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The Cranberry as Food, Health Food, and Superfood: Challenging or Maintaining Hegemonic Nutrition?

abstract | *This paper explores the foundations of contemporary superfood trends by tracing the history of the American cranberry as a food, health food, and superfood. The cranberry we know today is the product of centuries of productive overlap between ideas about health and commerce. Historical understandings of the cranberry as a food, medicine, and exchangeable commodity underpin its evolution from a wild-harvested resource to a commercially cultivated crop, demonstrating continuity in cranberry's dual work as medicinal foodstuff and commercial product. Yet despite the centrality of health discourses over four centuries of recorded cranberry history, the superfood label would not have been possible without broader changes in the food industry, nutrition science, and marketing that first occurred at the turn of the twentieth century. By examining the early days of the cranberry industry, this paper reveals the significance of strong alliances between industry actors and scientific researchers, the necessity of industrial processing to facilitate convenient and remote consumption, and the importance of the marketing of health attributes to the cranberry industry's growth. These three themes, I argue, echo across contemporary superfood industries, suggesting that the unique history of the cranberry laid a foundation for the proliferation of contemporary superfood trends by providing a pathway for producers of less illustrious foods with healthful reputations. I contend that nutritional marketing of cranberry products is situated within reductive understandings of the relationship between food and health that has its origins in the earlier half of the twentieth century. However, the recent positioning of the cranberry as a superfood differs discursively from previous nutritional marketing by emphasizing the fruit's therapeutic value alongside natural, traditional, and authentic qualities. This paper uses the biography of the cranberry to consider whether the superfoods trend represents a shift away from nutritional reductionism, and contributes to understandings of hegemonic nutrition in contemporary food and nutrition culture.*

keywords | *cranberries, superfoods, food history, nutritionism, medicinal foods, health foods, critical nutrition studies*

INTRODUCTION

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 colored fruits.¹ Detailing several lesser-known varieties, such as aronia berry and olallieberry, the article comments on the berry craze sweeping the health food world at the time. It attributes this “berry boom” to a flurry of research into the health benefits of eating berries, ignited by Tufts University studies on the anti-aging properties of blueberries published in the late 1990s. These initial studies, the article claims, sparked interest not only among aging, cancer, and heart disease researchers, but also among innovative actors within the berry industry. For example, third generation black raspberry grower Don Sturm latched onto the trend by partnering with a cancer researcher and a tech entrepreneur to create BerriHealth, a company producing freeze-dried black raspberry powder sold to university researchers conducting clinical trials and, even-

tually, to health-conscious consumers in the US.² Seeing the potential of their product as a health food, aronia berry growers formed the Midwest Aronia Association to sponsor nutritional research, education, marketing, and promotion.³ The article does not mention the ubiquitous Thanksgiving staple, the American cranberry—however, long before aronia berries and olallieberries captured the imaginations of producers, marketers, and consumers, Americans embraced the cranberry for its health-giving qualities. A closer look at the history of America’s original super berry reveals striking parallels with today’s search for the next superfood and offers insights into the foundation of this trend.

The cranberry has a long history of human use as both food and medicine. More recently, nutritional discourse has reimagined it as a “superfood,”⁴ a label prominent in media and marketing yet lacking formal definition as it is not a legal or regulatory category like “Organic” or “Fair Trade.” Marketers portray purported superfoods as extraordinarily nutritious, even medicinal, while also emphasizing their

“natural” and “authentic” qualities.⁵ The superfood label shares similarities with concepts such as “health foods” and “functional foods,” but differs from each in significant ways. Marketing campaigns promote superfoods not only as generally good for human health, like health foods, but as having specific therapeutic or medicinal benefits based upon particular nutrient contents and disease-fighting properties. In this sense, superfoods are like functional foods, a category notoriously difficult to define,⁶ yet used widely by industry, researchers, and regulators to refer to foods that “move beyond necessity to provide additional health benefits that may reduce disease risk and/or promote optimal health.”⁷ Superfood health claims are founded upon medical and nutritional science research and this research is used widely in marketing. For example, drawing upon evidence from industry-funded studies, berry company Driscoll promotes its raspberries with the slogan “Raspberries...Your Heart Will Love You Back.”⁸ However, superfoods differ from those functional foods that have been explicitly manipulated to alter their nutrient contents, such as vitamin-C fortified orange juice and margarines enriched with cholesterol-lowering plant sterols. I argue that while the “natural” aura of superfoods discursively differentiates them from technologically-altered functional foods, the superfood discourse is still rooted in a reductionist understanding of nutrition that focuses on individual nutrients and their bodily impacts as the basis for understanding healthfulness. Further, superfoods’ healthfulness is often doubly justified through associations with purported traditional consumption by ancient or indigenous peoples, such as portrayals of the Peruvian root maca as the “Inca superfood.”⁹ Thus superfoods are represented as a category of comestibles offering scientifically-proven benefits beyond ordinary health foods combined with the wisdom of nature and tradition.

This recognition of the importance of a superfood’s biography in determining its healthfulness raises the question of whether the superfoods trend represents a move away from the reductionism common across much of contemporary nutrition science and culture. Nutrition historian Gyorgy Scrinis argues that since the late nineteenth century, nutrition science research and dietary advice has been shaped by an ideology of “nutritionism” 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.”¹⁰ This reductive focus on nutrients subjects other (non-white, non-Western) ways of understanding the relationship between food and health to a purportedly objective scientific perspective, which critical nutrition

scholars Jessica Hayes-Conroy and Allison Hayes-Conroy term “hegemonic nutrition.”¹¹ Hegemonic nutrition maintains its dominant position by claiming scientific neutrality for its foundational tenet: the relationship between food and bodily health is a strictly material matter that can be standardized and quantified in terms of nutrients. As the term implies, hegemonic nutrition is a form of colonial domination that insidiously pervades “nutrition at its broadest—the practice of nourishing bodies, in all their biosocial complexity” through deeply embedded assumptions about the apolitical and value-neutral nature of its foundational tenet.¹² By probing alternative nutritional epistemologies through the celebration of foods with histories of traditional and/or indigenous therapeutic use, superfoods discourse gently pushes back against the dominance of hegemonic nutrition’s reliance on science as the arbiter of nutritional truths. However, I demonstrate that in the case of cranberries, superfoods discourse relies upon validating “traditional” knowledge through scientific investigations of nutrient contents and their bodily impacts, thus subjugating other ways of “knowing” nutrition to the dominant hegemonic perspective.

Scrinis further argues that the reductive *interpretation* of the role of nutrients in bodily health obscures other factors involved in food production that may impact a food’s quality and healthfulness, such as the use of intensive agricultural practices and industrial processing.¹³ Of particular relevance to superfoods is the way in which this reductive interpretation has given rise to practices of adding particular “charismatic nutrients”¹⁴—those nutrients valorized by food system, science, state, and development actors as nutritional panaceas at various moments—to manufactured food products to enhance their nutrient profiles and, ostensibly, their healthfulness. While practices of fortification began as initiatives to alleviate population-level malnutrition, such as the addition of iodine to salt to prevent goiter, food manufacturers in the United States and other highly industrialized food-production contexts have adapted these practices to the development of so-called functional foods. As noted above, functional foods claim to deliver therapeutic benefits “beyond necessity,” such as margarine enriched with plant sterols to lower cholesterol, yet this concept is impossible to define because *all* foods can be demonstrated to have some effect on particular bodily functions and are thus “functional.” In practice, 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.¹⁵

By emphasizing naturalness as an important indicator of healthfulness, superfoods discourse rejects the claim that supplemental nutrients are equal to those occurring naturally in unprocessed foods, while maintaining hegemonic understandings of the relationship between food and health in terms of the sufficient consumption of the “right” nutrients. They can thus be seen as a backlash against formulated functional foods, a “natural” way to obtain vital nutrients without relying on a technological fix. However, the details of the cranberry’s biography presented in this paper problematize this discursive dualism pitting the natural against the technological because of the current commercial cranberry’s distance from its undomesticated, unprocessed state.

The cranberry provides an ideal case study for historicizing the construction of the superfoods trend and examining its relationship to hegemonic nutrition because it has a history of human use as a healthful food in North America dating to pre-colonial times, it already existed as a health food in the Western culinary canon before the superfood trend began, and it was among the first foods to earn this label when the term first began to appear in the 1990s. Thus the cranberry’s transition from food to health food to superfood illuminates both shifting ideas about food and health, and the manipulation of these ideas in media and marketing. The superfoods market niche was forged by foods such as the cranberry; *Prevention* magazine profiled the fruit in its first superfoods series, which ran from 1995 to 1997. Authors justified its superfood status through appeals to its naturally high fiber and vitamin C content, as well as its therapeutic benefits for the respiratory system and urinary tract.¹⁶ I show in this paper how the cranberry earned its recognition as one of the first superfoods through a synthesis of historical associations with healthfulness and medicinal value, industry sponsorship of nutritional research for marketing purposes throughout the twentieth century, and increased consumer accessibility through industrial processing into convenient and palatable forms. I also demonstrate how the cranberry’s rise to superfood stardom laid the groundwork for the emergence of other superfoods.

This paper takes a biographical approach in order to examine some of the continuities and changes characterizing the cranberry’s gradual transformation from local staple to health food and eventually to superfood. I argue that two dimensions characterize the cranberry’s transformations. First, material changes through human influence have transformed the cranberry in two ways: from a sour to a sweet food via the addition of sugar, and from a wild harvested whole fruit to a range of agriculturally produced, industri-

ally processed food products via technological innovation. Second, the cranberry has changed conceptually as a result of changing ideas about food and health, beginning with its incorporation into European medical models during the colonial period and extending to its subjection to increasing nutritional scientific scrutiny throughout the nineteenth and twentieth centuries. The cranberry’s positioning as a health food and, eventually, a superfood not only demonstrates how new meanings for the fruit developed, but also raises questions about the purported objectivity of nutritional science and enables exploration of an as-yet unexamined facet of nutritional hegemony. I use a historical approach to trace transformations of 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.¹⁷

NATIVE AMERICAN CRANBERRY USE: FOOD, MEDICINE, AND DIPLOMATIC SYMBOL

On the eve of European contact, the cranberry played multiple roles as staple food, medicinal resource, and exchangeable commodity among several Native American tribes across present-day northern United States and southern Canada.¹⁸ However, its multiple uses were not always strictly differentiated. The culinary and the medicinal spheres often overlapped, with cranberries serving both to season dishes and to provide vitamins during long journeys or snowy winters. The cranberry was the last fruit to ripen late in autumn, marking the end of the harvest season and the beginning of the harsh winter months. Its naturally long shelf life enabled it to be stored over the winter months and eaten after less hardy fruits lingered only in memories of warmer days, providing both a welcome burst of tart flavor and a necessary nutritional boost. These same qualities made it transportable, and thus of great value in trade among various tribes. Given the cranberry’s general usefulness and versatility, it is unsurprising that cranberry tales are recounted in legend, and its harvest continues to be celebrated by the Wampanoag Tribe of Massachusetts each October.

Cranberries served as diplomatic symbols for Native American tribes across the Northeast and played important roles mediating relations between European colonists and Native American leaders. Indigenous peoples treated various types of bog cranberries similarly, wild harvesting all species across their wide geographic range—across northeastern North America and along the Pacific coast¹⁹—and

trading and gifting them among tribes.²⁰ Author Joseph White Norwood hints at their diplomatic significance in *The Tammany Legend*, in which he refers to the Lenni-Lenape sachem (chief) Pakimitzen, “Cranberry Eater,” known for making a treaty with his northern neighbors the Odawa in the mid-sixteenth century.²¹ In explorer James Rosier’s 1605 *The Land of Virginia*, which describes an exploratory voyage along the coast of present day Maine, he recalls that the Abenaki presented him with “great cups made very wittily of barke, in forme almost square, full of a red berry about the bignelle of a bullis, 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 kindness.”²² In this case, cranberries were presented as a sign of diplomacy during a trading session, after sharing tobacco and before sharing other foods.

As Rosier observes, fresh cranberries were unpleasantly sour to English taste buds. However, many native peoples, including the Iroquois, Ojibwa, Huron, Algonquin, Cree, Micmac, and Malecite, ate American cranberries fresh.²³ They also cooked them in various savory preparations. For example, the Woods Cree who lived in present day Manitoba and Saskatchewan ate a dish of stewed cranberries and smoked fish, and cooked cranberries were served with animal or fish grease all along the British Columbia coast.²⁴ Many tribes made pemmican, consisting of a mixture of berries, dried meat, and animal fat pounded together and dried into cakes for later use;²⁵ cranberries served both to flavor and preserve the meat. The Narragansetts mixed ground dried berries with parched corn to create *sautauthig*, which colonist Roger Williams describes in his 1643 *A Key Into the Language* as “a delicate dish....which is as sweet to them as plum or spice cake to the English.”²⁶

While evidence suggests that most Native American cranberry dishes before contact were unsweetened, some native people soon began sweetening cranberries with sugar acquired through trade with English settlers. In 1672, traveler John Josselyn writes: “the Indians and English use them [cranberries] much, boyling them with Sugar for Sauce to eat with their Meat.”²⁷ Likewise, in 1819, missionary John Heckewelder describes, “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.”²⁸ These references come from the writings of English settlers, so it is possible they were biased towards documenting uses similar to their own. However, Native Americans likely began incorporating sugar into their cuisine as it was readily available and increasingly inexpensive in the colonies during the seventeenth century and beyond.

Anthropologist Sidney Mintz notes that 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.”²⁹

In addition to providing a source of flavor to accompany meats through winter, cranberries also proved useful as medicine. Both Williams and Josselyn describe their use by natives for treating fevers.³⁰ 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.”³¹ In her 1832 volume *The American Frugal Housewife*, Lydia Maria Child writes: “the Indians have great belief in the efficacy of poultices of stewed cranberries, for the relief of cancers.”³² Ethnobotanist Daniel 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, the Clallam used cranberry leaves as tea, and the Inuktitut added them to their smoking mix.³³

Perhaps the most significant medicinal use of the cranberry occurred in the space where it overlapped with food use. The categories of food and medicine are fluid and often coincide in practice, and these interdependent uses together influence health outcomes.³⁴ Many sources detail preparations of cranberries kept either fresh or dry to eat over winter, mix with meat dishes, or take on journeys.³⁵ The medicinal importance of the fruit is hidden in its culinary use. Its high vitamin C content prevented common diseases of malnutrition such as scurvy, particularly at times when no other fruit or vegetable sources were available. In this sense, prior to European contact, diverse Native Americans already used the cranberry in a manner similar to many of today’s so-called superfoods: its regular inclusion in the diet provided an important health benefit of a preventative nature.

THE CRANBERRY DURING COLONIAL AND EARLY AMERICAN PERIODS: ADOPTION, ADAPTATION, AND COMMODIFICATION

While some colonists learned to forage for wild cranberries, most were introduced to the American cranberry as a commodity. In an early seventeenth century source thought to refer to cranberries, explorer 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.”³⁶ Notably, Smith focuses on the monetary value of the fruit, suggesting that it increasingly held a place of esteem in

commercial exchanges. Similarly, in describing his success in converting the “salvages [sic],” Puritan missionary John Eliot lists “cranberries” among those items the converted natives sold to settlers as “they begin to grow industrious.”³⁷ Colonial leaders encouraged trading of cranberries and other items as a way to “civilize” natives by nurturing a Protestant work ethic; cranberries thus served to mediate native-colonist relations not only through the exchange of goods for cash, but also through the assertion of English moral values via commerce. This practice persisted well into the nineteenth century and spread geographically as Europeans ventured westward.³⁸

Increased gathering of cranberries from public land eventually proved problematic for some communities. Historians Robert Cox and Jacob Walker report that “by the time of the American Revolution, and particularly in the years just after, wild-caught cranberries became eagerly sought in nearly every major American port”;³⁹ greater demand led to increased harvesting by both natives and settlers and drove competition for access to the best bogs. Cranberries had become an important source of food and income for both indigenous and settler communities in New England, and tensions flared over who should be allowed to pick them and when. In 1831, the Massachusetts town of Barnstable passed a law protecting the harvest of cranberries from common lands for town residents only and prohibiting gathering before mid-October. In 1845, after considering a petition from the Wampanoag tribe banning their “thoughtless White Neighbours” from “taking from us our means of a living and supporting our poor,”⁴⁰ the state legislature passed “An Act for the Protection of Cranberries on Gay Head” restricting access to local bogs and prescribing the dates of the harvest season.⁴¹ By this point, the over-harvesting of cranberries put not only a key food source for the Wampanoag at risk, but it also threatened an important source of income as cranberries became further intertwined with the market economy. The tensions surrounding access to cranberry harvesting illustrate the negotiation of new meanings for cranberry as a commercial product alongside its continuing work as medicinal food.

How did the cranberry become such a common commodity by the middle of the nineteenth century that communities felt their common lands were at risk due to cranberry harvesting? While Native Americans clearly valued the fruit, its ready adoption by English settlers was never a given. Colonists encountered countless new plants, yet not all of them became important dietary or medicinal staples. Alan Davidson suggests that novel foods that fit into known culinary categories are more likely to be embraced;⁴² thus

the first step to acceptance of this novel food was its familiarity. Similar berries were known and used in Europe, and references to their culinary and medicinal uses appear in late sixteenth and early seventeenth century English botanical books known as “herbals.”⁴³ The cranberry’s likeness to known plants—both culinary and medicinal—helped cranberries gain favor among the English. Settlers may have also learned about the cranberry’s various uses from natives. Seventeenth century publications full of rich description of New World flora and fauna such as Roger William’s *A Key Into the Language* and John Josselyn’s *New England Rarities Discovered* included detailed descriptions of native medicinal and culinary uses of cranberries. However, while these works enjoyed popular sales, both were published in England for particular English audiences; the former served as a political tool to establish Williams’s expertise in support of his bid for a colonial charter at Providence,⁴⁴ and the latter as a contribution to the collation of contemporary scientific knowledge of the natural world, earning Josselyn recognition by the Royal Society of London.⁴⁵ Thus it is unlikely that the average colonist regularly referred to such works.

Throughout the seventeenth and eighteenth centuries, cranberries played an increasingly central role in colonists’ dietary habits. They were incorporated into an emerging American cuisine via both adoption of indigenous culinary practices and adaptation of Old World recipes to New World ingredients. One preparation colonists learned from natives was pemmican, long an important travel food for Native Americans and adopted by settlers for exploratory journeys.⁴⁶ But while dried meat and fat preserved with cranberries was a vital survival food for fur traders and intrepid explorers, its unfamiliarity leant it little appeal among more sedentary settlers, as nothing like pemmican existed in European culinary traditions.⁴⁷ However, settlers developed another way of combining cranberries and meat by adapting a northern European technique used with other sour berries, such as gooseberries and barberries. They cooked the berries with maple syrup, honey, or sugar and ate the mildly tart results alongside various meats, the predecessor of today’s Thanksgiving turkey accompaniment, “cranberry sauce.” Josselyn describes a sweetened cranberry sauce eaten with mutton,⁴⁸ and New Jersey colonist Mahlon Stacy notes that “an excellent sauce is made of them for venison, turkeys, and other great fowl.”⁴⁹ 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 imported from England and creatively dressed with the new sauce.

As sugar became increasingly available and affordable in the Atlantic world from colonial ties with Caribbean sugar production, settlers adapted the new fruits to sweeter Old World recipes. “Some make Tarts with them as with Goose Berries,” observed Josselyn,⁵⁰ and Stacy concurs, “they [cranberries] are better to make tarts than either gooseberries or cherries.”⁵¹ Amelia Simmons’s 1796 *American Cookery*, the first American-authored and published cookbook, included a recipe for a cranberry tart.⁵² By the early nineteenth century, sweet cranberry recipes were significant enough for Lydia Maria Child to include three in *The American Frugal Housewife*, all reminiscent of common English desserts: cranberry pudding, cranberry pie, and cranberry jelly.⁵³ Notably, Child instructed her readers to liberally add sugar to cranberry dishes: “When cranberries are strained, and added to about their own weight in sugar, they make very delicious tarts.”⁵⁴ These sources indicate that settlers preferred to sweeten cranberries heavily to suit English taste buds, suggesting that in large part, cranberries owe their widespread adoption among settlers to sugar availability. The heavy sweetening of cranberries marks a significant change in their form of consumption, foreshadowing the future development of sweet cranberry juices and sweetened dried cranberries.

Just as American cranberry cookery became a fusion of multiple Native American and European cultures, so did the medicinal use of cranberries. The English learned about the cranberry’s medicinal properties by observing natives.⁵⁵ However, their acceptance of cranberry as a medicinal plant relied upon their understanding of it within contemporary conceptions of health and medicine as a system of humors, by which the balance of four distinct bodily fluids (humors) determined an individual’s health. Each humor was associated with temperature (hot/cold) and moisture (dry/wet). Herbs and foods were also assigned these qualities and used to treat patients with compromised humoral balance. Williams describes cranberry as “another sharp, cooling fruit,” and Josselyn contends that cranberries are “good to allay the fervour of hot Diseases.”⁵⁶ Thus cranberry was placed within the humoral medicinal paradigm of the time as a cold and dry food useful for treating fever and other conditions of excess heat and moisture, and its use deemed similar to other cooling medicines.

Another significant medicinal use of cranberries among colonists and early Americans was as a preventative for scurvy. Although vitamins were not yet discovered, and the explicit connection between scurvy and vitamin C deficiency thus unknown, 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”;⁵⁷ however, given that Josselyn’s book was published in England for a scholarly readership it is unclear how widely known this observation was at this time. Nonetheless, by the early nineteenth century cranberries were commonly taken on American ships to prevent scurvy during long sea voyages.⁵⁸ This use of cranberries as a food eaten with a preventative, medicinal purpose, is similar to Native American consumption of cranberries on journeys (via pemmican), providing nutrients when other fruits and vegetables are scarce and thus the likelihood of contracting malnutrition-related ailments high. This type of use—eaten regularly as a food, but with an intended health benefit of a preventative nature—anticipates the ways in which many superfoods are consumed today, albeit with an important difference: knowledge of cranberry’s use against scurvy was based upon observation of the effects of consuming the whole fruit, while knowledge of cranberry as a superfood is based upon extensive scientific testing of nutrients and their effects.

INDUSTRIAL TRANSFORMATIONS: THE RELATIONSHIP BETWEEN RESEARCH, PRODUCT DEVELOPMENT, AND HEALTH MARKETING

Prior to its large-scale commercialization that began with its widespread cultivation in the mid-nineteenth century, the cranberry already held great significance in the cultural, social, and economic spheres of both indigenous and colonial communities. 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 regional staple to national food product was never a given. Why should one particular sour berry from a soggy corner of the Americas have achieved such widespread recognition? The commercial success of the cranberry rests on the trinity of alliances between industry and researchers, industrial processing technologies, and the marketing of health.

By the late eighteenth century, cranberries had become a key ingredient in New England cooking, and demand spread as merchants shipped them along the East Coast and increasingly to England.⁵⁹ In the early years of the nineteenth century, Cape Cod agriculturalists began experimenting with domesticating cranberries in reaction to increased demand and growing conflict over access to public land for wild harvesting. Recognizing a business opportunity, early cultivators purchased swampy land, added sand,

built dikes and drainage ditches, and transplanted vines, carefully observing the fruit's reaction to various treatments. They began selectively breeding cultivars with desirable qualities; notably, grower Cyrus Cahoon developed the Early Black, a cultivar valued because it ripens earlier than other varieties, in this period.⁶⁰ According to the cranberry's first biographer Benjamin Eastwood, the cranberry production industry began in earnest in 1840, when cultivation spread throughout eastern Massachusetts and growers began practicing "improved" horticultural techniques.⁶¹ By mid-century, cranberry production was firmly established as a means of livelihood, with industrial bogs proliferating throughout Massachusetts and New Jersey. Although cultivation required considerably more capital investment than wild harvesting, it opened up possibilities for increased control of production, higher yields, more consistent fruit quality, and greater personal profits, further defining cranberry's remaking as a capitalist commodity.

Growers continued to enjoy high prices as demand for cranberries, known for their long shelf life and ability to prevent scurvy, increased among whaling outfits. As key industries in southeastern Massachusetts—iron mining, shipbuilding, and fishing—declined in the first half of the nineteenth century, more people turned to cranberry cultivation. Land previously considered worthless, swampy, and stripped of nutrients from years of iron mining proved ideal for cranberry cultivation, and suddenly abandoned iron bogs and neglected millponds were transformed into productive assets.⁶² Two major publications detailing cranberry cultivation methods appeared in the mid-nineteenth century, providing important instruction manuals for the hundreds of new farmers entering into cranberry production.⁶³ As a result of these favorable conditions, cranberry production across the country more than tripled between 1872 and 1899, with yields rising steadily over the next decade.⁶⁴ By 1909, growers produced 601,000 barrels (100 pounds of cranberries per barrel).⁶⁵ Cranberry historian Paul Eck notes that market saturation at this time was about half a million barrels: "It seemed that whenever this threshold was reached, the price collapsed and returns suffered."⁶⁶ Thus, by the early decades of the twentieth century, cranberry growers needed to convince Americans to consume more cranberries to counter low prices. They met this challenge by developing grower associations and marketing cooperatives, embracing industrial processing to develop more convenient products, engaging in new marketing techniques, and establishing relationships with scientific researchers.

The development of an organized cranberry industry in the early years of the twentieth century marks a turning

point in the history of the cranberry. While contemporary understandings of cranberry as both nutritive foodstuff and commercial product date to colonial times, the relationship between scientific research and marketing activities that began in the early 1900s profoundly shifted the way in which the cranberry's nutritional and medicinal properties were studied and communicated to the public. Alongside this change in meaning, new cranberry products emerged through industrial processing that appealed to consumers eating an increasingly processed diet. The cranberry industry's collaboration with food, nutritional, and agricultural scientists at the University of Massachusetts catalyzed the development of new cranberry products while also instigating their marketing as health foods. This nexus between nutritional science and commercialization—part of a broader alliance of nutrition researchers and industry forged at this time⁶⁷—deepened the dual work of cranberries.

As cranberry production increased, growers began forming producer associations to share knowledge and resources. New Jersey growers founded the American Cranberry Growers Association in 1871, followed in 1887 by the Wisconsin State Cranberry Growers' Association and in 1888 by the Cape Cod Cranberry Growers' Association in Massachusetts.⁶⁸ An important early activity of the latter was to petition the Massachusetts State Legislature to help establish a center for agricultural research in cranberry production. In 1910, the Cranberry Experiment Station was founded in East Wareham,⁶⁹ signaling the beginning of a longstanding research relationship between the Massachusetts cranberry industry and the Massachusetts State College (now the University of Massachusetts). This collaboration between industry and the state proved vital to the development of industrialized agriculture, processing, and nutritional marketing of cranberries.

Cooperation among cranberry growers also extended to business practices as growers formed cooperatives to collectively market and sell their fruit. Unlike associations, whose primary purpose was developing and sharing production knowledge, cooperatives functioned to strengthen growers' market positions. In 1910, several regional cooperatives merged to form the national-level American Cranberry Exchange (ACE), which organized contracts with wholesalers and distributors, managed an extensive grading system, and engaged in early cranberry marketing across the US.⁷⁰ ACE dominated the cranberry industry for two decades, until Cranberry Cannery, Incorporated (CCI), a competing cooperative with more aggressive marketing and product development strategies, arose in 1930. Whereas ACE focused on fresh fruit sales, CCI focused on develop-

ing processing technologies, most notably developing the Ocean Spray brand of processed cranberry products. Both cooperatives, however, engaged in marketing activities and sponsored scientific research. ACE folded in 1954, due to a combination of political maneuvering on the part of CCI and declining fresh cranberry sales.⁷¹ However, ACE's legacy is the continued importance of the cooperative model in the contemporary cranberry industry, as more than 700 growers today belong to the Ocean Spray agricultural cooperative.⁷²

The move to industrial processing was also a vital element of the cranberry's twentieth century success. Before the advent of tinned cranberry sauce and the later inventions of pasteurized cranberry juice and shelf-stable packaging technology, cranberries were sold in a single form: fresh fruit. Selling only fresh fruit limited cranberry sales primarily to late fall and early winter, shortly after the October harvest, as most consumers outside of New England associated cranberries with Thanksgiving and Christmas. Further, unlike many other fruits such as apples or cherries, cranberries were not "ready to eat" upon harvest. Their convenience was limited because they required cooking and sweetening before consumption. In response to these challenges, innovative producers began experimenting with new preservation techniques to increase the cranberry's convenience and palatability, and to develop new products with year-round appeal.

Producer Marcus Urann was reportedly the first to attempt commercial cranberry canning in 1912, which he sold under the brand Ocean Spray. Ocean Spray canned cranberries proved a market success and spawned several competitors, with whom Urann eventually formed the CCI cooperative to extend their marketing power.⁷³ Throughout the 1930s and 40s, as CCI/Ocean Spray expanded its product line and marketing efforts, more growers joined as they witnessed the marked growth of the processed food industry. Although fresh fruit sales continued to outstrip cranberry products until the 1950s, the application of technology slowly transformed the industry. Not only did processing allow producers to market cranberries year round, it also diversified their product offerings and provided uses for lower grade fruit that could not be sold fresh.

Beginning in the late 1920s, a strong relationship between food technology scientists at the University of Massachusetts and growers' associations and cooperatives fueled the development of these new cranberry products. A 1930 bulletin from the Massachusetts Agricultural Experiment Station describing the results of one of the first nutritional analyses of cranberries reports:

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.⁷⁴

Food science, technology, and nutrition studies by Massachusetts State College researchers throughout the 1930s and 1940s explore best practices for storing fresh cranberries and techniques for manufacturing various products including juice, the effects of manufacturing on nutritional aspects of cranberries, and the development of cranberry syrup as a base for pharmaceutical medicines.⁷⁵ Scientists conducted these studies in partnership with industry. The 1936 ACE Annual Report states that "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"; the figure for this research budget in 1936 was \$1,000.⁷⁶ After a brief hiatus during the Second World War, research and development efforts continued, bolstered by food science research coming out of the Massachusetts State College which showed that cranberries contained a range of vitamins and exhibited antibacterial properties that were largely retained during processing,⁷⁷ and which lead to new products such as frozen fruit, relishes, and the first cranberry beverages.

Juice processing was an immeasurably important innovation for the cranberry industry. Ocean Spray was the first company to create shelf-stable juices not requiring refrigeration, beginning with the 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 product line. Ocean Spray was 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.⁷⁸ Beginning in 2002, the "Craisin"—the dried hull of the cranberry infused with cranberry juice and sugar syrup—has proved popular among consumers and enabled producers to sell a part of the fruit that previously would have been wasted. Processing cranberries into new forms made transporting, retailing, and consuming cranberries more convenient, and enabled year-round intensive marketing.

The large-scale marketing of cranberries began with the birth of the cooperatives. In 1916 ACE began to market

cranberries through newspapers, magazine, and radio, and in 1918 they conducted their first major advertising campaign. The 1928 ACE Annual Report includes a chart detailing the increased value of cranberries each year in relation to advertising dollars spent. Encouraging continued investment of cooperative money; the report states: "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."⁷⁹ In 1934 they ran a campaign during October and November, including advertisements in 142 newspapers, six medical journals, two retail grocery journals, and seven women's magazines. As part of the campaign they distributed ten million recipe cards in boxes of branded cranberries, along with 136,360 recipe books to consumers.⁸⁰ Advertisements focused on communicating three ideas: cranberries were economical, healthful, and easy to prepare. Print advertisements focused equally on all three attributes, while recipe cards and booklets strategically introduced consumers to practical uses for the fruit, such as sauces, breads, and desserts. 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 vibrant red illustrations.⁸¹ As cranberry sales were generally limited to Thanksgiving and Christmas time, advertising also was restricted to this season.

The intensive marketing of the cranberry that marks the beginning of its transition from seasonal specialty to everyday foodstuff is inextricably linked to the advent of canned cranberries. The overall strategy for marketing Ocean Spray cranberry products was similar to that of ACE: to convince their buyers—who were nearly all women—that the cranberry was a delicious, healthy, and convenient food to feed their families. However, the additional goal of extending the season and convincing people to consume cranberry sauce and juice year round led to more extensive and varied marketing campaigns than ever before, including an increased focus on the marketing of cranberry health benefits in line with shifting paradigms of nutritional knowledge.

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.⁸² With the introduction of the first processed cranberry beverage in 1933, that began to change. The first incarnation of Ocean Spray CJC 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."⁸³ This advertisement 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."⁸⁴ This advertisement draws upon the budding field of nutritional science, and in particular, research on cranberry's nutritional profile conducted by food scientists at the Massachusetts State College in the 1930s.

The 1940 advertisement is typical of "the era of quantifying nutritionism."⁸⁵ Scrinis argues that researchers laid the foundation of nutritionism 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. During this era of quantifying nutritionism, scientists first discovered and analyzed the familiar food composition units of proteins, carbohydrates, fats, and vitamins, 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."⁸⁶

Government studies showing that many Americans were deficient in at least one important nutrient fueled sensational media reports, and lead the public to develop a fascination with vitamins and their ability to soothe anxieties about the purported nutritional deficiency of modern foods. Social historian Rima 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."⁸⁷ However, it was not those whose diets were most 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 captured the "better living through chemistry" zeitgeist,⁸⁸ fuelled by consumers' desires to live better and longer by consuming more of the right vitamins. Food manufacturers harnessed these desires by emphasizing vitamin contents and health benefits in advertising.⁸⁹ These expectations of improved health through the consumption of the "right" nutrients are the direct foundations of the way in which nutritionism fuels a great deal of the promotion and consumption of superfoods today.

By the early 1960s, recognizing a pervasive consumer trend towards health-oriented food products, Ocean Spray increased its focus on improving its CJC and developing a range of cranberry juice blends. Juice marketing nearly always emphasized health benefits. For example, a 1964 print advertisement for CJC describes it as a “dynamic new partner for orange juice: cranberry juice—healthy and rich in Vitamin C.”⁹⁰ In the early 1970s, Ocean Spray positioned juice as a healthy alternative to soda, marketed with the slogan, “It’s good for you, America!” 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 1991 Boston Marathon.⁹¹ By the 1980s, cranberry marketing firmly focused on the winning combination of cranberry’s perceived naturalness and nutritional science research confirming the fruit’s health benefits.

THE CRANBERRY AS SUPERFOOD: DOES BIOGRAPHY MATTER?

The perception of the cranberry as a “natural” source of nutrients continues to contribute to its popularity as a superfood. However, there are two important differences between the positioning of the cranberry as a superfood and previous advertising highlighting naturalness and nutrition: greater specificity of health claims, emphasizing not only nutrient contents but also therapeutic qualities, and a renewed focus on authenticity.

First, the marketing of the cranberry as a superfood relies upon the use of more specific health and medical claims than past advertising. In 1994, the *Journal of the American Medical Association* published the results of a large scale clinical trial conducted by Harvard Medical School researchers—and funded by a research grant from Ocean Spray—showing that when elderly women regularly drank CJC, the incidence of bacteria in their urine decreased. The researchers speculated that cranberries contained a particular component that prevented bacterial adhesion.⁹² In 1998, researchers at Rutgers identified this component at proanthocyanidins (PACs), giving further scientific validation to the longstanding folkloric connection between cranberries and urinary tract health.⁹³ Media attention ensued, and sales of CJC rose dramatically. Ocean Spray noted the positive consumer response to scientific confirmation of intrinsic cranberry health benefits (which they had helped to engineer), and began showcasing this concept in their marketing campaigns. They synthesized new research about

the uniqueness of PACs in cranberries with research on cranberry’s remarkable antioxidant contents to develop a clear, positive marketing message: “cranberry juice cleanses and purifies” the body.⁹⁴ They sold this message not only to consumers, but also to other food manufacturers considering using cranberries in their products. In 2009, the Ocean Spray Ingredient Technology Group, a dedicated ingredients division of the cooperative, launched the “One berry, Whole body” campaign, targeting product developers and emphasizing the cranberry’s broad nutritional profile and range of holistic health benefits.⁹⁵

In consumer-oriented marketing campaigns, Ocean Spray layered the health message with a focus on cranberry’s naturalness and authenticity in a highly successful national campaign. The strong association with nature and tradition is the second key element in cranberry’s pivot from health food to superfood. Ocean Spray’s “Straight from the Bog” campaign, launched in late 2005, focused on celebrating the cranberry as a fruit native to North America with an authentic story and distinctive connection to a natural place.⁹⁶ It began with a dramatic staging of model cranberry bogs in Rockefeller Center, followed by a series of television advertisements featuring two actors, depicting growers, standing waist-deep in flooded bogs. The older grower is the serious man, delivering information about cranberry’s health benefits, history, and flavor, while the younger grower adds a personal connection through humor. “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 Elliot.⁹⁷ This message of heritage, health, and taste successfully positioned cranberry as a superfruit with broad appeal, with market share increasing and cranberry juice sales rising over ten per cent in the campaign’s first year.⁹⁸

Other superfood claims for the cranberry highlight its association with traditional therapeutic use by indigenous peoples. In one of the first popular books about superfoods, Michael Van Straten and Barbara Griggs’s *Superfoods* published in 1990, cranberries are labeled a “four-star superfood.” Alongside evidence of cranberry’s high vitamin A, C, iron, and potassium contents and growing reputation for treatment of urinary tract infections and kidney stones, the authors emphasize the fruit’s nutritional heritage. “The North American Indians taught white settlers to eat the tart bright red berries of the cranberry bush as a remedy for scurvy,”⁹⁹ they proclaim, further noting that sailors soon began to carry cranberries on sea voyages. Tradition thus serves to further validate the superfood status of cranberries. The healthy aura surrounding cranberries as a result of

the nutrition-nature-tradition marketing triad extends by association to popular sweetened cranberry products such as juice and Craisins, despite the fact that sugar is anathema to contemporary healthy eating discourse. In fact, cranberry producers actively defend the use of sugar and other sweeteners in cranberry products, arguing that the functional benefits of cranberries outweigh the detrimental effects of sugar.¹⁰⁰

The renewed attention to naturalness and tradition in superfoods discourse appears to be a shift away from the extreme reductionism of nutritionism that equates all nutrients in any form, naturally occurring or synthetic—a realization that a food's history and biography matters. However, this shift is more discursive than substantial, as it is limited by the lack of a comprehensive alternative framework for determining a food's healthfulness. The details of the cranberry's biography reveal problems with using "naturalness" and "authenticity" as viable measures for healthfulness.

The cranberry's success first as a health food, then as a superfood, is not only a factor of its natural nutrient density, but also of the deliberate actions of industry players to commercialize and market the fruit. Since the mid-nineteenth century, growers—largely of European descent—have produced cranberries as capitalist commodities using various techniques of agricultural domestication. And since the beginning of the twentieth century, manufacturers have turned cranberries into processed food products such as canned cranberry sauce and bottled cranberry juice. As of 2013, American consumers purchased nearly ninety-five per cent of cranberries produced by weight as juice and a smaller portion as cranberry sauce, sweetened dried cranberries, and other products.¹⁰¹ Although cranberries are positioned as a superfood in part because of their naturally health aura, nearly all cranberries are produced using modern agricultural technologies and consumed in highly processed forms. In the case of cranberries, the incipient critique of the nutritional reductionism of formulated functional foods through the emphasis on cranberry's natural health-promoting qualities rings hollow in light of the current commercial cranberry's distance from its undomesticated, unprocessed state. Any claim to naturalness obscures the fact that contemporary cranberry production is a highly technical affair in which "nature" is but one player.

Claims to authenticity based on Native American and colonial heritage are equally problematic, because they effectively erase the variety of pre-colonial Native American cranberry uses across tribes, and obfuscate the cranberry's role in colonial power struggles. Stories of indigenous people teaching colonists about cranberry health benefits

simplify the multiple, complex, and unequal exchanges between these groups. While colonists did, eventually, learn to use cranberries for scurvy and other therapeutic purposes, cranberry's biography demonstrates that settlers both adopted what they learned from natives and adapted the new fruit to European medical and culinary paradigms. Colonists may have copied native practices, but they did not internalize native epistemologies; rather, they explained cranberry's health benefits in terms of its humoral properties. Similarly, while settlers increasingly ate cranberries as food, their culinary success was largely a result of their adaptability to European recipes. Finally, claims to authenticity ignore prominent struggles over access to resources and land rights, hiding the ways in which the early commercialization of cranberries represented and reinforced the dominance of European over indigenous values.

Further, campaigns such as "Straight from the Bog" that portray capitalist, commercial, cultivated cranberry production as authentic implicitly assert the superiority of cultivation over wild harvesting, celebrating the triumph of the colonizer over an unforgiving land. It is not accidental that the two actors who portray growers in the television advertisements are white and male. Such images make a strong statement about who belongs in this landscape, and who this landscape belongs to. This is a patriarchal, Eurocentric brand of authenticity that not only ignores the women involved in cranberry production—in my own fieldwork, I have found just as many female producers as male—it also completely erases the pre-industrial history of the fruit. The people who harvested, traded, and consumed this fruit for thousands of years are, at best, a footnote to the "tradition" of intensive agricultural production.

The pre-industrial history of cranberries includes both Native American and European understandings of their healthfulness as both food and medicine that predate modern nutritional science research on their nutritional attributes. However, this history only comes to "matter" in superfoods discourse via a circuitous process: "traditional" knowledge of cranberry health benefits serves as a springboard for nutritional science to investigate the cranberry's nutrient contents and the actions of such nutrients on the body, thus "proving" received wisdom and doubly verifying cranberry's healthfulness. Through this process, rather than providing a new meaningful measure for health through food, superfoods discourse continues to emphasize the health of individual bodies in relation to the intake of nutrients, maintaining the superiority of hegemonic nutrition while harnessing consumer preferences for natural and authentic attributes.

CONCLUSION: THE CRANBERRY'S BIOGRAPHY AND THE SUPERFOOD TREND

The cranberry's twentieth century commercial success rests on the trinity of alliances between industry and researchers, industrial processing technologies, and the marketing of health. The particular history of the cranberry and its positioning first as a health food, then as a superfood, laid the foundation for the proliferation of contemporary superfood trends, providing a pathway for producers of less illustrious foods with healthful reputations. Food industry marketing publications such as "Successful Superfruit Strategies" and "Berries in the World" feature case studies on the cranberry, highlighting the industry's successful harnessing of sensory appeal, novelty, convenience, control of supply, health benefits, and marketing.¹⁰² These elements are routinely incorporated into new superfood products. For example, the product line of açai berry company Sambazon, includes a versatile range of convenient consumption formats: superfruit packs, frozen sorbets, energy drinks, fresh juice, and dried fruit powder. These products are presented in appealing purple packaging, formulated to increase palatability (for example, through the addition of sugar to juices), and marketed on a health platform, emphasizing açai's antioxidant and omega-3 fatty acid contents.¹⁰³

New superfoods such as aronia berries aim to follow in cranberry's footsteps. Like the cranberry, Native Americans gathered aronia and used it for both culinary and medicinal purposes, but unlike cranberry it was never widely embraced by European settlers.¹⁰⁴ The nutritional marketing success of fruits like cranberry and pomegranate inspired a group of intrepid farmers to cultivate this Midwestern native starting in the mid-2000s. Midwest Aronia Association president Melissa Ehrman Johnson reported to the Associated Press that "there is much to be learned...from another industry that has seen enormous success with its own bitter berry: the cranberry industry."¹⁰⁵ Members of the North American Aronia Cooperative even hired a former cranberry industry executive to lead the organization.¹⁰⁶ Referring to cranberry's story as a blueprint, they formed growers' associations, connected with university scientists, sponsored research into aronia health benefits, and developed more palatable and convenient forms of consumption. Aronia's high antioxidant content is a major marketing focus.¹⁰⁷ Thus both the details of the cranberry's market success and its superfood reputation serve as an archetype for the launch of new superfood products.

I do not mean to suggest that the precise details of cranberry's biography—its origins as uncultivated crop, ready adoption among colonizing populations, distinctive growing

conditions and season, use for health and medicinal purposes which preceded discovery of its nutritional composition, and particular marketing history—are shared by all contemporary superfoods. Many superfoods, such as quinoa and chia seed, boast ancient histories of indigenous cultivation that were disrupted by colonization and only recently "discovered" by health-hungry Westerners.¹⁰⁸ Others, such as the Amazonian açai berry, have long been consumed by local populations but only recently entered commercial cultivation.¹⁰⁹ Each superfood has its own unique biography, and further case studies will add greater nuance to our understanding of this nutrition culture trend.

Nonetheless, the nuanced biography of the cranberry combined with analysis of its current superfood status raises important questions about the consequences of the superfoods trend. In the case of the cranberry, claims of naturalness, authenticity, and tradition are not only dubious; they undermine attempts to develop broader definitions of nutrition by co-opting the language and values of alternative food production and tokenizing indigenous knowledge of health through food. Despite discursive nods to nature and tradition, superfoods media and marketing maintain nutritional hegemony through continued emphasis on the sovereign human body, and reliance on nutrition science to determine its food needs. As Jessica Hayes-Conroy observes regarding the move towards "culturally appropriate" dietary advice, "...the attention [to difference] comes only after-the-fact—that is, after the facts of nutrition science have already been stabilized and depoliticized";¹¹⁰ attention to nature and tradition in superfoods discourse is similarly tokenistic. Finally, this depoliticization of nutrition science obscures the entanglement of scientific knowledge production with capitalism through the longstanding relationships between the industry and nutrition researchers.

NOTES

- 1 Anne Marie Chaker, "America's Next Top Super Berry?" *The Wall Street Journal*, 10 July 2013, D1.
- 2 BerriHealth: About Us. <http://www.berrihealth.com/pages/about-us>. Accessed 14 December 2016.
- 3 Midwest Aronia Association. <http://midwestaronia.org/>. Accessed 23 September 2016.
- 4 "Cranberry Power: This American Native Fruit Doesn't Have to be Exotic to the Super," *US Newswire* (20 June, 2008).
- 5 Jessica Loyer, "Communicating Superfoods: A Case Study of Maca Packaging," in *Food & Communication:*

Proceedings of the Oxford Symposium on Food and Cookery 2015, ed. M. McWilliams, (London: Prospect Books, 2016), 236-246.

6 Gyorgy Scrinis, "Functional Foods or Functionally Marketed Foods? A Critique of, and Alternatives to, the Category of 'Functional Foods,'" *Public Health Nutrition* 11 (2008): 541-545.

7 "Position of the American Dietetic Association: Functional Foods," *Journal of the American Dietetic Association* 109, no.4 (2009): 736.

8 Chaker, "America's Next Top Super Berry."

9 Loyer, "Communicating Superfoods: A Case Study of Maca Packaging."

10 Gyorgy Scrinis, *Nutritionism: The Science and Politics of Dietary Advice* (New York: Columbia University Press, 2013): 2.

11 Jessica Hayes-Conroy and Allison Hayes-Conroy, eds. *Doing Nutrition Differently: Critical Approaches to Diet and Dietary Intervention* (Staffordshire, UK: Ashgate, 2013).

12 Jessica Hayes-Conroy, "Nutrition as Colonial Practice," in Julie Guthman, Charlotte Biltekoff, Jessica Mudry, Jessica Hayes-Conroy, and Aya H. Kimura, "Nutrition as a Project," *Gastronomica* 14, no. 3 (2014): 38-39.

13 Scrinis, *Nutritionism*, 2.

14 Aya Hirata Kimura, *Hidden Hunger: Gender and Politics of Smarter Foods* (Cornell University Press, 2013).

15 Scrinis, *Nutritionism*, 191-214.

16 Mary Nagle, "Cranberries," *Prevention* 49, no.11 (1997): 161.

17 Arjun Appadurai, "Introduction: Commodities and the Politics of Value," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai, (Cambridge: Cambridge University Press, 1986), 3-63; Igor Kopytoff, "The Cultural Biography of Things: Commoditization as Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. A. Appadurai, (Cambridge: Cambridge University Press, 1986), 64-91; Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin Books, 1985).

18 There is more than one cranberry. This study is concerned with the American cranberry, *Vaccinium macrocarpon* (alternatively classified by some botanists as *Oxycoccus macrocarpus*), which is native to northeastern North America. Several 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). 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.

19 See the United States Department of Agriculture Natural Resources Conservation Service Plants Database for an excellent map of the geographic range of *Vaccinium macrocarpon*: <http://plants.usda.gov/core/profile?symbol=vama>.

20 Harriet V. Kuhnlein and Nancy Jean Turner, *Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use* (Philadelphia: Gordon and Breach Science Publishers, 1991); Robert S. Cox and Jacob Walker, *Massachusetts Cranberry Culture: A History from Bog to Table* (Charleston, SC: American Palate, 2012).

21 Joseph White Norwood, *The Tammany Legend (Tammanend)* (Boston: Meador Publishing Company, 1938): 186.

22 James Rosier, *A True Relation of the Most Prosperous Voyage Made This Present Yeere 1605, by Captain George Waymouth, in the Discouery of the Land of Virginia* (London: Printed as Eliot's Court Press impensis Geor. Bishop, 1605). Rosier does not specify the name of the indigenous tribe in this encounter, but the vocabulary he records is likely Eastern Abenaki language. See David R. Ransome, "Rosier, James (1573-1609)," in *Oxford Dictionary of National Biography* (Oxford University Press, 2004; online ed., May 2006):

<http://www.oxforddnb.com/view/article/24109>, accessed 21 Dec 2016.

23 Kuhnlein and Turner, *Traditional Plant Foods*, 173-174.

24 Helen H. Norton, "Plant Use in Kaigani Haida Culture: Correction of an Ethnohistorical Oversight," *Economic Botany* 35, no.4 (1981): 434-39.

25 Constance Crosby, "The Indians and English Use Them Much..." in *Cranberry Harvest: A History of Cranberry*

Growing in Massachusetts, ed. Joseph D. Thomas, (New Bedford, MA: Spinner Publications, Inc., 1990): 18.

26 Cox and Walker, *Massachusetts Cranberry Culture*: 23.

27 John Josselyn, *New-Englands Rarities Discovered: In Birds, Beasts, Fishes, Serpents, and Plants of That Country: Together with the Physical and Chyrurgical Remedies Wherewith the Natives Constantly Use to Cure Their Distempers, Wounds, and Sores: Also a Perfect Description of an Indian Squa ... With a Poem Not Improperly Conferr'd Upon Her: Lastly, a Chronological Table Illustrated with Cuts* (London: Printed for G. Widowses, 1672): 66.

28 John Gottlieb Ernestus Heckewelder, *History, Manners, and Customs of the Indian Nations Who Once Inhabited Pennsylvania and the Neighboring States*, Memoirs of the Historical Society of Pennsylvania, No. 12 (New York: Arno Press, 1971; first published in 1819 under title *An Account of the History, Manners, and Customs of the Indian Nations*): 194.

29 Mintz, *Sweetness and Power*, 193.

30 Roger Williams, *A key into the language of America, or, An help to the language of the natives in that part of America called New-England [electronic resource]: together with briefe observations of the customes, manners and worships, &c. of the aforesaid natives, in peace and warre, in life and death: on all which are added spirituall observations, generall and particular, by the authour ...* (London: Printed by Gregory Dexter, 1643);

Josselyn, *New-Englands Rarities*: 66.

31 Arthur C. Parker, "Iroquois Uses of Maize and Other Food Plants," *Bulletin of the New York State Museum* 144 (1910): 97.

32 Lydia Maria Child, *The American Frugal Housewife*, Twelfth Edition (Boston: Carter, Hendee, and Co., 1832): 116.

33 Daniel E. Moerman, *Native American Ethnobotany* (Portland, OR: Timber Press, 1998): 583-585. 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.

34 Nina L. Etkin and Paul J. Ross, "Should We Set a Place for Diet in Ethnopharmacology?" *Journal of Ethnopharmacology* 32 (1991): 25-36.

35 For an exhaustive list of examples of such preparations, see Moerman, *Native American Ethnobotany*.

36 John Smith and Simon van de Pass (engraver), *A Description of New England: Or the Observations, and Discoveries, of Captain Iohn Smith (Admirall of That Country) in the North of America, in the Year of Our Lord 1614* (London: Printed by Humfrey Lownes, for Robert Clerke, 1616).

37 As quoted in Thomas Shepard, *The Clear Sun-Shine of the Gospel Breaking Forth Upon the Indians in New England, or, an Historicall Narration of Gods Wonderfull Workings Upon Sundry of the Indians* (London: Printed by Richard Cotes for John Bellamy at ye 3 golden Lyons in Corne hill heare the Royall Exchange, 1648): 28-29.

38 In a 1689 letter written from New Jersey to his brother in England, Mahlon Stacy notes: "We have them [cranberries] brought to our homes by the Indians in great plenty." Cranberry exchanges appeared in the 1805-1806 journals of Lewis and Clark and the records of Canadian fur traders. 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." Mahlon Stacy, "Letter from Mahlon Stacy to His Brother Revell, Dated 26th of the 4th Month 1680," <http://www.westjerseyhistory.org/books/smith/smith7.shtml>; Susan Playfair, *America's Founding Fruit: The Cranberry in a New Environment* (Hanover and London: University Press of New England, 2014): 11-13; "Cranberries and Blueberries," Alaska Agricultural Experiment Stations, 1929.

39 Cox and Walker, *Massachusetts Cranberry Culture*, 40.

40 "Petition by the Gay Head Wampanoag for the Protection of Cranberries on Gay Head," as cited in Cox and Walker, *Massachusetts Cranberry Culture*, 41.

41 Cox and Walker, *Massachusetts Cranberry Culture*, 41.

42 Alan Davidson, "Europeans' Wary Encounter with Tomatoes, Potatoes, and Other New World Foods," in *Chillies to Chocolate: Food the Americas Gave the World*, ed. Nelson Foster and Linda S. Cordell, (Tucson: The University of Arizona Press, 1996): 2-3.

43 For example, Thomas Moffett, *Health's Improvement, or rules comprizing and discovering the nature, method and manner of preparing all sorts of foods used in this nation* (London: Printed for T. Osborne, 1746 (first published 1588)): 119-20: "*Vacinia palustris*. 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 John Gerard, *The Herball, or Generall histories of plantes* (London: Printed by Islip, Norton and Whitakers, 1636 (first published 1633)).

44 Alison Stanley, "To Speak With Other Tongues': Linguistics, Colonialism and Identity in 17th Century New England," *Comparative American Studies* 7, no.1 (2009): 8-9.

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