannot compete with: space and geography. Wisconsin bogs tend to be built on expansive flat land in rural areas, while Massachusetts bogs conform to the varied terrain. Most cranberry farms in Massachusetts were constructed without heavy machinery, at a time when typical farm acreage was much smaller, and in parcels that reflect the natural topography of the land. As the suburbs of Boston have continued to encroach, less land has become available for agricultural uses. Expansion is really not an option for Massachusetts cranberry growers; increased efficiency through the application of modern technology and horticultural science is considered a more feasible possibility. Massachusetts cranberry growers feel the threat to both their livelihoods and their identities coming from increased production outside of the state. As a fourth generation grower explains, 'In Massachusetts we’re just so urbanized, and southeastern Mass is a wetland community, we just can't go out and expand our farms like Wisconsin can. I suppose that’s good, but because of it we’re losing the foothold of us being known as the cranberry capital of the world’. This observation points out one of the ways in which environmental, economic, and social aspects of cranberry production are interconnected.

The Cape Cod Cranberry Growers Association (CCCGA) reports that Massachusetts is home to 400 of the approximately 1,000 cranberry growers nationwide, and 70 percent of Massachusetts cranberry farms consist of less than 20 acres of bog (CCCGA, 2013). A recent study commissioned by the CCCGA suggests that a size greater than 60 acres is necessary for commercial producers to operate profitably (Zweigbaum, 2000). Further, yield per acre is seen as a key factor in decreasing the cost per barrel of cranberry production, both essential to maintaining a profitable business when competing with large out-of-state growers. Many Massachusetts farmers are growing Early Blacks and Howes, old native varieties that are generally not as high yielding as Stevens and other new hybrids favoured by Wisconsin and Canadian growers (Zweigbaum, 2000).

From a horticultural standpoint, farmers have become incredibly efficient at growing cranberries. This efficiency is in large part a result of focused horticultural research by university experiment stations and industry funded bodies. When large new
cranberry farms are constructed on flat land in Wisconsin or Canada, applying all of the current technology and planting high-yield hybrid varieties, yield per acre is remarkably high relative to cost of production per barrel. Thus, it has become nearly impossible for many Massachusetts growers to compete in the commodity cranberry market.

**Nature and Cranberry Production: Discourses and Practices**

In light of the complex environmental, economic, and social landscape against which contemporary cranberry production takes place in Massachusetts, different growers have adopted different strategies as both farmers and businesspeople. Rather than speak in generalities about the practices of different types of producers, I have chosen to report my findings by sharing the illustrative biographies of three cranberry producers with distinctive production practices in a case study format (Tulloch and Lupton, 2002). This narrative structure enables me to highlight examples of the ways in which producers using different strategies for growing, processing, and selling cranberries express different understandings of and interactions with nature through their language and practices. I have changed the producers’ names and identifying details in order to preserve their anonymity.

**Susan**

Susan is a fourth generation cranberry farmer. Together with her husband and her two teenage sons – who are both studying aspects of cranberry production in college – she farms about one hundred acres. The production acreage of the farm consists of two-thirds heritage varieties, planted long ago by her grandparents, and one-third of a standard hybrid variety. She is, in fact, quite proud of her heritage cranberry vines and extols their productivity, expressing a sense of terroir through connections between fruit, vines, land, and people. She even talks about the possibility of getting her vines DNA tested to measure their purity and ensure their future productivity.

Susan and her family live next to their bog. As I sat chatting with her in her dining room one afternoon, looking out onto the bucolic vista of her farm’s reservoir and the bogs beyond, I was struck by the intimacy of this relationship. She explains that her house has a nitrate reducing septic system, and that they drink water from a well on the property. Her point is clear: she values the health of her family, and therefore will not treat their immediate environment in a way that threatens their health. These connections – between the genetic stock of her fruit and that of her family, between the health of the land and the health of those who work it – speak to a sense of consubstantiality, in which the family defines itself, its history, and its wellbeing through their distinctive vines and the unique earth from which they spring (Gray, 2002). This does not mean that she does not use chemical inputs on her farm. Like most growers, she defends the monitored use of pesticides as a necessary practice, and does not view it as at odds with the responsibilities of stewardship.

The sense of stewardship that Susan expresses is frequently found among family farmers (Salamon, 1992). She sees herself as part of a lineage of growers who have been working the same parcel of land well into the past, and she imagines passing this livelihood on to her children. Therefore the health of the land and its ecosystem is
an important consideration as she recognizes the need to keep the land productive for those who will inherit it. She speaks of plans to pass down her operation to her children, so the sense of responsibility to future generations is quite tangible. Stewardship becomes less of an abstract concept and more personal when the livelihoods of one's own children are at stake. Yet this sense of stewardship is not to be confused with environmentalism; as Salamon finds, 'yeomen do not maintain the environment for its own sake, although they believe in this, but they practice stewardship of the land so that successors can farm good soils and maintain an agrarian way of life' (1992: 254). In this regard stewardship encompasses an understanding of nature as a resource to be utilized and managed by humans.

In light of this stewardship, Susan is quite aware of her farm's reliance on natural resources and the care growers must take in order to sustain production. She puts particular emphasis on water, which she calls 'the lifeline to our bog'. To care for this resource, she operates a closed bog system, in which water is recycled through the farm after use in order to be reused on the farm. This is not only efficient, it also prevents water from leaving the farm after a chemical treatment has been applied, which she describes as 'one of the things that we try and do in terms of being ecologically safe and sustainable for the farm'. Another practice she describes as 'sustainable' is integrated pest management (IPM), which is the science of closely monitoring the insects on the bog and applying treatments that target a specific lifecycle of a specific insect when it exceeds a certain threshold.

But operating a closed bog system and using IPM are not the only practices that Susan describes as sustainable; in fact, she uses a discourse of sustainability frequently in relation to many production practices. Most of the other practices she refers to using this language involve bog renovations and the installation of new technologies. She has renovated the old, irregularly shaped bogs so that the shapes are more even, which allows for more efficient watering, mowing, harvesting, and moving of water. She has installed pop-up sprinkler heads that reduce water usage, which are hooked up to computers that monitor the irrigation pumps. The computers are connected to temperature sensors on the bogs that automatically turn the sprinklers on and off to protect the fruit from frost damage on cold nights. This system saves a lot of water compared to the old method of leaving the sprinklers on all night, relying on human observation as to when it was safe to turn them off. This practice is also described as saving fuel to run the pump. To this end she has also added solar panels on the pump house to help run the computers and pumps. All of these technological practices that Susan describes as ways of being sustainable are those that simultaneously reduce costs and environmental impacts, merging economic and environmental priorities through the application of technology.

As a farmer producing food to sell in a capitalist system of provision, Susan is necessarily engaged in practices of profit making. To do so, she sells her fruit to an independent handler who makes generic cranberry juice. While her fruit is contracted to this handler, meaning that they are obligated to buy her cranberries, the price that they pay for her fruit is not set. She therefore receives the commodity price per barrel for her fruit. During the 2013 season she knew that the price she'd be getting was significantly less than the cost of production. And this, she says, is not sustainable. She explicitly uses the language of sustainability to refer to the economic priority of making a profit, and she ties her own livelihood to the industry as a whole:
'The fear in Massachusetts just with all of the changes happening is that, or the pricing, is that we’re going to lose a lot of cranberry growers in Massachusetts, just because, it’s not economically sustainable, even though we’re doing all these sustainable things for the environment'. For Susan, ‘sustainability’ can be seen as the guiding principle around which environmental, economic, and social priorities are organised. Her interactions with the natural world are thus interwoven with practices of profit making and continuity of the family farm.

Graham and Linda

Graham is a third-generation cranberry grower who operates his farm business with his wife Linda and their three children, in their late teens and early twenties. While Graham manages the farm, Linda runs much of the business and marketing side of the operation, and the children are all working in and studying different aspects of cranberry production. Graham talks about plans for succession in the future, but not quite yet: ‘it’s only 2013, and I don’t know what I’d do’.

Like Susan, Graham and Linda have renovated most of their bogs, including standardizing their shapes and laser grading their surfaces for more efficient cultivation practices. They have also installed many of the same new technologies, including solar panels, pop-up sprinkler heads, automated irrigation systems, and temperature probes. When I first arrived at Graham and Linda’s farm, the first thing I noticed was a large array of solar panels visible from the main road. My travelling companion on that day, a representative of one of several industry bodies, pointed to the array as an example of one the things that Massachusetts cranberry growers are doing to be ‘sustainable’. Similarly, Graham is often held up as an example of a ‘sustainable grower’ by others in the industry – he’s been featured in a United States Department of Agriculture (USDA) conservation showcase article, in a CCCGA publication, and the handler to whom he sells a small portion of his fruit likes to refer to him as his ‘sustainable grower’. Graham confides that a ‘sustainability story’ is part of marketing, whether that be of the Massachusetts cranberry industry as a whole or a particular grower looking to gain competitive advantage.

The specific renovations and new technologies that Graham and Linda have incorporated into their field operations are those developed by the USDA and the University of Massachusetts Cranberry Experiment Station. These organizations are among the social resources that support Massachusetts cranberry production. The Experiment Station, in particular, is a fixture of the local industry, and engages in research and outreach projects oriented towards developing agricultural practices that are beneficial in both ecological and economic terms. These two bottom lines are often equated and entangled in research and reporting to the extent that they often seem to be considered the same thing. As of late 2013, the Experiment Station was engaged in three projects that contained the words ‘sustainability’ or ‘sustainable’ in their titles, which shared a common goal of reducing costs to keep Massachusetts growers competitive and improving management practices to reduce environmental impacts (DeMoranville, 2009; DeMoranville and Averill, 2013; Sandler and DeMoranville, 2008). As one project report states, ‘growers must develop and adopt innovative technology to remain competitive’ (Sandler and DeMoranville, 2008). The Experiment Station, among other organizations, is instrumental in shaping the ways in which many Massachusetts cranberry growers interact with the natural world.
through discourses and practices of ‘sustainability’ that are intricately bound up with the application of technology.

Graham and Linda are very strategic about their farm business and have changed other practices in addition to their renovations and implementation of new technologies. In 2005 they sold off half of their land in order to free up cash flow and focus their farming efforts on the most productive land. With this cash they not only undertook renovations and installations of new technologies, but they also set up their own processing facility and created their own brand of high quality fresh and frozen berries, which they sell both domestically and internationally. They use a place-based name and image of southeastern Massachusetts in their branding and focus on quality control to differentiate their product from others. As such, they dry harvest the majority of their fruit and sell it whole, an unusual practice in the industry. These agricultural and business practices that position their products for the ‘eco-chic’ market are oriented towards maintaining their livelihoods as cranberry growers in a tough market, freeing them from volatile commodity pricing. In describing these business and profit making practices, they talk about ‘downsizing’, ‘increasing efficiency’, and ‘diversifying’ – the language of business discourse. They are farmers, but they are also savvy international businesspeople.

Underlying Graham and Linda’s production practices, both agricultural and business, is a sense of stewardship in which the family farm, as an environmentally situated business, is managed with respect for the use of its natural resources as well as its continued profitability for future generations, in this case by providing a profitable business for their children. This particular form of stewardship, with its dual emphases on land care and profit, is found in other studies of family farming culture (e.g., de Haan, 1994; Gasson and Errington, 1993; Salamon, 1992; Salazar, 1996). It is quite distinctive to family farms because it brings together ecological and economic rationality with sentiments of kinship and intergenerational care (Salazar, 1996). As such many of their practices are oriented towards the tacit goal of sustaining not environments or profits, but livelihoods gained through cranberry production. The persistence of these producers’ ‘livelihood identities’ as cranberry growers anchors them culturally, yet at the same time affords them the flexibility to innovate as they try new strategies aimed at sustaining their livelihoods in a changing field (Stone, 2003: 96). The sustaining of these livelihoods is not only for the farmers’ futures, but for those of their descendants. As Netting observes, ‘the very long time-horizon of the family’s intergenerational security and its valuable, heritable property give the smallholder household a unique perspective on sustainability’ (1993: 145).

Through their livelihood identities, Graham and Linda are bound to the natural world just as they are bound to economic and social realities. When I went out onto the bog with them, they took care to show me how they’ve renovated their bogs into even, flat parcels. Graham bent down to show me a miniscule pop-up sprinkler head, an example of a new technology of efficiency; he also bent down to pluck a tiny flower blooming on the cranberry vine, noting that in a few weeks the bog will be carpeted with blossoms. He pointed to some water fowl, a couple of herons, near the edge of the farm, and talked about how the industry supports a better groundwater system through the use of more targeted, less environmentally damaging pesticides and herbicides; he also pointed out some small sparrows hovering over one of the bogs, which he said indicated that there might be insects out there that required his
attention. To say that he views nature only as a resource to be managed or capitalised upon would be to oversimplify the complex dance in which both he and the natural world are partners. His considerations for nature cannot be disentangled from his considerations for his family and his business, and thus the practices that he adopts towards each of these entities are, in practical terms, those that best enable him to get on with the work of securing his livelihood identity for himself and his descendants. Yet what are we to make of Graham and Linda’s sale of half of their land in order to ‘increase efficiency’? This may make good business sense, but what are the consequences for the land itself, which may have been sold to another grower or to a residential real estate developer? In this case, livelihood identities seem stronger than the responsibilities of stewardship, at least in respect to caring for the land. The family’s livelihood is prioritised over caring for the land for its own sake; caring for the land is only seen as valuable as long as the human carers benefit.

### Alan and Brenda

Unlike the other producers profiled here, Alan and Brenda are not multi-generation growers. Instead, they got into cranberry production rather by chance, purchasing the farm adjacent to their property thirty years ago simply to prevent someone else from applying chemicals in their backyard. At the time Alan was making a good living as a fisherman and had no plans to cultivate cranberries on the old bogs. When he and Brenda went to Canada so he could work the fishing boats, they left their land in the care of their nephew who happened to have an interest in organic agriculture. They gave him permission to cultivate the fruit and do whatever he wanted with it. As it happens, the nephew succeeded not only in growing fruit on the property but also selling it for more than four times the price of commodity cranberries. Alan and Brenda took note, and when Alan retired from fishing as the industry started to suffer, he got to work cultivating certified organic cranberries on his bogs.22

Like other growers, Alan and Brenda also engage in practices that involve using technologies, but the types of technologies they use are quite different. Instead of using state of the art renovations and cutting edge technology, Alan uses the phrase ‘common sense’ to describe how he and Brenda developed their techniques for growing organic cranberries. They also learned a lot from looking at old books and publications from before the use of agricultural chemicals was common practice. Thirty years ago, when they started organic cranberry cultivation, they were pioneers of these new-old practices. At the time, nobody else was cultivating cranberries organically in the region, if not the country (and certainly not the world).

One of Alan’s cranberry cultivation practices is to keep the ecosystem in balance:

> If you blanket kill everything it takes 4 years to get your whole system back so that it’s working. Because you can’t kill all your pests, all your bad insects. If you kill all your bad insects then your beneficials have no reason to be there.

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22 Interestingly, while Alan and Brenda do not come from a lineage of cranberry farmers, they claim heritage by talking about how historically a lot of cranberry farms were started by retired sea captains, and how a lot of the language used to refer to the bog is the same as that of a ship.
So you have to keep that balance, and take a hit, a certain percentage hit, so that you keep everything on a level plane.

Brenda reports that this strategy is quite effective, and even notes that researchers at the Cranberry Experiment Station have found that a number of pests that commonly haunt conventional cranberry bogs are not a problem for organic growers: ‘The entomologist once had a meeting where she put up a list of five major cranberry pests, and she said, of course if you’re doing organically you don’t have to worry about this one, or this one, or this one, or that one’. Alan and Brenda also engage in other non-chemical cultural practices such as lowering the pH of the bog as cranberries can tolerate a low pH but many weeds cannot, hand weeding those plants that cannot be managed by pH control, and flooding at strategic times to kill weeds and pests.

Like the other producers, Alan and Brenda are also engaged in practices of profit making through cranberry production. They practice profit making by operating their own brand, under which they sell the fruit they grow themselves as well as fruit that they buy from other small organic growers. They set their own prices, which are considerably higher than those of commodity cranberries. To this end they focus on quality, particularly on doing a good sort so that customers paying for the highest grade fresh cranberries are getting an excellent product. They’ve also harnessed the internet in order to cut out the middleman. They no longer sell to wholesalers but sell almost entirely online directly to the consumer. After years of selling their cranberries this way, they have a loyal customer base that continues to return year after year.

Alan and Brenda also engage in practices oriented towards sustaining both environments and livelihoods, but they don’t use the language of sustainability to describe these practices. Instead they use a different vocabulary, emphasizing words such as ‘ecosystem’, ‘environment’, and ‘wildlife’. This distinctive vocabulary has more in common with that of conservation than of agricultural production, and hints at a different relationship between the producers and the land in their care than that of the other producers in this study. For while, like the multi-generation family farmers, they engage in practices of caring for their immediate environment, these practices veer from those of stewardship in that caring for the land is not necessarily oriented towards its continued agricultural productivity for future generations. Instead, environmental care is that of working in cooperation with the natural environment to the benefit of its ecosystem, of which humans are a part.

Alan and Brenda are not connected to cranberry production through the anchor of livelihood identities; they did not inherit their farm nor do they have an heir to whom they will pass it on. While they operate within a similar field of cranberry production as the other growers, they draw upon a different social background that informs their production practices. Their connection to the land is not mediated by a sense of time, that is, seeing themselves as caretakers of the land with respect to past and future generations. This frees them from the burden of responsibility as stewards of the land and family farm business, managing it as part of an agricultural lineage with a particular livelihood identity. Yet it does not abolish all sense of care. In the place of the responsibility of stewardship they have developed a relationship with the land predicated on an idea of humans as part of the ecosystem, the recognition of shared
corporeality between humans and nature. Thus, while they are free to experiment with different production practices because they are not subject to the pressures of stewardship and all that it entails, they operate under ideological constraints.

However, these differences mask the similar priorities that all of these producers share. Like the family farmers, Alan and Brenda also live beside their bogs and draw connections between the health of the immediate environment and their own health. They talk about their love of wildlife, and they keep chickens and grow vegetables for their own use. They also live off the land and make a profit through agricultural production, and also innovate by changing their business practices to make a living in a changing field. And they also employ relevant science and technologies to improve their production, despite a difference in which of these knowledges and technologies are considered relevant.

Discussion

These three case studies illustrate how different producers of the same product engage in different practices that shape the relationship between humans and nature in regards to agricultural production. Technologies feature heavily in each account; therefore I turn to Heidegger’s philosophy of technology as a framework for interpreting the ways in which producers’ attitudes towards nature are shaped by way of the technologies they employ. Heidegger defines technology ontologically, as ‘a mode of revealing’ (1977: 295) what is possible in the world. Technology reveals the world as standing reserve to be used by humans, which ‘puts to nature the unreasonable demand that it supply energy which can be extracted and stored as such’ (1977: 296). Technology enframes the natural world, revealing it as resources to be exploited; a river becomes the source of hydroelectric power, the soil a source of minerals. ‘Nature appears as a certain potential for human use’, which must be understood not as an inevitability but as a particular ‘variant upon how nature may be viewed’ (Ihde, 1979: 108, italics in original); other civilizational variants include those that ‘regard the earth as mother and to which one does not even put a plow’ (Ihde, 1979: 108). Technological revealing ‘is a historical transformation upon how nature is taken’ (Ihde 1979: 108, italics in original) and has consequences for contemporary technological development. Instead of being part of nature, man becomes dominant over nature through technology; ‘technology, in this sense, is both the condition of the possibility of the shape of world in the contemporary sense, and the transformation of nature itself as it is taken into technology’ (Ihde, 1979: 109). Further, the particular technology that one uses becomes a way through which one experiences the world; the use of a flume, a sprinkler, a solar panel, or a computer thus mediates interactions between humans and nature (Heidegger, 1977).

All three case studies demonstrate how growers use types of technologies to interact with the natural world through practices of cranberry production. All growers share a common view of the world as standing reserve; the land under their stewardship is a resource that can be manipulated using various technologies (laser graders, pop-up sprinkler heads, pesticides, pH testing devices, flumes controlling the flow of water) into producing fruit, which can be further manipulated using other technologies (sorting machines, freezers, plastic packaging, internet communications) to transform fruit into a valuable product exchangeable for capital. However, I suggest that the
types of technologies favoured by each grower mediates his or her interactions with nature in particular ways. The cutting-edge production technologies favoured by Susan, Graham, and Linda seem to inform a relationship with the natural world whereby nature is able to be increasingly manipulated towards greater outputs, inspiring a goal of efficient extraction of resources with minimal ‘harm’. The more manual production technologies favoured by Alan and Brenda seem to inspire a relationship with nature based on a sense of equilibrium; extraction of resources is thus more limited in quantity. In both cases, the use of technologies is oriented both towards extracting resources and preserving nature, the primary difference being whether nature is preserved for future humans or for all future beings. This implies a link between the use of certain types of technologies and an anthropocentric worldview; which inspires the other is unclear.

These distinctions are articulated through the framework of ‘sustainability’. Susan, Graham, and Linda employ the concept of sustainability as a mediator, a way of relating between people and nature. But the distinctive way in which sustainability is constructed is revealed through technology. The ideal of triple bottom line sustainability – the ongoing social, economic, and environmental benefits of any activity – is that humans can live in harmony with the natural world while continually extracting resources. The use of cutting-edge technologies that seem to constantly increase production volumes, decrease inputs, and reduce environmental harm is taken as proof that sustainability-through-technology is the best way forward for agricultural producers. Yet cracks in this assumption appear when Susan finds that despite adopting all of the ‘sustainable’ technologies, she cannot make a profit, and when Graham admits that sustainability is, at least in part, a marketing device. Further, sustainability, as a mediator between people and their natural and social worlds, at times comes into conflict with other such mediators: efficiency, for example. For these growers, efficiency alone does not equate with triple bottom line sustainability; despite adopting all of the cutting edge technologies, Graham and Linda have had to sell off land and dramatically change their business practices to continue to make a profit and maintain their livelihood identities, while Susan is operating at a financial loss.

Susan, Graham, and Linda engage in agricultural production practices that are based upon expert advice provided by scientists. In doing so, they adhere to a central knowledge claim that equates ‘sustainable’ production with a technocratic ethos of eco-efficiency, a claim that encompasses several assumptions. The first is the equating of economic efficiency with ecological efficiency, embracing the idea that producers can simultaneously reduce environmental harm and increase profit through more efficient production. The second assumption is that the best way to reach the goal of eco-efficiency is by developing better technologies and agricultural science. Underlying these two assumptions is a view of stewardship whereby humans manage natural resources so that production activities can continue for future generations. This recalls ideas about humans as masters of nature as something unruly that needs taming, and adds the idea that our technologies just haven’t quite been developed far enough yet to manage nature. As Davison puts it, ‘the ideal of sustainability is being steadily redefined by the modernist orthodoxy of technological progress. Latemodern evidence of unsustainability is being taken as proof of the fact that technological progress has not yet gone far enough and that ecological efficiency is first and foremost economic efficiency’ (2001: 4-5). Yet these case studies illustrate
that efficient production alone does not necessarily imply sustainability; growers must innovate in other ways to maintain their livelihood identities.

Alan and Brenda also integrate environmental, economic, and social priorities in their production practices. As they themselves admit, they would never have gotten into organic cranberry production if they had not been shown its economic potential. Their agricultural production practices, however, are based upon a very different central knowledge claim that privileges ‘common sense’, or experiential knowledge, over the advice of ‘experts’. Thus they do not adhere to mediating constructs of efficiency or triple bottom line sustainability, nor do they practice stewardship in the sense of caring for the land with respect to its continued productivity for future (human) generations. Even as technology mediates their relationship with the natural world, there seem to be other factors that influence which technologies they favour. This suggests that Heidegger’s notion of technology as timelessly enframing the world as standing reserve is not sufficient in and of itself to understand 'how technologies interact with the changing times and how technologies and their social and cultural contexts depend on one another in a very dynamic way' (Hongladarom, 2013, paraphrasing Ihde, 2010). The use of technology and one’s view of the natural world are intricately bound up, but which causes the other? Looking at particular instances of the human use of technologies within their broader contexts across a single field illustrates the complex ways in which technology interacts with changing social, cultural, economic, and political circumstances, as well as the desires, goals, and attitudes of individuals (Ihde, 2010).

Conclusion

Through these biographies, it has been my aim to underscore the importance of primary production in superfoods commodity networks. As agricultural products, superfoods have to come from somewhere, and they have to be produced by the labour of someone. These ‘somewheres’ and ‘someones’ are not idealised images of pristine landscapes and ruddy-cheeked farmers, but real places and people shaped by a range of social-natural interactions. The above case studies work towards unsettling images of production like the one with which this chapter began and replacing them with a complex confluence of technological, biological, and social elements. Among these unsettlings are notions of what a farm, and a farmer, look like. Each of my case studies included at least one female farmer, a figure prominent in agricultural business practices but absent in many popular representations of farming. Each case also included a farm full of combinations of devices and wildlife, nets and pesticides, sprinklers and flowers, solar panels and sorting machines: hybrid worlds of cranberry production.

These case studies also serve to break down binary notions of food production that construct the anonymous, large, and technological in opposition to the knowable, small, and natural. Each case featured small-scale producers, but each producer was shown to engage in a range of different production practices that tie the natural to the social, the economic, the political, and the technological in distinctive ways. Likewise, the cranberry itself is revealed to be a complex object that embodies the interconnectedness of the biological, and the social, and the technological. Purifying such a hybrid object as natural is actually a practice that requires a great deal of
representational work. What we are left with, then, is an awareness of the integratedness of the biological, the social, the economic, the political, and the technological spheres. This suggests that perhaps the concept of ‘natural’, as a duality that opposes the ‘technological’ or the ‘human-made’, is not actually so ‘natural’ itself. Instead, I suggest that the hybrid form is actually the norm, while the natural is something that requires significant work to naturalise, as it were.

Figure 2: Image from ‘Straight from the Bog’ campaign.
Figure 3: Wet harvesting cranberries in southeastern MA.

Figure 4: Wet harvested cranberries are loaded onto trucks by machine.
Figure 5: Naturally-occurring bog on Wampanoag tribal land in autumn, Martha's Vineyard, MA.
Figure 6: Naturally-occurring bog on Wampanoag tribal land in spring, Martha's Vineyard, MA.
Figure 7: Commercial bog on Cape Cod in spring.

Figure 8: Commercial bog in southeastern MA in autumn, just before harvesting.
Chapter 4 – Value Creation and Global Flows: The Case of Peruvian Maca

In July 2014, a scandal occurred in the small central Andes city of Junín, Peru. The suspicious story began when a number of Chinese tourists descended upon this non-touristic, high-altitude city during the coldest part of the year.23 Their visit coincided with the harvesting of the yearly maca crop, a regional staple with a growing international reputation. A few weeks later the authorities noticed that nearly half of the year’s crop had disappeared overnight. The Chinese tourists turned out not to be tourists at all, but businessmen who had come to Junín to illegally buy and export maca through undocumented cash purchases and overland smuggling by truck across the Bolivian border. They bought maca directly from growers, offering up to 32 soles (about USD $11.40) per kilo in comparison to the standard 9 soles (about USD $3.21) paid by Peruvian processors. Growers reported that Chinese buyers were paying up to 70 soles (about USD $25) for the sought-after black variety. Police soon swarmed the city, but there was little they could do in the aftermath of the absconding.

As recently as 1980, it was reported that only 15 hectares of land were under maca cultivation (Vilchez, 1999, as cited in Hermann and Bernet, 2009), and in 1982 the maca plant was declared in danger of extinction by ethnobotanical researchers (IBPGR, 1982). The small quantity of maca that was grown was nearly entirely produced for personal consumption or hyper-local exchange, and it was unknown outside of the region of production. But in November 2014, in a health food shop in South Australia, the maca root, ground into a powder and displayed in artistically designed packaging, sells for $60 AUD ($52 USD) per kilogram – a comparable price to free range sirloin steak or imported buffalo mozzarella. Over this relatively short period of time, the price of maca in Australia has shot up from nothing to that of a luxury product. It has been deemed a ‘flagship product’ of Peru by the national government, and appears on menus and in shops throughout the country. This chapter is concerned with the processes of value creation by which a plant that was nearly forgotten 32 years before has become so valuable that it fetches top dollar and sits at the centre of an import-export scandal.

In order to understand how an obscure food product from a marginal part of the high Andes has come to have such high monetary value on the global market, I adopt a biography-of-things approach to the study of commodities in motion as described in Chapter 1. The question of maca’s value is global in scope, but the investigation is situated in a number of distinct local contexts, based on the premise that the global exists only as the composite of many locals, where meanings are forever shaped and reshaped as things, people, ideas, images, capital, and technologies flow between places (Appadurai, 1990). Maca’s economic value is thus explored as a function of multiple, overlapping social processes of value creation in a global setting. The method is a literal following-of-the-thing on a multi-site ethnographic journey

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23 Junín is actually a tourist destination for one activity only: bird watching. Migratory birds visit nearby Lake Junín, and the lake also supports a year-round population of flamingos. However, the Chinese ‘tourists’ considered here did not report any interest in bird watching to the best of my knowledge.
On Value

Where does value come from? Is it based in the innate qualities of a thing – maca’s nutrients or flavour, for example – or is it a project of human action? I follow David Graeber (and, by extension, Terence Turner) in conceptualising ‘social worlds not just as a collection of persons and things but rather as a project of mutual creation, as something collectively made and remade’ (2013: 222), and therefore ‘value as the way such projects become meaningful to the actors, and the worlds we inhabit as emerging from those projects’ (2013: 238; see also Graeber, 2001). Value is an ideal, or ideals, towards which human action is oriented and through which we create our social worlds. Thus a thing in itself does not hold value, but rather becomes a vehicle through which human actors negotiate what is important in our projects of world-making. Therefore I deliberately write about how maca becomes valuable – that is, able to be valued – rather than how it attains value.

This understanding of value ties together both economic notions of value in capitalist exchange and fuzzier concepts of social or ethical values around which humans can be seen to organize their activities by regarding both as that towards which labour, understood broadly as the full range of ‘creative actions whereby we shape and reshape the world around us, ourselves, and especially each other’ (Graeber, 2013: 223) is oriented. As Tan Otto observes, ‘action is informed by value and simultaneously creates value’ (Otto and Willerslev, 2013: 4). As such it becomes possible to expand Marx’s notion of value creation through labour beyond the creation of capitalist value, and therefore to consider all human action as a project of value creation (Lambek, 2013).

I do, therefore, follow Marx in understanding labour, broadly defined as above, as the source of value in human society. However, this is not to say that I disagree with other theories of capitalist value creation. According to economic theories of capitalist value, there are three predominant ways in which value is created, and each way emphasizes a different stage in the life of an exchangeable thing. In the Marxian tradition, value is the product of labour. Thus a thing achieves its value through production and this value is inherent in the thing. In neoclassical theories, value is articulated through exchange; it is demand that gives a thing value. Finally, there is the value that emerges in consumption, which can be called utilitarian value, meaning that a thing is valuable because of the uses to which it is put. If each of these processes of value creation is considered using the synthetic theory of value above,
we see that in each case, it is *creative action* that creates value, whether that is the work of production, exchange, or consumption.

While this synthetic definition makes for an excellent theory of value, in practice it remains difficult to connect these two modes of value study: that of the value realised in exchange, and that of values as worldviews or ideals. This leads to the first of two difficulties with the concept of value in this case study: untangling the threads of capitalist value and social values that twine around maca. The second difficulty is that maca exchange sits at the intersection of multiple and diverse social worlds. The collision of national governments, Chinese buyers, Limeñan processors, Andean producers, Australian intermediaries, and global consumers creates a cacophony of overlapping, intersecting, and sometimes violently clashing values. The exchange of maca for money creates a universal way in which to negotiate value, yet that does not mean that such exchange is not highly politicised. This is because it is not just labour that is being produced, exchanged, and consumed, but also social values enacted at every stage in the life of the thing. Social values are embedded in economic value; both are embodied through action, as I illustrate below.

**Maca’s History**

**Prehistory**

Between 3,500 and 4,000 years ago, the Pumpish people of the highlands surrounding Lake Chinchaycocha (the indigenous name for Lake Junin) began eating a native root vegetable known by the various names *maca, maka, maca-maca, maino, ayak chichira, ayak willku* (Quirós and Cárdenas, 1989: 176). Its wild form was small and tapered, but through selective breeding they developed a larger, rounder variety with an earthy, sweet flavour. This plant was important to these alpine dwelling people, for while they consumed other root vegetables and grains, maca was one of the few edible plants that thrived on their extensive terrains above 3,900 metres. By 1000 BCE, they began to cultivate the plant in the *antiplano* (flat highlands) surrounding Lake Chinchaycocha. Cultivating maca allowed them to produce food on land otherwise suitable only for grazing camels. Pearsall (1989) hypothesizes that the concurrent increase in size and quantity of maca and domestication of camels indicates a relationship between the production of two important food sources, as maca grows best in the disturbed soil that grazing livestock herds provide. Evidence of this pattern continues today, with domesticated alpaca and sheep and wild vicuñas grazing on land used for maca cultivation.

There is no evidence to suggest in what way maca was consumed by its domesticators. There is also very little information about the extent of maca cultivation or consumption beyond its area of domestication. Maca is not mentioned in any archaeological reports from sites beyond the Chinchaycocha region throughout Perú, Bolivia, or Chile, while many other roots and tubers are included in these lists, nor is its representation seen on ancient ceramics, which depict other important food plants. Pearsall (1989) concludes that maca cultivation and exchange never spread far from its area of domestication. Obregon (1998) hypothesizes that pre-conquest maca cultivation was more extensive than archaeological or historic sources confirm, citing linguistic similarities to the word ‘maca’ in place names throughout South America, but no further evidence to support this claim exists. Given maca’s capacity to be dried and stored for up to three years, its high nutritional value, and the extensive trade networks of Incan and pre-Incan civilizations, it seems likely that maca would
have been traded beyond Chinchaycocha; however it is impossible to know for sure whether it was ever consumed beyond its small zone of cultivation.

**Colonial History**

Sources suggest that in the colonial period, maca was used by natives of the Chinchaycocha region and, to some extent, by the Spanish as well; however its economic significance was limited in geographic reach. An account by the Spanish conquistador Pedro de Cieza de Leon (1998) from circa 1550 reports on the cultivation of roots as the primary agricultural activity aside from livestock herding in the Chinchaycocha area, and maca is first mentioned by name in written records when Iñigo Ortíz de Zúñiga observes its use for barter by the local population (Guillén, 1972, as cited in Hermann and Bernet, 2009). In the seventeenth century, both Antonia Vásquez de Espinosa (as cited in Obregón, 1998) and the Jesuit Bernabé Cobo (1979) describe maca cultivation in the cold region of Chinchaycocha where no trees, maize, wheat, or edible plants will grow. Records from the botanist Ruiz published in 1777 again note maca cultivation in several villages of the same region (Barreiro, 1940). All of these accounts refer to maca cultivation only in the Chinchaycocha region, and none indicate use or trade farther afield. Mid-sixteenth century chronicler Inca Garcilaso de la Vega does not mention maca in his chapter on edible roots, and there is no written or archaeological evidence suggesting that maca was cultivated or consumed beyond its region of cultivation prior to or during the colonial period (Hermann and Bernet, 2009: 27). Despite the assertions of several scholars that maca’s cultivation, use, and importance may have extended southward to Huancayo, Cusco, and even as far as Lake Titicaca (Obregon, 1998; Quirós and Cárdenas, 1997; Johns, 1981), supported by a popular legend that maca was supplied to Incan troops in Cusco, there is no other evidence to support these claims.

According to Obregon (1998), a document from 1583 contained in the Archivo General de Indias de Sevilla details the yearly payment of fifteen to eighteen tonnes of maca by residents of the Chinchaycocha district as tribute to the regional encomendador Juan Tello de Sotomayor. Obregon (1998) speculates that the Spanish may have required this tribute so they could feed maca to their animals in order to increase their fertility, which is compromised at high altitude, while Sánchez (1996) further hypothesizes that the Spanish learned about the fertility-enhancing and invigorating properties of maca from the local population. While I have not encountered any evidence, written or otherwise, to confirm or refute these speculations, the story of the Spanish feeding maca to their livestock to enhance fertility has attained the status of legend, and was frequently repeated to me during the course of fieldwork.

Two writers of the period recorded the healthful, energising, and fertility-enhancing properties of maca. The indigenous chronicler Felipe Guamán Poma de Ayala notes the healthful and energising effects of maca in his 1615 *Nueva Corónica y Buen Gobierno* (2009), while Padre Bernabé Cobo (1979), that most observant of colonial chroniclers, is the first to record its reported fertility-enhancing properties. In a final source indicating the significance of maca in its region of cultivation, Obregon (1998) cites a document in the Archivo Arzobispal of Lima from 1650 describing rites in Junín using maca, potatoes, and maize.

The limited written sources from the colonial period suggest that maca was valuable as a food source among those who cultivated it: the native population of the
Chinchaycocha region. It was certainly appreciated as a healthful human food and its energising and fertility-enhancing properties were well known within the region; it may also have been used as a fertility-supporting food for livestock. However, the degree to which the local colonising Spanish population valued this previously unknown plant and the ways in which they used it are unclear: it was required to be paid as tribute, but there is no evidence of the particular uses to which the Spanish put maca. When Europeans encountered new world plants, they often based their understandings of them on their resemblance to old world plants, or they took cues about how to use them from natives (Davidson, 1996; Norton, 2006; 2008; Coe and Coe, 1996). If the Spanish did try to use maca, they may have prepared it in a similar fashion to familiar European root vegetables, such as turnips, or they may have observed and copied the ways in which the natives prepared maca, including feeding it to livestock. Observations about maca being used for barter and the evidence that it formed a sort of tax payment indicates that both the natives and the Spanish recognised its importance, but we know little about its specific uses by either party beyond this. Despite emerging at the crossroads of two cultures, it seems that maca’s use remained limited geographically to the Chinchaycocha region.

The Dis- and Re-appearence of Maca

Maca cultivation declined during the 19th and early 20th centuries; there are no known references to the plant from Ruiz’s mention in 1777 until the 1960s (Hermann and Bernet, 2009: 28). The marginalisation of this previously important native food plant was a result of economic priorities and social pressures of Spanish colonization. Hermann and Bernet (2009) observe that Peruvian highland agriculture, which was extensive before and during Incan rule, experienced a general decline during this period due to displacement by wool production and mining. Both of these raw products were in demand to feed the English metal and textile industries, and provided employment and income to the region (Morlon, 1992). However, the factor of declining agriculture is not enough to account for maca’s near-disappearance. People of the region still needed to eat, so why would they have decreased production of such a highly valued food?

The likely answer lies in the social stigma that many Andean foodstuffs acquired during (and after) colonisation. Native staples came to be viewed as ‘Indian food’ and considered ‘dirty’ by colonisers and natives alike (Markowitz, 2012; Weismantel, 1988). Hermann and Heller observe that ‘in racially and socially divided mestizo [mixed] societies, ARTC [Andean root and tuber crops] seem to symbolize “rural backwardness”, “Indianness” or poor nutrition’ (1997: 9). Native people, places, and foods were considered unclean and uncivilised, and cast, collectively, as marginal.24 During the course of fieldwork I came to know a middle-aged man from Huancayo who had gone to work in Lima in his youth, in the 1960s and 70s. He describes keeping a certain secretivity to his Andean cultural expressions, such as eating native foods and listening to traditional music, because people would refer to him as a ‘dirty Serraño’ (person from the mountains) if they observed these behaviours. Thus the marginalisation of native foods such as maca began as it was displaced by those foods socially valued by the colonisers such as wheat. However, even as its use declined and it disappeared nearly entirely from commodity exchange, its cultivation for family use

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24 The marginalisation of maca, the people who produced it, and the place from which it came closely mirrors the process of marginalisation of alpaca meat described by Markowitz (2012).
was kept alive in those communities from which it had emerged. During fieldwork, many people in the Junín area reported that as children, they had eaten maca grown by their families as a daily breakfast food, prepared by soaking dried roots overnight and cooking them into a warm porridge or blended drink, sometimes mixed with oats or other grains or fruits. It was generally known in the region that maca was a highly nutritious food for youth and older women.

The first seeds of maca’s revival were sown in the 1960s. Within a few years of each other, three publications on maca appeared: Pulgar’s (1960) first article on the fertility enhancing properties of maca in a newspaper in Huancayo, the regional capital, Chacon’s (1961) first academic thesis on maca using trials on rats to examine fertility enhancing properties, and Leon’s (1964) first English language article on maca, a survey of the plant’s cultivation and use for the periodical Economic Botany. These publications did not impact maca’s production or distribution immediately and its cultivation remained limited to small family plots. However, by the late 1970s and early 1980s, interest in maca started to gain steam as the urban public became more interested in health foods in general. Pulgar published several newspaper articles during this period on maca’s health benefits (e.g., 1978), and maca drinks began to appear for sale at roadside shops in the Junín area, most notably that of Timotea Cordova (described below). Vilchez, the man behind the regionally well-known Poderoso brand of maca products, reports that he began selling dried maca at markets in central Peru in 1981. During the 1980s he also printed and distributed leaflets on its health benefits and exhibited maca at natural food fairs in Lima. National print and television media took note of Vilchez’s work, and many Peruvians outside of Junín were introduced to maca for the first time (Hermann and Bernet, 2009).

During the late 1980s, the first convenience products made with maca appeared. These products contained lower concentrations of maca and combined maca with other ingredients, both to satisfy the demand of urban consumers for convenient, healthy food products, and to mask the root’s taste. A 1984 focus group study of consumers from Lima found that acceptance of maca was low among those tasting it for the first time (Torres, 1984). Therefore an important element in the expansion of maca use beyond Junín was not only the spread of information on maca as a health food, but also the processing of maca into more convenient and widely palatable forms.

With new uses as both nutritious and fertility-enhancing convenience food products emerging, demand for maca began to build outside of Junín and prices began to rise, and local production began to expand beyond small family plots. In this way maca in Junín began to be valuable as a commercially viable agricultural product and source

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25 For in-depth discussion of maca’s revival, see section 6, “Modern expansion of use and market development” in Hermann and Bernet, 2009.

26 This study is frequently cited as justification for creating maca products that mask its taste. During my fieldwork in both Peru and Australia I met more people who like the taste than those who do not, but I hardly cite this as definitive evidence. I only observe that it seems odd to base an entire food processing industry on a single consumer preference study from thirty years ago, and suggest that it may be time for a more nuanced study on taste acceptance.
of livelihood. As this value emerged production began to expand to other high altitude areas beyond Junín, with more success in some areas than others. As the Shining Path insurgency subsided in the early 1990s, the Peruvian government supported maca’s expansion by sponsoring an agricultural research and extension program (Hermann and Bernet, 2009). Academic attention to maca increased as well, moving beyond initial studies on ethnobotany and agronomy to cover food composition and product development as well as scientific substantiation of maca’s reported nutritional and fertility enhancing properties; literature increased exponentially during the 1990s and 2000s (Table 1).

Table 1: Growth of maca literature at the library of the International Potato Center, 1960-2006

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* 57 in Spanish, 55 in English, 4 in other languages.
** 46 from Peruvian universities.
*** 146 in Spanish, 17 in English and 2 in other languages.
(adapted from Hermann and Bernet, 2009, under a creative commons attribution-noncommercial-share-alike 3.0 unported licence; data courtesy Cecilia Ferreyra)

Several other factors contributed to the expansion of maca cultivation, processing, and consumption within and beyond Peru throughout the 1990s and 2000s. Research by the International Potato Center (CIP) into underutilised Andean crops, supported by the Swiss, German, and Peruvian governments, built knowledge about all areas of maca production (e.g., Quirós et al., 1996; Tello et al., 1992; Toledo et al., 1998). Maca’s entry into the nutraceutical arena, beginning with Peruvian pharmaceutical company Química Suiza’s launch of ‘Maca Andina’ tablets containing crude maca flour in 1998 and inspiring many similar products, was also instrumental in creating demand across new markets. Promotion of maca as ‘Peruvian ginseng’ or ‘Andean Viagra’, largely through online media, created new demand for maca products internationally (Chauvin, 1999; Herman and Bernet, 2009). Maca also began to gain international popularity as it was portrayed as a superfood, backed by the appearance of English-language peer-reviewed scientific papers substantiating anecdotal health claims (Cicero et al., 2001; 2002; Gonzales et al. 2001a; 2001b; 2002; 2003a; 2003b; 2004; Lopez-Fando et al., 2004; Menaldo et al., 2001; Sandoval et al., 2002; Zheng, 2000). Commercial and scientific research and development led to new maca products, and growers responded by cultivating more maca. This led to market instability, with prices rising and falling dramatically from year to year and fortunes being made and lost among growers and processors alike. However, with maca firmly established as a healthful food product, nutraceutical, and superfood, production and consumption have continued to expand, albeit unevenly, into the 2010s.

**Maca’s Social Life**
The following sections describe uses and meanings of maca at various contemporary sites of production, retail, transformation, regulation, and consumption. These sections are based upon my own multi-sited ethnographic fieldwork, and use
ethnographic description to create portraits of people and places involved in maca value construction (Cook, 2004; 2006; Cook and Harrison, 2007).

**Timotea – Maca Vendor in Junín**
The highway runs directly through Junín, passing through barren grasslands dotted with grazing vicuñas (an elegant wild relative of alpacas) before entering a strip of roadside restaurants, snack stands, gas stations, and industrial buildings. One can stop at half a dozen places to buy a warm *jugo de maca*, a thick nectar of dried maca roots stewed with apples and honey, alongside the other regional food speciality, a round of salty cheese made from unpasteurized cow’s milk. At the far end of the highway sits one of the last establishments before the road continues on through vistas of alpine lagoons and towering mountaintops towards the mining city of Cerro de Pasco. The pink building bears the name of the shop as well as its proprietor, painted in artistic lettering alongside illustrations of the produce in which it specializes: papaya and maca (Figure 9). ‘La Papayita’ is the oldest maca juice establishment and, for many travellers, the best.

If the door is unlocked, then Timotea is in the shop, or at least at home. She lives in the rear rooms of the same aged building, and her rocking chair is strategically situated between the shop and house sections so she can simultaneously knit and keep an eye on the road. If she doesn’t greet her customer at the door, she is only a good holler away, and she’ll bustle amiably to her station behind the blender to fix her famous beverage for any caller. Her drink is called ‘especial de maca’ and the main ingredient is, naturally, that distinctive earthy-sweet root of the region. She uses dried maca roots that have been soaked overnight in water, which sit in a large glass jar on a simple table. Lined up next to the maca are the other ingredients for the drink: fresh papaya, raw egg, milk, raw sugar, and a carob syrup called *algarrobina*. They all go into the blender for about a minute, and the thick, nutritious concoction, faintly reminiscent of a peanut butter smoothie, is poured into tall glasses (Figure 10). Seconds are always offered.

Timotea has been nourishing customers with this drink since 1942, when she opened her first maca juice shop in the nearby city of La Oroya. In 1952, when she married her husband who worked for a mining company in the central highlands, she relocated both herself and her business to Junín. On the wall of the shop she proudly displays a certificate recognising her work promoting maca as an important contribution to the economic development of Junín, signed by local government officials, alongside 30 or so other certificates honouring her life’s achievements (Figure 11). According to her own accounting, she was the only one selling maca when she started. But she had always consumed this root, which her family had been growing for their own consumption as long as anyone could remember. Her grandmothers taught her how to grow and dry the maca roots, then soak them in water and make a nutritious drink or porridge. In those days, she says, they had to mash it by hand with a wooden dowel. Her bright eyes sparkle mischievously and her smooth cheekbones spread into a grin as she announces that she’s now 88 years old and still full of energy, thanks to her daily consumption of maca her whole life.

**Lucia – Maca Grower in Junín**
Lucia is relatively new to maca production, but at 18 she’s already an old hand at agriculture. Since childhood she has worked alongside her parents to produce potatoes as well as look after a sizable flock of sheep. Her family still grows some...
potatoes, but three years ago they focused the majority of their efforts on maca production because of its higher market value. They have always grown a small maca crop for personal consumption, but growing it for market is a new development.

The majority of their crop is contracted to a commercial buyer in Lima, who processes and exports maca flour. They continue to keep a small portion for personal use, even as crop values rise, because they believe it is a nutritional food and an important part of their diet. Lucia or her mother prepare a maca juice every morning, soaking dried roots from last year’s harvest overnight in water and blending them with milk, sugar, algarrobina, and raw egg. Consuming maca in the morning, they say, is energising for a long day of working in the field. Occasionally, during harvest time, and only on the most brilliantly sunny days which are a rarity on the high Junín plateau, they also prepare *watia*: fresh maca roots roasted in an earthen oven.

At harvest time, Lucia and her parents work alongside other relatives, everyone putting in what time they can between other commitments. Lucia herself is trying to finish her final year of high school so she can attend university in Lima, but she cannot go to school every day during the harvest season. The family labours especially hard from July to November. July and August are harvesting months, and during that time they often employ a few seasonal workers to help dig up maca roots from their rural fields. From mid-August until mid-November, the maca roots are left to freeze-dry in the sun, laid out on long sheets of black plastic with extra room on either side so that the maca can be covered at night by wrapping it securely to protect it from frequent rain or hail storms (Figure 12). During these months the maca roots are cleaned, sorted by size and colour, and the finest roots separated for transplanting to produce seed for next year’s crop (Figure 13). Sorting maca by size and colour is for commercial production only, Lucia confides. She and other locals believe there is no difference in nutritional value between large and small, yellow and red and black maca. But Chinese buyers, in particular, pay a premium for large roots and dark colours. For that reason it is only the smallest yellow roots, the fourth grade maca that fetches the lowest price, that Lucia and her family keep for their own consumption.

**Victor – Maca Producer/Processor/Exporter in Peru**

Victor already had a doctorate degree in law and an international career in the building and construction industry when he began producing maca. Although he was born and raised in Junín and had been eating maca, grown by his family, all of his life, it wasn’t until he was living in Japan that the idea to commercialise his daily breakfast food struck him. As he tells it, he brought dried maca with him to Japan for a taste of home. When his Japanese friends saw him preparing his unusual breakfast drink, they asked him about it, and he told them, ‘this is something from my country, we drink it because it is nutritious and it gives us energy’. Their curiosity was piqued, and many of them tried it and liked it. Before long he had his own little market going, bringing maca over from Peru and distributing it to his acquaintances in Japan. As he watched other functional food products hitting the Japanese market, an entrepreneurial light bulb turned on. Thus began Victor’s career as a maca producer.

Victor is a charismatic figure, solidly built with a strong, confident presence that puts people at ease while asserting his agenda. He seems to know everyone in Junín, where he is both respectfully and affectionately called ‘Doctor’. His friendly, assertive manner comes in handy as he undertakes the diverse work of running an
international business. In Junín, he oversees a maca production plant, from selecting appropriate growing land and negotiating land rental contracts through processing, product development, and distribution for the domestic market. Victor’s manufacturing plant is the only one of its kind in the city known for maca production; most other sizable processors are located in larger cities such as Huancayo and Lima. In August the plant is quiet, as it is the season for harvesting and drying maca; processing will take place in a few months, once the maca is fully dried.

Outside of the plant, in the large yard of the company’s walled compound, black plastic sheets hold recently picked maca, drying in the sun. This maca dries with a slightly gummy texture and higher nutrient content, and is better for making juices, marmalades, and liquors. Next are a series of long tunnels constructed from wooden A-frames with white plastic stretched tightly across them; these are green houses in which the maca can dry more quickly and firmly, producing a final product better for milling into flour. At the back of the yard a man sits sorting through freshly harvested maca, selecting the most perfect roots to transplant for seed production. He looks for large, perfectly round roots of all colours, with well-formed and unbroken tapered roots and healthy leaves at the top (Figure 14). The best of this stock will be replanted and left to flower, from which seeds can be collected for the following year’s planting.

When Victor is not in Junín, he is managing the international marketing side of the business, constantly flying to fairs, festivals, and expos in Japan, Europe, and the United States. Although his company’s plant is in Junín, their offices are based in Lima, where he can easily travel between the site of production in the Andean highlands, only 6 hours away by car, and the sites of promotion and distribution via international flights from Lima airport. Through his work, he finds himself straddling two very different worlds. In Junín, he drives a pickup truck and speaks Spanish and Quechua with maca growers and landowners, many of whom have never left the region. On his travels, he must communicate in Japanese or English in a cosmopolitan world of international business deals. But there is one constant for Victor throughout the time span of his life, the geographical expanse of his travels, and the cultural diversity of his lifeworlds: his daily maca drink, once prepared by his mother in a warm porridge with oats and today prepared by himself from the powdered instant drink mix his company produces.

**Maca in Cusco – New Consumption in Urban Peru**

Maca is as new in urban Peru as it is internationally. It was unknown outside of the Junín region until recently, and the way in which it is used outside of its area of cultivation is quite different to forms of consumption found in Junín. I spent three weeks in Cusco brushing up on my Spanish at a local language school, so during my time there I undertook fieldwork investigating maca use in one of Peru’s urban centres.

Maca is widely known in Cusco. Everyone to whom I mentioned that I was in Peru to study this plant nodded knowingly in recognition, but I did get a few ill-concealed snickers here and there. When I asked one of my Spanish teachers about this, she told me that in Cusco, maca is considered something that men take for extra stamina in the bedroom. However, it is also known as a good nutritional supplement for children, and is a common addition to commercial nutritive breakfast cereals – for example, in the large Mega supermarket, a 300 gram package of oats with maca sells...
for 3 soles (about US $1) (Figure 15). The director of my Spanish school told me that women who are having trouble conceiving a child will buy a warm concoction cooked with maca, various herbs, and live frogs from the local markets. My teachers were surprised when I told them that in Junín, maca is eaten as a food – they only knew it as a medicine or health supplement.

At Cusco’s huge, central San Pedro Market, I surveyed what kinds of maca products were available. It was most commonly found in powdered form, known as *harina de maca* (maca flour), positioned alongside other Peruvian food products with healthful reputations such as quinoa and kiwicha (amaranth) (Figure 16). Prices range between 5 and 20 soles per kilo, and the most expensive maca flour comes from Junín. Cheaper flours are made with roots grown in Puno, Ancash, Putamarca, or Cusco. A few stalls sell the dried roots whole, and again those from Junín are pricier than those grown in Cusco (s/20 per kilo versus s/15, respectively). Place of origin is not labelled but purveyors generally know (or pretend to know) where their maca comes from. Fresh roots are seasonally available and priced similarly to dried roots. Throughout the markets one can buy maca sweets and biscuits, and in the prepared food section one stall specialising in breakfast foods serves *maca ponche* (a warm maca drink cooked with oats) alongside coffee, tea, and puddings. None of the thirty-odd juice stalls list maca among their flavours, but all of the vendors keep a container of maca flour to add to their juices upon request. Deep inside the market one can also find the stall my Spanish school director described, offering up a warm brew of maca, herbs, and frogs as a remedy for ailments of all kinds as well as fertility support.

In the bohemian district of San Blas, where artisans, musicians, expats, and new age spiritual seekers congregate, maca appears on the menus of vegetarian cafés and the shelves of natural product stores. At one cheerful vegetarian café I tried a smoothie made of banana, brazil nuts, and maca powder, as well as a sweet and tasty maca bread. In a little shop selling a variety of herbal products I found the only certified organic maca in Cusco, made by Victor’s company in Junín. Perhaps most surprisingly, many maca products appear for sale in the gift shop of the Coca Museo. The little museum, dedicated to educating tourists and locals alike about the cultural significance of the misunderstood coca plant, sells health products made from coca alongside candies, biscuits, powders, and liquors made from maca and other native plants. Maca is also included among the many medicinal and spiritual plants on display at the Museum of Sacred and Magical Plants in Cusco’s historic heart.

**Brad – Maca Importer/Producer in Australia**

In the early 2000s, Brad started a small company importing artisanal food products from Mexico to Australia. An Australian who had been living in South America for several years, Brad had developed an interest in indigenous agricultural cooperatives cultivating high quality food products with production techniques drawn from traditional knowledge but incorporating new processing, transportation, and marketing technologies. He met growers in Mexico cultivating heirloom varieties of cacao with complex aromas and flavours that stood out to him in comparison to the commodity chocolate he was accustomed to eating. He was impressed by another Mexican cooperative harvesting wild maguey cactus and processing it into rich agave syrup, far different from the cultivated tequilana variety available on the market at the time. This latter group had received funding from the government to start a small processing factory, and the possibilities of supporting similar endeavours to commercialize distinctive, culturally significant food products by working with
cooperatives to create infrastructure and export the results sparked his entrepreneurial imagination. His company began with small quantities of these two products. Its foundation, based on close relationships with grower-owned cooperatives and distinctive products with an emphasis on integrity, has remained strong.

Shortly after founding the company, Brad travelled to Peru and discovered maca and other foods like lucuma and mesquite. Maca was just beginning to become commercialised in Peru, and his company’s first shipment nearly twenty years ago consisted of 500 kilograms of maca powder. In 2013, his company imported over 50 tonnes of dried maca powder to Australia. His company now produces and sells more than just maca powder; they also sell maca capsules, and it is combined with apricots, dates, almonds, coconut, the Peruvian fruits lucuma, camu camu, and mesquite, and Australian gubinge (also known as kakadu plum) in a superfood snack bar. He continues to work with the Ecological Maca Producers Association of Junín, maintaining a relationship that he feels supports the community of growers while ensuring a high quality, artisanal, healthful product for his customers.

Brad’s company has a policy of not doing paid advertising. They have always relied on the integrity and quality of their products to speak for themselves, and believe that word of mouth is the best way of spreading consumer knowledge. Aside from selling maca powder and other primary ingredients, they have an active Internet presence, including a website and social media outlets that enable customers to share recipes, experiences, and knowledge. Their objective, he says, is not to tell people what to eat, but to ‘empower people to take responsibility through conscious awareness’, whether that be of the connection between what they eat and how they feel or of the broader social impact of their consumption choices. ‘And look, we’re a commercial organisation, we’re a commercial business, and obviously we have a commercial intention’, he says, ‘but I guess we’re just trying to balance that a little bit, try and take a little bit of a different approach to it than just a more mainstream, shoving it down people’s throats…we’re past moving consumer goods’.

**Kelsie - Australian Maca Consumer**

Kelsie lives in one of the leafier suburbs of Adelaide, South Australia. She began adding maca powder to her morning smoothies just over a year ago, based on advice from a contact on an online forum for women with fertility challenges. In her mid-30s, Kelsie is recently married and had been on the birth control pill for many years. When she stopped taking the pill nearly two years ago, she became concerned when she did not start menstruating. So she has been turning to a variety of remedies to rebalance her body so she can have children. She claims to prefer natural remedies over pharmaceuticals, and regularly consults with her acupuncturist.

Two years on and still waiting for the return of her menstrual cycle, Kelsie is beginning to get anxious. She still takes her daily dose of maca powder, because ‘it can’t hurt, right? And anyway it’s high in iron’. But she is not placing her bets entirely on maca either. She’s changing her daily habits, swapping running for gentler exercises and adding more healthy fats to her diet to add weight to her slim form. She goes for fertility massages and drinks a daily herbal tea blend prescribed by her acupuncturist. And she has recently consulted with a Western doctor, despite not trusting them in the past, to start a regimen on a fertility drug. She feels that she is running out of time, and she is willing to try anything that might help.
The Peruvian Government: Biopiracy and Flagship Products

The scandalous element of the maca smuggling described at the beginning of this chapter was not only the evasion of taxes and affront to the authority of Peruvian customs. This was also a case of international biopiracy. Peruvian laws hold that maca cannot be exported fresh and must be processed in some form; this law seems to have the double intention of keeping value-adding revenues in the country and retaining valuable reproductive stock. But the entire smuggled crop was fresh and therefore viable for transplanting to obtain premium seed, of great value in China were fledgling maca crops have been planted in mountainous regions of the country.

This is the not the first time that maca has appeared at the centre of biopiracy debates. In 2001, the United States pharmaceutical company PureWorld Botanicals filed a patent for an extract of maca compounds, and countless other international patents related to maca have been filed since. The Peruvian government agency Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (INDECOPI) has worked hard to challenge these patents, based on national legislation protecting traditional knowledge of indigenous peoples. Rather than seek compensation, INDECOPI’s strategy has been to demonstrate and document extensive prior knowledge of maca’s medicinal and healthful properties in order to remove the patents. This approach is in line with Peruvian law, which holds that plants and parts of plants cannot be patented; therefore ‘patents including extracts of biological origin, such as maca extracts, or including indigenous knowledge, are not recognized in Peru’ (Landon, 2007: 70). The Peruvian government has also signed international agreements protecting the rights of indigenous intellectual property, most notably the 1992 Rio Convention on Biological Diversity, which enables countries to self-determine how to distribute access to genetic resources (Landon, 2007). While China and the US also signed the Rio Convention, both countries failed to adopt the recent Nagoya Protocol, described as ‘an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way’ (Convention on Biological Diversity, 2015).

These divergent international views on intellectual property and biological resources signal disjunctures between particular political projects of nation-states and flows of global capital (Appadurai, 1990). Entities such as national governments, international pharmaceutical corporations, and small maca growers play by different rules, defined by different values, which sometimes clash dramatically. While the efforts of INDECOPI to protect indigenous knowledge are important, they must be considered alongside the agency’s other initiatives regarding maca, such as declaring it a ‘flagship product’ of Peru (productos bandera del Peru). This concept refers to distinctive products or cultural expressions with Peruvian origins that display something of the national character of the country, particularly in regards to its international image. Thus many are export products of cultural and/or economic importance, such as maca, asparagus, coffee, cotton, quinoa, and lúcuma (a native fruit), while others are more representative of national or regional cultural identity, such as South American camels, Peruvian gastronomy, pisco (a spirit made from grapes), Chulucanas ceramics, and Peruvian silver (INDECOPI, 2013). The ‘flagship product’ initiative reflects both governmental nationalism projects and an underlying neoliberal attitude towards regional development with a focus on specialty export products (Crabtree, 2002). Thus INDECOPI’s efforts to protect maca may be motivated by sentiments other than altruism towards indigenous producers, who themselves
become valuable because of its perceived health and medicinal benefits, which have

health, traditional foods, and scientific knowledge. Thus in urban Peru, maca has

been reshaped by other ideas about natural health, traditional foods, and scientific knowledge. Thus in urban Peru, maca has become valuable because of its perceived health and medicinal benefits, which have

Discussion: Constituting a Global Food Commodity

In following maca, the sheer geographical expanse of its reach as a global health food product becomes clear. It is grown not only in Junín, but also in new sites throughout Peru and even in China; it is processed in Junín but also in Lima, in Huancayo, and in Australia; and consumers all over the world trade, buy, and ingest it in at least a dozen different ways. This is a story that traces a web of connections across the globe, a story about globalisation. Yet this is not globalisation as monolithic force, controlled by trans-national corporations and spreading homogenisation (Hannerz, 1992; Ritzer, 1993; note that these authors describe the notion of monolithic globalisation but do not necessarily endorse such a narrow view). Instead of a product of the developed world demanding worship from fringe countries, this is a product drawn from the cultural heritage of the developing world, put to new uses and given new meanings by cosmopolitan urbanites. This is a globalisation described by Appadurai (1990) as ‘a complex, overlapping, disjunctive order, which cannot any longer be understood in terms of existing center-periphery models’ (296) but instead is viewed as a series of ‘scapes’: ‘ethnoscapes’, ‘mediascapes’, ‘technoscapes’, ‘finanscapes’, and ‘ideoscapes’ (see also Arce and Marsden, 1993). These ‘scapes’ refer to the people, images, technologies, capital, and ideas that move between places; as they intersect, value is created and contested. Value is contextual, yet produced through overlapping contexts.

A closer examination of how maca is valued by different parties in the sketches above illustrates how such movements construct maca as an economically valuable product. For Timotea, maca has always been valuable. Its value may have been more straightforward for her as a girl, when it was simply a food that her family grew and ate for its nutritional value. And yet even here we can see social values embedded in maca as her mother and grandmother taught her how to grow, harvest, and prepare the root – the value of self-sufficiency, perhaps, or the value of resistance to cultural imperialism through the continuity of indigenous practices. As she grew older and began preparing maca for exchange, it took on new values. On a pragmatic level, it became her livelihood, something she could produce and exchange for money in order to buy other goods. But it is clear standing in Timotea’s shop that she is not in this game for money alone. The framed certificates and newspaper clippings celebrating her work are testimony to the social standing she has gained by contributing to the economic development of the region. Further, she continues to run her shop at 88 years of age because this is her work – not work-as-labour in the alienated sense of commodity production, but work in the sense of human creativity oriented towards social production.

Ideas about the health benefits of maca promoted in Timotea’s shop have taken on social lives of their own. Visitors have spread these ideas to other parts of Peru, where they have interacted with and been reshaped by other ideas about natural health, traditional foods, and scientific knowledge. Thus in urban Peru, maca has become valuable because of its perceived health and medicinal benefits, which have
been communicated through a combination of media sources and word of mouth. This is at least partly related to global trends for ‘natural’ health products, but through the production, exchange, and consumption of maca outside of Junín, other social values are also realised. Maca, along with other native foods and medicines such as coca, are part of a new nationalism based upon pride not only in being Peruvian but also in recognising oneself as part of a lineage of ancient culture. The appearance of maca products alongside those made of coca leaf in the Coca Museo represents this revival of traditional plants, foods, and medicines. In this sense maca is part of a defiant resurgence of indigenous culture that was squashed under centuries of colonialism, not just of soil but also of ideas and knowledge.

The popularisation of maca is also connected to Peru’s gastronomic boom, celebrated by Limeñan chefs such as Gaston Acurio as a movement of social inclusion and economic development that at once encourages cultural creativity, supports rural producers, and promotes shared national identity. Yet the exuberant spirit of this culinary and cultural revival, built upon a purported sense of solidarity between Peruvians of European and indigenous heritage, obscures the uneven distribution of cultural, economic, and political control that underpin it. Critics of the gastronomic revolution insist that it does little to address food sovereignty or security for the country’s most vulnerable; rather, ‘the changing trends celebrate a few iconic Andean and Amazonian products – quinoa, awaymanto – which ironically serve to raise the price of these goods, making them less accessible to many rural communities, and encouraging producers to focus on a narrow range of goods to supply the growing demand’ (García, 2013: 516), as well as conceals ‘the enduring coloniality of Peruvian social relations’ (García, 2013: 520-1).

INDECOPI’s promotion of maca as a ‘flagship product’ is also complicit in the representation of maca as a symbol of national identity and significant export product, and thus the increased economic value of maca worldwide. However, the promotion of ‘flagship products’ is a problematic approach to rural development because it prioritises neoliberal trade agendas over the long-term support of indigenous culture and livelihoods. With no mechanisms in place to enforce the practices and standards of maca production, the ‘flagship product’ initiate leaves the maca industry open to co-optation by large players, thereby marginalizing small producers and their ancestral knowledge of land management. While the government agency’s work to defend the products of traditional knowledge from international biopiracy is important, the Chinese maca scandal demonstrates that not all growers are on board with the government’s programs. Promoting free trade, on the one hand, and protecting traditional knowledge and resources, on the other, is bound to lead to conflicts between these two different value regimes. This is a case of the movement of capital coming into conflict with the movement of ideologies, thus inflating maca’s economic value: global capital flexing its muscles.

The demands of the Chinese market not only inflate the price of maca, they also influence production practices, leading growers like Lucia to sort and grade her maca in a new way in order to provide them with the product they want. China is reportedly the only place outside of Junín where maca is preferred in its whole, dried form. The Chinese reportedly like to buy maca whole for two reasons. The first is a trust issue stemming from national food insecurity; they want to make sure that they are buying an unadulterated product. The second is a cultural preference: they like to
cook maca whole in soups as they would cook other root vegetables. Their preference for darker coloured roots comes from scientific studies attributing superior health benefits to red and black maca (Gonzales et al., 2005; 2006; Rubio et al., 2006; 2007). Thus a variety of contextual factors, from the complexity of China’s own agricultural situation to their food preparation practices to the public understanding of science, end up influencing maca production in Junín. And, in turn, these same factors influence consumption for growers like Lucia, who now keep the lowest grade yellow maca for their own consumption instead of eating maca in a variety of sizes and colours. Social values embedded in the Chinese cultural economy thus influence the value of maca in Junín, and change the way in which it is used and valued by its producers.

In Junín, maca has become the cornerstone of the economy, providing work for about half of the local population and bringing new wealth to the town. While maca is still eaten here in some quantity, either as a daily nutritive breakfast in the home or purchased as a juice on an outing to the markets, its value as a nutritious food is eclipsed by its value as a commercial product and source of livelihood. Many people had stopped growing and consuming maca long before its revival and have little interest in consuming it now that it is popular outside of Junín, saying that they don’t like the taste or prefer ‘Western foods’ such as fried chicken. Others cling to their tradition of consuming maca, but still only maca that they’ve grown. With the exception of maca juices, maca is nearly invisible in the markets in Junín; I found only one stall selling the tiniest dried maca roots that I saw anywhere in the country. Maca, once used for local barter, is not viewed as an item of exchange within the community; one either grows it for oneself or, for the most part, sells it to international or Limeñan buyers. This is a factor of both changing cultural preferences, and maca’s rising exchange value, pricing most maca out of reach for local workers.

Ideas about the healthfulness of maca have also travelled beyond Peru, spread not only through media but also through people, such as Victor and Brad, who move between these social worlds. Clearly maca has economic value for Victor and Brad, which is realised in capitalist exchange. But for Brad, it also becomes a vehicle through which he engages in his greatest creative project of value creation: the realisation of a more just world through a socially conscious type of capitalism. Through his creative action, Brad imbues maca with values related to fair trade, quality food production, and natural health, which he passes on to both producers and consumers of his products.

For Kelsie, along with a number of other Australian maca consumers whom I interviewed and who eat maca for various reasons, maca is a superfood. Maca’s popularity in Australia is at least partly due to this identity and its association with other superfoods (see Chapter 5). Companies such as Brad’s hold some responsibility for creating such associations by selling maca alongside products such as cacao and agave syrup. Various forms of media, in particular electronic media, also influence the widespread knowledge of superfoods in Australia. The informality of the way in which information about superfoods spreads, not only through articles and company websites but also through social media and networks such as Kelsie’s online forum, means that a great deal of information of dubious accuracy circulates at blinding speeds, and can influence the economic value of a product produced at a distance.
From a purely pragmatic point of view, maca is valuable to Kelsie because it is useful; its utility is in its reported ability to enhance fertility. But it is only valuable to her because she knows about its reported fertility-supporting properties, which have been communicated to her through a member of her own community. Thus in order for maca to be useful to Kelsie, knowledge regarding its fertility-supporting properties has had to be generated, communicated, and reshaped again and again until it reached her in a form that she could relate to. Kelsie’s consumption of maca also serves as a platform for her expression of a number of social values, such as the privileging of alternative health regimes over alopathic medicine and the value of female fertility itself as a means to literal reproduction.

The way in which consumers such as Kelsie value maca, their creative actions through using it and giving it meaning in their lives, in turn influence production. Many of maca’s new consumers are not only looking for natural health remedies, they are also looking for convenience. It certainly helps maca’s popularity that it is now powdered – ready to be added to Kelsie’s morning smoothie – as well as encapsulated and added to many popular products. These consumer preferences influence maca production as growers create greenhouses to dry maca faster and firmer and make processing into a powdered form easier, as well as develop new convenience products such as the instant drink mixes and marmalades that Victor’s company produces.

While maca’s value has changed through the intersection of different contexts, the maca itself, its very materiality, has also changed due to human influence. The ways in which humans change foods to suit their purposes is certainly not a new process. The domesticators of maca demonstrated this by their selection of certain wild plants to transplant for seed, creating a larger, sweeter root that proved to be a more valuable foodstuff to them. The worker in Victor’s maca plant does the same thing, working with bigger and rounder roots than his ancestors could have imagined, a link in a chain of creative action forming an intimate relationship between human and plant.

The process of drying maca roots in the sun is an ancient technology which has recently been shown to be crucial in nutrient formation, and while producers now use new technologies to dry maca, such as the greenhouses at Victor’s plant or dehydrating machines humming in other small buildings in Junin, there may be variation in nutrient contents between traditional and new drying methods (Esparza et al., 2015). Yet the maca dried in the greenhouse is firmer and thus makes better flour, so this technology goes hand in hand with that of powdering the maca, making it more accessible to new consumers. These technologies influence the ways in which maca is valued by transforming it into an accessible form for new consumers; values expressed by consumers, by governments, by retailers, and by growers also shape the development and application of technologies.

**Conclusion**

The ways in which humans have transformed maca have accelerated as the spheres of maca’s use have grown wider and more diverse. Larger roots are grown for the Chinese market, a wider variety of convenience products are created for the Peruvian market, and maca powder packaged as a supplement or encapsulated as a
nutraceutical is prepared in packages labelled in French, English, and Japanese. While the ways in which maca is used and its particular meanings in each location have been shown to be contextual, we find that we cannot separate one context from the next. It is the sum of the values enacted in each of these separate social contexts that has brought maca from obscurity to the forefront of the international stage. The links between each context are those things that move between settings: people, images, ideas, capital, and technologies. As people like Victor, Brad, and Chinese ‘tourists’ travel the globe and recognize new business opportunities, as ideas about ancient wisdom, natural health, scientific knowledge, and critical capitalism flow at a breakneck pace through media outlets, as large sums of money from China change hands in Junín, and as processing and transport technologies make the large scale exportation of a Peruvian root feasible, social contexts that are seemingly worlds apart collide. In looking at the construction of maca as a global product, we never actually glimpse the global. And at the same time, we can never quite put our finger on the local in the sense of a place uninfluenced by the people, ideas, money, and technologies of another place. Through this complex intertwining, the value of maca is negotiated through multiple, overlapping, and ever-changing practices of creative action.

While this analysis suggests that no single party at any one point throughout maca’s production-consumption circuit holds all of the power to change the way in which maca is valued in either economic or social terms, it also suggests that every party holds some degree of influence. This observation is important when the impacts of the worldwide demand for maca and the rapid rise of its economic value on producers and their communities in the central Andes are considered. While one result of the maca boom has been an injection of capital into the local economy, so far this wealth has been unequally distributed among those more and less favourably positioned to take advantage of the maca boom (i.e. those with greater access to capital to begin with, those with greater land holdings, those with more education) and subject to quick evaporation as the industry experiences cycles of abundance and shortage. The Peruvian government’s emphasis on the development of export markets for maca and corresponding growth of the maca agricultural industry has undoubtedly brought economic benefits to the region, but serious questions remain about how the emphasis on continual production expansion has impacted local environments, traditional economies, and gender relations. The increase of land cropped with maca is linked to soil degradation and environmental harm, as maca depletes nutrients and leaves the soil unproductive for up to ten years as well as releases carbon into the atmosphere. Further, the increase in maca production correlates with a decline in livestock grazing, a complementary environmental and economic activity that has traditionally been a major source of income for women. A recent survey conducted by Consultative Group for International Agricultural Research (CGIAR) researchers found that few women participate in new job opportunities in maca post-harvest processing, and women in the region feel that they have ‘lost decision-making power around land management, and few stated any benefits from the maca-boom’ (CIP and Schubert, 2015; see also Turin, 2015).

One way that the uneven impacts of maca’s expansion might be addressed in a way that sets the industry up for long-term social and environmental sustainability is through more formal and public recognition of the social values that have traditionally underpinned maca production in the region via a geographical
indication (GI) scheme. GIs are a way of embedding a product in a particular place and linking it to social values associated with its production. GIs “hold the potential of re-linking production to the social, cultural, and environmental aspects of particular places, further distinguishing them from anonymous mass-produced goods and opening the possibility of increased responsibility to place” (Barham, 2003). INDECOPI’s ‘flagship product’ initiative goes some way towards this goal by associating maca with a distinctive quality of Peruvian-ness, but as Bowen and Zapata (2009) have observed in the case of tequila in Mexico, simply associating a product with a place vis-à-vis a frame of ‘quality’ may increase its market appeal but does nothing to protect ancestral knowledge and traditional production practices that not only produce this sense of ‘quality’ but also support strong communities and environments. A GI that has no mechanisms in place to enforce production practices remains open for exploitation by larger players who not only push small producers out of the market, but favour efficient production practices that may undermine the very sense of ‘quality’ associated with the product that prompted the creation of the GI in the first place (Bowen 2010).

Thus it is encouraging to report that in an effort to protect the social values associated with the production of ‘quality’ central Andes maca, a group of growers, scholars, and government actors have collectively created a GI for maca (Denominación de Origen Maca Junín-Pasco) that takes into account not only the geographical boundaries of maca’s historical production, but also the particular ancestral cultural practices associated with producing maca of a recognized quality. However, although the GI was officially recognized by INDECOPI in 2011 (Chacón de Popovici, 2011; Perúbiodiverso, 2011), at the time of writing it was not currently active because a regulatory body had not been formed. This is a matter of urgency for the environmental and social sustainability of the region, as well as for the continuity of the maca industry which is based upon the demand for maca that demonstrates the qualities of ‘natural’, ‘traditional’, and ‘healthy’. I suggest that a level of state intervention that goes beyond the declaration of maca as a ‘flagship product’ and takes action in enforcing the collectively-defined standards of the GI is required if both the economic and social values of Peruvian maca are to remain strong.
Figure 9: La Papayita.

Figure 10: Especial de maca.
Figure 11: Timotea Cordova.
Figure 12: Spreading maca to dry on plastic sheets.

Figure 13: Maca sorted by colour, drying in a plastic greenhouse.
Figure 14: Selecting maca for seed stock.

Figure 15: Quaker brand oats with maca in a Cusco supermarket.
Figure 16: Maca powder (mid-left) alongside other healthful foods in Cusco's San Pedro market.
Chapter 5 – The Disconnect of Connection: Imagined and Lived Geographies of Maca Production-Consumption Networks

This chapter begins with an image: a beautiful illustration of a bucolic scene of plump women, dressed in colourful traditional Andean dress, bent neatly at the waist and cradling in their arms big round baskets full of pink, black, and cream coloured root vegetables. With felt hats perched atop their heads and black braids hanging either side of calm, dark skinned faces, the women are plucking turnip-like vegetables from sparse soil. The uniform tan colour of the earth contrasts with the brightness of the women’s outfits, a cheerful array of blue, red, green, yellow, and orange. In the background, snow-capped mountains rise to meet a clear blue sky scattered with fluffy clouds (Figure 17).

This image is not a Diego Rivera painting hanging in an art gallery; it is featured on a plastic package of maca powder on the shelf of a South Australian health food store, 500 grams for AUS $39.95. The package declares that this beige powder is ‘The Inca Superfood’ and that it is ‘a source of vitamins, protein and minerals’ alongside claims of ‘certified organic’, ‘energy’, and ‘fair trade’. Taking this package, as well as other images and information displayed on maca product packaging and company websites in Australia, as a starting point, this chapter looks at how ideas of place are manipulated as maca is positioned as a health food product for international consumers. These ‘imaginative geographies’ that are constructed around maca are contrasted with lived geographies of maca production in the Junín and Pasco regions of Peru. Drawing on Cook and Crang’s (1996) geographical metaphor of global commodity circulation, maca is seen to be both placed in new consumption contexts and displaced from the circumstances of its production. It is then replaced as government officials, processors, marketers, retailers, and consumers fill it with fantasized versions of place and heritage. This replacement is shown to be part of the way that various actors within maca’s production-consumption circuits employ geographical knowledges, and representations of geographical knowledges, in producing and reproducing a discourse of primitivism around maca’s production and consumption.

In this chapter I interrogate the ways in which place is imagined and experienced not only in the production and consumption of maca, but also in its positioning as a global health food product. I demonstrate that while maca is marketed using knowledge attributes relating to its geographical origins, history of indigenous use, and ethical production practices, the sense of place constructed for the consumer does not align with the producer’s lived experience of place and history. Instead of describing the central Andes as a real place, information about maca draws upon and adds to imaginative geographies of South America. However, knowledges constructed for consumers regarding the biography of maca through portraits of ethical production practices such as fair trade place maca and its producers squarely in the real world, an idea that conflicts with the imaginative geography of maca production constructed around its origins. Both of these knowledge claims should be read critically as representations that serve particular interests rather than as unproblematic attempts to ‘defetishise’ the commodity. Points of disjuncture between these knowledge claims
open up spaces for contestation by other actors involved in the production and consumption of these food products.

**Place, Imaginative Geographies, and Circuits of (Culinary) Culture**

Thinkers across the social sciences have problematised the concept of ‘place’. I take a phenomenological view of place, not limiting it to the seemingly objective physical geography of space but rather including the full range of social elements, such as the historical, the cultural, and the political, that contribute to the way place is experienced. I follow Casey (1996; 1997) and Gray (2000) in understanding that place is a necessary dimension of human being-ness, both perceived and constituted through our sensory experiences with it; as Gray puts it, ‘human being-in-the-world is fundamentally a being-in-place’ (2000: 7). Place, then, precedes the abstract notion of geographical space, for it is only by reflecting upon the lived experience of place that Enlightenment thinkers were first able to conceive of a neutral sense of space separate from human influence (Casey, 1996; 1997). Space has subsequently become the tool of governments, its supposed neutrality providing a blank slate upon which to draw lines and build structures that support the exercise of power, while place continues to be experienced and constructed sensually ‘by people consuming such spaces through their everyday practices of moving about and using them for their own purposes’ (Gray, 2000: 8; paraphrasing de Certeau, 1984). Further, both de Certeau and Gray emphasise the social and historical embeddedness of space, acknowledging that the power differentials inherent in the creation of spaces inevitably influence the ways in which places are experienced. The same geographical location can be perceived as either space or place, or both, depending upon perspective, and thus ‘are reciprocally related as different perspectives on the same location’ (Gray, 2000: 9).

Spaces are historically and socially located, contested, and redefined through power struggles, their changeability evident by comparing maps of the same geographical locations across time or space – consider the changing maps of Eastern Europe throughout the twentieth century for an example of the former, and a current map of the Middle East produced in Israel or Palestine/the occupied territories for an example of the latter. Places are made against these external backdrops by the people who consume them through inhabitations and representations. Place is not a neatly bound entity in either a temporal or spatial sense, but rather is constantly made and remade through a ‘processual geography’ that ‘understands how flows can create, reproduce, and transformation geographic spaces’ (Heyman and Campbell, 2009: 133). This is what Doreen Massey calls an ‘extra-verted’ sense of place, given its specificity not through a ‘long internalized history’ but instead ‘constructed out of a particular constellation of [social] relations, articulated together as a particular locus’ (1993: 66). Massey suggests that instead of thinking of places as static entities, they should be thought of as processes consisting of ever-changing social interactions. Place is, and always has been, a fluid notion, endlessly constituted and reconstituted by flows in and out of other places against which, and through which, it defines itself.

Another term which I use in this chapter is ‘imaginative geographies’, a term coined by Shurmer-Smith and Hannam (1994) and embraced by many scholars in the field of cultural geography. This concept draws upon Said’s (1978) pioneering thesis in
Orientalism, in which he argues that rather than thinking of the Orient as a real place located in geographical space, we think of it as a place located in the collective imagination. Thus through the production of ideas the Orient has become an imaginative geography, ‘a geography that overlays a more tangible geography and helps shape our attitudes to other places and people’ (May, 1996: 57). More recently, the concept of imaginative geographies has been applied to the study of consumption, and, in particular, the way in which such geographies are employed in the production, circulation, and consumption of ‘exotic’ goods (e.g., Cook, 1994; Cook and Crang, 1996; Cook, Crang, and Thorpe, 2004; Crang, 1996; Hendrickson, 1996; May, 1996; Munt, 1994). The tension between celebrating cultural diversity and reinforcing racist stereotypes inherent in the ways in which imaginative geographies of such goods are represented and consumed is a significant ongoing theme, which I address below.

The above studies demonstrate that often the ways in which consumers perceive ‘exotic’ goods differ considerably from the perceptions of distant producers. Somewhere in between points of production and consumption, knowledges about such goods are erased and refilled with other ideas and meanings. This process is what Cook and Crang refer to as the first commodity fetish, which ‘stresses how the displacement of commodities from worlds of production into worlds of consumption produces a vacuum of meaning and knowledge to be filled’ (1996: 141). These knowledges and knowledges can come from many different sources. Some studies of consumption attribute a great deal of the knowledge creation around such goods to corporate producers, processors, and promoters, such as Carol Hendrickson’s (1996) study of the representation of Guatemalan goods in mail order catalogues. Others emphasize the creative power of consumers themselves in this knowledge creation process. For example, Daniel Miller and Sophie Woodward’s (2007; 2011) ongoing work on denim explores the various contextual uses and meanings it has acquired across the globe (see also Gillespie, 1995; Miller, 1997).

Rather than privileging a particular party or site in the production of geographical knowledges of displaced commodities, Cook and Crang’s ‘circuits of culinary culture’ provides an analytical framework for looking at the range of people and places implicated in the construction of knowledges and meanings. The circuits of culture model, as developed in the field of media studies (see Johnson, 1986), stresses:

...how flows of values and information are not simply imposed on passive viewers or readers by media institutions, but rather constructed and reconstructed through the inter-relations of the full range of actors involved in the production, circulation and consumption of these meanings. So, the geographical knowledges associated with goods can potentially be produced at a variety of sites within the ‘worlds’ of those products by a variety of actors involved in their provision and consumption. (Cook and Crang, 1996: 141).

These circuits consist of ‘two-way interrelations’, or feedback loops, as consumers actively use products and producers, processors, distributors, retailers, and marketers try to guide their usage and vice versa. Geographical knowledges associated with foods are created through these interrelations (and sometimes, just as importantly, non-inter-relations) of actors throughout these circuits. It should be emphasized that just because all actors have the potential to shape these knowledges...
does not mean that power is equally distributed in such representational processes. These inequalities reside in the ways in which various voices are expressed or suppressed, knowledges translated or interpreted, interests constructed, and value extracted in terms of both economic and cultural capital (Cook and Crang, 1996: 141-142). This chapter looks closely at the way in which geographical knowledges are employed by secondary processors in the production process, largely because I recognize that these intermediaries, who act as the link between Peruvian maca growers and Australian maca consumers, hold the balance of representational power in this network. However, this is not to discount the roles that other actors, including consumers, growers, the media, government agents, health professionals, and educators, may play in the knowledge construction process, a topic that is addressed in other parts of this thesis.

Cook and Crang (1996: 142) identify at least three kinds of geographical knowledges that are constructed for/by consumers through the representational politics of cultural circuits. These are:

- Settings (contexts in which foods can and should be used)
- Biographies (how they move about the food system)
- Origins (where foods come from)

Leaving aside the first type for the moment (which is addressed elsewhere in this thesis), this chapter is concerned with the construction of geographical knowledges regarding the biographies, or systems of provision, of maca, and the origins, or the place – with all its associated social, cultural, and historical baggage – from which it comes. Further, I also question to what end these knowledges are constructed, who constructs them, and who benefits from their construction.

**Placed: Maca on the Supermarket Shelf**

Maca is a relatively new product in Australia, having only become widely available within the past ten years. It has no history of use in Australia before the late 1990s, and the entirety of the maca available in the country is imported from Peru. As such, Australian consumers have had to learn how and why to use maca. Maca has been \textit{placed} in the Australian health food market in two senses: it has been physically put there, and it has been imaginatively constructed as a useful product for Australian consumers.

There is a relationship between these physical and imaginative placements. A survey of health food stores and supermarkets in the Adelaide area of South Australia reveals the nature of this relationship: maca is most commonly positioned on the shelf grouped with other superfood products such as açai berry, coconut oil, goji berry, cacao powder, and chia seeds, among others (Figure 18). Behind this physical placement is an imaginative connection between maca and these other products. These foods have been collectively cast as superfoods, implying that they are beneficial for the consumer on two accounts: they are not only extremely healthy as proven by science, but they are also drawn from a rich tradition of indigenous knowledge.

The places that maca occupies as products for Australian consumers – the retail geography of maca – is revealing as well. Not long ago, these places were only health food stores, from the rustically charming, and correspondingly pricy, organic shops of...
the wealthier suburbs to the brightly-lit supplement stores of urban and suburban shopping centres. Currently maca also occupies places of less specific, and more convenient, consumption, sitting in superfood displays on the shelves of mainstream local and national supermarket chains and chemists. This expansion of maca’s retail geography points to two changes: one, the broadening of those who consume maca beyond health food shop customers, and two, the expansion of the types of products offered at supermarkets to include ever more specifically targeted functional foods. The highly individualised approach to different types of healthy lifestyles such as gluten free and low-carbohydrate is increasingly becoming a mainstream trend among both food producers and consumers in Australia and beyond (Heaman and Mellentin, 2001; Vogel and Vogel, 2008).

Whether purchased from health food shops or supermarkets, there is a similarity in the way that maca, alongside other superfood products, is offered up for consumption. On these shelves, maca inhabits a place where health-conscious Australians can purchase an array of edible medicines from exotic corners of the globe without having to brave the extremes of the sweltering jungles or desolate highlands where these plants flourish. In this geography of abundance and choice, Australian consumers can, in a safe and sterile manner, experience a little bit of ancient indigenous healing wisdom, an escape from imposing Western medicine through primitive knowledge. This sort of consumption experience is reminiscent of Jon May’s study of the way in which ethnic food is experienced among white residents of a culturally diverse neighbourhood in London, in which his participants state that they like living in the area because ‘there are lots of little cultures, lots of gay little cultures, that feel fairly safe in terms of violence’ and because ‘it’s sanitised, and safe’ (May, 1996: 62). May observes that his participants show ‘less of an interest in other cultures than only a generalised and superficial interest in cultural diversity per se’ (May, 1996: 62). For these urban white consumers, ‘a taste for exotic food forms a crucial part of their cultural capital, a way of distinguishing themselves’ (May, 1996: 63). The similarity between the relatively sanitized and superficial way in which May’s inner London ethnic food consumers experience ‘a little taste of something more exotic’ and the way in which superfoods are neatly displayed for Australian consumers raises questions about the degree to which the consumption experience of superfoods among Australian consumers might mirror those of May’s participants, a question which is addressed further in Chapter 6.

Similarly, this cornucopia of healing indigenous edibles, drawn from all corners of the world, echoes the culinary tourism on offer in a 1995 Time Out article, in which Londoners are invited to taste ‘the world on a plate’, to ‘give your tongue a holiday...all without setting foot outside our fair capital’ (Time Out, 16 August 1995, as quoted in Cook and Crang, 1996: 131). This article is the impetus for Cook and Crang’s study on processes of displacement, serving ‘as a case of how globally extensive networks and flows of foods, people and culinary knowledge are being locally articulated – here in a fashioning of London as cosmopolitan metropolis’ (Cook and Crang, 1996: 132). Their argument that ‘this local articulation, like others, works through the deployment of various constructed (and, of course, contestable) “geographical knowledges” about where its foods, and other cultural objects and actors associated with them, come from and in what settings they can and should be situated, encountered, and used,’ informs the next sections of this chapter, in which I
ask how such geographical knowledges are deployed in representing maca to Australian consumers.

**Displaced: Lived Geographies of Maca Production**

The visceral reality of life among maca producers may be hard for an Australian maca consumer to imagine. The physicality of it. The way the cold seeps through the cracks in your clothing as you stand all day in the icy wind and stinging hail, pulling maca roots from the earth at 4,500 metres. No matter how many sweaters you wear, how many blankets you fasten about your waist, how warm the beanie your mother knits for you, you still can’t feel your fingers or toes. The way you can smell the sweet, earthy, caramel odour of maca drying in the air all around Junin during harvest time; you can tell which buildings and fields are drying maca and you can be sure that there’s someone there keeping guard over the crop at all times so that nobody steals their livelihood. The taste of homemade *jugo de maca*, earthy-sweet, the rehydrated roots cooked together with apple and sugar, purchased from the plump, smiling lady who sells her concoction along the side of the highway in re-used glass bottles for 1 sole. The greyness of the sky before it rains and the blinding brightness of the sun on those days when it breaks free from the clouds, lifting your spirits and providing a much-needed respite of warmth. The sparse beauty of so much open space, the marshy expanse of the lake and its colourful migratory birds, the grazing wild vicuñas, so shy and easily startled by trucks and tractors rumbling through the alpine plains on their way to plant or pluck maca, the crop that is increasingly central to the livelihoods of so many people here.

The lived experience of place in maca production is not necessarily brutal, although it may seem so to well-off Australian consumers. It is just the way that life is in Junín. People are so used to the cold that even when they make enough money, they do not consider putting in heating in their homes; they spend it on a Toyota Hilux, a new tractor, a plasma TV, or an addition on their house. They are used to living at high altitude, and while I may get dizzy and short of breath walking up the steep slopes above 4,000 metres to talk with the growers and harvesters, they just smile and wait patiently for me to catch up.

The point is not so much the roughness of a place like Junín, but the realness of it, the way in which it is tangibly rooted in space and time. Junín today is a place that is struggling to keep up with a huge and sudden agricultural and commercial boom. It is a place that is rapidly infusing with capital – albeit unequally distributed – where shiny pick-up trucks cruise the streets alongside rickety moto-taxis and ongoing new building gives the town the perpetual half-finished feeling of a construction site. It is also a place that can touch its past; a short drive into the countryside reveals pre-Incan agricultural terraces where maca has been grown for thousands of years. It is a place impacted by forces of colonialism, a place that traded many of its grazing camelids for sheep, that once gave up maca cultivation in favour of higher paid work in mining. It is a place where many older women still wear traditional Andean felt hats adorned with brightly coloured ribbons, where warm, colourful *mantas* (shawls) made of wool to wrap about the shoulders can be purchased in the markets. Yet these same *mantas* are not untouched by time, and most of them are today made by machine in a factory rather than knitted by hand. It is a place where in these same
weekly markets, stalls selling imported t-shirts, jeans, knitwear, and sneakers greatly outnumber those selling traditional costumes. It is a place where televisions carrying ideas and images from around the globe blare in every café and many houses. It is a place where fried chicken restaurants outnumber those serving more traditional fare, where every meal is served with a big pile of imported white rice alongside that good old Peruvian staple, the potato. It is a place that is distinctly itself, and at the same time a place influenced by global flows of capital, things, ideas, images, and people.

There is a gap between the lived experience of production and the image of it. This is the difference between a seasonal worker on the maca harvest, a young woman dressed in white sneakers, fuchsia sweat pants, a maroon peacoat, a black baseball cap sporting the LA Gear logo in neon letters, her hair tied back in a ponytail and a pair of black headphones around her neck, and the fantasised image of the Andean woman in her traditional dress carrying her basket of maca on one hip. Once the maca has been dried and leaves Junín for processing, packaging, promoting, and retailing, the actual place of its origin is effectively erased. This erasure occurs as a condition of its exchange for capital; the evidence for which is given below as I illustrate the gap between the place of production I have just described and the imaginary place described for maca's Australian consumers. Not only do labour and other production inputs become invisible through what Marx describes as the fetishisation of the commodity form, but the product also becomes decontextualised, removed from the lived place that it occupied during the agricultural stages of its production. It becomes displaced, and thus becomes an empty vessel to be filled with imaginative renderings of the place from which it came.

**Replaced: Imagined Geographies of Maca Production**

Maca is sold largely for its health and medicinal benefits, and a great deal of real estate on product packages is devoted to describing why maca is good for the consumer, using the language of nutritional science with words like ‘minerals’, ‘amino acids’, and ‘adaptogen’. However it is not health alone that sells this product, for it is not a supplement manufactured in a lab like a multivitamin tablet. The equally important counterpart to the scientific substantiation of maca’s health benefits under the nutritionism paradigm is an association with primitive cultures of origin and pristine places of production, and thus draws heavily on primitivist discourse (described below). This association is presented hand in hand with health information, reinforcing scientifically supported nutritional knowledge with a sense of historical and cultural credibility, or, perhaps, vice versa. Thus maca products tend to be presented with a large amount of knowledge attributes regarding their biographies and origins on their packaging, with a great deal more information about the products’ history, production, health benefits, and use available on producers’ websites.

Drawing upon Marx’s definition, I understand the pure fetishised commodity to be devoid of information relating to its production or origins. A good example of this is a bunch of cut flowers for sale in a supermarket. Unlike food, flowers are not subject to country of origin labelling laws in Australia; therefore unless a producer or retailer chooses to include information about production or origins along with the product, no information about the life of the flower before its arrival on the shelf is available to
the consumer (Butler, 2014). Thus flowers are flowers; the consumer has nearly no knowledge regarding the circumstances of their production. Maca, however, is not presented in this generic fashion to Australian consumers. One might think that the plethora of information presented to the consumer serves to defetishise maca, this is, to reimburse the commodity with the social relations that commodity exchange obscures. And this is, to a degree, the case – this information serves to work through what Cook and Crang (1996) call the ‘first commodity fetish, the construction of ignorance’. However, a critical reading of the packages and websites of Australian maca producers reveals a second commodity fetish, which Cook and Crang (1996: 135) call a ‘fetish of locality’ and Lash and Urry (1994: 272) call the ‘touristic quality’ of contemporary consumption, in which retail settings are constructed so that consumers are ‘encouraged to gaze upon and collect the signs and images of many cultures’.

The image with which this chapter began appears on the packaging of one of the top selling Australian brands of maca powder. While most of the other brands do not have such images on their packaging, some do have images on their websites, and all have varying degrees of information provided both on the package and online. In order to more deeply investigate the way in which imaginative place-making is constructed around maca, I have undertaken a textual and visual discourse analysis of the way in which place is presented on the packaging and websites of these brands (Belsey 2005; Griffin 2011; Rose 2005). Images and words on product packaging and other promotional media such as company websites form texts that can be discursively analysed to reveal the complex and (often) contradictory ways in which particular foods are represented (Craw 2012; Kniazeva and Belk 2007). This study focuses on the brands of maca most frequently encountered during my systematic visits to health food shops and supermarkets in South Australia, as well as the top results returned through typing the keywords “maca Australia” into the Google search engine. These two methods returned seven brands, which were analysed using the methods described above.

The first question I asked is, what is the particular imaginative geography presented? The answer is a geography that is distinctly South American, but not necessarily specific to the central Andes. Nearly all of the maca brands declare prominently that their maca is from Peru, although one only mentions that it is from South America. Only one brand mentions on the packaging the name of the region from which the maca comes – Junín – and one brand includes this information on its website but not on the packaging (Loving Earth, Forest). Several brands mention that it is grown at high altitude or, more specifically, in the Andes mountains. One explains quite specifically that their maca is ‘grown at 4,100m above sea level in the Andes’ (Loving Earth) while another says that it is ‘grown at very high altitude on the Andean Plateaux of Peru’ (Golden Glow). Thus consumers tend to be given an abstract idea of a mountainous landscape in the distant South American continent, rather than a specific image of a concrete place.

Even more significant than locating maca in the mountains of Peru (or South America in general) is connecting maca with its place-based heritage. Five brands call their maca ‘the Inca superfood’ (Power Superfoods, Honest to Goodness) or ‘superfood of the Incas’ (Loving Earth, Golden Glow, The Source) while a sixth reports that it ‘was reputed by the ancient Incas to possess extraordinary powers of sexual enhancement’
(Sungods); only one actually explains on its website that it was the Pumpish people, not the Incas, who domesticated the root (Loving Earth). This is significant because the Pumpish occupied the lands where maca has historically grown long before the Incas came into power for a brilliant but fleeting historical moment. There is actually very little evidence outside of legend that the Incas themselves had much to do with maca. However, the image of the Inca warrior is a powerful one, and one company even includes the following legend on its website:

The Incas would take maca before going into battle to make them extra-deadly, but in a gentlemanly twist, the supplement would be withdrawn after a battle was won, to prevent [sic] the women of the defeated peoples from the over-sexed warriors (Sun Gods).

Thus maca is associated not just with its ability to enhance strength and sexual function, but also with the legendary Incas who are portrayed here as both intimidatingly powerful and appropriately civilized. Drawing on existing imaginative geographies of South America, maca producers have, probably correctly, assumed that ‘superfood of the Incas’ has a more resounding impact than ‘superfood of the Pumpish’, and therefore have forgone historical accuracy in order to deploy this existing imaginative geography.

I pause here to address the way in which primitivist discourse is employed in the above statement, which associates a sort of barely contained energetic wildness – not to mention a fevered sexuality – with ‘exotic’ dark skinned people (see Jackson, 1988; 1989; in May, 1996: 62; see also hooks, 1992; Torgovnick, 1990). The association with maca’s supposed aphrodisiac effect expresses a similarly primitivist-tinged escapism, a warning to be careful with its consumption or else, you, too, might become ‘over-sexed’; as a blog entry on the website of the company Loving Earth admonishes, ‘if you're taking it, you might want to have your partner take it too. Not to be too risqué, but this stuff is proven to make you feel that little extra bit frisky’. There is more than a little of bell hooks’ ‘eating the other’ going on here, in which, she claims, ethnicity serves as ‘spice, seasoning that can liven up the dull dish that is mainstream white culture’ (hooks, 1992: 21; see May, 1996: 59). The loose sexuality associated with consuming the ‘Incan superfood’ is defined less by historical or cultural fact than by its opposition to contemporary Western society, which presumably suffers in the sex drive department (Torgovnick, 1990). As with much primitivist discourse, the Inca becomes ‘a blank slate on to which to project ideals perceived to be lacking in contemporary Western life’ (Knight, 2011b: 716).

A vague image of a location high in the mountains of South America and connection with the legendary Incas and their dark-skinned descendants combine to create a sense of place that is timeless, untouched by the forces of modernity. This is an example of what Torgovnick calls ‘the persistent Western tendency to deny a plenitude of time and time-layers to the primitive’ (Torgovnick, 1990: 244; see also Fabian, 1983). As Fabian observes, the very idea of the primitive is, itself, ‘essentially a temporal concept, is a category, not an object, of Western thought’ (1983: 18); the construction of the category of primitive depends upon this placing of the Other outside of intersubjective time. Many of the brands reinforce this idea by employing images of maca production being done as it always has been done, without the aid of heavy machinery or the intellectual inputs of agricultural science. ‘It is grown at a
high altitude as Maca has been traditionally grown for thousands of years. The farmers sun dry Maca and then ground into a fine powder, at no point are any fillers or additives used’, reads the website of Forest Super Foods. This description creates an image of nostalgic pastoralism, in which little has changed ‘for thousands of years’. Golden Glow Maca Gold claims that maca ‘...has been used as a nutritional food for at least 5,000 years’, which is exaggerated by at least 1,000 years but nevertheless gives a sense of continuous ancient wisdom handed down through generations. The website of Forest Super Foods is more accurate with dates, but creates a similar image of continuity and ancient knowledge: ‘The Ancient Incans used maca root as far back as two thousand years ago, when it was revered not only as a staple crop, but as a potent medicinal herb’.

This is an imaginative geography in which maca production occurs outside of any real time or space, a geography that both feeds into and draws from ‘a wider set of imaginative geographies, geographies that conflate notions of historical distance with social distance’ (May, 1996: 63). In order to understand this imaginative geography, it is important to keep in mind that any representation of an external place must emanate from some other place; therefore representations of the geography of maca production are set in opposition to Australian sites of consumption. Duncan identifies such place representation as drawing upon tropes used in discourses of the Other, in particular a comparative set of tropes that ‘attempt to assimilate the site being represented to the site from which the representation emanates by arraying both sites along a temporal continuum’ (1993: 40). Such tropes have a long history in the Europe’s (and, later, America’s and Australia’s) discourses of the Other, in which distant places and their inhabitants have often been seen as occupying earlier, less evolved times. The discipline of anthropology must take a rather large part of the responsibility for creating these tropes, for, as Fabian points out, it is this placing-out-of-time that creates the Other as anthropological object of study and gives the anthropologist his authority through a process he names as the ‘denial of coevalness’ (1983). In the nineteenth century these tropes were used to justify European imperialism, while today they are used to create desire to visit or buy artefacts from remote places, ‘places where one can escape the social and psychological pressures of modernity and retreat into a “simpler”, more “natural” place and time’ (Duncan, 1993: 46).

**Loving Earth Maca: A Case Study**

Loving Earth is one of the largest Australian maca producers, importing over 50 tonnes of dried maca powder from Peru to Australia in 2013.\(^{27}\) I chose this particular brand for further scrutiny not only because of the volume of maca that they import, but also because of the large quantity of information provided on their website, providing an opportunity to examine one place where knowledge about maca is communicated online.\(^{28}\)

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\(^{27}\) Data on the volume of maca imported into Australia is not publicly available. The volume of maca imported by Loving Earth in 2013 is based upon information relayed during a personal interview with a company executive.

\(^{28}\) I wish to disclose here my personal relationship with this company, having been employed as a contractor for a short period in 2010. This is a company that, in my assessment, strives to be transparent about its production practices, that focuses on
On the landing page for their maca products, a section titled ‘What is it?’ is prominent. In this section, next to a picture of a man wearing a colourfully beaded traditional Andean hat squatting in a maca field, the text reads (italics are mine):

An energising and revitalising superfood of the Incas. Jam packed with vitamins, minerals, enzymes and all the essential amino acids. Grown at 4,000m above sea level in the Andean district of Junin by the Pumpush [sic] people who have been cultivating and consuming Maca as a staple food for thousands of years. Contains unique alkaloids, which help stimulate the master glands that in turn may help optimise and balance the entire endocrine system.

Alongside a great deal of health information, here we see some of the same sentiments of a high altitude location, a connection to an ancient past, and the continuity of ancient wisdom that we observed with other brands of maca, although to their credit Loving Earth presents the facts more accurately than some of their competitors.

Delving deeper into the website, we find a section on a page called ‘Meet the Grower’ that contains a great deal of information about how maca is contemporarily cultivated:

Maca is an extremely hardy plant and leaves the mineral rich sedimentary soil sterile after it has been grown - all the minerals being absorbed into the maca root. They have therefore developed a unique system of agriculture to cultivate maca, where the soil is left fallow for 5 years after each crop so that it can completely regenerate. The wind and rain transport the mineral rich rock particles (high in calcite, dolomite, iron, zinc and magnesium) back into the soil.

The growers conduct special ceremonies before sowing and harvests, according to their tradition and Andean custom. They make offerings to their gods of the earth for a prosperous harvest. Then they prepare the land by:

1. Taking out the weeds and stones

2. Turning over the virgin soil that has formed as top soil since the last harvest

The seeds are then sown, this takes place from September to December, the maca then grows for 7 to 8 months and is harvested in May the following year.

In my experience, this is an accurate description of maca cultivation. The ancient system of growing maca on the same plot of land for only two years and then leaving building strong relationships with its suppliers, and that fosters community among its consumers. Thus the following is intended not as a criticism but rather as an analysis of the ways in which geographical knowledges and imaginations are employed in ways that knowledge providers themselves may or may not be conscious.
the soil to rest for at least 5 years (often longer) is indeed still practiced by many maca farmers today, handed down over generations. And, indeed, ceremonies and rituals are conducted to mark the start of planting and harvesting, as has long been the custom. However, what the description does not mention is that today much of the ‘turning over the virgin soil’ is done by tractor. It does not mention that mineral levels are measured by agricultural scientists using modern devices, and that government-funded scientists are conducting research on soil regeneration to help the region continue to meet the demand of the market. It does not mention the enormous fields of maca that have begun, over the past two to three years, to be planted outside of the Junín region in nearby Tarma province by some of the larger growers because the soil in Junín is becoming depleted due to skyrocketing demand. It does not mention that at least one of the celebratory practices of the harvest, the preparation of *watia* or cooking of maca in an earthen oven in the field, has fallen into decline among many growers. The information that is left out here is as significant at that which is included, for by only describing those practices that are in line with pre-industrial agricultural and cultural practices, an image of maca production as a timeless process conducted by a timeless people is created. This idea is reinforced through the images on the webpage, which feature people hand-harvesting maca and taking part in a ceremony while wearing traditional costumes, alongside close-ups of the maca plant itself and sweeping vistas of the landscape of the Junín area.

Going back to the main product page for Loving Earth’s maca powder, we find that the next paragraph veers from many of the other brands as they begin to discuss the details of maca’s contemporary production:

We are often asked why our Maca costs so much less than other brands. We buy our 100% certified organic Maca powder directly from a grower association in Junín, Peru. We pay them a premium price for it and then we put the same markup on the maca as all of the other products we sell and that is how we arrive at the price.

Notably, the top of the webpage also contains an emblem declaring that the product is ‘fairly traded’ and ‘single origin’ (also, notably, four of the seven brands surveyed above are labelled with a fair trade certification). Thus some of the social and environmental facts of maca’s production – the product’s biography – are communicated to consumers, set within a framework of ‘fairness’. This idea is emphasized by the declaration that the product is certified organic, that it comes from a grower association, and that these growers are paid a premium price. A lower section on the page, labelled ‘Growing & Processing’, gives a bit more information about the social conditions of production:

The Association of ecological maca growers of Junin consists of approximately 84 families and provides employment for in excess of 150 people during the annual sowing and harvesting of the Maca.

The most telling part of this narrative, however, is found by clicking a link inviting consumers to ‘Meet the Grower’. In this section the company provides more in-depth information about the context of maca’s production, including text, a photo gallery, a map, and a short video featuring an interview with a maca grower in her field (a female grower wearing two layers of traditional mantas, a knitted hat in the local
style, and a smile). The text again tells us about the altitude where maca is grown and its historical significance, albeit in more detail:

It was originally domesticated by the Pumpush [sic] of Junin, a Pre-Incan culture, who have lived in the creeks of the Chinchaycocha Lake for thousands of years. Maca was and continues to be their staple food. Maca is one of the few eatable plants that grows in this area and therefore is sacred and central to the culture of the Pumpush [sic] people.

This description serves to give the consumer a sense of connection as she learns that maca is a staple and that it plays an important role in the culture of a specific indigenous group. The text also repeats, twice, the fact that the association from which the maca is sourced is a member of the Fair Trade Federation. On this theme, the webpage also details more about the social context of maca production:

In the region of Junin at its altitude above sea level organic maca is the main viable crop. As world demand for maca has increased it has helped provide a sustainable source of income for the community of Junin, which has in turn helped increase the basic standard of living for the indigenous people of the region. The growers in the association have been able to set up high quality post harvest processing equipment to be able to mill the maca into powder at the point of origin adding more value to their raw commodity. Part of the role of the association is also to make sure that all the children of the growers attend school.

It is a credit to Loving Earth that they work closely with a growers association to develop a more socially equitable and sustainable form of exchange than that offered by free market trade. However, there is a disconnect between this description of maca producers and those described above. These purported timeless people with their rich pre-Incan culture are also depicted as benefiting from being able to sell maca, and its associated traditional knowledge, on the global market. This has helped to improve the standard of living for these people who, presumably, had previously been rich in cultural traditions but poor in actual money. There is an inbuilt friction in these two portraits of the people who are producing maca. In the first account, they are people inhabiting an imaginative geography placed outside of real time or space. In the second, they are people inhabiting a real geography, where things like poverty due to forces of colonialism, cultural imperialism, and political inequalities are experienced and need to be remedied – in this case through the benevolent market intervention of fair trade exchange. The colonial legacy of marginalisation of indigenous people and their cultural practices, including food cultivation, exchange, and consumption, in the central Andes is obscured through these representations, which celebrate cultural continuity but do not account for the way in which poverty developed in the region. Further, these representations ignore the neoliberal reality through which the production of maca as an export product has been supported by the Peruvian and other national governments at the expense of more sustainable approaches to food security and economic sovereignty, such as promoting strong local markets or supporting grower-initiated GI schemes as described in the previous chapter.

The latter depiction of maca production suggests that on some level, consumers know that there is a real place, populated by real people, behind the imaginative
geographies deployed to depict maca as exotic and timeless. And yet the very fact that Loving Earth provides both the imaginative geography and the real geography as part of the information offered for consumption demonstrates a tension between these two geographic knowledges. It suggests that consumers are being asked to believe in two conflicting geographies at the same time. They are provided with an image of an exotic, timeless place of production, an image that serves to reinforce the discourse of primitivism upon which maca’s positioning as a superfood is constructed, and at the same time are reminded that this is a product of a world in which the need exists for alternative trade regimes such as fair trade certification to counter the unethical production practices of an unregulated capitalist market and to remedy the legacies of colonial oppression and neoliberal economics.

I suggest that both of these geographical knowledges – of maca production in an imaginative geographical place, and the idea that this brand (and others who use ethical production certifications or include this type of information on packages or websites) provides maca that has been produced in a more ethical way precisely because it comes from a real place where exploitation is a problem – serve as representations, and thus are susceptible to fetishisation. While both ideas are presented as providing the consumer with knowledge about the origins and biographies, respectively, of the product, these ideas may function as what Cook and Crang call ‘the second fetish’, the fetish created through replacing a displaced product; the first can be considered a ‘fetish of locality’ and the second a ‘fetish of social justice’ (Fridell, 2007). However, I also suggest that this second representation may not function solely as a fetish through which Western consumers can bolster their self-concept, but also serve as a totem inscribed with symbolic meaning about the type of world the participants in alternative trade regimes such as fair trade aspire towards.

Let us consider both perspectives. If these representations of geographical knowledges are fetishes, they serve less to reveal the actual processes of production, and more to enable consumers to identify and differentiate themselves socially through their consumption. The representation of the origins of maca, the fetish of locality, serves to imbue maca with an aura of primitivism, and thus for consumers to position themselves socially as people who value natural or inherent knowledge about health in opposition to mainstream allopathic medicine, for example. This fetish of locality may seem harmless on the surface, but its implications are insidious when considered in the context of a postcolonial world. Heldke terms this practice ‘cultural colonialism’ through the commodification of ‘exotic’ food, driven by ‘a deep desire to have contact with, and to somehow own an experience of, an Exotic Other, as a way of making [one] self more interesting’ (Heldke, 2003: xvi). This appropriation of food cultures relies upon a ‘neo-colonial notion of the Other as a cultural resource always available to be consumed by more powerful members of the geo-political core’ (Johnston and Baumann, 2010: 102), and has the effect of freezing or preserving this other and her cultural heritage in a particular moment, while ignoring the political and economic contexts in which the outputs of this culture are produced for consumption by the dominant group.

Similarly, the representation of the biography of maca, the fetish of social justice, enables consumers to self-identify as people who resist the inequality of the free market and who wish for a more just world. As Fridell observes regarding the consumption of fair trade goods, ‘many ethical consumers likely purchase fair-trade
goods in part for the same reasons that they or others purchase 'unfair' commodities produced by conventional corporations: to buffer up their own sense of self validation’ (2007: 88). While I may wish for a less harsh way of expressing this point, Fridell’s observation reveals the way in which consumption of doubly-fetishized commodities – that is, those commodities, such as the maca in this case, that have been replaced through constructions of geographical knowledges – serves as a way for consumers to assuage feelings of powerlessness and alienation as participants in increasingly distanced and unknowable systems of provision. As Fridell explains, ‘feeling powerless and anxiety-ridden, ethical consumers can turn toward purchasing fair-trade [and origin-labelled] goods on the market, both to somewhat appease their feelings of powerlessness and to construct their own self-identity as “ethical” people’ (2007: 89).

However, previous scholarship on fair trade complicates these notions. In his study of fair trade promoters and consumers of handicrafts and coffee in the United States, Brown (2013) found a similar tendency for products to be represented through stories about distant third-world producers that exoticise poverty. He observes that such representations are strategic, because ‘fair traders need to frame workers as impoverished, exotic, and needy to compel customers to support their cause’ (Brown, 2013: 113). Fair trade producers use exotic images and stories in part because it is not easy to explain how fair trade helps to subvert deeply entrenched systems of economic and social exploitation, so appealing to consumers’ emotions is a more effective approach. Describing his own experience sharing images from a fair trade trip to Nicaragua, Brown observes: ‘Although my goal was to educate, I can’t deny the seductive factor of the images we presented. Showing farmers and artisans living in dire poverty made consumers feel good about buying fair trade’ (2013: 114). At the same time, fair trade promoters frame the types of representations they create that feature real people as more positive than representations featuring fictional characters. Loving Earth’s stories about real maca growers can thus be seen as a way to ‘force consumers to think about how their purchases influence labor relations and the environment’ (Brown, 2013: 116), in opposition to fictionalised representations such as the Power Super Foods illustration which simply romanticises maca production. At the same time, he recognises the problematic aspects of representing these farmers in advertisements and promotional material which are oriented towards the goal of selling products, and the risk the images of these real producers becoming fetishised. Ultimately, this is a limitation of fair trade itself, for while it seeks to counter the exploitative effects of capitalism, neoliberalism, and deregulation, the movement works within this system and thus is constrained by it. While many researchers agree that fair trade goes some way towards improving the lives of producers (Arnould et al., 2009; Jaffee, 2007; Lyon, 2011; Raynolds, 2002; Raynolds et al., 2007), the way in which consumers interact with fair trade products – as fetish or as totem – is likely variable, especially as fair trade becomes more mainstream. As Brown hopefully suggests, ‘although this type of shopping does carry the risk of duping consumers into thinking they are making significant changes in the world, it may also encourage them to think more critically about all of their purchases. Perhaps the fetishization of fair trade has a silver lining?’ (2013: 136). In other words, fair trade products are inscribed with many meanings, some of which may inspire consumers to critically examine their role in the global political economy.
The Disconnect of Connection

The images and descriptions of place provided by Australian maca producers are not necessarily false; however, they are incomplete. They present only a slice of what actually happens during the process of maca's agricultural production. They present an image of a place that does not exist, an idyllic indigenous community carrying on timeless practices of culturally embedded agricultural production, albeit now for the modern export market. And they imagine this place improved by its entrance into the global maca trade, where alongside their pristine ancient traditions they now have access to the better things of modernity such as ‘sustainable incomes’ and schools. Maca consumers are subtly asked to hold two conflicting knowledges about the circumstances of maca's production. They are simultaneously presented with an imaginative geography representing maca’s origins in a place located outside of real time and space, and a representation of a more ethical type of production that occurs in a real place impacted by the exploitative processes of capitalist production.

These two different types of geographical knowledges are framed as connecting consumers with distant producers by offering a peek into the world in which maca is produced through images and descriptions not only of the landscape and culture within which production is set but also of ethical production practices. These geographical knowledges are represented as an alternative to a sort of detached, fetishised form of capitalist consumption, in which consumers know nothing of the circumstances of production of goods. However, if these knowledges are a second level of fetishisation, then this framework of connection falls short of achieving these ends; consumers remain alienated from the social worlds of producers and vice versa. Behind this supposed sense of connection is a deep disconnect. This disconnect occurs through representation on two levels: the spatial and the temporal. In a spatial sense, maca producers are denied the reality of the place they experience and make on a daily basis, while in a temporal sense they are cast, always, in the past – as Fabian (1983) puts, they are denied coevalness. Thus, consumers’ knowledge of production remains but a representation. However, if the second knowledge fix, the representation of fair trade production, also functions to give the product totemic value, then perhaps the disconnect is somewhat justified. While many scholars agree that fair trade provides some tangible benefits to producers, the debate is far from settled regarding the long term impacts on shopping and citizenship attitudes and behaviours of those participating in fair trade as consumers (Brown, 2013; Fridell, 2007; Johnston, 2008; Szasz, 2007; Willis and Schor, 2012).

Rather than end on this pessimistic note, I return to the premise of the circuits of culture framework, which holds that geographical knowledges are created and contested at various points and by various actors in a production-consumption circuit. This chapter has probed the disjunctures and contradictions within and between geographical knowledge claims about maca, such as the limitations of fair trade certifications and the information about contemporary maca production that is left out in communicating a discourse of primitivism. It is these disjunctures that I suggest open up spaces for contestation of both the claims themselves and the concept of superfoods more broadly by other actors involved in maca’s production and consumption.
While this chapter has focused on the way in which geographical knowledges are constructed by the intermediaries who bring maca to the Australian market, these actors do not have a monopoly on the representational practices that imbue displaced maca with meaning. While they often play the powerful role of voicing and translating knowledges between primary producers and consumers, other actors, including producers, consumers, government officials, health professionals, educators, and the media, are also active constructors and interpreters of knowledges. For example, what is the role of the Peruvian government, who has declared maca a ‘flagship product’ of Peru and has encouraged the development of export markets for maca, in this process? Do growers themselves influence the primitive geographies communicated on maca packaging by promoting a particular image for their product to importers or by taking pride in sharing some of their inherited cultivation practices? How do new consumers challenge these knowledges, both by the uses to which they put products and by the sharing of information which occurs at breakneck speed via electronic media? The latter, in particular, is a significant question for further research, as we still know very little about how knowledge and food products together are consumed and shaped socially.

One way in which geographical knowledges of maca production are currently being challenged is through the creation of a geographical indication (GI) for maca production in the Junín and Pasco regions of Peru, as described in the previous chapter. This is an important way in which maca producers have employed their own practices of place-making in relation to maca’s origins, for the geographical zone described under the GI is not defined by political boundaries created by the government. Instead, the boundaries have been drawn collectively by growers, historians, and scientists who have pooled their experiences and expertises in defining an area historically, culturally, and agronomically appropriate for the production of the high quality maca distinctive to the region. While the GI is not currently active because a regulatory body has not been formed, a potential application for this geographical indication is to create a certification that communicates geographical knowledges constructed by producers themselves. Further studies examining the role that other actors play in constructing knowledges in maca’s, and other superfoods’, production-consumption circuits may reveal other points at which the representations presented here are challenged, constructed, and redeployed.
Figure 17: Power Super Foods Maca Powder

Figure 18: Maca for sale alongside other superfood products in a natural foods shop in South Australia.
Chapter 6 – Chia: Assembling a Superfood

In 2010, the popular Australian bakery franchise Baker's Delight ran a print advertisement with a central strip of bold text proclaiming: ‘Chia bread. Grown right there, baked right here’. Smaller text underneath explains that ‘Our Chia seeds are grown in the Kimberly, Western Australia’. Behind the text is a photo featuring a field of luscious green grasses flecked with purple flowers, with a distinctive red-toned Australian outback rock formation in the background, all bathed in the warm light of late afternoon (Figure 19). The advertisement draws on popular sentiments of localism, expressed through encouragement to support Australian agriculture and business by ‘buying Australian’. Yet the central element of this product, the chia seed (Salvia hispanica L.), is not native to Australia, but rather to present-day Mexico and Guatemala, where it once served as a staple crop for the Aztecs and the civilizations that preceded them. Its history in Australia is short, with cultivation on the continent dating only to the early 2000s. But by 2010, Australia was reported to be the world’s largest producer of this little Mesoamerican seed, and it was appearing on mainstream supermarket shelves and in advertisements such as this around the country (Weir, 2014: 89; Satran, 2012).

Perhaps this story is not so unusual; nearly all of the crops grown in Australia are non-natives, the products of European colonization and its aftermath. If Australian wheat, Australian rice, and Australian lamb can exist both as agricultural industries and cultural symbols, why not Australian chia? What is interesting in this case is not so much the existence of Australian chia, but its lightening-speed trajectory over the past twenty-five years from marginal Mexican subsistence crop to antipodean food and agricultural industry darling – not to mention hot superfood among consumers worldwide. Further, in Australia, chia has taken the country by storm not as a niche health food product, but as an ingredient in mainstream, everyday food products. Its appearance in Baker's Delight bread is exemplary of its ubiquity.29

Australian chia is surprising both as an agricultural product and a mainstream food ingredient. It owes its meteoric rise to a confluence of factors, both old and new. Consider the chia seed itself, an ancient but forgotten staple, rich in nutrients celebrated by contemporary nutritional science such as fibre and omega-3 fatty acids. Chia is not new, nor are the basic principles of its cultivation. Yet much of the agronomic science that makes chia cultivation possible on a commercial scale has emerged relatively recently, as has the food science and nutrition research that makes it an attractive functional food ingredient and consumer product. Add to the mix the political and economic agendas of several different national governments, the research priorities of private and public institutions spanning at least three continents, global trends among consumers in food and health, advancements in food technology and transportation capabilities, sophisticated marketing campaigns, and the intentions of several influential individuals, among other factors. Australian chia arises through the joining together of these old and new elements by assemblage at a particular moment to create a form whose enduring stability is unknown.

29 Baker’s Delight is not a high-brow bakery, but rather a quotidian franchise comprising 650 bakeries across Australia and New Zealand (UTS, 2012).
The concept of assemblage, conceptualised by Deleuze and Guattari (1987) as an intervention challenging structural accounts of the social world, is drawn out in Rabinow’s French DNA (1990). Rabinow offers an account of a controversy of bioethics which pitted deep-seated cultural ideas and institutions against entrepreneurial biotechnological developments and came to a head in the new and bizarre concept of ‘French DNA’. In his discussion, he asks what makes a form, such as the partnership between a private American biotechnology firm and a French governmental research organisation that led to the French DNA controversy, contemporary. His answer is that ‘what is distinctive – and “contemporary” – in this situation is not its radical newness but its assemblage of old and new elements’ (1990: 25). Rabinow recognises that the construction of new forms in the social world does not occur through a moment of spontaneous creation but rather through a process of pre-existing elements coalescing in new and surprising ways.

While it is possible to view the very existence of Australian chia itself as an assemblage, to reduce the concept to materiality misses its full possibility. Assemblage, as both analytical framework and methodological practice, ‘is a sort of anti-structural concept that permits the researcher to speak of emergence, heterogeneity, the de-centred and the ephemeral in nonetheless ordered social life’ (Marcus and Saka, 2006: 101). It emphasises a sense that the present is always in a state of becoming, and thus, also, of re-becoming; old forms collide and fracture only to create new forms ad infinitum. These forms are made up of unlikely alliances between humans and non-humans, and agency in the construction of such forms is unequally distributed throughout the assemblage. Yet in the very process of assembling, these elements act upon one another and change in unpredictable ways, resulting in an endless process of emergence and decay. The ephemeral nature of the object of study – its temporal and spatial contingency – is felt keenly when attempting to pin it down for analysis: even as I attempt to sketch a picture of Australian chia I am confronted with ever-changing public attitudes, scientific knowledge, production practices, and government policies and regulations, to name but a few of the unstable elements that coalesce in this assemblage. As Li (2007) puts it, ‘elements are drawn together at a particular conjuncture only to disperse or realign, and the shape shifts according to the terrain and the angle of vision’ (265).

Thus rather than assuming stability in relation to Australian chia, I seek here to draw out those elements that have, together, created an alliance that takes a particular form at a particular place and time. This is not to suggest a sense of randomness. Rather, a multiplicity of agencies are involved in its construction; as Li (2007) observes, ‘assemblage links directly to a practice, to assemble...assemblage flags agency, the hard work required to draw heterogeneous elements together, forge connections between them and sustain these connections in the face of tension’ (264). Agency can come from many sources: not only human individuals but also elements of the natural world such as plants and environments, as well as hybrid composites of human and non-human elements, such as particular bodies of scientific knowledge. Further, things that may seem relatively fixed from one’s particular temporal and spatial vantage point, particularly material things such as chia seed, do, indeed, have social lives of their own, and their materialities are shaped and reshaped by their interaction with other socio-technical objects, such as irrigation systems (Henry and Roche, 2013). While the assemblage may appear to be an organic
whole, it is more useful to consider it as process, as each element is, itself, constantly changing. Paraphrasing Bennett (2005), Anderson and McFarlane observe that ‘assemblage names an uneven topography of trajectories that cross or engage each other to different extents over time, and that themselves exceed the assemblage’ (2011: 125).

In researching and writing this case study, I have embraced assemblage as part of my research practice by deliberately interrogating heterogeneous actors, seeking the agency of the more-than-human, searching for alliances that create the assemblage as well as those that extend beyond it, and recognising that my own ‘angle of vision’ is complicit in shaping the perceptions I record here. I have thus drawn upon diverse sources: the body of ethnomedical, agronomic, nutritional, and food science studies on chia seed; scientific and historical accounts of omega-3 fatty acids; chia seed marketing materials and related literature; government and scholarly accounts of the history, people, and landscape of the Ord Valley; and personal interviews with key actors in the development of chia seed as a crop in Australia. What has emerged is a story of entanglements between North American researchers and South American crops, between irrigated landscapes and entrepreneurial farmers, between fatty acids and food formulators, and between a dissatisfied wheat farmer and an ancient seed. This story of the meteoric rise of Australian chia through a process of assemblage provides a deeper understanding of different ways in which production-consumption networks emerge and evolve.

**Historical Background**

Chia was a significant staple plant in pre-Columbian Mesoamerica, and it was used widely not only as food and medicine but also as an oil in religious and artistic practices (Sahagún, 1950-1982). Economic historians of the region have suggested that in some areas, chia was equally or more important than maize as a subsistence crop (Harvey, 1991; Rojas-Rabiela, 1988). The 16th century Aztec and Spanish codices Matricula de Los Tributos, Huexotzinco Codex, and Codex Mendoza indicate that chia was extensively cultivated, and 21 out of 38 Aztec states paid part of their yearly tribute with chia (Cahill, 2003; 2004). Yet despite its pre-contact economic, social, and biological importance, chia cultivation declined rapidly under Spanish colonial rule. Ayerza and Coates (2005) attribute the decline of chia cultivation not only to the Spanish preference and demand for European species, but also to the repression of crops with strong cultural and religious associations, including chia and amaranth. They further hypothesise that chia had a harder time surviving Spanish cultural imperialism than other native crops such as corn and beans because of its high photoperiod sensitivity, meaning that it could not be grown in Europe (2005: 75-78). However, chia did survive among small groups of Nahua and Maya descendants living in the isolated mountains of southwestern Mexico and northern Guatemala. Relatively recent ethnographic and ethnomedical research have found ‘only a few

30 One of the main sources of information for pre-Columbian Mesoamerican life is the writings of Sahagún. Unlike many writers of the period, he is considered a remarkably reliable source due to his rigorous methods of collecting information from the perspective of the people whom he studied, and is accordingly often considered the first American ethnographer (Anderson, 1982; León Portilla, 2002; Nicholson, 2002).
surviving domesticated varieties in addition to wild populations’ (Cahill, 2003), and linseed has displaced chia in many traditional agricultural systems (Hernandez, 1994).

In Cahill’s comprehensive literature review of the ethnobotanical uses of chia, he found that both before and after contact chia’s most common use was medicinal. Prior to 1600, the second most common use for chia was religious, followed by culinary and artistic, while post-1600 chia’s second most common use was artistic, followed by culinary and religious (Cahill, 2003). The decline in religious use corresponds with the decline of Aztec religion and culture more generally under Spanish rule, and the remaining reports of religious or ritual use mostly come from relatively isolated indigenous communities such as the Coran village of Mesa de Nayar, Nayarit (Cahill 2003).

As chia’s culinary use has steadily declined, the way in which it is consumed has changed significantly. Chroniclers note the pre-Columbian practice of roasting and grinding chia seeds into flour in a process similar to the preparation of maize flour, with which the chianpinolli (chia flour) was often combined. Chianpinolli was cooked into tortillas and tamales, as well as mixed into beverages called chianatoles (Ayerza and Coates, 2005; Cahill, 2003; Coe, 1994). Since 1600, the primary culinary use of chia seeds is in the beverage known as chia fresca or agua de chia, made by mixing whole chia seeds, rather than ground, into water, to which lemon, sugar, or other fruit juices are added. This preparation echoes the most common medicinal uses of chia, in which chia is added to healing infusions to assist in uptake of the medicine, but chia fresca beverages tend to have a much lower ratio of seeds to water in comparison. Cahill (2003) notes that chia beverage consumption seems to have peaked in the eighteenth and nineteenth centuries, but that it is still found in households throughout Mexico. However, as of 2012, culinary historian and Mexican resident Rachel Lauden reported that chia was not a cult food in Mexico, and was not available in mainstream grocery stores and reportedly hard to find at many local markets (personal communication).

While chia did not disappear entirely after Spanish conquest, its production rapidly decreased to the point of becoming a marginal crop. Scattered references to chia from 1500 to 1990 indicate that small crops of chia were produced and consumed throughout Mexico and Guatemala (Ayerza and Coates, 2005). Data from the Mexican Secretary of Agriculture and Promotion indicate that in the 1930s, chia production was concentrated in the state of Jalisco, but the total area planted with chia during the period on record never exceeded 93 hectares (Rulfo, 1937, as cited in Ayerza and Coates, 2005). In the early 1990s, Ayerza recorded very small areas cropped with chia in the Acatic municipality of Jalisco – 31 hectares in 1989, 28 in 1990, 86 in 1991, and 75 in 1992. In 1993, 450 hectares of chia were planted, presumably in response to perceived increase in value of the crop, but when prices fell below production costs, growers reduced the area planted to under 350 hectares (Ayerza and Coates, 2005: 80-82).

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Ayerza and Coates observe that ‘the growers from the municipality of Acatic are truly the custodians of Nahua chia traditions, having transmitted from generation to generation the basic knowledge of chia as a crop and saving it from disappearing’ (2005: 82). Indeed, it is these seeds and this knowledge upon which the soon-to-emerge chia industry would be based. However, it was not the Acatic growers, nor the governments of Mexico or Guatemala, who were responsible for chia’s resurgence; the impetus for commercial chia production would come from outside of the region.

The Northwest Argentina Project and Resultant Publications

The contemporary resurgence of chia seed production arose as part of a development program for new commercial crops in northwestern Argentina. At the dawn of the 1990s, growers in the region were largely reliant upon sugarcane and tobacco crops, and depressed markets for these commodities had led to economic hardships and thus the search for alternative crops. A small but significant body of research from the 1920s through 1980s had investigated chia largely as a source of oil (Ariffin, 1984; Baughman and Jamieson, 1929; Bushway et al., 1981; 1984; Castro-Martinez et al., 1986; Earle and Jones, 1962; Earle et al., 1960; Gentry et al., 1988; Gowda, 1984; Hagemann et al., 1967; Palma et al., 1947; Taga et al., 1984; Ting et al., 1990; United States Department of Agriculture, 1943), but little nutritional or agronomic research was conducted during this time, and no large scale commercial plantings were made. In 1991, the Washington D.C. not-for-profit organisation Partners of the Americas Inc. and the Argentina-based agricultural company Agropecuaria El Valle S. A. agreed to cooperate on a project whose goal was ‘to identify and bring into commercial production new industrial crops which can help diversity agricultural production and increase profits for farmers in northwestern Argentina’ (Ayerza and Coates, 1996). The project was supported by the Farmer to Farmer program, which was financed through the United States government by the Agency for International Development (USAID) and the 1990-95 Farm Bill (Public Law 480). The University of Arizona, the University of California, the National University of Catamarca, the Pulares Agricultural Group S. A., and the government of the province of Salta joined the project shortly after, and four grower organisations from Jujuy province joined in 1995 (Ayerza and Coates, 1996).

After assessing the viability of several different plants from both agronomic and market standpoints, six species were chosen that appeared to hold potential as commercial crops for the region. The researchers deemed chia to be the most successful of all the species, with high quality commercial harvests obtained relatively quickly. By 1996, the number of hectares planted with chia was increasing, and the researchers had established an initial body of agronomic research. Ayerza and Coates reported that chia growers were returning $580/ha in comparison to $250-390/ha for more traditional crops such as beans and corn (1998: 1420). Although they noted variability in productivity in relation to factors including weather, location, and production practices, they concluded that further studies assessing the relationship between these factors and yield quantity and quality were unnecessary at the time, ‘given the size of the present market, and considering the favorable returns that growers [were] realizing’ (1998: 1420). They gave no indication as to who was buying chia and to what end the seeds were being used.
Alongside agronomic studies published as a result of the collaboration (Ayerza and Coates, 1996; 1997b; Coates and Ayerza, 1996; 1997; 1998), a few studies examining the nutritional and chemical properties of chia seed and its oil and their potential as food sources or ingredients also began to appear throughout the 1990s. Weber et al.’s (1991) nutritional analysis of chia seeds is notable in its evaluation of chia seed as a food source in its own right. They observed that ‘its high protein and oil concentration makes it a very attractive grain source for developing countries which have a shortage of protein and energy’ (Weber et al., 1991: 125), although this finding did not seem to have much popular appeal. No subsequent studies during the 1990s and early 2000s took up the theme of growing chia as a food source for developing countries, but rather focused on the commercial production of chia seed for use as a functional ingredient or industrial product. These include studies on the oil composition of chia leaf (Ahmed et al., 1994) and seed (Lin et al., 1994; Ayerza, 1995; 1996; Instituto Nacional de Alimentos, 2003), as well as on the use of chia in animal feed to create omega-3 enriched eggs (Ayerza and Coates, 1997a; 1998; 2000; 2001; 2002a), milk (Ayerza and Coates, 2002b), and broiler chicken meat (Ayerza and Coates, 2002a). By the early 2000s, research on developing chia seed and its oil in functional food applications was well underway, as Atkinson’s (2003) study assessing the allergenic potential of chia seed indicates. However, it seems that supply was a problem. As recently as 2007, Dubois et al.’s study profiling the fatty acid composition of 80 vegetable oil sources with regards to their nutritional potential in food applications portrayed chia seed oil favourably, yet the authors observed difficulty with ‘availability and sustainability’ (2007: 727). They comment that ‘industrial-scale production of chia was launched in Argentina 10 years ago, but it seems that they encountered some sustainability problems because this product is not yet available on the edible oil sources market’ (2007: 727). They observe similar difficulties for other nutritionally favourable oils, and conclude:

Taken altogether, these difficulties have not allowed the food industry to use alternative nutritionally interesting oil sources in manufactured goods. If a trend has been seen toward an improved FA profile of products such as spreads and margarines, the majority of food products containing important amounts of hidden fats has not paid attention with regard to this important nutritional issue. In these cases, economics remains the major criterion for formulation, leading to the use of the traditional, cheap sources (2007: 727).

By the late 2000s, all of the elements – agronomic research, chemical and nutritional studies, and functional food trials – were in place for chia to successfully storm the health and/or functional foods industries, but the supply remained irregular. While Ayerza and Coates observed in their 2005 book Chia: Rediscovering a Forgotten Crop of the Aztecs that chia was beginning to show up in southwestern US supermarkets, ethnic food shops, and health food shops, as well as in supplements, bread, and animal feed, the availability of chia was still limited by supply.

**John Foss and The Chia Company**

While the Northwest Argentina Project actors planted the seeds of chia’s revival, it was Australian farmer and agricultural businessperson John Foss who developed the solution to the supply problem by founding The Chia Company, the world’s largest
producer of branded chia. The Australian Government Rural Industries Research and Development Corporation (RIRDC) reports that ‘Australian chia production data are confidential but plantings were believed to be 2000 hectares in 2011-12, producing around 2200 tonnes of chia with an annual gross value of about $3.9 million’ (Foster, 2014: 100). Nearly all of this chia was contracted to and marketed by The Chia Company. Foss’s multifaceted identity as farmer, international businessperson, scholar of global food and agricultural production, and consumer has been crucial in informing both his perspective on food and farming and his practices in imagining, creating, and driving The Chia Company.

Foss grew up on a wheat farm in the remote town of Bruce Rock, Western Australia, in the middle of the Wheatbelt region. The name of this region derives from its most important economic product: wheat, and great quantities of it. Western Australia is responsible for about half of the wheat produced in Australia: eight to ten million tonnes per year, grown across four to five million hectares, ninety-five percent of which is exported to Asia and the Middle East (Government of Western Australia, 2015). Thus Foss’s early days were shaped by the practices and images of life on a large-scale farm producing a commodity product. Foss left the farm after school to obtain a diploma in farm management (1987) and bachelor’s degree in agricultural business (1990) at Curtin University, followed by a graduate diploma of marketing and Asian business (1992) at Edith Cowan University. He returned to the family farm after finishing his studies, but found that his outlook had changed and that he was no longer satisfied working as a wheat farmer.

Foss explains that after getting a bigger picture of what was happening globally in food and agriculture from a business perspective, he began to feel increasingly dissatisfied about the ‘big gap between what we were doing on the farms and what people were eating’. He felt that Australian commodity farmers such as his family were producing good food, but that somewhere in between leaving the farm and reaching the consumer, this good food was transformed into innately unhealthy processed food. The whole commodity agriculture system was broken, he thought. In his view, farmers worked hard for unreliable income, and consumers suffered from eating foods far removed from their ‘natural’ states; the only party benefitting from this system was the processors. Notably, he did not blame contemporary farming practices for this broken system, but rather placed the blame on the role of the middleman, ‘the modern industrialized food processing industry’. He decided that there had to be a better way of producing food for farmers and consumers alike, a way to bring healthy food to consumers and enable farmers to make a good living. Against this background, in 2001, he applied for and received the prestigious Nuffield Fellowship, a year-long scholarship program for Australian farmers to travel the world studying international agriculture.

Foss was looking for a solution to what he saw as the problems of Australian agriculture, and he was thinking big: ‘Rather than looking at a specific agricultural process or topic, I looked at macro issues of the food supply chain and agriculture, what were the mega trends, and how was Australia going to be able to develop and have a successful agri-business industry in the future based on those trends’. During his year of study and travel through Asia, Europe and the United Kingdom, and the Americas, he became convinced that the major issue was that ‘commodity crops were very removed, the farmer was very removed from the consumer, and the modern
industrialized food processing industry meant that there was not a lot of connection between the farmer and the consumer'. At the same time, he observed that 'health and wellness was becoming a big trend and was a mega trend and was going to continue to be a major influencer in the way products were consumed and manufactured going forward'. So he began a search for healthy crops that could be grown in Australia and commercialised in a way that would benefit both the livelihood of the farmer and the health of the consumer. While he was actively searching for such an opportunity, he came across chia.

Foss’s interest in chia was sparked when he watched a documentary about a population of Mexicans living near the US border who were all suffering from diet related diseases such as obesity and diabetes. All, that is, except for a group who consumed a daily drink of chia fresca, a traditional Mexican beverage made of chia seeds mixed with water and lemon juice. ‘That was enough for me to spark my interest, and then I began researching chia really deeply,’ he explains. He discovered the existing body of research, produced largely through the work of the Northwest Argentina Project, investigating the crop potential of chia, the oil composition of its seed, and its potential as a functional food and ingredient. Foss quickly became convinced that this was a crop with the potential to meet his criteria of benefitting both growers and consumers. But he had one question: ‘Why, if this is an amazing seed and it’s been around since the Mayan and Aztec days, why isn’t it more well known? And why isn’t it used in food products and why isn’t it on the shelves in retailers?’ The answer he found was that nobody had produced it commercially in consistent volume and quality and with stable pricing to give retailers and food manufacturers the confidence to incorporate it into their products.

Foss set the intention to bring chia back to Australia and fulfil this perceived demand by producing consistent harvests of high quality seeds. His first challenge was to figure out how to meet this intention from the production end, and in this he had the help of the agronomic research produced through the Northwestern Argentina Project. This body of published research provided Foss with substantial knowledge of how to grow chia seed using modern agricultural practices and gave him a platform upon which to build the specific agronomic knowledge of how to grow chia in Australia. This is not to say that Foss did not have a great deal of work to do, but it is significant that he entered into the project of developing a chia industry in Australia with certain knowledge, such as chia’s ideal latitude, photoperiod, and water requirements.

The Perfect Location: The Ord Valley and Its Farmers

Before Foss could begin this agronomic research in Australia, however, he had to locate a suitable region for growing chia and enrol other farmers into his vision. He knew from previous research that chia grew best on or near fifteen degrees north or south of the equator because chia is highly photosensitive, and day length post-flowering is an essential element in ensuring formation of omega-3 fatty acid in the seed’s oil. This relationship between day length and omega-3 formation is notable, because high levels of omega-3 were part of what made chia a desirable crop precisely because this particular nutrient was recognised and valorised at that particular moment in both professional and popular nutrition discourse (Holman,
equatorial band for a suitable location to grow chia seed in Australia, and found the Ord Valley, a fertile area in northern Australia. He recognised that two other factors also made this region particularly suitable for chia production: its irrigation system, and the entrepreneurial nature of its farmers.

The Ord Valley is an agricultural area in the East Kimberley region of Western Australia, in the northeastern part of the state near the Northern Territory border. It was deliberately created through both state and federal government financing of the Ord River Irrigation Scheme (ORIS), first proposed as early as the 1920s and executed in multiple stages beginning in the 1960s (Government of Western Australia, 2014). Cultural geographer Lesley Head describes the ORIS as embedded in ‘white Australia’s attempts to possess the landscapes of the north’ by developing agriculture in the region for the dual purposes of ‘defending the continent from Asian expansionism and utilising land, water and minerals that would otherwise be “wasted”’ (Head, 1999: 141-142). Using a rhetoric of development, a dam was built along the Ord River to create Lake Argyle, the Southern Hemisphere’s largest artificial lake, which is used to irrigate the region. Irrigated land was released for farming under Stage 1 in the 1960s and 70s, and further land had been made available under Stage 2 by expanding the irrigation network in the 1990s and 2000s to service other nearby alluvial plains (Government of Western Australia, 2014). Farming efforts in the region have been plagued by a number of unsuccessful crops – in particular those promoted by government, namely cotton and sugarcane – and the subsequent exiting of many farmers. But those who have remained tend to be characterized by adaptability, open-mindedness, and distrust towards both government agricultural scientists and monocropping (Lane, 2004). Although the availability of water makes the region attractive for horticulture, the entire project has generated controversy regarding both its economic feasibility and its impacts on the environment and on local Aboriginal people (for a detailed discussion of these controversies see Head, 1999). Controversy aside, the continued release of irrigated land through the early decades of the 2000s has indeed provided opportunities for crop innovation.

Most of the chia grown in Latin America in the 1990s and early 2000s relied upon rain to water the crop. As a result, a high rainfall year would lead to high yields of high quality seeds, while a year with low rainfall, drought, frost, or other weather-related issues would lead to low yields of low quality seeds. Foss’s plan of developing a chia industry in Australia that produced consistent volumes of high quality seeds did not allow for such variation, so he decided that using rain to water the crop was not a viable method. He identified irrigation as a more suitable method to ensure that the crop is watered consistently during the crucial periods of grain fill and oil formation. As described above, the Ord Valley has what Foss calls ‘a very sustainable irrigation system’, as well as distinct wet and dry seasons, which benefit chia farming because of chia’s hydrophilic nature. Rain at the wrong time – when the crop is ripening – can be disastrous, turning the seeds to gel and resulting in quality problems. Growing chia during the dry season and irrigating from underneath enables production of a consistent quality crop.

It was never Foss’s plan to create an Australian chia industry alone; from the start he set out to enrol other growers and create something larger. But he recognised that ‘with a new crop I needed to be partnering with people who were entrepreneurial by
nature’ – in other words, he needed growers who were willing to take a risk. As the Ord Valley is a relatively new farming area, Foss describes the growers in the region as open-minded towards new crops and technologies.\textsuperscript{32} Many of the farmers had been growing sugarcane in the 1990s and early 2000s, but the crop had proven economically unviable and left them actively looking for new crop opportunities. Foss found it relatively easy to enrol these farmers, who ‘enthusiastically embraced a new crop like chia that was a health food product’. Foss notes that he has had one hundred percent retention of farmers over the years.

After locating a suitable region and enrolling his initial growers, Foss spent the years from 2003 to 2007 focusing on agronomics. Although he drew heavily upon previous research, he needed to develop the specific practices to grow chia in the new environment of the Ord Valley, as well as to ensure the consistency and quality that he was aiming for. He invested heavily in research and development, and joined forces with Tim Croot and Robert Boshammer of Plantation Management Services (PMS), who became partners in 2007. PMS had extensive experience in trialling and developing new crops and associated industries in northern Australia. Croot and Boshammer appreciated Foss’s research into the environmental suitability of the Ord Valley for growing chia, but they were particularly swayed by the health benefits of chia. Croot reflects that ‘we were all of the opinion that the qualities of chia were beneficial for the health of the world so we would give it a go’.

Croot explains that more often than not, new crop trials fail to live up to expectations and are abandoned. But on this occasion several elements coalesced and, in his view, resulted in the success of the chia trials from both agronomic and business perspectives. The first was the addition to the team of Kane Croot, who had just graduated from Muresk Agricultural College and was put in charge of agronomy for the first crop. He decided to grow chia in a similar method to pumpkin and achieved enormous success. The second element was access to material resources, as PMS already owned the necessary equipment for growing and harvesting chia. Third, Foss had thought through his plan for developing a chia industry that was vertically integrated and bypassed intermediaries, and, according to Croot, ‘PMS had a lot of experience at eliminating the middle man and logistics’. The entrepreneurial nature of Ord Valley growers observed above was another significant factor. Last but certainly not least, the group was able to access capital for financing this research and development, largely through private funds. PMS and the stakeholder families had ‘a good capacity to borrow money at least in the early years’ according to Croot. Alongside these key elements, Croot observes that ‘there was a great synergy between the partners’, that intangible element of rapport and friendship that is often essential to the success of risky ventures.

Although The Chia Company has begun to develop pilot projects growing chia in other parts of the world, the Ord Valley continues to provide the majority of their chia – as Foss explains, ‘it has continued to prove itself to be the best place in the world to grow chia because of the environmental [conditions], and the irrigation, and the distinct dry season’. As for financing this research and expansion, Foss observes that

\textsuperscript{32} For a phenomenological account of farming in the Ord Valley from the 1960s through the 1990s, see Ruth Lane, "Irrigated Agriculture and Place-making in the East Kimberley," \textit{Australian Geographer} 35, no. 1 (2004).
to continue to grow at the pace we’re growing the industry, it has been essential to get external capital in’. This meant that Foss’ early partners eventually left The Chia Company because, according to Croot, ‘the banks in Australia would not fund the expansion of The Chia Co.’ The company needed further access to capital in order to pay for the production of chia seed a year before it was ready to be sold, to maintain a buffer of stock to ensure that they did not run out (as they had seen happen in South America) as well as to respond to anticipated future demand, and to maintain momentum in order to benefit from having ‘first mover control’. As Croot observes, ‘if we slowed down development then someone else might take over the industry’. In 2012 a deal was struck with New York based private equity companies: they would fund the company, but they did not want non-participating shareholders, and Boshammer and Croot bowed out.

**Functional Foods, Fatty Acids, Fitness Freaks, and...White Bread?**

Both in Australia and beyond, chia was a novel product, and as such introducing it to consumers required creating awareness. The marketing of Australian chia has proven enormously successful; as Croot observes, ‘while we couldn’t convince the banks we certainly could the Australian people and business’. At the core of The Chia Company’s marketing is the key message that chia is ‘the richest plant form of omega-3, fibre, and protein combined’. Spreading this information about the nutritional contents of chia, as well as the functional health benefits of these nutrients, has been a core part of the company’s marketing efforts. Further, the company’s marketing has incorporated an educational element of teaching consumers and collaborators how to use chia as a food, and in particular has focused on making chia seed part of everyday consumption habits and getting chia into mainstream food products. These marketing efforts have coalesced around the trinity of functional nutritionism, fatty acids, and fitness enthusiasts. However, it is the surprising fourth element of white bread that has taken chia into the mainstream.

Chia seed is a model product of what Scrinis (2013) calls ‘the era of functional nutritionism’. This era, which began in the 1990s, witnessed a shift from a focus on avoiding harmful nutrients, such as saturated fat and refined carbohydrates, to a focus on optimising consumption of beneficial nutrients and food components, such as omega-3 fatty acids and probiotics, celebrated for their ‘functional’ attributes. Functional nutrients are valued for their direct actions on particular bodily processes as well as their roles in disease prevention; conversely, insufficient consumption of these nutrients are often implicated in increased risk of chronic disease. The focus on the specific bodily impacts of particular micronutrients reflects scientific developments in understanding the workings of the body at a molecular level that bring new insights into the interaction between food and health. Science’s partner in developing a discourse of functional nutritionism is the food industry, who have not only latched onto the idea of promoting foods that naturally contain beneficial nutrients but have also developed technologies to alter the nutrient profiles of foods to increase their functionality. The food industry has also been active in funding research into the nutrient contents of particular foods and the functional benefits of particular nutrients in order to use this information to promote their products. Closely tied to this research is a new set of labelling laws in many countries, allowing
companies to make a range of specific and general health claims about foods, nutrients, and health outcomes on packaging and in marketing.

Omega-3 fatty acids are the defining nutrients of chia seed and ‘the most celebrated macronutrients of the functional era’ (Scrinis, 2013: 168), and I will take some time here to develop how they have become so, considering that similar histories exist for the valorisation of fibre and protein (for an historical account of ‘the protein fetish’, see Scrinis, 2013: 53-57). Omega-3 is one of two types of essential fatty acids (EFAs) that have been known to be important for normal human growth and healthy skin since the 1930s. The two types of EFAs, omega-3 and omega-6, are metabolised by the same enzymes and thus compete in the body (Holman, 1998; Riediger et al., 2009; Simopoulos, 2008). In the late 1970s and early 1980s, a team of Danish researchers published epidemiologic studies attributing low rates of heart disease among Eskimos of Greenland to diets high in whale, seal, and fish fats, and in particular the omega-3 EFAs that these foods contain (Bang and Dyerberg, 1972; Bang, Dyerberg, and Hjorne, 1976; Bang, Dyerberg, and Sinclair, 1980). In response, a number of scientific studies began to focus on the role of omega-3 in cardiac functioning and other aspects of health and the ratio of omega-3 to omega-6 in the body (Dusheck, 1985; Dyerberg et al., 1978; Galli and Simopoulos, 1988; Kromhout, Bosschieter, and de Lezenne Coulander, 1985; Lees and Karel, 1990; Nettleton, 1995; Simopoulos, 1998; 1999). Subsequent studies have identified a range of functions of omega-3 EFAs beyond protecting the heart, including promoting brain and visual development and functioning, reducing inflammation and related diseases such as arthritis, and protecting against some cancers (e.g., Simopoulos, 2008; Riediger et al., 2009). Although there is a lack of consensus regarding the actual benefits of omega-3 consumption (e.g., Hooper et al., 2006; Danaei et al., 2009), the publication of a large number of studies reporting a range of benefits and the spread of this information via marketing and the media has led to both scientific and popular valorisation of omega-3 EFAs.

Biochemist Ralph Holman began to study the relationship between omega-3 deficiency and neurological, liver, and immune system diseases after observing several clinical cases of omega-3 deficiency. He found that not only patients diagnosed with these diseases were omega-3 deficient, but also control subjects had ‘less than a prudent reserve of the essential omega-3 fatty acids needed for prevention of disease, repair of abnormal nerve structure or correction of abnormal immune functions’ (Holman, 1998). Holman hypothesized that low levels of omega-3 EFAs among Americans was probably of nutritional origin, because industrially produced and processed oils and meats that made up a great deal of the American diet were heavy on omega-6 EFAs and low on omega-3 EFAs. Holman is not alone in this view; many nutritionists agree that contemporary food production and processing methods and increased consumption of industrially produced meat, eggs, and refined vegetable oils have contributed to widespread omega-3 deficiency (Allport, 2007; Scrinis, 2013: 169). In a similar fashion to the ‘vitamania’ of the early half of the twentieth century, the discourse of inadequate omega-3 consumption has led to anxiety among the public regarding a ‘perceived scarcity of omega-3 fats in the food supply and in many people’s diets, while also encouraging people to think they can reap a range of health benefits and enhancements if they increase or optimize their intake of these fats’ (Scrinis, 2003: 157). Increasing omega-3 consumption has also become a common refrain within national dietary guidelines and public health
recommendations, despite the fact that some scientists argue that reducing one's intake of the competing EFA omega-6 may be an equally effective strategy for addressing omega-3 deficiency, or at least an approach that should be considered side by side with supplementation (Hibbeln et al., 2006; Mann and Truswell, 2007).

While previous scientists had tended to recommend a diet high in fish and/or fish oil supplementation to counter omega-3 deficiency (e.g., Dusheck, 1985), in 1998 Holman suggested that, 'to reach the major segment of the public, our popular manufactured, prepackaged and fast foods should be redesigned to become omega-3 rich rather than omega-3 poor. Food labels should be permitted to indicate omega-3 content.... It is time the public becomes conscious of this group of vital nutrients required to maintain health' (Holman, 1998). In 2004, the United States Food and Drug Administration (USFDA) announced that food manufacturers could now carry a qualified health claim on foods that contained omega-3 EFAs that linked omega-3 consumption with reduced risk of coronary heart disease (USFDA, 2004); in 2013 Food Standards Australia New Zealand (FSANZ) also authorised nutrient-content claims for omega-3 EFAs and a health claim connecting certain types of omega-3s and cardiac health (FSANZ, 2013). The media has latched onto the scientific, industry, and government promotion of omega-3 EFAs, resulting in high consumer awareness of their health benefits and role in preventing heart disease (Harel et al., 2001; Worsley and Scott, 2000). One significant result of the omega-3 deficiency discourse, in combination with the change in health labelling regulation, has been to create a 'strong demand and perceived need for omega-3 fortified foods and nutritional supplements' which 'has thereby been commodified and transformed into a range of convenient and accessible products' (Scrini, 2013: 170).

A 2002 American Heart Association statement recommended fish consumption, as well as the inclusion of omega-3 rich foods and oils (such as soybean, canola, walnut, and flaxseed) in the diet in order to prevent heart disease. However they qualified this statement, noting that 'the fish recommendation must be balanced with concerns about environmental pollutants' (Kris-Etherton et al., 2002). Thus plant sources of omega-3 EFAs such as chia seed were sought out for two reasons: first, because fish sources were acknowledged to increase exposure to environmental toxins, and second, because plant-sourced oils high in omega-3s were considered more suitable for inclusion in manufactured food products – not to mention less 'fishy' tasting. Eating fish regularly is not feasible for many people for economic, environmental, and social reasons. Chia seed, as a plant source of omega-3 EFAs, is therefore positioned favourably on multiple counts: it can easily be incorporated in convenience and functional foods, it has a neutral taste, it avoids the bioaccumulation question, and it skirts the messy issue of environmental and animal welfare ethics.

The Chia Company has drawn upon the purported need for additional omega-3 consumption, as well as its high fibre and protein content, in positioning chia seed as functionally beneficial. They have also taken an active role in the creation of nutritional science research and the communication of these findings to the public. The Chia Company conducts research into chia's nutritional contents and benefits, both through their own in-house research and development team, and through third parties that they commission to conduct certain studies. For example, the company has sponsored research on the nutritional properties of chia used in baking.
beverages, and other formulations (e.g., Coorey et al., 2012; 2014). Communicating chia’s nutritional content and functional benefits to consumers is also a multi-pronged effort. One way that The Chia Company has done this is by working with ‘a whole lot of people that are key influences in people’s health and nutrition’, such as cardiac coaches, dietician groups, naturopaths, and doctors, as well as employing an in-house dietician to whom consumers can pose questions via the company’s website. The company has also aligned their brand with health and fitness lifestyles by sponsoring sporting events such as the U.S. Open tennis tournament, the New York, Sydney, and Melbourne Marathons, and multiple surf events, and has partnered with champion surfer Kelly Slater as their brand ambassador. These communication and marketing strategies simultaneously play upon the needs of what Scrinis (2013) terms the ‘functional body’, and construct credibility around chia as a health food.

In the era of functional nutritionism, the body, too, is represented and experienced as functional. It is not just nutritional scientists whose gaze has focused on the way in which foods impact the inner workings of the body, but the lay public as well, leading to ‘a heightened appreciation by individuals of the internal workings and functioning of the body and their relation to specific nutrients and foods’ (Scrinis, 2013: 165). The individuals who inhabit these functional bodies are ‘nutricentric persons’, and they ‘directly experience this functional body, in the sense that they identify with and internalize a functional approach to nutrients, foods, and bodily functions’ (Scrinis, 2013: 165). Both public health and commercial marketing campaigns have focused on directing the popular gaze inward, using strong imagery such as the artery clogged with cholesterol or the gut full of competing ‘good’ and ‘bad’ microorganisms (Lupton, 1996). While this onslaught of scientific information about food and the body may lead to confusion among some people, others feel empowered to understand these concepts and engage with them in creating their own diet not only to be generally ‘healthy’, but also ‘to meet their perceived individual needs and optimize the nutrient profile of their diets and the functional performance of their bodies’ (Scrinis, 2008: 46).

Communicating chia’s nutritional benefits to health professionals as well as marketing towards nutricentric people helps to build credibility around chia as a health product and differentiate it from other health food fads. For example, Foss explains that when he was looking for a brand ambassador, he searched for someone who was already a chia seed consumer and natural health advocate. When he found Slater, a champion surfer who is in his forties and attributes his continued athletic prowess largely to his diet, he felt it was a perfect fit for The Chia Company because ‘the type of relationships that we’re looking to build are with people who are very authentic, that certainly consume chia, believe in the benefits and are seeing the benefits from having it in their diet every day’. Similarly, the mention of the use of chia seed by the Tarahumara people in the book Born to Run (McDougall, 2009), a cult favourite of long-distance runners worldwide, ‘has been really great in helping us engage with the performance athletes’. Foss sees this alignment with athletes as beneficial: ‘They’re the early adopters and the people that are very active in pursuing health food but also understanding what that does for them’. The Chia Company’s marketing of chia seed thus plays strongly upon the present nutritional zeitgeist, successfully tying together trends in functional nutritionism, the omega-3 craze, and nutricentric fitness enthusiasts.
If the story of chia marketing ended there, it would likely still be a niche product occupying the shelves of health food stores. What makes this story distinctive is the company’s efforts to incorporate chia into the diets not only of nutricentric people, but also mainstream consumers. From the beginning, Foss recognised that ‘not all consumers will buy seeds in a health food store but they will be looking for chia in everyday products’. In other words, functional nutritionism is not just for fitness freaks anymore. But while mainstream consumers are indeed increasingly health-conscious, they are not necessarily as committed to pursuing unfamiliar health food ingredients and learning how to prepare them (Vogel and Vogel, 2008). Placing chia in one of the most ordinary and familiar food products consumed as a daily staple by most Australians – bread – was an innovative solution. The use of popular sentiments of localism and nationalism in chia advertising further served to ingratiate chia seed among mainstream consumers.

Before launching the first chia bread in January 2010, Baker’s Delight and The Chia Company enlisted public relations company Keep Left PR to coordinate a sophisticated marketing campaign. The campaign focused on two messages: the healthfulness of chia bread, and the support of Australian farming and agriculture. These ideas were expressed through marketing material such as the advertisement with which this chapter began, but perhaps even more significantly, they were communicated to the media through press releases including information about the launch as well as stakeholder biographies and full-colour images, audio news releases formatted as short ‘news grabs’, product ‘drops’ to consumer food and health journalists, and a pitch to a current affairs show on a major Australian television network. The primary target audience for communications ‘aligning Bakers Delight with a healthy lifestyle’ and highlighting the health benefits of chia were ‘parents who care about the health of their children. Specifically, primary female grocery buyer [sic] age 24-54’ (University of Technology Sydney (UTS), 2012). The campaign also targeted business and stakeholder audiences by focusing on the ‘the success of Chia as an Australian crop and Bakers Delight’s role in supporting this success’ (UTS, 2012). The angle of the story focusing on the ‘benefit to Australian farmers and the agricultural industry’ not only appealed to journalists, but also gave chia farming a great deal of attention and positioned it favourably as ‘a viable crop option for Stage 2 of the State and Federal Government’s $415 million investment in the Ord river irrigation development’ (UTS, 2012). A large amount of positive media coverage resulted from both of these messages, including a five-minute spot on the popular television show Today Tonight that reached 1.4 million viewers, all of which ‘reinforced the company’s commitment to the health and wellbeing of Australians and demonstrated its support of the Australian farming and agricultural industry’ (UTS, 2012). The campaign certainly created consumer awareness: more than 235,000 chia white bread loaves were sold over the campaign period. It also helped to leverage future chia production in Western Australia, which was reported to have doubled in the year following the bread launch.

The alliance between Baker’s Delight and The Chia Company not only brought chia into the mainstream, it also made explicit the connection between consuming chia and supporting a sustainable Australian food and agriculture industry. Behind this marketing message lies Foss’s ideological and practical focus on ensuring that chia production is ‘profitable and sustainable’, because ‘being a farmer and from a farming background I know that’s the critical element to the success of an industry, you have
to have profitable and sustainable farmers’. The concept of ‘sustainable’ farming, particularly used in tandem with ‘profitable’, has inspired debate and interpretation within both industry and academia. Foss is clear, however, on what he means when he uses the words ‘sustainable’ and ‘sustainability’:

Part of the vision of the Chia Company is triple bottom line sustainability. So number one it has to be economical so that people continue to grow year after year and reinvest back in the crop. It has to be environmentally sustainable, and we measure and monitor the environment really strictly, both water, soil quality, air quality, and insect populations. And we take that really seriously and know that the environment is better for having chia in it. And then socially, we want our farmers to employ more people, investing back into the community. And certainly developing the social structures around where we grow chia because they’ve got a chia crop as part of the industry in their community.

‘Triple bottom line sustainability’ is a well-known concept within the sustainability literature, and scholars have elaborated its merits and drawbacks. It is beyond the scope of this study to assess the Chia Company’s environmental, economic, and social impacts in depth. However, it is notable that this focus on economically, environmentally, and socially responsible production is a central part of the way in which the Chia Company, and, by extension, the northern Australia chia industry, was designed to operate. This is more than a discursive nod to green consumption trends. It is a deliberate attempt to model a different production-consumption process, to open up new possibilities by making food provisioning critical from both production and consumption standpoints. It has garnered positive responses from Australian chia growers, the media, and the consuming public; whether or not other parties, such as native plants, animals, and people, do indeed feel that the environment (broadly construed) is better for having chia in it is another question.

Conclusion

Australian-grown chia seed has come into the world by assemblage. Agency is important here, in particular that of Foss, but in order for Foss to envision chia seed as an Australian agricultural product and international health food a number of other elements had to collide. Consider the physical properties of chia itself, including where and how it can best be grown (production), and how it can be used as a food (consumption). The material properties of chia, including agronomic and nutritional aspects, are significant factors in its emergence as a superfood. This is not the first nor will it be the last time that a human-plant alliance has formed, with potential benefits and consequences for both parties. Another significant element is the body of pre-existing research on chia as an oilseed, animal feed, and food crop, created largely from the Northwest Argentina Project, which itself brought together North and South American governments, research scientists, farmers, and plants in a distinctive assemblage. The discourse of functional nutritionism is also key in that chia is desirable as a food primarily because of its nutritional profile, and in particular because of its high omega-3 EFA content. Chia’s popularity is deeply connected to the scientific and lay fascination with omega-3 fatty acids, as well as the perceived shortage of this nutrient in conventional diets. John Foss is the key in bringing all of
these elements together, related both to his multiple roles as consumer, farmer, scholar of international business, and to his year of study as a Nuffield Fellow. Foss was able to look at the whole picture and begin a chia industry with long-term intentionality and a highly critical view of food provisioning from multiple perspectives.

Foss notes that he does not view the success of chia as linked with other superfood products:

> We’re very confident that chia has got a long term future because of the way that we’ve set the industry up.... I think it’s been very much a case that we brought to market an unknown product, we’ve had a long run vision on it, so we weren’t trying to make the most money out of this in the shortest time and get out of it, it was a long run vision. It was an industry started by a farmer so I understood that this is something that we wanted to be looking at in 50 years time. And I also had a long run vision, I wanted to make a change to people’s health and wellness globally, so that’s not something you can change in a year, it’s going to take a long term commitment. So therefore in all of our development and our communication and our marketing activities it’s not about a short term gain it’s about how can we educate and create awareness and really continue to build and get chia into people’s lives on a daily basis. So I think that authenticity has been well received by consumers because they have a high level of scepticism and I think their radar around some of the fad products is very high, and we’ve been very careful not to be in that group.

The degree to which chia’s success is linked to the superfood trend is yet to be determined. Certainly a great deal of media portrays chia as a superfood and lists it alongside other superfood products. But Foss’s contention that his long-term vision has positioned chia as an ingredient with the potential to survive the possible dissolution of the broader superfoods assemblage has merit. It seems that his deliberate efforts have created a stable supply of, and market for, chia seeds, in large part because of the way in which chia has been positioned not just as a niche health food product but as an everyday food ingredient. This positioning is part of what makes Foss so visionary, and the alliance between chia seeds, Foss, and the Ord Valley so successful.

But while it may be easy to see how Foss has agency in regards to the chia seed, it is important to remember that the chia seed’s promiscuous social life takes a trajectory of its own. It is already implicated in other chia production networks, many of which are in Latin America, which may or may not share Foss’s emphasis on transparency. The arrival of lower priced, but perhaps less critically produced and consumed, chia seed in Western markets is a factor that could potentially disrupt the Australian chia assemblage. Chia is also being manipulated by American scientists at the University of Kentucky, who aim to use selective breeding to create a chia seed variety with reduced photoperiod sensitivity that can thrive in North America (Hildebrand et al., 2013; Jamboonsri et al., 2012). Not only is the chia seed enrolled in other assemblages, its very properties are, themselves, unstable, as it is opened up to technoscientific manipulation, with unknown consequences. Further, the chia seed’s agency in acting upon the human bodies that consume it is a question worth exploring further in future studies.
Other elements in this assemblage also have their own social lives. The discourse of functional nutritionism may, in time, be superseded by other ways of understanding the relationship between food and bodily health. Omega-3 may lose its lustre as scientists continue to study the complex ways that it interacts with the body, or it may be forgotten as new dietary compounds step into the limelight. In fact, continued scientific study of EFAs has already shown that there are several subcategories of omega-3 fats: ALA (alpha-linoleic acid), EPA (eicosapentaenoic acid), and DHA (docosahexaenoic acid). EPA and DHA, which are most commonly found in fish and grass-fed animals, have been found to be more beneficial dietary components than ALA – the type of omega-3 found in chia seeds (McManus, Merga, and Newton, 2011; Riediger et al., 2009). Thus one of the major claims regarding chia’s healthfulness may turn out to be unfounded, or at least overblown. Viewing Australian chia through the framework of assemblage theory reminds us that not only is its emergence as a biocultural object contingent upon the collision and cohesion of a number of independent elements, but also that its continued stability is uncertain as the physical and social world(s) continue to change and evolve.

Figure 19: Baker's Delight Chia bread advertisement.
Chapter 7 – ‘A Bit Seductive’ but ‘A Bit Confusing’: Ambiguity and Ambivalence in Australian Consumers’ Understandings of Superfoods

Earlier chapters in this thesis have looked in detail at how representations of superfoods are produced and contested by actors involved in the provisioning of these products. These chapters have established that both superfood products and the concept of superfoods reach Western consumers loaded with knowledge claims regarding their healthfulness, authenticity, and production practices. The contested nature of these knowledge claims suggests that consumers themselves may interact with superfood products and with the larger discursive concept of superfoods in diverse ways beyond those suggested in marketing and media materials and thus contribute to the creation of meaning through such interactions.

We have very little knowledge about how consumers use superfoods. Many superfoods appear on retailer’s shelves in different forms from those which are consumed by traditional consumers, which suggests that the ways in which new consumers use these products as superfoods also differ from the ways in which traditional consumers use/used them as foods, medicines, and plants. Maca and cranberry are both examples of foods that have changed considerably in form through the process of transformation into international superfoods. As we saw in Chapter 2, prior to contact Native Americans most often consumed cranberries fresh, dried, mixed with meat to form pemmican, or cooked into a sauce to eat with meat. Today most cranberries are consumed as shelf-stable juice, with a minority consumed dried and sweetened or cooked into a sauce – notably different from Native American preparations because of both the heavy processing and the addition of sugar. Similarly, maca is most commonly sold in Australia as a powder, while in its historic region of consumption the entire dried root is rehydrated and prepared into various dishes. Chia often appears on the shelf in relatively the same form, as a whole seed, but this does not mean that its consumption in Australia mirrors its consumption in pre-Columbian Mesoamerica; it seems unlikely that Australian chia consumers are pounding their chia seeds with corn into tamales or toasting, grinding, and mixing the seeds with water to make chianatolli (Coe, 1994) when the back of a typical package suggests that consumers can ‘sprinkle onto your muesli or cereals, into your salads or smoothies, or add to your baking’ (The Chia Co., 2015).

Consumers encounter a great deal of information in representations of superfoods on product packages, retail displays, newspaper and magazine articles, social media outlets, advertisements, expert health and medical advice, and lay discussions both in person and online. Thus the ways in which consumers use superfoods, the meanings they ascribe to them, and the knowledges that they hold will, to some degree, reflect the information with which they are presented. However, previous research investigating consumer engagements with food, diet, and health media has shown that consumption of such information sources is not a passive activity; consumers actively engage with these materials through interpretation, selection, and synthesis of ideas from multiple sources (Knight, 2011a; 2015). Further, even those consumers who purchase foods with knowledge claims on their labels have been shown to
exhibit degrees of scepticism and distrust towards such claims (Bhaskaran and Hardley, 2002; Eden, 2011; Eden, Bear, and Walker 2008a; 2008b; 2008c).

Based on this background, this focus group study was performed in order to assess superfood consumers’ understandings of superfoods and to understand how these foods are given new meanings in new consumption contexts without prejudging what should count as a ‘superfood’. It was expected that consumers would exhibit their own analytical interpretation and questioning towards the often overwhelming and conflicting information that they consume along with the products themselves. Although it was not expected that consumers would literally regurgitate or endorse primitivist marketing claims such as extolling maca as the ‘superfood of the Incas’ or explain the scientifically substantiated health benefits of chia seeds, it was predicted that they would express aspects of these discourses. The results of the study support these hypotheses, but also conclude that consumers are ambivalent about superfoods, finding them both alluring and confusing.

**Methods**

Given that no studies with superfoods consumers have been conducted to date, a focus group methodology was used because focus groups are an effective tool for probing social issues whose contours are not precisely known. Their open-ended, discussion-based design allows the researcher to generate a map of the complex terrain of attitudes and behaviours on a given topic (e.g., Verdurme and Viaene, 2003). Previous studies investigating consumer understandings of food concepts and related beliefs, attitudes, behaviours, and values have demonstrated the usefulness of focus groups as a tool for gathering rich qualitative data in a relatively short timeframe (Bhaskaran and Hardley, 2002; Brug et al., 1995; Cairns et al., 2014; Eden, 2011; Eden, Bear, and Walker, 2008a; 2008b; 2008c; Green et al., 2003; Lockie et al., 2002; Lyons, Lockie, and Lawrence, 2001). This study draws upon the methods used in these studies and general literature on focus groups (Denzin and Lincoln, 2000; Greenbaum, 1998; Morgan and Scannell, 1998).

Three focus groups of 8-12 participants each were convened in late 2013 and early 2014. Three groups were convened because a minimum of three focus groups from each participant population is generally agreed to be necessary for results to be meaningful (Greenbaum, 1998; Morgan and Scannell, 1998). The focus groups consisted of volunteers drawn from urban and suburban areas of Adelaide, all of whom met the criteria of being over 18 years of age and self-identified as superfood consumers. Focus group participants were recruited through two channels: advertisements posted on community message boards in or near specialty health food/organic shops and large supermarkets that sell superfood products in both urban and suburban areas (Appendix B), and a University media release that generated local print and radio coverage. Potential participants were directed to a website that gathered basic information about superfood consumption and demographic data including age group, gender, and postcode.

Participants were divided into three groups based on availability and demographic diversity. I aimed to obtain diversity in age and gender within each group in order to stimulate discussion, as correlations between these factors and consumer
understandings of food and health have been observed elsewhere (Bhaskaran and Hardley, 2002; Fagerli and Wandel, 1999; Kemmer et al., 1998; Lea, 2001; Lockie et al., 2002; Lockie et al., 2004; Lyons, 2001; Warde and Hetherington, 1994). It was not possible for each group to consist of the same demographic distribution due to the difficulty of finding mutually convenient times to convene the sessions. Groups one and two were fairly diverse in terms of gender, with group one consisting of four males and four females and group two consisting of three males and eight females, but group three was nearly entirely female (10) save one male participant. The average age of each group differed as well, with group one participants averaging 45 to 54, group two averaging 35 to 44, and group three averaging 25 to 34. These demographic differences are not considered to significantly impact on the results, as this was an exploratory study of general consumer attitudes.

Each group was held in a central, safe, and neutral public space, including two public libraries and a university meeting room. Each session lasted approximately one hour and consisted of semi-structured discussions about the uses, meanings, and knowledges associated with superfoods. Each session was audio recorded and transcribed verbatim. Participants were only referred to by first name in audio recordings and transcripts, and are referred to by gender-matched pseudonyms in this publication. The focus group interview questions are attached (Appendix B). Results were coded manually and independently by the author and another researcher, after which the data was thematically analysed by both researchers and the results synthesised. The University of Adelaide’s Human Research Ethics Committee approved the project (H-2013-017), including the methods described above and all materials used.

**Results**

**How Consumers Define Superfoods**

Each focus group began with an icebreaker, with participants asked to name their favourite ‘superfoods’ without being given any definition of the term by the researcher, in order to get a sense of how participants thought about ‘superfoods’ without being influenced by the discussion that followed. The results showed a fairly even balance between discussion of novel superfoods – those foods that have entered the Australian market relatively recently and have been explicitly positioned as superfoods – and familiar superfoods, or those foods that have a longer history of culinary use in Australia before being positioned as superfoods (Table 2). Some participants mentioned more than one superfood, and all responses have been included. The most common single superfood reported was chia seed, with eleven participants favouring this food. This is far more than the next most favoured foods, cacao (six mentions) and kale (four). It is likely that this is reflective of the pervasive and diverse marketing and retailing of chia seed in Australia as described in Chapter 6.

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33 Some superfoods are difficult to classify as either novel or familiar. Kale, for example, has existed as a food in Australia for generations, but has only recently attained its current level of popularity and familiarity. Further, it is notable that none of the foods mentioned are native to Australia.
Table 2: Participants’ favourite superfoods

<table>
<thead>
<tr>
<th>Novel Superfood</th>
<th>Familiar Superfood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chia seeds (x11)</td>
<td>Kale (x4)</td>
</tr>
<tr>
<td>Cacao (x6)</td>
<td>Broccoli (x2)</td>
</tr>
<tr>
<td>Maca (x3)</td>
<td>Spinach (x2)</td>
</tr>
<tr>
<td>Coconut oil (x2)</td>
<td>Salmon (x2)</td>
</tr>
<tr>
<td>Goji berries (x2)</td>
<td>Lemon</td>
</tr>
<tr>
<td>Açai (x2)</td>
<td>Ginger</td>
</tr>
<tr>
<td>Chlorella</td>
<td>Coffee</td>
</tr>
<tr>
<td>Spirulina</td>
<td>Red Wine</td>
</tr>
<tr>
<td>Quinoa</td>
<td>Broccolini</td>
</tr>
<tr>
<td>Coconut butter</td>
<td>Blueberries</td>
</tr>
<tr>
<td></td>
<td>Cranberries</td>
</tr>
<tr>
<td></td>
<td>Chocolate</td>
</tr>
</tbody>
</table>

During the initial discussion, participants tended to class superfoods according to five properties or characteristics: general nutrition and healthfulness, particular health benefits or disease fighting properties, traditional use, opposition to processed foods, and marketing (Table 3). These five themes were not mutually exclusive; many participants expressed more than one of these ideas. For example, the same participant who stated that ‘it’s about how it’s marketed as well’ also explained that he eats goji berries for their antioxidant content in the hope that this will ‘offset any harm that I’m doing to myself otherwise’.

Table 3: Characteristics by which participants classify superfoods

<table>
<thead>
<tr>
<th>Property</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>General nutrition and healthfulness</td>
<td>• ‘I think for me it’s all about longevity and health.’</td>
</tr>
<tr>
<td></td>
<td>• ‘I think it’s the nutrient density that makes them really attractive’</td>
</tr>
<tr>
<td>Particular health benefits or disease fighting properties</td>
<td>• ‘Superfood is something that actually lowers inflammation in your body, so anything that’s rich in antioxidants and stuff.’</td>
</tr>
<tr>
<td></td>
<td>• ‘I associate superfoods with cancer fighting properties...’</td>
</tr>
<tr>
<td>Traditional use</td>
<td>• ‘It’s like a wisdom or an oral tradition of what you ate as a family or an indigenous tradition.’</td>
</tr>
<tr>
<td></td>
<td>• ‘It’s like an ancient well of ancient traditions.’</td>
</tr>
<tr>
<td>Opposition to processed foods</td>
<td>• ‘Maybe superfoods are really just anything other than processed, crappy food.’</td>
</tr>
<tr>
<td></td>
<td>• ‘Superfoods to me means eating better and looking for the right things to eat rather than just going to McDonald’s or to fish and chips...’</td>
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These results point to three observations about how participants define and understand superfoods. First, many participants reflected aspects of popular superfoods discourses, in particular those relating to nutritionism and primitivism. Not only did they use the language of nutritional science in describing superfoods’ general healthfulness and specific health benefits, but they did so in a casual manner, as though such information is widely understood and accepted. They also reflected the popular ideas that superfoods have ‘traditional’ and ‘unprocessed’ aspects that make them more ‘super’ than other foods.

Second, different participants prioritised different themes in defining superfoods, indicating that the concept of superfoods may be serving as a proxy for other ways of thinking about food and health. This finding reveals that the term has a great deal of plasticity, and allows consumers to map their own ideas about what constitutes ‘good’ food onto the concept of superfoods. Finally, many participants simultaneously held both accepting viewpoints of superfoods discourses relating to healthfulness and authenticity, and sceptical viewpoints regarding the role of marketing. Even though participants self-identified as superfoods consumers, they still displayed distrust towards many of the claims made about these products, which seems contradictory. These observations are analysed in more detail below.

In explaining why they used their favoured superfoods and how they defined the concept, there was a contrast between those participants who focussed on nutrition and those who talked about energy (Table 4). This result raises an interesting question: do consumers consider superfoods to be more like foods, or more like medicines? If superfoods are used for energy, they can be related to other stimulating substances, such as coffee, tea, and chocolate. All of these substances have, at different times and by different groups of people, been viewed alternatively (and sometimes simultaneously) as food or as medicine. These are ambiguous foodstuffs, spanning categories and emphasizing that the dividing line between food and medicine is flexible and culturally contingent.

But if superfoods are used for nutrition and taking control of one’s health, are they more like supplements? Supplements, too, are ambiguous; in the United States, herbal, mineral, and vitamin supplements are regulated like foods, while in Australia such supplements are regulated like medicines (Brownie, 2005). This regulatory divergence in classifying supplements further underscores the permeability of the categories of food and medicine, and the confusion caused by things that breach these boundaries. As Mary Douglas (2002) famously observed, ambiguous things that blur categorical lines inspire both power and fear, which suggests that superfoods’ ambiguity makes them at once alluring and confronting.
Table 4: Superfoods in terms of energy versus nutrition

<table>
<thead>
<tr>
<th>Energy</th>
<th>Nutrition</th>
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<tr>
<td>‘It’s just a really good way to get lots of energy.’</td>
<td>‘I tend to look at them from a nutritional point of view...I would pick perhaps fresh ginger as one of my main lines of defence for the immune system.’</td>
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<tr>
<td>‘...just to give me a bit of energy, often before I do some work stuff like that, give me a spike.”</td>
<td>‘I like to soak chia seeds in filtered water because I think it maximizes the nutritional value....’</td>
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<tr>
<td>‘I do have maca powder kind of everyday almost...because it gives me a zing...it keeps me going.’</td>
<td>‘It’s good because I’m vegetarian and quinoa has a lot of protein.’</td>
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How Consumers Use, Obtain, and Learn About Superfoods

Participants reported a variety of uses for superfoods, but by far the most common way that they reported consuming superfoods was as an ingredient in smoothies, with 19 mentions of this type of preparation. The second most common use for superfoods, with nine mentions, was as a breakfast food, either cooked into a porridge or added to muesli or cereal. Participants reported a variety of other food preparations in which they use superfoods, including:

- ‘In baking’ (cacao, coconut oil, coconut sugar, chia seeds)
- ‘For dinner, I usually make my own fish burgers’
- ‘Chia seeds for puddings and things’
- ‘...Kale chips that I make’
- ‘A salad with walnuts and cannellini beans and kale’
- ‘You can use coconut oil in a lot of Asian dishes and stir-fries’

There were also a few mentions of superfoods consumed as snacks or beverages, ranging from drinking black coffee to snacking on goji berries.

Participants noted the settings in which they consumed superfoods, with nearly everyone mentioning preparations made at home. Many of these were consumed at breakfast, and tended to be consumed by oneself. Those participants who described dinners, such as George’s ‘salmon on a bed of black rice’, reported cooking these meals and sharing them with their families at home. While there was general consensus that it is necessary to do most food preparation at home in order to eat healthfully, participants also reported that it has recently gotten easier to find superfood meals and snacks in cafés and shops, and gave examples of buying smoothies or quinoa salads at cafes and packaged, ready-to-eat snacks in supermarkets or specialty shops. The balance of superfood consumption weighed heavily towards solitary consumption at home.

Some participants emphasized that superfoods are not to everyone’s taste; one observed the he mostly consumed his snack of goji berries by himself because ‘I do try to give them out at work but...not everybody seems to like them’. This observation
that superfoods are not frequently communally or publicly consumed again raises the question if they are more like medicines and less like foods, which will be discussed below.

Participants procured superfoods largely from organic shops, health food shops, and mainstream supermarkets, but fruit and veg shops, farmers markets, co-ops, home delivery, pick-your-own, Asian groceries, chemists, websites, and their own gardens were also mentioned. While participants reported having to ‘really hunt and gather’ to find all the superfoods they like, they also observed that it has gotten easier recently to find superfoods in mainstream supermarkets:

I think it’s changed a lot in the past even year and a half when I was looking for coconut sugar or something and it would be very hard to find it, it would be in some little health food store ages away but now I think I found it at Woolies [a major supermarket chain].

Participants also obtained information about superfoods from diverse sources, including friends and colleagues, print and electronic media, retail outlets and displays, and health, food, and fitness professionals. These results have interesting implications for how these consumers might interact with popular superfoods discourses, including those presented in books, on product packaging and websites, and through advertising. If participants are gathering information from multiple and often conflicting sources, they are less likely to accept popular discourses unquestioningly. Rather, they are likely to engage in processes of meaning creation as they evaluate different information.

Knowledge: Nutritionism

In explaining why they consumed particular superfoods, participants reflected a discourse of nutritionism. They often defended their use of a particular superfood both because of its nutrient content (such as protein, certain vitamins, minerals, or antioxidants) and because of its physiological effect on the body (such as making the body alkaline, assisting with hormone balance, and providing mental clarity). This result is not surprising, given the extensive use of this discourse to talk about superfoods in media and marketing as well as the pervasiveness of nutritionism in public discussions about food and health more generally. Superfoods are portrayed as extremely healthy foods and their benefits are nearly always justified by referring to specific micronutrients and biomarkers – for example, we are told that berries are high in antioxidants, which help to prevent cancer. The unreflexive acceptance of scientised nutritional information and the use of ‘nutri-speak’ in referring to the ways in which foods impact health is characteristic of what Scrinis calls the ‘nutritional gaze’ – a way of looking at and encountering food as being composed of nutrients, which overwhelms other ways of encountering and sensually experiencing food’ (2008: 46). The nutritional gaze is characteristic of the ‘nutricentric person’, who takes an active role in learning about and applying nutritional science information in constructing her own functional diet. This position can be empowering for the individual because she is able to rely on her own abilities to learn about how food acts on the body and apply her interpretation of scientific information to her own food choices.
In adopting the role of the nutricentric person, participants expressed their own understandings of science, which placed them in positions of competence. As Scrinis observes:

Nutrition-conscious individuals thrive on a degree of familiarity with some basic categories of nutrition science to explain and legitimize connections among foods, nutrients, and their own functional bodies. The concept of the GI [glycemic index], for example, has become popular because it purports to offer a simple and accessible explanation of the relationship between foods and biomarkers, such as the story of how low-GI foods convert carbohydrates into blood sugar more slowly. In grasping and articulating such simplified scientific explanations, the nutricentric person can feel empowered and take ownership of these nutritional concepts. (2008: 46)

Several participants expressed this type of thinking, adopting the nutritional gaze as an interpretational framework for selecting what to attend to from the multitude of sources of information available. Participants provided simplified scientific explanations that demonstrated their competence for why they consume a particular superfood or superfoods in general, taking ownership of concepts such as nutrient density and inflammation:

Jane: So the superfood thing really just helped me because when I was focusing on what to eat and what not to eat I’d think about nutrient density. So I'm eating 100 calories, if I can have 100 calories of avocado what are all the nutrients I'm going to get out of that versus rice or something else.

Kate: Because our aging process and cancer and diabetes and those kind of stuff is actually linked to the inflammation in your body. So to me, superfood is something that actually lowers inflammation in your body, so anything that’s rich in antioxidants and stuff....

Jane and Kate assume positions of competence in understanding and applying scientific information. But other participants expressed competence by questioning the extent to which contemporary nutritional science is able to fully grasp the complex relationship between food and health and the changeability of expert advice:

Boris: I mean there’s a lot of things in food and in the environment that medical science just can’t measure with their equipment. They can’t measure enzyme activity and all sorts of things like that. It’s fine to say vitamins and minerals but it’s not the be all and end all. There’s a heck of a lot more to it than what we even know about today. And some of the stuff we do know about we can’t really measure.

Tabitha: They told us it was okay to drink a glass of red wine and that was cancer fighting, but now they’re saying, no it’s not, so it turns around and changes.

Finally, participants construct competence through their personal experiences:
George: I suffered from, my knees were probably the weakest part of my body, and I’m into martial arts and I just couldn’t do it. But once I started on the superfoods I felt a difference and I’m back to training now, I still get a little bit of soreness, you know, but I think it was just all the processed foods, all the rubbish you’re eating all the time...and I don’t crash so hard. I think I recover a lot quicker now.

These findings reflect Jauho’s description of ‘the social construction of competence’, by which lay low-carbohydrate diet advocates ‘present their position as grounded in science and stylize themselves as lay experts’ (2014: 4). Low-carbohydrate diet supporters are often portrayed as science deniers, but Jauho shows that they in fact engage in scientific debate in two ways. First, they draw upon their own experiences with low-carbohydrate diets, arguing that if so many people have experienced positive results, then more scientific research reflecting such experiences is required. Second, they attack the way in which science is practiced, pointing out gaps in the research as well as the vested interests of many scientists. In part, ‘what is endorsed is a bodily competence based on personal experience’, – another interpretive framework – and this is coupled with ‘the ability to converse in the dominant idiom of nutrition science and medicine, flanked with an understanding of the social commitments of science and experts’ (11). Superfood consumers similarly position themselves as competent lay-experts both by expressing their bodily competence and by demonstrating their grasp on nutritional concepts while questioning the limits of contemporary nutritional science.

However, some participants express frustration at the limitations of their knowledge and confusion about which information sources to trust. Instead of feeling empowered by their ability to grasp basic nutritional science concepts, they feel disempowered by their inability to sort through conflicting information from multiple sources. This confusion is also a consequence of the nutritional gaze; as Scrinis observes, ‘nutritionism creates ambiguous tendencies toward a disempowered, confused, and dependent individual on the one hand, and an active, empowered, and critically informed individual on the other’ (2008: 46). This sense of disempowerment is expressed strongly in the following exchange:

Tania: It’s about trying to work out, where does the truth lie?
Maggie: In your own investigations.
Tania: But we’re not skilled to! We’re not capable of actually investigating it properly, because we’re relying on stuff that other people have investigated and presented and how well are they presenting it? We can’t actually investigate it ourselves no matter how much we read everything on the Internet.

What is most fascinating about Tania’s lack of confidence in her ability to locate the ‘truth’ amongst so many competing claims is that she demonstrated extensive knowledge about the health benefits of superfoods and how to use them in food preparations. She did her own research on the Internet, attended raw food cooking courses, and readily listed superfood recipes. She was among the most informed and engaged participants, yet she still expressed confusion because she felt that ultimately she is relying on experts whom she is hesitant to trust. The positions of competence and confusion are not necessarily related to the amount of knowledge
which consumers have, and may sometimes be in an inverse relationship: as knowledge increases, individuals may realise the incomplete nature of their knowledge and the inconclusive and biased nature of expert reports. Further, the same superfood consumer can exhibit both characteristics of competence and confusion – these are not mutually exclusive positions.

**Knowledge: Primitivism**

Participants employed primitivist discourses in expressing dissatisfaction with ‘mainstream’ contemporary food provisioning. They often equated superfoods with ‘authentic’ and ‘traditional’ foods, and many of their accounts were tinged with nostalgia for an ostensibly simpler and more intuitive way of eating associated with other times and places:

Louisa: I think in the West we've lost touch with real food, or we had, and if you look at other cultures, they're eating, the poorer elements in those societies, poor wording but, are still eating as they've always eaten. And we're now realising that their longevity and lack of things like arthritis and things that have become Western diseases are absent because they've always, they've stuck to their fermented foods, and we've got much to learn from those cultures.

Rather than drawing upon substantive knowledge of a particular culture, the above statement constructs the imagined primitive population in contrast to what is seen as lacking in contemporary Western society: in the modern West, ‘we've lost touch with real food’ and its relationship to health, but primitive societies are ‘still eating as they've always eaten’ (Torgovnick, 1990). But not all participants used primitivist discourse unproblematically. Others did so with an awareness of the Western susceptibility to primitivist nostalgia:

Anita: We search for things away from the Western way of life, like the Andeans someone said before, often not seeing the solutions in a medical model or the Western way of life and often the superfoods do pick up on some of that basic indigenous culture or other cultures.

Joshua: The Other is always seen as more interesting, it has that mystique about it as well.

The primitivist nostalgia above can be seen as a spatial nostalgia, a longing for an imagined place where people are in touch with ancient wisdom. Participants also expressed a temporal nostalgia, a longing for a past world characterised by simpler, healthier ways of eating and procuring food. Superfoods, then, come to represent a return to this idealised past:

Joanne: I find it fascinating that the world has evolved in so many ways but as far as things like superfoods are concerned to a certain extent we’re just going back in time to what we were doing originally. We’ve now come to realise, like you go through the stage where processed foods became very popular, TV dinners, and it's taken a generation of people eating that for us to realise that is actually doing us no good whatsoever, and it’s almost like going back to the
The irony is that both the spatial and temporal nostalgias that participants expressed are for places and pasts that do not and did not exist. But the lack of realism of the object of their nostalgia is not important to participants, because the imaginary places and times that they describe exist only to serve as a foil to the contemporary Western society in which they live. Thus by employing this nostalgia, they are expressing dissatisfaction with contemporary food provisioning and its related health impacts.

Discussion

Ambiguity of Superfoods

The ways in which consumers use superfoods suggest that they span the boundaries of the categories or food and medicine; they occupy a grey area where these two categories overlap. I suggest that this ambiguity is the source of their potency, as their abilities to act alternatively and simultaneously as both food and medicine makes them both exciting and confronting.

The most common way that participants report using superfoods was as an ingredient in a smoothie, followed by as an ingredient added to breakfast cereals or porridges. These tended to be prepared for oneself and consumed alone and at home. These are clearly food uses, yet there is a medicinal element to the idea of simply adding seeds, berries, or powders to one’s breakfast – these aren’t ingredients essential to the structure of the dish, but rather are added for their functional benefits. For example, in describing her daily breakfast, Hayley explains:

I don’t know if you’ve seen on social media those people who post pictures of crazy breakfasts with everything packed into them, I’m so one of them. I have oats and goji berries and chia seeds and flax seeds and blueberries and everything, so that’s pretty much my every morning.

Despite the fact that these superfoods are consumed as part of a meal, there is a similarity to the idea of taking a multivitamin supplement every morning.

On the other hand, several participants reported using superfoods as ingredients in meals prepared for both themselves and their families. They stressed how happy they were that they could get their kids to eat kale by cooking it into chips, chia seed by preparing it in desserts, or salmon by making it into burgers. As Joanne explained in her reasoning for eating superfoods, ‘I love food in general, and if it’s nutritional, even better’.

This indicates a difference in how participants conceive of superfoods, reflected in the reasons that they give for consuming them: there is a divide between those who talk about consuming superfoods for nutrition, and those who talk about consuming them for energy. Among the former, superfoods are often construed broadly, including familiar whole foods like spinach and broccoli, and are often consumed as parts of meals and shared with others. Among the latter, the term is used more frequently to refer to more novel superfoods such as maca and cacao, and often consumed in
smoothies, cereals, or snacks. Further research that differentiates between familiar and novel superfoods might yield more insight regarding this division.

These results support an understanding of superfoods as bridging the categories of food and medicine. Their ambiguity is a source of the confusion expressed by participants, because the way in which they blur these categories makes any attempt to define how they should be used and understood difficult. But this ambiguity is also a source of their popularity; the idea that something can be both food and medicine is exciting and powerful.

**Superfoods as Proxy for ‘Good’**

Participants tended to conflate superfoods with a diverse range of other food categories and characteristics, including ‘organic’, ‘natural’, ‘unprocessed’, ‘local’, ‘raw’, ‘fresh’, ‘pure’, ‘gluten free’, ‘vegetarian’, ‘fair trade’, and ‘alternative’. In equating superfoods with these other categories, participants map values about personal health and social and environmental ethics onto superfoods. I argue that they do so because they are drawing upon discursive dualism that defines ‘good’ food in opposition to ‘bad’ food. This way of thinking allows them to create a loose category of ‘good’ food that helps them make choices in line with health and ethical priorities, even when such categorisation does not make logical sense (Eden, 2011).

‘Organic’, ‘unprocessed’, and ‘natural’ are the most common categories that participants equated with superfoods. Studies on organic consumption have found that consumers consider organic food to be healthier (Lyons, 2006; Magnusson et al., 2001), higher in quality (Radman, 2005), and higher in vitamins and minerals (Lea and Worsley, 2005) than non-organic food. Other studies have shown that health is the strongest motivator for purchasing organic food (Lockie et al., 2002; Makatouni, 2002; Padel and Foster, 2005; Squires et al., 2001; Tregear et al., 1994). Given that participants draw heavily upon nutritionism discourses in describing why they consume superfoods, this conflation of superfoods with organic foods makes sense because both categories are largely defined among consumers by their perceived healthfulness and nutrient contents.

Consumers also define organic food both in terms of its naturalness and opposition to processed foods (Lyons, 2006; Lockie et al., 2004). The qualities of ‘natural’ and ‘unprocessed’ also overlap with health; as Lyons (2006) observes, organic food is viewed as synonymous with healthy food because it is perceived as coming from environments that are free from the ‘taints’ of chemicals and genetically modified organisms. Lyons also observes that Australian organic consumers place organic food in opposition to non-organic food through a range of binary oppositions:

The rawness of organic food, characterised by ‘naturalness’, ‘freshness’, ‘nutrition’, ‘flavour’ and ‘no chemicals’, was valued highly by the interviewed consumers. The attributes of raw food were understood to emerge from ‘raw’ environments, which were characterised by organic farming methods, concepts opposing ‘unnatural’ and ‘synthetic’ techniques, small-scale versus industrial-scale production, proximity (to ensure ready access to fresh food), and simplicity (2006: 159).
Superfood consumers exhibit many similarities to organic consumers, engaging in similarly dualistic thinking in defining superfoods as much by what they are not – ‘processed, crappy food’, ‘full of pesticides’, ‘polluted’ – as what they are. These oppositions recall the way in which participants define superfoods in nostalgic terms, representing a way of life that is purportedly simpler and closer to nature, as opposed to our busy modern lives in which ‘processed foods have become so popular because people just can’t be bothered slash don’t have time to prepare food’. This convergence indicates that superfoods are serving as a way for consumers to express their rejections of mainstream contemporary food provisioning. They define superfoods as all the things that modern mainstream food is not: healthy, unprocessed, chemical-free, pure, natural, organic, local, and old-fashioned. This is the discursive field of ‘alternative’ food provision, and, as Pratt observes, its qualities are ‘pre-set’ despite the diversity of practices beneath the surface precisely because it is defined against the practices of ‘modern’ food provisioning: ‘Because the field is “pre-set”, the terms can become synonymous, or at least immediately evoke each other’ (2007: 287).

This tendency to conflate superfoods with organic, natural, and unprocessed foods is interesting because many superfoods are not necessarily organic, natural or unprocessed. For example, chia seeds grown in Australia are labelled ‘sustainable’ but are not certified organic, and as of 2001 organic cranberries represented less than two per cent of all cranberries produced in the United States, the world’s largest cranberry producer (Agricultural Marketing Service USDA, 2001). Earlier chapters have illustrated the gap between the image of ‘naturalness’ and the practices of superfood production, and foods like maca and cranberries are nearly always processed in order to reach the Australian consumer. How can superfoods be conflated with organic foods even when many of them are not organic? How can a powder that is added to smoothies or sprinkled on top of muesli or a dried berry sweetened with sugar be considered ‘natural’ and ‘unprocessed’ when it has obviously been subjected to industrial processing?

The dualistic thinking in which participants engage may provide a clue to this seemingly problematic line of reasoning. Because consumers are presented with a huge range of competing priorities when procuring food, there may be a need to create binary oppositions in order to avoid being paralysed by indecision. Superfoods get lumped into the category of ‘good’ food, which, while varying by individual, includes those foods considered to be healthy, natural, and unprocessed. The fact that different participants emphasized different characteristics of superfoods when defining them is also important, because it suggests that definitions of the category of ‘good’ food are not entirely the same. For example, some participants defined superfoods in terms of their ability to prevent disease, while others defined them in terms of their high nutritive value, and still others emphasised their ‘traditional’ qualities. The concept of superfoods serves as a proxy for the qualities most important to the individual’s sense of what makes food ‘good’, and functions as a way for consumers to make choices when faced with the often-confusing dilemma of what to eat (Eden et al., 2008a).

The conflation of superfoods with ‘good’ foods reflects the linguistic origin of the world ‘superfood’. As one participant observes, ‘I think in the broadest possible sense, super means above, basically, so higher than what we think currently is acceptable as a food. We should go for better’. Superfoods can be seen more as a way of thinking
than as a particular category of foods, a way to consider the implications of food choices by employing a simple binary. Participants were aware of the plasticity of the term ‘super’ and its tendency to be co-opted by marketers, but may not be aware of the way in which this flexibility allows their own conceptions of ‘good’ food to be mapped onto the concept of superfoods.

This study did find evidence for some degree of awareness among some participants of the contradictions inherent in defining superfoods as ‘good’ foods. For example, Tabitha explained:

I don’t really buy into the superfood aspect because I just try and just eat as closely as possible to the food in its natural form, and that we’re getting all these foods from other places...I’m of two minds, because in one respect I’m kind of an eat local girl, but on the other hand you get all these amazing foods from Brazil or wherever and there’s not a lot of evidence so, I kind of find it a bit confusing.

Tabitha expresses awareness of the contradictions in her own thinking. During the opening exercise, she said that her favourite superfood was maca powder which she adds to her morning smoothies for the hormonal properties and for energy, but not long after she reported that she tries to ‘eat as closely as possible to the food in its natural form’. She knows that her maca powder is not a food in its natural form, nor is it local, two qualities that define ‘good’ food for her. But she expressed confusion because she also classifies maca as ‘good’. Similarly, Tammie, who favoured cacao because ‘it has that magnesium benefit to it’, later explained:

It’s about the percentage of it, and 99 percent of it is whole foods, and superfoods are like just the bulk up, not the staple. I’m not looking for them to replace the processed things, just eating whole foods and using superfoods as a small part of additional things.

Having established that she prioritises ‘whole foods’ in defining ‘good’ food, she then expressed concern that the superfood trend might end up as a replacement for what she sees as overall healthy eating:

It just concerns me a little bit that we’re not just going to end up with a substitute that’s small and fast on the processed side of things...it’s all about time management really, a lot of people get scared and say, how do I do eating well? Because of time restraints. And, yeah, that concern, it just doesn’t become a substitute, where we’re still going to be missing out on true, valuable, whole food.

Tammie defines ‘good’ food in natural terms; it is ‘whole food’ that is ‘true’ and ‘valuable’. She can fit cacao powder into her conception of ‘good’ food as ‘a small part of additional things’ but she is aware of the dangers of adding superfoods to her definition of ‘good’ foods because of the way it distracts from an overall message of healthy eating. She expresses awareness of the contradictory nature of her own thinking, leading to feelings of ambivalence towards superfoods even though she continues to consume them.
Consumer Scepticism

All focus group participants self-identified as superfood consumers; therefore it is surprising that many were not that committed to superfoods. There was widespread suspicion that the superfood label is more of a marketing concept than a credible claim. Scepticism about marketing agendas and the trendiness of superfoods pervaded each session, and translated into feelings of ambivalence. This scepticism often was set in contrast to participants’ experiences of eating so-called superfoods and not getting results, or eating foods that they considered to be healthy that were not explicitly labelled as superfoods:

Tania: There’s a part of me that’s a bit of a sceptic and I’m not sure about all of the claims that are made for them, for you girls that said maca powder, I have some, and I’ve not noticed any effect when I use it versus when I don’t use it, I can’t tell the difference, so I’m curious and I just wonder how much is marketing and hype and how much is real.

Joshua: It’s about how it’s marketed as well, there are a lot of things out there which are quite nutritious but not necessarily under the umbrella of these superfoods.

Eliza: Like spinach and broccoli.

Mary: Exactly, these things have been around for ages and it’s already good for your immune system, like garlic, but it’s not under the new umbrella of superfoods.

Participants pointed out the influence of celebrity endorsements on the rise and fall in popularity of various superfoods. They noted that even the research that provides scientific substantiation of health benefits might be skewed to favour particular superfood products:

Ted: I think partly it’s marketing, in the sense that you’ve got companies that will research a certain product because they want people to buy a certain product because they realise there is a health benefit to it.

Participants questioned how beneficial consuming superfoods might be if one’s overall diet is unhealthy. They questioned the quantity of superfoods that one must consume in order to obtain health benefits, echoing the way in which organic consumers question how much difference it makes to consume organic food only as part of your diet (Lockie et al., 2002):

Carlos: You can’t eat Hungry Jack’s for breakfast, lunch, and dinner and then say, oh, yeah, but I ate a lot of chia seeds, that’s not going to help you.

Rachel: Now I’ve literally moved away from this whole superfoods fad, because they [traditional consumers] get it as an everyday meal but here we’re paying insane amounts, and maybe if you consumed excessive amounts of these products you’d get an actual benefit but not if you’re just like oh I eat it once a month so I’m going to be so much healthier.
Rachel understands that many novel superfood products in Australia are or were staple foods in their regions of origin. In questioning the benefits of only occasional superfood consumption, she observes that while these products have been positioned as straddling the categories of food and medicine, they do not come with information regarding dosage that products more clearly categorised as medicines offer. This is part of what makes superfoods culturally dangerous: because they are not placed clearly in either category, the tacit rules about how to use them are unclear. This lack of clarity becomes a source of scepticism.

Some participants seemed more confident in their abilities to sort through competing knowledge claims. Louisa explained that she counters conflicting information by doing her own research:

  People are getting a bit cynical because what’s labelled a superfood one day and bandied about, the next year will be, oh you know, after all we found out that’s not so good for your after all, in fact too much of that is bad for you, so you’ve got to use your own discretion a lot.

On the other end of the spectrum, a few participants stated that they had begun to reject superfoods out of frustration at the degree of marketing and media hype surrounding them:

  Maggie: I don’t really eat it [quinoa] anymore because I don’t really care, it’s just become such a hyped-up thing. I’ve gone back to my pasta.

  Rachel: That’s why I begin to hate it even more. It’s insanity. I’m not denying that the properties are useful, but not the way they shove it down your throat, eat this.

This scepticism about the validity of superfoods’ health claims parallels previous research showing that consumers display scepticism towards information about diet-health relationships as a result of being constantly bombarded with conflicting information from marketing, media, scientific studies, government regulations, and health practitioner advice (Bhaskaran and Hardley, 2002; Keller et al., 1997; Moorman, 1996; Silverglade, 1996). However, the degree of scepticism and vehemence with which it was expressed was a surprising result, given that all participants identified as superfood consumers. Why, if they are so sceptical, do they still buy these products?

Sceptical superfood consumers might continue to use these products simply because they hope that they might work. Bhaskaran and Hardley found that consumers of functional food products display distrust towards manufacturers’ claims, but still purchase these products ‘based on the hope that the product had a therapeutic attribute’ even if they did not believe that it would help: ‘at least there’s a chance’ that it might work (2002: 596). Despite their scepticism, consumers want to believe the claims, which overrides their doubts when it comes to making consumption choices.

Consumers also expressed beliefs that superfoods probably would not harm them. Many participants were distrustful of conventional medicine, and consumed superfoods to take control of their own health. Superfoods were seen as benign.
interventions that might bolster health: as one participant observed, a superfood ‘has less side effects, bad side effects’ than conventional medicine. Stoneman, Sturgis, and Allum similarly found that use of homeopathy did not necessarily correspond to belief in its efficacy. Rather, they observe that homeopathy use is ‘indicative of an “open-minded” approach to alleviating symptoms, which is based not so much on firm beliefs that homeopathy will ‘work’ but on a hope that it might work, allied with a strong belief that it is unlikely to cause any harm’ (2012: 523). Superfood consumers adopt similar attitudes, ignoring their own scepticism in part because they believe that consuming superfoods probably will not do any harm, and the conflation of superfoods with other concepts of ‘good’ foods supports this belief.

Participants also are deeply aware of the contested nature of knowledge claims regarding superfoods, and are distrustful of information received through media sources and experts. Each focus group contained an interesting debate, initiated by participants themselves, on what counts as evidence and who participants trust to get information on superfoods. They questioned the veracity of articles on the Internet, the trustworthiness of nutrition experts, and the lack of evidence behind many superfood health claims. For example, Hayley expressed trust in the experts she follows on social media early in the session:

A lot of the people I follow on Instagram are nutritionists, I guess that's why I trust them because they are nutritionists, and they always post recipes and I just make them.

But by the end of the session she began to question her trust of these sources, because she recognised her potential naïveté in accepting their knowledge claims without doing her own investigations:

And, I don't know, maybe it’s marketing, because a lot of social media raves about superfoods because they're so great, they have so much omega or protein or, and I don’t ever really look into actual studies.

Ultimately, participants agreed that the only way to really know if a health claim is valid is by doing one's own research. But, as indicated above, many participants felt that they lacked the skills to evaluate competing knowledge claims. In this state of confusion, their scepticism becomes a defensive reaction, a statement of awareness that they may be being duped. As Eden, Bear, and Walker suggest, consumers adopt a position of scepticism so as not to appear gullible, and to protect themselves from the fallibility of experts: ‘consumers feel that there is safety in scepticism” (2008c).

**Critical Consumption**

Notably absent from this discussion so far is the discourse of critical consumption, which I argue elsewhere in this thesis has recently entered superfoods discourse. Among participants, there was little mention of the critical consumption discourses examined in earlier chapters: sustainability and ethical/fair consumption. Sustainability was not mentioned at all, and fair trade came up twice as a label that some participants associated with superfoods but was not elaborated upon. Participants did talk about buying organic, but this came through as more of a health preference and less of an environmentalist position. In fact, there was very little talk
about production at all. Participants could explain what a particular superfood is and why it is healthy, but they could not elaborate on its production or origins, much as organic consumers can give a basic definition of organic food but cannot describe organic production, certification, and inspection practices (Hill and Lynchehaun, 2002; Lockie et al., 2002; Padel and Foster, 2005). When they did talk about the production of imported superfoods, they drew upon one single discourse prominent in the mainstream press: that quinoa has been priced out of reach of Bolivian growers due to Western demand (e.g., Blythman, 2013; Romero and Shahriari, 2011). They expressed concern about buying quinoa because they do not want to deny Bolivians their staple food, but they overlooked the complexity of social relations and environmental impacts embedded in global food production-consumption networks.

One critical consumption position was discussed at length: localism. Participants across all groups expressed a preference for locally or Australian-produced foods. They gave two reasons for this preference, the first relating to the concept of food miles in which the environmental impact of foods is understood in terms of the distance they travel from producer to consumer, and the second relating to their desire to support both their local communities’ economies and Australian agriculture more generally. However, they acknowledged that this preference was often in conflict with their desire to consume the healthiest foods possible, in particular superfoods imported from distant countries. By ultimately prioritizing health over ethical concerns, participants adhered to a ‘morality of healthfulness’ – similar to de Solier’s (2013) ‘morality of quality’ – in which competing priorities are weighed in terms of the ultimate health benefits of the food in question.

As de Solier (2013) explains, morality is part of the process of self-making, an inward-looking practice by which individuals attempt to define themselves as good people. Ethicality, on the other hand, is an outward-looking practice by which individuals attempt to do right by other parties such as the environment and distant producers. By adhering to a morality of healthfulness, superfood consumers can take into account all of factors that make a food ‘healthy’ – a concept synonymous with ‘good’ for these people – which varies according to the individual’s personal values. For some, a food cannot be healthy if it is produced through exploitative practices, while for others the most important factor in defining a food’s healthfulness is its effect on the body. Thus the term ‘superfood’ becomes a shorthand for ‘healthy’ and therefore ‘good’ food, allowing participants to consume superfoods, even those that are decidedly not ‘local’ and therefore in conflict with other values, without feeling like they are unreflexive consumers – in other words, without feeling too guilty or naïve.

**Conclusion**

The focus group study has shown that Australian consumers use superfood products in distinctive ways that place them in an ambiguous category between foods and medicines. Although instances of using superfoods as food ingredients and nutritional supplements were reported, the majority of superfood use in smoothies and breakfast cereals suggests this ambiguous orientation, signalling the permeability of the categories of food and medicine, and the increasing medicalisation of food in an age of functional nutritionism (Scrinis, 2013). Exhibiting characteristics of both foods...
and medicines, superfoods’ ambiguous categorical placement makes them at once ‘a bit seductive’ and ‘a bit confusing’.

The study also has shown that consumers are not blind adherents to popular superfood discourses found in media and marketing materials. While they do reflect aspects of these discourses, particularly in their use of ‘nutri-speak’ in discussing health benefits of superfoods and their primitivist nostalgia for simpler ways of eating associated with fictitious older times and distant places, they draw knowledge from a wide variety of other sources. Far from accepting superfood discourses verbatim, they exhibit scepticism towards the supposed ‘superness’ of superfoods. They wonder how foods with the superfood label compare to other foods that they consider to be healthy, and question the credibility of health claims. They are, in fact, suspicious that much of the superfood concept is simply a marketing trick. Despite their scepticism, however, participants in this study continued to consume superfoods.

Consumers associated superfoods with other categories that define ‘good’ foods, most notably ‘organic’, ‘natural’, and ‘unprocessed’, even though many of the superfoods they consume do not fit into these categories. I contend that this illogical categorisation occurs because consumers apply binary notions of ‘good’ and ‘bad’ foods from within a ‘pre-set’ discursive field to help them make consumption decisions when faced with an overwhelming array of competing knowledge claims, health concerns, and ethical priorities. The concept of superfoods becomes a proxy through which consumers evaluate a range of other values regarding what makes food ‘good’. However, these diverse values are ultimately subservient to a morality of healthfulness through which consumers actively make themselves as ‘good’ people by consuming healthy food. While these findings support the well-established observation that the relationship between consumer knowledge, attitudes, and behaviour is often unpredictable as consumers weigh competing knowledge claims and competing personal and social priorities when making consumption choices (Eden et al., 2008b; Johnston et al., 2011; Lyons, 2006), understanding superfood consumption as a moral activity – that is, an activity of self-making – helps to develop an understanding of the way in which seemingly contradictory consumption choices are made.

As this was the first study exploring consumer use, knowledge, and attitudes towards superfoods, this study was exploratory by nature. The sample size was small and the questions broad; therefore the results are not easily generalisable. However the study has raised interesting questions for future research. In particular, future studies that differentiate between more familiar and more novel superfoods may yield more detailed results about how consumers define superfoods and make sense of competing knowledge claims, health priorities, and ethical concerns. It is hard to make generalisations about consumers’ relationships with superfoods when their definitions encompass everything from edible weeds growing in their own gardens to maca powder grown and processed on the other side of the world. However, this study is a useful first step towards understanding the way in which the superfoods concept serves to mediate complex ideas about food, health, and values.
Conclusion – In-Between Edibles and Contemporary Food Culture

Following superfoods on a multi-sited journey around the globe and probing superfoods as both concept and commodities from diverse angles and perspectives has illustrated how a range of seemingly disparate elements, including developments in nutritional science, neoliberal trade agendas, traditional indigenous knowledge, food processing and transportation technologies, changing ideas about food, health, and ethics and the commodification of these qualities, and the proliferation of print and digital media, are drawn together in the creation of a new form with broad social and environmental impacts. Viewed through the lens of assemblage, superfoods can be understood as consisting of:

- an emerging discourse about the intimate relationship between food and the body, grounded in the reductionist discourse of nutritionism but also incorporating moralised rhetoric valorising the ‘natural’, and framed by ideas of self empowerment (also closely related to the commodification and individualisation of food and health);
- a specific type of interconnectedness made possible by complex global provisioning networks of people and technologies (agricultural, processing, transport, communication) described under the globalisation rubric, as well as the political positions that underpin such networks;
- a focus on scientific research to validate folkloric health attributes of medicinal foods – an intersection of discourses of primitivism and nutritionism;
- consumer – and, in some cases, producer – dissatisfaction with ‘mainstream’ food and agriculture from both health and ethicopolitical perspectives.

These elements have been drawn into a cohesive assemblage through feedback loops embedded within production-consumption circuits, as uses, meanings, and values articulated at each stage of the social life of superfoods inform and reshape one another.

The case studies have demonstrated a wide diversity of histories, production practices, popularisation mechanisms, and consumer uses among superfoods, leading to the observation that there is no ‘standard’ superfood but rather a range of people, places, plants, and practices that assemble under this banner. They are drawn together by the very quality that makes them such a good object of study, the quality of being-between. Their ability to blur categorical boundaries – between global and local, food and medicine, nature and culture, science and tradition, ethics and economics, social values and capitalist value, Western and indigenous epistemologies – is the source of their power, yet this quality also makes them confusing for many consumers. They do not fit neatly within our cultural categories, enabling actors throughout their production-consumption circuits to imbue them with different, and often competing, meanings and values.

Drawing from my research on superfoods, I suggest that a framework of being-between is a useful construct for further research into how in-between food objects illuminate the particular anxieties and challenges that characterise contemporary food culture. By examining the ways that certain food objects sit between such categories, the tensions that pull them in either direction become visible:
Table 5: Framework of Being-Between

<table>
<thead>
<tr>
<th>Global</th>
<th>⇐</th>
<th>➔</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>⇐</td>
<td>➔</td>
<td>Medicine</td>
</tr>
<tr>
<td>Nature</td>
<td>⇐</td>
<td>➔</td>
<td>Culture</td>
</tr>
<tr>
<td>Science</td>
<td>⇐</td>
<td>➔</td>
<td>Tradition</td>
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<tr>
<td>Ethics</td>
<td>⇐</td>
<td>➔</td>
<td>Economics</td>
</tr>
<tr>
<td>Social values</td>
<td>⇐</td>
<td>➔</td>
<td>Capitalist value</td>
</tr>
<tr>
<td>Western epistemology</td>
<td>⇐</td>
<td>➔</td>
<td>Indigenous epistemology</td>
</tr>
<tr>
<td>Commodification</td>
<td>⇐</td>
<td>➔</td>
<td>Critique</td>
</tr>
</tbody>
</table>

Superfoods are constructed by these tensions, pulled taught by each category and suspended between them. The tension between relying on global systems of provision and desiring foods bearing traces of distinct localities leads to the fetishisation of place-labelled products with clear origin stories and product biographies, yet this same tension proves uncomfortable for superfoods consumers, who question the social and environmental ethicality of transporting superfoods around the globe. The tension between food and medicine enables producers and retailers to make vague claims about these products, but also leads to consumer scepticism regarding their effectiveness and appropriate dosage. Superfoods are clearly pulled between both nature and culture; they are products of the natural world yet only available in their current forms through extensive human manipulation. And they owe much of their popularity to the interaction of science and tradition in superfoods discourse, as the interpretational framework of functional nutritionism interacts with that of nutritional primitivism to doubly verify superfoods as healthy by both nutritional science and indigenous wisdom.

Superfoods are pulled between ethics and economics, for even as some are critically produced in terms of ‘sustainability’, organics, or fair trade, they are also marketed and sold for premium prices precisely because of these qualities. Similarly, they are constructed through the interaction between social values and economic value, each shaping the other, yet also, at times, clashing in ways that lead to conflicts such as the maca biopiracy scandal. The tensions between Western and indigenous epistemologies are present throughout their production-consumption networks: in some ways, these tensions are actually the source of their value as commodities that embody both scientific and traditional knowledge system, while in other ways these tensions prove more difficult when it comes to questions such as land management and environmental impacts.

This thesis has shown that representations of superfoods in books, media, and marketing contrast significantly with the circumstances of their production. It is therefore easy for pundits to write them off as symptomatic of trends toward individualisation and commodification of food and health (among other aspects of daily life). Yet by using the framework of being-between, we see that this viewpoint obscures the most profound aspect of their in-between-ness: superfoods sit between commodification and critique. Superfoods, as both discourse and products, offer a critique, however flawed, of contemporary food provisioning practices, yet this critique falls short of achieving systemic change because of its tendency to become commodified.
Let us return to superfoods discourse expressed in books, media, marketing, and product packaging, in order to explore the nature of this critique. There are two major discursive convergences that shape the critique of modern food production offered by superfoods. The first is the convergence between functional nutritionism and nutritional primitivism. Functional nutritionism emphasises that foods with higher nutrient contents, or greater nutrient densities, have more beneficial impacts on the body, while nutritional primitivism privileges the ‘natural’ and ‘authentic’ foods associated with ancient traditions and indigenous communities. Combining aspects of both frameworks, superfoods discourse relies on the logic of functional nutritionism to defend the nutritional superiority of primitive foodways. It only embraces functional nutritionism to the extent that it demonstrates the healthfulness of superfoods, and rejects the reductionist aspect of the discourse that equates synthetic nutrients with naturally occurring nutrients. While not necessarily rejecting the knowledge provided by nutritional science, superfoods discourse recognises the limitations of this paradigm, as well as its reductionist application in the development of fortified, enhanced, or otherwise altered functional foods. Those participating in superfood production-consumption networks thus express dissatisfaction with overly scientised understandings of the relationship between food and the body.

It is also significant that in superfoods discourse, ideas related to individual health such as functional nutritionism and nutritional primitivism converge with ideas related to social and environmental responsibility. This critique differs from those offered by other dietary regimes such as low-carbohydrate and ‘Paleo’ diets. While both of these regimes critique contemporary food production practices through their fetishisation of the ‘natural’ and the ‘primitive’, they do so primarily with the health of the end consumer in mind. They criticise modern industrial agriculture and food processing because these practices are making consumers sick – in particular, they are causing the purported obesity epidemic – but they do not fully address broader social and environmental impacts of such practices (Knight, 2012a). Superfoods discourse similarly characterises modern industrial agriculture as the source of contemporary health problems, but it also incorporates ethicopolitical concerns through a discourse of critical consumption and production, thereby extending the critique of contemporary food production beyond a sense of personal health and even public health to consider the health of the environment and planet as a whole. Thus, unlike similar healthy food trends, superfoods emerges not only in response to a perceived crisis in contemporary Western health, but also to the globalisation and industrialisation of food and agriculture, and ensuing consumer alienation from the origins of foods.

Although the focus group study revealed that consumers discuss superfoods more in terms of health than ethics, the fact that they conflate superfoods with so many other categories associated with ‘good’ food suggests that consumers do indeed experience superfoods not only as commodities but also as a critique of contemporary food provisioning. By using superfoods as a proxy for ‘good’ when making food choices, they adopt this critique in all of its messy complexity. Yet they recognise that superfoods, as critique, is fatally flawed precisely because it is simultaneously pulled towards commodification. As critique becomes commodity, qualities such as small-scale production, traditional knowledge, environmental and social responsibility, respect for nature, clear origins, and natural health become selling points that can be bought at a price. The consumer thus becomes responsible not only for being critical,
but for fixing the problems associated with contemporary food provisioning through the act of consumption. This tendency for critique to become commodified leads to consumer ambivalence and distrust.

Superfoods consumers also implicitly suggest discomfort with the critique provided by superfoods because it does not go far enough in rectifying the problems of consumer alienation from both their own bodies, caused by reliance on scientific knowledge, and from the origins of foods, caused by global and industrial food production practices. This discomfort was evident in the prioritising of ‘local’ and ‘unprocessed’ foods by focus group participants, and the confusion they expressed when they tried to explain where superfoods fit within their personal conceptions of ‘good’ food. In this sense, the solution offered by superfoods does not sufficiently address alienation from food production – why does the discourse not advocate growing one’s own food, for example? This is an alternative solution to the same problems with modern food provisioning described by superfoods. Yet this solution remains outside of those offered by superfoods because the critique is simultaneously pulled towards commodification.

The framework of being-between provides a means of moving beyond analyses that, knowingly or unknowingly, privilege understandings of food as nature, commodity, or culture. It offers a way in which to incorporate all of the ways in which we grow and know food, a way to simultaneously examine the meanings inscribed on the surfaces of foods-as-commodities, the values expressed at points of production, transformation, and consumption, and the voices (human, non-human, and more-than-human) silenced through the politics of representation. The framework has implications for future research into the cultural power of in-between (food) objects and the ways in which they enable us to examine the tensions that pull at contemporary food culture.

Meat, for example, would make a fascinating object of study in this regard, for it also sits between different categories: nature and culture, food and medicine, living creature and foodstuff, religion and science, ‘perfect’ food and taboo. What can the application of the framework of being-between tell us about how meat is constructed differently at different times and in different places? How do the tensions that pull at such an in-between food object reveal particular complexities, anxieties, and challenges of contemporary food production and consumption, and how do our understandings of these tensions open up points of possibility to broaden discussions about what constitutes ‘good’ food and food systems?
Appendices

Appendix A: Oral History/Interview Recruitment Letters and Questions

RECRUITMENT LETTER (via email)
Emails to Primary Producers
Subject: University of Adelaide superfood commodity research consultation
Message: To Dr/Mr/Mrs/etc (x),
Given your position in (organisation x), based on publicly accessible information, I write to request your participation in a research interview. (Name of supervisor) has supported this, recommending you as a valuable person to consult. As such, we hope you will be able to assist in consultation for a research project.

The research is part of a study investigating the development of novel superfoods as commodities, undertaken as a PhD student of the University of Adelaide. It aims to construct an historical narrative of the process whereby these staple foods of indigenous cultures have become internationally traded commodities, focusing particularly on the case studies of maca, chia, and cranberry. I am looking to run structured interviews with growers and leaders of grower cooperatives to gain a perspective of the role played by primary producers in this process. There will be a wide range of questions, which we estimate will take an hour in total.

Please confirm, via email, your position in the organisation and that your contact details are correct. If you would recommend I contact someone else in your organisation or network, please do so. I will follow-up with further information for you to review in order to participate in the research.

Warm regards,
Jessica.
Emails to secondary producers
Subject: University of Adelaide superfood commodity research consultation
Message: To Dr/Mr/Mrs/etc (x),

Given your position in (organisation) based on publicly accessible information, I write to request your participation in a research interview. (Name of supervisor) has supported this, recommending you as a valuable person to consult. As such, we hope you will be able to assist in consultation for a research project.

The research is part of a study investigating the development of novel superfoods as commodities, undertaken as a PhD student of the University of Adelaide. It aims to construct an historical narrative of the process whereby these staple foods of indigenous cultures have become internationally traded commodities, focusing particularly on the case studies of maca, chia, and cranberry. I am looking to run structured interviews with producers, distributors, and importers to gain a perspective of the role played by secondary producers in this process. There will be a wide range of questions, which we estimate will take an hour in total.

Please confirm, via email, your position in the organisation and that your contact details are correct. If you would recommend I contact someone else in your organisation or network, please do so. I will follow-up with further information for you to review in order to participate in the research.

Warm regards,
Jessica.
Emails to Tertiary Producers:

Subject: University of Adelaide superfood commodity research consultation

Message: To Mr/Mrs/etc x,

Given your position in (organisation) based on publicly accessible information, I write to request your participation in a research interview. (Name of supervisor) has supported this, recommending you as a valuable person to consult. As such, we hope you will be able to assist in consultation for a research project.

The research is part of a study investigating the development of novel superfoods as commodities, undertaken as a PhD student of the University of Adelaide. It aims to construct an historical narrative of the process whereby these staple foods of indigenous cultures have become internationally traded commodities, focusing particularly on the case studies of maca, chia, and cranberry. I am looking to run structured interviews with retailers of superfood products to gain a perspective of the role played by tertiary producers in this process. There will be a wide range of questions, which we estimate will take an hour in total.

Please confirm, via email, your position in the natural foods retail sector and that your contact details are correct. If you would recommend I contact someone else in your organisation or network, please do so. I will follow-up with further information for you to review in order to participate in the research.

Warm regards,

Jessica.
Emails to Educators, Health Professionals, and other Active Promoters:

Subject: University of Adelaide superfood commodity research consultation

Message: To Mr/Mrs/etc x,

Given your position in (organisation) based on publicly accessible information, I write to request your participation in a research interview. (Name of supervisor) has supported this, recommending you as a valuable person to consult. As such, we hope you will be able to assist in consultation for a research project.

The research is part of a study investigating the development of novel superfoods as commodities, undertaken as a PhD student of the University of Adelaide. It aims to construct an historical narrative of the process whereby these staple foods of indigenous cultures have become internationally traded commodities, focusing particularly on the case studies of maca, chia, and cranberry. I am looking to run structured interviews with food and health educators and professionals to gain a perspective of the role played by those in an educational role in this process. There will be a wide range of questions, which we estimate will take an hour in total.

Please confirm, via email, your position in the natural foods retail sector and that your contact details are correct. If you would recommend I contact someone else in your organisation or network, please do so. I will follow-up with further information for you to review in order to participate in the research.

Warm regards,
Jessica.
Interview Questions

Primary producers, growers and grower organisations

Basic production information
• What do you produce? Where? How long have you been farming? How long have you been producing this product?

Reasons for growing this product
• If you were previously growing something else, why did you switch to new product? What have been the results of the switch?

Production methods
• What sort of production methods do you use? How did you learn these techniques? Why do you use these methods?

Changes in production practices
• How have your growing/production practices changed in the last 20 years?

Producers as consumers
• Do you consume the product that you produce? Why/why not? How do you consume it?

Environmental and labour certifications
• Is your product certified in any way (i.e., organic, fair trade)? If so, how long have you been certified? Why did you choose this certification? What is the benefit?

Retail
• How and where do you sell your product, and to whom? Has this changed in any way over the past 20 years? I.e., changes in price, quantity, who buys, competition?

Distributors, importers, product developers, and other secondary producers

Basic production information
• What do you produce/distribute/import?

Reasons for producing/distributing this product
• Why do you produce/distribute/import this product? If you were producing/distributing/importing something else previously, why did you switch? How did you first find out about it?

Production/distribution methods
• What sort of distribution/importing/developing methods do you use? How did you learn these techniques? Why do you use these methods?

Changes in production/distribution practices
• How have your distribution/importing/developing practices changed since you started?

Producers as consumers
• Do you consume the product that you distribute? Why/why not? How do you consume it?

Environmental and labour certifications
• Is your product certified in any way (i.e., organic, fair trade)? If so, how long have you been certified? Why did you choose this certification? What is the benefit?

Retail
• How and where do you sell your product, and to whom? Has this changed in any way since you started? I.e., changes in price, quantity, quality, who buys, competition?

_Mobilisation of capital_
• Has the scale on which you produce/distribute/import changed? To what degree is this dependent upon being able to mobilise capital?

_Cultural construction of new products_
• When you started distributing/importing/developing this product, who were your customers? What did you they know about your product? How did you educate them?

_Knowledge creation and distribution_
• How do you continue to create knowledge about your product – what it is, how to use it? Has the knowledge of your customer base changed significantly?

_Exertion of cultural influence_
• Do you see yourself or your company as having a direct cultural influence on your consumers and/or producers? Does the company have an ideological agenda in this regard?

_Tertiary producers, retailers_

_Basic production/retail information_
• What do you produce/sell?

_Reasons for producing/retailing this product_
• Why do you produce/sell this product? How did you first find out about it? Has it displaced anything else that you produced or sold previously, or was it added to an existing repertoire? What is the impact of this shift?

_Production/retail methods_
• What methods do you use to produce/sell this product? How did you learn these methods? Why do you use these methods?

_Changes in production/retail practices_
• How have your production/retail practices regarding this product changed over time?

_Producers/retailers as consumers_
• Do you consume the product you produce/sell? Why/why not? How do you consume it?

_Environmental and labour certifications_
• How important are environmental and labour certifications for selling this product? If important, why?

_Mobilisation of retail capital_
• Why do you choose to sell superfood products? Why do you choose particular products?

_Cultural construction of new products_
• When you started selling this product, who were your customers? What did they know about the product? How did you educate them?

_Knowledge creation and distribution_
• Do you continue to create knowledge about this product? Has the knowledge of your customer base changed significantly?

_Exertion of cultural influence_
• As sellers of superfood products, do you see yourself or your company as having a direct cultural influence on your consumers? Does the company have an ideological agenda in this regard?

**Educators, health professionals, and other active promoters**

*Reasons for promoting this product*
  • Why do you promote this product?

*Promoters as consumers*
  • Do you personally consume this product?

*View of production and retail practices*
  • What do you know about how this product is produced and sold? What is your view of these practices?

*View of health in general*
  • Can you explain your general view of health?

*View of this product in relation to health*
  • How does this product relate to your general view of health?

*View of environmental and labour certifications*
  • How important do you think certifications, such as organic and fair trade, are, in terms of both health and ethical considerations?

*Cultural construction of new products*
  • When you started promoting this product, how did you do so? What response did you get? Who was your audience?

*Knowledge creation and distribution*
  • How do you continue to educate people about this product? How do you share this information? Have your methods changed? Has your audience changed? Do you think people’s knowledge about this product has changed?

*Exertion of cultural influence*
  • Do you have an ideological agenda in promoting this product?

*Vanguards of traditional knowledge?*
  • Do you see yourself as protecting or distributing traditional knowledge? How so?
Appendix B: Focus Group Recruitment Material and Interview Questions

Recruitment Flyer

Free superfood tasting!

Researchers at The University of Adelaide are seeking superfood consumers over 18 to attend a 1-hour focus/discussion group of approximately 10 people at the University as part of a research study looking at how superfoods are used in Australia.

Light refreshments and superfood tasting will be provided to participants.

To find out more about participating, complete a short online survey, or contact Jessica Loyer, MA, PhD Candidate, School of History & Politics:

- Website: staples2superfoods.blogspot.com.au
- Email: Jessica.Loyer@adelaide.edu.au
How superfoods appeared in Australian supermarkets

A University of Adelaide researcher is calling for ‘superfoodies’ to participate in a study into the effect changing cultural perceptions of diet and health have on Australian food production and consumption.

The word ‘superfood’ was introduced to Australia in the late 1990s to describe food items that are naturally highly nutritious, including chia, maca, quinoa, kale, salmon, cranberry, coconut and broccoli. And University of Adelaide School and History and Politics PhD student, Jessica Loyer, is for the first time researching how and why Australians use superfoods.

“In the late 1990s, labels like ‘low fat’, ‘low carbohydrate’ and ‘superfood’ started to appear on food items in Australian supermarkets, and consumers appeared to become more conscious of the nutritional content of food,” Ms Loyer says.

“In my study I hope to identify what cultural changes drove this lifestyle change and find out what people really know about superfoods.”

Ms Loyer says superfoods are often displaced foods – they have travelled to new markets, but they’ve arrived without a sense of how to use them in cuisine – and her research will also involve tracing back their origins.

“In Mexico, chia seeds are commonly used to make a refreshing drink, while in Australia they appear more often as supplements and in bakery products,” she says.

“Maca has become popular in Australia as a superfood that provides energy, balances hormones and acts as a libido stimulant. It’s primarily sold in powder or capsule form, but in the Peruvian high Andes it’s eaten as a whole root vegetable, either roasted fresh or dried for future use in a range of recipes.

“Knowledge of how to use these foods has to come from somewhere, so I’m also interested in how Australians learn about superfoods.”

The study will involve focus groups to explore Australians’ use and knowledge of superfoods and their values and practices relating to food and health.

If you are over 18, use superfoods, and are interested in participating in a focus group in Adelaide, please register at www.surveymonkey.com/s/P9MLR6B.

ENDS

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CRICOS Provider Number 00123M
Survey

How and why do Australians use superfoods?

Superfoods like quinoa, chia, cranberry, and maca have recently become significant commodities across the Australian health food market and beyond.

The aim of this research is to determine how and why Australian consumers use novel superfoods, what they know about these foods, and the values and meanings associated with superfoods.

This information will be contrasted with the ways in which the same foods are consumed in an indigenous setting in order to better understand the ways in which these plants have been transformed from staples to superfoods.

As part of this research we are carrying out focus group interviews with Australian superfood consumers.

All focus group interviews will be held in a mutually convenient public location at a mutually convenient time and will run for approximately 60 minutes. Focus group participants will be referred to anonymously in all notes and publications. Consent and independent complaint forms will be distributed during focus groups.

1. Do you use superfoods?
   Yes
   No

2. Which of the following superfoods do you use? Circle all that apply.
   Cranberry
   Maca
   Quinoa
   Chia
   Gubinge
   Cacao
   Kale
   Salmon
   Coconut
   Acai
   Broccoli
   Other (please specify) ____________________________

3. How often do you use superfoods?
   Every day
   4-6 times per week
   1-3 times per week
   1-3 times per month
   Less than once per month
   Other (please specify) ____________________________
4. What is your gender?
   Female
   Male
   Other

5. What is your age?
   18-24
   25-34
   35-44
   45-54
   55-64
   65-74
   75 or older

6. What state and suburb do you currently live in?
   ___________________________________________________

7. At which email address and/or phone number would you like to be contacted to arrange participation in a 1-hour superfoods discussion group?
   ___________________________________________________

8. What days are you available to attend a 1-hour discussion group on superfood use? Circle all that apply.
   Monday
   Tuesday
   Wednesday
   Thursday
   Friday
   Saturday
   Sunday

9. What times are you available to attend a 1-hour discussion group on superfood use?
   Morning (9-12 am)
   Afternoon (12-5 pm)
   Evening (5-9 pm)

10. Which discussion group location is most convenient for you?
    Adelaide Hills
    Adelaide CBD
    Other (please specify) ________________________________

Thank you for your input! We will contact you shortly to arrange participation in a superfoods discussion group. If you have any questions, please feel free to contact us: Jessica.Loyer@Adelaide.edu.au or 0431 811 323.
Script for Focus Groups – Superfoods in Australia

WELCOME

Welcome, so glad you could make it. Please make yourself a name tag so that it is easy for us to refer to each other by name during the session.

INTRODUCTION

My name is Jessica Loyer and I am a PhD candidate and researcher in Food Studies at the University of Adelaide. As you are aware from either responding to the flyers or completing the online survey, we are conducting research on how and why Australians use superfoods. We are seeking to develop a deeper understanding of how foods from the around the world have come to be seen as ‘superfoods’ in Australia, and how changing ideas about food and health influence production and consumption.

Focus groups are generally used in research to allow more in-depth discussion of the issues of interest. Although they are typically structured using a series of questions or discussion points, the relatively informal format of a focus group allows open discussion which permits you as the participants to help shape the direction of the discussion. You should feel free to ask questions and to engage in discussion, but of course be respectful to the others in the group who might have a different opinion or point of view.

I’m going to hand around an information sheet for you to keep, and a consent form for you to sign. The information collected in this research will be recorded via audiotape and will be transcribed. Any information collected in this research will remain confidential and you will not be identified as a resource or referenced in the resulting paper; all comments will be anonymised. If you wish to withdraw at any time, you should feel free to do so, simply contact me if you have any concerns – my details are at the bottom of the information sheet. I am now handing around a copy of the Independent Complaints form which can be returned to the Human Research Ethics Committee if any concerns arise.

Please note that the toilets are etc....

At the end of the session I will hand out a booklet that I’ve prepared with some information on superfoods, as well as offer a tasting of one of my recipes. We’ll do that at the end so that it will not influence our discussion.
ICE BREAKER QUESTION
Usually focus groups start with an ‘ice breaker’ question which allows us to introduce ourselves and start talking; since our discussion is going to be focused on superfoods, please each introduction yourself and tell us what your favourite superfood is and how you like to enjoy it.

DISCUSSION - WHAT ARE SUPERFOODS?
Before we get deeper into our discussion about superfoods, let’s take a minute to talk about what the word itself means.

• What do you think ‘superfood’ means? (health, medicinal, nutrition, part of normal diet, comes from plant/animal, tradition, history)
• Why do you think ‘superfood’ has become a popular concept? (changing ideas of health, distrust of food supply, inadequacy of soils/mainstream agriculture, marketing)
• What are some examples of foods you consider to be superfoods?

DISCUSSION – USES OF SUPERFOODS
Now that we have a better understanding of what superfoods are, we’re going to do a short exercise, a mini superfoods diary, which we will use as a basis for further discussion. On the worksheet, please write down any superfoods that you consumed yesterday in the categories of breakfast, lunch, dinner, snack, or supplement. Next to each superfood, write how you consumed it, for example in a certain dish, by itself, as a supplement, etc. [give participants time to complete]

• So let’s share some examples of superfoods we’ve consumed recently as part of meal.
• Let’s share some examples of superfoods we’ve consumed by themselves or as supplements.
• Now let’s go back to the superfoods diary, and next to each superfood you’ve written down, I want you to write down where you got it.
• Where did you get most of your superfoods from? (purchased from health food store, supermarket, smaller food shop, organic shop, farmer’s market, café, given by someone else, grew at home)
• Looking back at the diary, where did you most often consume superfoods? (home, work, some else’s house, café/shop)
• Were you alone or did you share them with someone else?
• Who prepared them? (self, friend, family member, café/shop)

DISCUSSION – KNOWLEDGE OF SUPERFOODS
Many of the superfoods that you’ve mentioned don’t have a long history of use in Australia. For example, a lot of you mentioned chia seeds, which have only become popular in Australia within the past 10 years or less. Looking back at your diary and thinking about the superfoods that you eat most often, let’s talk a bit about why you use superfoods and what you know about them.

• Why do you eat new superfoods?
• How did you find out about these superfoods?
• Where else have you learned about superfoods? What have you learned?
• Do you use recipes for superfoods? Where did you find them?
• Do you share your superfoods with anyone else – either recipes or knowledge?
• Do you have any knowledge of the history/traditional use of these foods?
  What do you know? Where did you learn this information?
• Do you know where these plants come from? Who grows them? Under what conditions?
• What do you know about how this product comes to you, i.e. transportation, distribution, etc.?

DISCUSSION – MEANINGS AND VALUES EXPRESSED THROUGH SUPERFOOD CONSUMPTION
We’re going to do another activity now, this one is really simple. I have here a selection of superfoods, some are in packages and others have been purchased from bulk bins at health food shops. Imagine you are in a shop and you’re looking at these products. You can handle them and read the labels, but not open or taste them.
  • Which products might you consider buying? Why?
  • What factors influence your decision to buy a superfood?
    o Tease out how important the following factors are when choosing which superfood products to purchase:
      ▪ Price
      ▪ Environmentally friendly packaging
      ▪ Fair trade certification
      ▪ Organic certification
      ▪ Made/sold by small business
      ▪ Made/sold by local business
      ▪ Produced in Australia
      ▪ Health benefits (either already known, or claims on packaging)
      ▪ Usage information on packaging
      ▪ Aesthetics of packaging
      ▪ Convenience of use
      ▪ Ethical commitment of company
  • Is there anything else looking at these packages that you notice that you’d like to share?
  • Are there specific ailments/health benefits for which you use superfoods?
  • How important is the consumption of superfoods to you?
  • If you couldn’t access the superfoods you consume now, what would you do?

CLOSING REMARKS AND CLARIFICATIONS
Thank you all for your valuable contributions today. Are there any other points you’d like to make regarding superfoods that we haven’t covered yet today? Is there anything else you’d like me to clarify? Please don’t hesitate to get in touch with me via my phone or email if you have any further questions.
**Mini Superfoods Diary**

Write down any superfoods that you ate yesterday as part of your breakfast, lunch, dinner, snack, or supplement.

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<td>Breakfast</td>
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<td>Snack</td>
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<tr>
<td>Supplement</td>
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Appendix C: Participant Information Sheets and Consent Forms

Participant Information Sheet – Oral History/Interviews

From Staples to Superfoods: Constructing Global Health Food Products

Superfoods have rapidly become popular products across the Australian health food market and beyond. Superfoods are defined for the purpose of this study as a category of food products that distributors claim have health-giving properties. They are plant-derived and usually have a history of indigenous medicinal and culinary use, and often represent novel forms of use different from their indigenous applications. Some examples currently popular in Australia are the Mesoamerican seed chia, the American fruit cranberry, and the Peruvian root maca. These plants are sold in different forms across several markets.

The primary aim of this research is to construct an historical account of the way in which superfoods have become popular consumer products in Australia. The study is concerned with both the networks and events crucial to the development of three case studies, as well as the ways in which these foods have been culturally constructed for a new market. To conduct this research we are carrying out individual interviews with people and organizations whose work has been significant in the development of these products. The results of these interviews will be synthesized to construct an history of superfoods. The study will form a part of a PhD thesis and related publications examining the superfoods concept from several angles.

All interviews will be held in a mutually convenient public location at a mutually convenient time and will run for approximately 60 minutes. We will record the interviews and the audio recordings will be transcribed and used for our analysis. Only the researchers will have access to the audio files and notes will be taken during the interviews. This information will be used in the final report, and you may be referred to by name in this publication, unless you wish to specify otherwise. The records will be kept in a secure facility for at least 5 years after any publication arising from the work.

You can withdraw at any time from the study without prejudice and all comments will be destroyed. You will be given the opportunity to review the transcript of your interview and make additions, changes, or omissions should you so choose. While your input may feature in a publication, the results of the project may have no direct benefit for you.

The University’s Human Research Ethics Committee is obliged to monitor approved research projects. In conjunction with other forms of monitoring, research participants are provided with independent and confidential avenue for raising concerns regarding the conduct of any research in which they are involved. As such, an Independent Complaints Form has been provided to you.

Please complete the attached consent form to indicate your willingness to participate. You are free to withdraw your consent at any time before the study is completed by contacting one of our research team (shown below).

Kind regards

Dr Rachel Ankeny, Associate Professor, History and Politics

| A/Prof Rachel A Ankeny, Principal Investigator | 08 8303 5570 | rachel.ankeny@adelaide.edu.au |
| Jessica Loyer, PhD Candidate | 08 8390 1794 | jessicaloyer@adelaide.edu.au |
Participant Information Sheet – Focus Groups

From Staples to Superfoods: Constructing Global Commodities

Novel superfoods have recently become significant commodities across the Australian health food market and beyond. For the purpose of this study, novel superfoods are defined as a category of new food products marketed specifically for their health-giving properties that are plant-derived and have a history of indigenous medicinal and culinary use. Some examples currently popular in Australia are the Mesoamerican seed chia, the American cranberry, and the Peruvian root maca.

The aim of this research is to determine the ways in which Australian consumers are using these novel superfood products, what they know about these foods, and the values and meanings associated with superfoods. This information will be contrasted with the ways in which the same foods are consumed in an indigenous setting in order to better understand the ways in which these plants have been transformed from staples to superfoods.

To conduct this research we are carrying out focus group interviews with Australian superfood consumers. The results of these focus groups will be synthesized with similar interviews conducted among indigenous consumers in South America, along with a review of relevant literature. The study will form a part of a PhD thesis examining the superfoods concept from several angles.

All focus group interviews will be held in a mutually convenient public location at a mutually convenient time and will run for approximately 60 minutes. We will record the interviews and the audio recordings will be transcribed and used for our analysis. Only the researchers will have access to the audio files and notes will be taken during the interviews. You will only be referred to by your first name during the transcription. This information will be used in the final report, and you may be referred to by name in this publication, unless you wish to specify otherwise. The records will be kept in a secure facility for at least 5 years after any publication arising from the work. You can withdraw at any time from the study without prejudice and all comments will be destroyed. While your input may feature in a publication, the results of the project may have no direct benefit for you.

The University’s Human Research Ethics Committee is obliged to monitor approved research projects. In conjunction with other forms of monitoring, research participants are provided with independent and confidential avenue for raising concerns regarding the conduct of any research in which they are involved. As such, an Independent Complaints Form has been provided to you.

Please complete the attached consent form to indicate your willingness to participate. You are free to withdraw your consent at any time before the study is completed by contacting one of our research team (shown below).

Kind regards

Dr Rachel Ankeny, Associate Professor, History and Politics

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/Prof Rachel A Ankeny, Principal Investigator</td>
<td>08 8303 5570</td>
<td><a href="mailto:rachel.ankeny@adelaide.edu.au">rachel.ankeny@adelaide.edu.au</a></td>
</tr>
<tr>
<td>Jessica Loyer, PhD Candidate</td>
<td>08 8390 1794</td>
<td><a href="mailto:jessica.loyer@adelaide.edu.au">jessica.loyer@adelaide.edu.au</a></td>
</tr>
</tbody>
</table>
This document is for people who are participants in a research project.

CONTACTS FOR INFORMATION ON PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The following study has been reviewed and approved by the University of Adelaide Human Research Ethics Committee:

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>From Staples to Superfoods: Constructing Global Commodities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval Number:</td>
<td>H-2013-017</td>
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</tbody>
</table>

The Human Research Ethics Committee monitors all the research projects which it has approved. The committee considers it important that people participating in approved projects have an independent and confidential reporting mechanism which they can use if they have any worries or complaints about that research.

This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see http://www.nhmrc.gov.au/publications/synopses/e72syn.htm)

1. If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the project co-ordinator:

   | A/Prof Rachel A Ankeny, Principal Investigator | 08 8303 5570 | rachel.ankeny@adelaide.edu.au |
   | Jessica Loyer, PhD Candidate                  | 08 8303 5156 | jessica.loyer@adelaide.edu.au |

2. If you wish to discuss with an independent person matters related to:
   - making a complaint, or
   - raising concerns on the conduct of the project, or
   - the University policy on research involving human participants, or
   - your rights as a participant,

contact the Human Research Ethics Committee's Secretariat on phone (08) 8303 6028.
CONSENT FORM

1. I have read the attached Information Sheet and agree to take part in the following research project:

<table>
<thead>
<tr>
<th>Title:</th>
<th>From Staples to Superfoods: Constructing Global Commodities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics Approval Number:</td>
<td>H-2013-017</td>
</tr>
</tbody>
</table>

2. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.

3. I have been given the opportunity to have a member of my family or a friend present while the project was explained to me.

4. Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to me.

5. I have been informed that information gained during the study may be published, that I will not be identified by name, and that my personal information will not be divulged.

6. I understand that I am free to withdraw from the project at any time.

7. I agree to the interview being audio/video recorded. Yes ☐ No ☐

8. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

Participant to complete:

Name: ______________________________ Signature: ______________________________ Date: ____________

Researcher/Witness to complete:

I have described the nature of the research to ________________________________________________

(print name of participant)

and in my opinion she/he understood the explanation.

Signature: ______________________________ Position: ______________________________ Date: ____________


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