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**Anna Zeide, *Canned: The Rise and Fall of Consumer Confidence in the American Food Industry* (Oakland, CA: The University of California Press, 2018)
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Introduction by Melanie A. Kiechle, Virginia Tech

I have canned foods in my cupboards, and you probably do too. Aside from some jams that I made on sticky summer days, my canned foods are sourced from the store and I hadn't given much thought to their production until reading **Anna Zeide's *Canned: The Rise and Fall of Consumer Confidence in the American Food Industry***. Zeide's contribution to food history takes the humble can as its subject and elucidates the historical processes behind our trust in canned foods and the food industry more broadly. Zeide unpacks the history of consumer confidence not through consumers, but through those who imagined consumers into existence: the National Canners Association (NCA). The deliberate focus on a trade organization highlights the consolidation of power, distillation of expertise, and the effects of network-building. Canners took over more and more shelf space, both in stores and pantries, as they increased their collaborations with scientists, farmers, universities, politicians, advertising firms, and mass media.

One of the joys of these roundtables is seeing how scholars bring different questions, frameworks, and sources to the same subject. The essays that follow contain many joys, and a lot of talk about peas. On the cover of Zeide's book, manicured nails peel back the label from a can, but **Anastasia Day** offers a humorous, cautionary tale about that very action. As a historian of home gardening who thinks about the entanglements of environment, gender, consumerism, and technology, Day asks probing questions about the differences between labels and contents, and the chasm in between.

Danille Christensen is currently completing a book about home canning, and her training as a folklorist enables Christensen to access the voices and experiences of laborers, consumers, and home canners who are largely off-stage in Zeide's story. Christensen introduces us to the canning industry of Utah through the time diary and poems of her grandfather, who labored for the Morgan Canning Company. These sources make it clear that the canning industry harmed suppliers, employees, and competitors in its consolidation of power, but they also remind us that the relationship between employer and employee contains volumes. This essay is rich in detail and delights—as well as injuries and miseries—as it asks hard questions about transparency in scholarship and how much historians should rely upon sources and origin stories that were created as promotional tracts.

Finally, **Bart Elmore** situates *Canned* at the intersection of business history and environmental history. Elmore, who has written about Coca-Cola and is currently tackling Monsanto, is no stranger to corporate documents and industry self-fashioning. This familiarity informs Elmore's concern about the reliance on trade organization records. The question is both for Zeide and everyone in the field—as environmental historians join our “new” history of capitalism colleagues in revisiting account books, annual reports, and other repositories of data, to what degree can we rely upon their numbers?

In her response, **Anna Zeide** not only answers these questions, but divulges an author's secrets. By guiding us through her research process, from initial brainstorm and wish list of sources to this final product, Zeide explains why she made certain choices. She also tells us about her next project, which takes up some of the questions she had to set aside in order to finish this book. I've often heard that we should think of a career as a book with many chapters; this sneak peek makes me eager to turn the page and read Zeide's next chapter.

Before turning to the first set of comments, I would like to pause here and thank all the roundtable participants for taking part. In addition, I would like to remind readers that as an open-access forum, *H-Environment Roundtable Reviews* is available to scholars and non-scholars alike, around the world, free of charge. Please circulate.

Comments by Anastasia Day, University of Delaware

When I was a child, April Fools' Day was one of my favorite days of the year. The most traumatic pranks for our family invariably involved food. I remember one year that I dyed the milk in our fridge a bright shamrock green; when my mother made French toast using the tainted milk, the resulting meal resembled putrid bread slices engulfed in light-green fungal growth. It was tough to swallow even as the gleeful perpetrator of the plot; my younger brother (on the autism spectrum) cried and refused to eat until dinner. I was forced to finish all the green milk myself over the next week while the rest of the family enjoyed non-moldy-looking food.

My best, and most destructive, prank was the year I decided to raid the pantry and remove the labels from all the canned goods. With two working parents, our family diet was a steady stream of prepared meal kits, frozen foods, and canned food products. With a half-hour's worth of work, our lives were thrown into chaos; without the paper labels, it was almost impossible to tell the creamed corn from the refried beans, the tuna from the water chestnuts, the Spaghetti-Os from the Campbell soup. My mother, frustrated beyond belief, tried donating the cans in a food drive to no avail; we played a surprisingly stressful game of Russian roulette for the next month, never knowing what we might have to find a way to eat once we dared to use the can-opener.

I thought of this prank often while reading Anna Zeide's new book, *Canned*. The opacity of the tin can that frustrated my household one April long ago also frustrated consumers a hundred and fifty years ago at the dawn of the canned food industry. As Zeide explains, at the point when commercially canned foods hit the market in the mid and late nineteenth century, "growing and buying food had always been a sensory experience [...] canned food broke that relationship, offering consumers only hard metal adorned by colorful paper" (2). The tin can miraculously preserves food for long-distance travel, manipulating time and space in distinctly modern ways, as Zeide points out. However, it also renders the food within utterly inaccessible to the consumer; deprived of sight and then of labels, my family was unable to sniff, palpate, or use any other means to deduce the contents of a can, despite our best efforts. Also like consumers of the past, uncertainty about the content (and safety) of one's food proved to be a colossal point of anxiety and frustration. Canned food manufacturers found themselves stuck between the the intractable opacity of the can and the need for consumer trust in a product they couldn't see and had various reasons to fear over different periods in American history. Using chronologically organized case studies of specific canned commodities, *Canned* traces a narrative of the canned food industry from Borden's Condensed Milk battling contamination in the Civil War to Campbell's soups facing down the spectre of BPA leaching in the twenty-first century. In so doing, the book ranges over many topics and makes many sophisticated arguments that I will not

have time to address; for this review, I'd like to meditate primarily on the twin themes of opacity and trust that pervade the text.

Canned does not frame itself as such, but in the text's consistent emphasis on visuality –and passing references to the tin-induced deprivation of olfactory and gustatory cues–it seems to me to be in conversation with the booming literature on history of the senses. (See Roundtable Reviews editor Melanie Kiechle's recent *Smell Detectives* for one outstanding example.¹) I was particularly struck by the contrast between *Canned* and Amy Bentley's *Inventing Baby Food: Taste, Health, and the Industrialization of the American Diet*.² In contrast to Bentley's analysis of canned baby foods, Zeide is unconcerned with the texture, flavor profile, or palatability of canned foods. Indeed, the text doesn't address the various and changing contents of tin cans over time. The exception to this trend is the excellent exploration of the canning industry's collaboration with farmers and USDA extension services to procure vegetables specifically bred for canning in Chapter 2: "Growing a Better Pea: Cannery, Farmers, and Agricultural Scientists in the 1910s and 1920s." To some degree, this is irrelevant to Zeide's question; she doesn't care about what consumers experienced after purchase, but about the consumer decision to purchase a canned food product. This is why the question of trust is the necessary counterpart to the tin' can's opacity in her analysis. (Hence also the omission of institutional purchasers of canned foods, as well as military members who have no consumer agency in their consumption of canned goods.)

Still, I had many more questions about the sensory history and material culture of the canned food industry in this vein. Was meat commonly canned? Was there ever a marked shift toward more-processed canned foods – for instance, from steamed vegetables to soups? What about periodic twentieth-century attempts to sell whole chickens or hamburgers within a can? What foods get canned and what foods prove un-cannable in different periods? It seems clear over the course of the book that Zeide is only concerned with tin cans; but weren't canners also processing foods into glass jars? What about the canned spaghetti sauces in glass that line supermarket aisles today? Which foods are canned in glass and which aren't – and does the answer to this question reveal consumer biases about which foods are deemed trustworthy sight unseen? Given the emphasis on visuality, I would have enjoyed more sustained analysis of the changing sizes and shapes of cans, as well as the evolution of label design. When did labels seek to depict the contents within and how realistically did they attempt to do so? (And how did all of this change over time?)

It was striking to me that with an entire chapter dedicated to Campbell's soup, that Andy Warhol's *Campbell's Soup Cans* only receives a single glancing reference (173).

¹ Ed.: Melanie A. Kiechle, *Smell Detectives: An Olfactory History of Nineteenth-Century Urban America* (Seattle: University of Washington Press, 2017).

² Amy Bentley, *Inventing Baby Food: Taste, Health, and the Industrialization of the American Diet* (Oakland, CA: University of California Press, 2014).

Though I am no art historian, it seems to me that among other functions of Warhol's work is an agenda much in line with Zeide's own: to illustrate that visual labels which ostensibly exist to inform need not necessarily signify anything. It seems to me that Warhol captured the very themes of information, knowledge, power, transparency, trust, and consumer agency that Zeide uses analysis of the can's opacity to explore. To quote Zeide, at the time of the can's introduction, "both the product and the process by which it was created were opaque to the average consumer, both literally and metaphorically. [...] today a commercial can is far more familiar but it is still an opaque object, in both sense of the word." (3)

In some ways, Zeide's study of the opacity of the can is the inverse of Ai Hisano's scholarship on the food industry's long history of altering food colors in order to boost sales.³ To riff on Hisano's dissertation title, *Canned* is a study of food that managed to create 'buy appeal' without 'eye appeal.'⁴ A particular fear in the early years was contamination; as my family history proves, Americans trust the evidence of their eyes above all else. Despite knowing the reason for the moldy appearance of our green french toast, historically-valid fears of contamination, spoilage, and simply not-as-advertised food products left a pile of my mother's delicious french toast uneaten one April Fools Day. This realization led me to reconceive of the book less as a study of the cultural meanings of the can, or even about the tin can as object (despite my burning interest). Instead, I read *Canned* as story of how one industry contrived to surmount a marketing problem of colossal scale (opacity) and pursued a variety of means to achieve their desired solution (trust on the part of the fictive consumer), thus succeeding (if unevenly over time) in becoming a central pillar in the modern American food system.

Though a study with consumer trust at its center, *Canned* is less about consumers and their experiences with food, and more a business history of how *canning trade associations* sought to sell opaque, industrial food products to imagined consumers over a century and a half. Indeed, despite traditional emphases on the government-industry-consumer triad in histories of regulation, Zeide compellingly asserts, "one of the most powerful, yet overlooked players is the trade association." (5). While at times, I could feel Zeide straining to keep the project from being an organizational and institutional history of the National Cannery Association, *Canned* admirably draws out stories ranging across the entirety of U.S. history (professionalization, expertise, agricultural development, public health reform, growth of federal government, industrializing foodways, periods of wealth and thrift, to name just a few) within the narrative of the development of canned goods.

³ For example, Ai Hisano, "The Rise of Synthetic Colors in the American Food Industry, 1870-1940," *Business History Review* 90, no. 3 (October 2016): 483-504, <https://doi.org/10.1017/S0007680516001021>.

⁴ Ed.: Ai Hisano, "'Eye Appeal' is 'Buy Appeal': Business Creates the Color of Foods, 1870-1970" (PhD diss., University of Delaware, 2016). Hisano's book, *Visualizing Taste: How Business Changed the Look of What You Eat*, is forthcoming from Harvard University Press in fall 2019.

There is much to learn from and discuss in this ambitious, wide-ranging, and fascinating book -- too much for a single review. Indeed, it is clear why this book was deemed worthy of a roundtable. I hope other participants in this round table comment on Zeide's fascinating chronology and periodization decisions; a thorough partisan, I bewailed the omission of World War II even as I found much to admire in some of the surprising decision to gloss the 1970s, 1980s, and 1990s. Also deserving of comment is the book's portrait of an ever-shifting constellation of alliances between groups including industrial actors, scientific researchers, trade associations, lobby groups, government actors from the scale of the municipal and county to state and national. That being said, engaging narrative writing, unencumbered by excessive historiographic insider-baseball, is a great strength of the book.

Finally, I am especially interested in hearing from Zeide, other roundtable participants, and other scholars about how the history of the canning industry does and does not parallel or represent the history of commercially processed foods at large. The first half of the book seems to argue more strongly that the story of the canning industry *is* the story of the processed food industry, because it was first and foremost among methods of processing and thereby laid the pattern that other commercial processors would follow. However, by the end of the twentieth century, it is clear that canners often felt competition from other processed food technologies and products. What conclusions about food processing writ large can we draw from the history of canning, and in what ways is canning particular? Are there any conclusions we can draw across an industry that includes such different products as fresh packed Brussels sprouts, frozen dinners, cake mixes, meal kits, and canned beans? How much do each of these have their own historical trajectories?

The greatest strength of *Canned*, to my mind, is exactly this wealth of important questions raised. Important topics for further research spring out of the text not unlike a plethora of spring-loaded snakes launching from what appeared to be a can of nuts. Though I learned early in my career as prankster to never trust a can of nuts, Anna Zeide's new book has ensured that I will never take any canned food at face value, but eagerly interrogate what stories the tin container conceals in plain sight.

Comments by Danille Christensen, Virginia Tech

“No doubt he’ll want to can it”: Perspectives from Home, Field, and Factory

“This little ball for Jim is too small—he should explore that man-faced planet/ And transform the old cheese and plant it to peas,/ For no doubt he’ll want to can it.”

So wrote my great-grandfather, Jesse Carter Little Jr. (1872-1962) in the mid-1920s, reflecting on the lofty ambitions of James A. Anderson, his neighbor and ecclesiastical leader. Anderson (1874-1926) was also Jesse’s boss, the president of a peas-and-kraut operation situated in a mile-high northern valley of Utah’s Wasatch Mountains. The first commercial cannery in Utah opened nearby in Ogden—at the junction of the Union Pacific and Central Pacific Railroads—in the late 1880s, and at their peak forty years later the state’s canneries numbered nearly four dozen.⁵ In 1910, the Anderson brothers’ fledgling Morgan Canning Company had packed 30,000 cases; that year they also recruited thirty-seven-year-old Jesse as an “iron man”: his blacksmithing skills and inventive mind equipped him to build the machinery that would cook and transport peas through the production line. In the next decades, my great-grandfather worked in all aspects of the trade, from crop production and processing to machine maintenance and product shipping. He was also a community poet, an entertainer who “could be called upon at anytime to recite, compose or give a tribute to someone”; among his publicly performed poems were sentimental leavetakings, recruitment verses for the Farm Bureau and the National Recovery Association, and accounts of daily work and conflict at the canning factory.⁶

As I read *Canned*, Anna Zeide’s chronicle of the consolidation of power in the canned foods industry, I thought of my grandfather and the thousands of others whose labor built that behemoth. Like the everyday pantry items—condensed milk, peas, olives, tomatoes, tuna, and soup—that Zeide uses to structure her narrative, Jesse’s life was largely unremarkable. And it came to mind because experiences like his are mostly missing from the book. Instead, *Canned* tells the big stories, about regulatory fights, task automation, the professionalization of expertise, the rise of marketing. And

⁵ Jesse C. Little Jr., “Those Giant Horsford Peas,” Poetry Scrapbook (c. 1920-1950), copy in possession of the author; Don Strack, “Utah’s Canning Industry,” *Utah History Encyclopedia* (Salt Lake City: University of Utah Press, 1994), online at <http://utahrails.net/industries/canning.php>. Isaac Pierce’s “pioneering” enterprise in Ogden was accomplished with the aid of one or two unnamed Chinese men who had learned to can in California; Earl Chapin May, “Pioneers in Deseret,” *The Canning Clan: A Pageant of Pioneering Americans* (New York: Macmillan, 1937); 205-11; Leonard J. Arrington, “The Early History of Vegetable Canning Industry in Utah (Draft),” Leonard J. Arrington Papers, 1839-1999; Series VII, Box 24, Folder 2, Utah State University Special Collections.

⁶ Fine Arts Study Group, *Mountains Conquered: The Story of Morgan, with Biographies* (Morgan, UT: Morgan County News, 1959); George R. Little, “Life History of George Rich Little” (c1985), edited and compiled by Douglas R. Little (May 2008), 6, and Edna May Little Walton, “Jesse C. Little, Jr.,” 2-page typescript (n.d., c1958), 2, both in possession of the author; Jesse C. Little, “Digging machine for root crops,” Patent US2042232 A (issued May 26, 1936), <http://www.google.com/patents/US2042232>.

Zeide uses big sources to do so: personal papers archived in venerable institutions, industry journals, agricultural periodicals, official proceedings. Though she notes that the industry's "real laborers" were "working-class women and men, from a variety of racial backgrounds" (40), her work is built on sources composed by and for white men in industry, the academy, and the government, including histories with titles that reference "Prominent Men," clans, intellectual pioneers, pageantry. I am curious about these choices. As a folklorist, trained to pay attention to vernacular skill and creativity, I believe that things that seem the most mundane or familiar often deserve a second look.

Here, then, I want to draw focus to the factory workers and homemakers who created and used canned goods, concentrating on the decades before 1930, when commercial canning was a diffuse and diverse endeavor. Zeide notes more than once that paid laborers and unpaid housewives were affected by canning industry rhetoric and practice—she suggests, for instance, that cans themselves represented dislocations of control experienced as both miraculous and distressingly mechanistic. Still, we rarely hear from laborers or consumers themselves. Zeide tells us that short agricultural courses allowed farmers to "talk back," but doesn't share their responses (47); she observes that women have long comprised the backbone of cannery labor across the country, performing unskilled preparatory and packing jobs (22, 23, 49), but says little about what those jobs felt like, or how they changed as industry goals and strategies shifted. These voices are missing in part because—as Zeide notes—their animators were merely imagined in or entirely elided from her primary sources. Consequently, her own discussions of consumers and workers feel largely hypothetical, already filtered through industry perceptions and sometimes reflecting industry assertions.

The stories Zeide does tell are complex and important. But incorporation of more homely voices and experiences might have softened the clear edges of *Canned's* account and deepened our understanding of how technologies—and the ways we write about them—impact human populations. For instance, while Zeide writes that early customers "eyed the metal objects [cans] with equal parts awe and suspicion" (2), my forthcoming book on the politics of home canning shows that nineteenth-century women were already familiar with unseen foodstuffs and metal containers: sugared preserves and pickles had long been packed into opaque earthenware or tin fruit jars sealed with wax. Neither were canning technologies entirely unfamiliar: from the early 1900s through World War Two, canning clubs taught thousands of women and girls how to seal food in metal cans using soldering irons or table-top crimping machines.⁷ Suggesting that women were mystified by cans implies that they were credulous, passive, or even cowed in the face of superior male knowledge and machines; Zeide's contention that consumers distrusted food made by unknown hands is the more convincing assertion (19).

⁷ Danille Elise Christensen, *Freedom from Want: Home Canning in the American Imagination* (forthcoming, University of North Carolina Press).

My questions for Zeide are thus historiographic, and like *Canned's* narrative, they center on transparency. How do our sources shape what we assume to be given knowledge, obvious premises? How do sources mask other perspectives and experiences, and with what consequences? How do we acknowledge and address the limitations of our data and representations, which are always partial in both senses of that word?

Transparency, writes Zeide, has been “a complicated and shifting goal” for the canning industry (9). At the beginning of the twentieth century, large commercial canning operations initially welcomed government regulation as a way to weed out “packers of trashy goods” (29), smooth the way for national distribution networks, and reassure consumers concerned about germs, chemical contaminants, and overall quality. As commercial canning operations continued to gain market share after World War I, industry leaders increasingly resisted external oversight and transparency about processing methods, countering sensational media portrayals and weathering criticism from consumer and environmental advocates by intensifying market research and legislative influence. As the last century transitioned to the present one, companies banded together to support deregulation, government subsidies, and the legitimacy of industry-funded research. Tracing how canned goods have exemplified widening knowledge gaps between producers and consumers, Zeide suggests that this history parallels other American institutional shifts toward opacity when it comes to goals, partners, and processes.

Given this useful emphasis on transparency, I was surprised that Zeide did not explicitly address the nature of the sources she relied on, or seek to remedy the lacunae that she did identify. One factor driving her source selection may be convention—the repetition of the taken-for-granted. For instance, Zeide’s account of the industry’s early development is grounded in documents used by nearly every chronicler of canning in the United States.⁸ These few sources literally build on each other to tell a triumphant story that begins with a single revolutionary mind, that of France’s Nicolas Appert, and then swiftly transitions to the feats of visionary European-American men.

While these heroic histories respond to a sense that commercial canning had been overlooked in popular accounts of American Progress (Zeide 28), in turn they largely discredit or ignore the knowledge and practice of home canners, field and factory workers, and “Mrs. Consumer.” In 1814, Appert’s contemporaries had pointed out that his prizewinning method, published in French in 1810, actually built on commonly known strategies for bottling gooseberries and other small, highly acidic fruits. My research in seventeenth- and eighteenth-century recipe

⁸ I.e., Arthur I. Judge, *A History of the Canning Industry by Its Most Prominent Men* (Baltimore, MD: The Canning Trade, 1914); Earl Chapin May, *The Canning Clan: A Pageant of Pioneering Americans* (New York: Macmillan, 1937); and various histories commissioned by the National Canners Association throughout the twentieth century.

collections confirms that these peers had good reason to question Appert's "bold claim to originality" regarding the invention of heat-treated, hermetically sealed, non-sugared preserved food.⁹ But Earl May's *The Canning Clan* (1937) names Appert a "versatile genius" on page 1, declaring that (female) ancestors merely "subsisted" until the birth of "an industry guided by men." Zeide picks up this thread, framing Appert's work as "modern," "new," and "revolutionary" (13), discounting one claim that women had a "proprietary interest" in the process (127), and ending *Canned* by pointing back to the Frenchman's "humble discovery" (190).¹⁰ She is far from alone in perpetuating this narrative: it has shaped even home canning consumer literature over the last century, reinforcing the persistent idea that men invent, whereas women merely apply.

Celebratory, industry-linked sources also minimize the consequences of innovation. Though Appert and his British contemporary Thomas Saddington were not the first to preserve foods by heating them in sealed bottles, they did scale the household gooseberry method up for broad commercial distribution. Further, Appert universalized the process, applying it not just to small acidic fruits, but also to meat, vegetables, and soups. Ironically, by creating a low-oxygen, moist, room-temperature storage context for low-acid foods, Appert and his successors created conditions in which the bacteria *Clostridium botulinum*—which can't abide high-acid fruits like gooseberries—became a public health threat. The specter of botulism that the canned foods industry has tried so hard to deflect onto presumably inattentive or ignorant housewives (Zeide 76-77) is linked more accurately to the logics of capitalist mass production.¹¹

Practically speaking, given constraints on time and other resources, writing and research has to begin somewhere. How, then, does one decide what information to accept and report as a precursor to the *real* subject at hand? When should the repetition of the same story across sources send up warning flags, rather than serve as verification of its veracity?

⁹ "Review of The Art of Preserving All Kinds of Animal and Vegetable Substances for Several Years, by M. Appert, London, 1812," *Edinburgh Review* 23, no. 45 (April 1814): 104–31, at 119, 123; reprinted in *Appertizing: Or, The Art of Canning: Its History and Development*, ed. A. W. Bitting (San Francisco, CA: The Trade pressroom, 1937), 25-45; Thomas Saddington, "Preserving Fruit Without Sugar (1808)," in Bitting, *Appertizing*, 1937, 19–22. Food chemist Katherine Golden Bitting mentioned a similar seventeenth-century recipe in her 1924 biographical sketch of Appert, "A Benefactor of Humanity" (republished in Bitting, *Appertizing*, 1937, 7–18), and other pre-Appert recipes for long-term bottling of sugarless gooseberries, currants, cherries, and plums can be found in her 4,346-piece gastronomy collection now housed at the Library of Congress.

¹⁰ May, *The Canning Clan*, 1937, 1, 307-08.

¹¹ Referring to the human-created environments that foster neurotoxin production, James Harvey Young has called botulism "a disease of civilization"; "Botulism and the Ripe Olive Scare of 1919-1920," *Bulletin of the History of Medicine* 50, no. 3 (1976): 372–91, at 384 note 48. Before the adoption of Appert's procedures, botulism was most commonly linked to cured meats and sausages. Cf. Bitting, "A Benefactor of Humanity," 1937; Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press, 2015).

Reliance on established histories is related to another issue: accessibility. Finding the sources that comprise alternative narratives is often serendipitous: following up a footnote, talking to the right archivist, happening across unique documents in private archives. I am fortunate, for instance, to have access not only to my great-grandfather's poetry scrapbook, but also to his time diary for 1922-1926. These documents offer insight into personal moments, but they also suggest how rural workers' lives meshed with relentless mechanization and expansion: how factory labor could be just one component of a fractionated household economy; how physically taxing it is to process large quantities of produce in season; how tensions emerged alongside new technologies and expert recommendations.¹² Jesse Carter Little Jr.'s records affirm Zeide's account of the US canning industry in the 1920s and 1930s, and they also enrich it, by showing workers as active respondents to the industry's Most Prominent Men.

In most respects, the story of commercial canning in Utah dovetails nicely with the one told in *Canned*. The Civil War had accelerated the growth of canneries in the Mid-Atlantic, a region that relied not only on mild weather and fertile soil, but also on "local farmwomen and children" who washed and cut food, filled cans, applied labels, and boxed the final product (Zeide 20, 23). In later decades, canning industry leaders bragged about their progressive factories staffed by "scientific, hygienic" managers and outfitted with "iron slaves shining like silver" (40); by the 1890s, mechanization had trimmed workforces and lowered prices such that small canneries became viable. Towns throughout the US appreciated how these canneries provided a stable market for area farmers and employed residents (24, 49).

In Utah, before industry consolidation and refrigerated trains and trucks began to bring cheaper "products from outside," Utahans could buy locally canned tomatoes, ketchup, peas, corn, pumpkins, string beans, plums, apples, pears, berries, peaches, pork & beans, hominy, sauerkraut, and maple syrup.¹³ Though the mostly arid, landlocked state had a narrow agricultural zone and high distribution costs, well-watered mountain valleys with cool dry air produced high-quality abundant yields even when harvests were meager in other parts of the country. Research had shown that similar climates near the Great Lakes were especially favorable for peas (Zeide 49), and Utah farmers rushed to plant the crop: despite some trouble with late

¹² On fractionated livelihoods, see Katherine Roberts, "The Art of Staying Put: Managing Land and Minerals in Rural America," *Journal of American Folklore* 126, no. 502 (2013): 407-33.

¹³ *Utah: A Guide to the State*, Federal Writers' Project, Work Projects Administration, 1941, 99; Strack, "Utah's Canning Industry." The Morgan Canning Company offers a case study in consolidation: In November 1926, James Anderson caught pneumonia and died; his brother Joseph had a fatal heart attack three months later. By 1930, their widows had sold the Morgan and Smithfield plants to Utah Packing Corporation, which itself was later bought out by Calpak (California Packing Corporation). Pea-canning was discontinued in 1930, and sauerkraut in 1956; the former canneries were sold or turned into distribution warehouses. Fine Arts Study Group, *Mountains Conquered*; Ruth West Gregory, "'Those Good Peas': The Morgan Canning Company in Smithfield, Utah," *Utah Historical Quarterly* 36, no. 2 (Spring 1968): 168-77; Linda H. Smith, "Morgan Canning Co," *A History of Morgan County* (Salt Lake City: Utah Historical Society, 1999), 168-72.

frosts, the state's acreage devoted to growing peas nearly quadrupled between 1919 and 1929.¹⁴

Morgan, Utah, was well suited for peas and sat on a main track of the Union Pacific Railway, so in the early 1900s James Anderson, his brother Joseph, and other investors organized the Morgan Canning Company. They secured water rights to East Spring and purchased one viner and one processing line, including an old Hawkin Solder Capping Machine. About a quarter of the first pack (4000 cases) spoiled, and the company was unprofitable until 1909, when a good harvest, patient growers, and a new investor began to turn things around. In *Canned*, Zeide documents how factory owners in the first decades of the 1900s cultivated relationships with engineers, chemists, government inspectors, and plant breeders in order to build better machines, safer processes, richer soil, and more resilient crops. In Morgan, the Anderson brothers entered the field with experience grading and distributing the produce of neighboring farmers. Joseph encountered pea research from Wisconsin during a short agricultural business course at the land-grant university in nearby Logan, Utah, and the brothers embraced the idea of using pea silage to fatten sheep, increase dairy production, and finish beef cattle at home instead of sending it to corn feedlots.¹⁵

In line with their colleagues elsewhere in the country, the Andersons remodeled their factories to create laboratory spaces—or rather, their employees did. In a poem called “Current Events”—recited, like much of his work-related poetry, at an MCC Employee Association meeting—my great-grandfather recalled the work required to retrofit the factory with a sterile experiment station in the early 1920s:

We have a germinator
in that room of pearly white
where Bert, Charles, and nature
are testing peas for blight.

We spent about a week or more
the place to renovate and cleanse
And painted all the walls and floor
with that artistic touch of Renze.

A spider tried to climb the wall
but slipped and broke his neck.

¹⁴ Leonard J. Arrington, “Vegetable Growing” (c1940), Leonard J. Arrington Papers, 1839-1999, Series VII (“Utah History”), Box 24, Folder 2, Utah State University Special Collections, 3; Smith, “Morgan Canning Company.”

¹⁵ M. A. Crosby, “The Utilization of Pea Cannery Refuse for Forage,” USDA Bureau of Plant Industry Circular #45 (Washington: Government Printing Office, 1910); Clyde Elliott, “Men Who Have Done Things: A Study in By-Products,” *The Western Monthly*, January-February 1911, in Leonard J. Arrington Papers, 1839-1999; Fine Arts Study Group, *Mountains Conquered: The Story of Morgan, with Biographies* (Morgan, Utah: Morgan County News, 1959); cf. Zeide 49.

The spot on the floor where he did fall
is just a tiny speck.¹⁶

Poems like this simultaneously document details—Renze is likely a brand of antimicrobial paint—and comment on them. I read the cartoonish last stanza, for instance, as a suggestion that waging war against spiders in rural Utah was a monumental task, making a crusade against microscopic pathogens even more ridiculous. Additionally, this commentary was directed to management: Anderson and other supervisors were members of the employee association and usually present when these verses were performed.¹⁷ Today, anyone who has used antifungal paint indoors can imagine the fumes these painters inhaled and contemplate how eradicating pea blight involved wage earners as well as farmers and agricultural scientists.

Between 1922 and 1926, my great-grandfather also logged the hours he worked at Morgan Canning Company in this time diary, a modified *Daily Expense Record* published by Western Specialty Co. The notebooks begin in March 1, 1922, a few months before his forty-ninth birthday. Each day of the month gets one line; these few words show him refurbishing an old homestead, sending geological samples to government agencies, dancing at the social hall, and watching ball games, a high school production of “Snow White,” and Cecil B. DeMille’s 1923 silent but Technicolor version of *The Ten Commandments*. My great-grandmother Laura Thackeray Little was a well-known nurse, and the Littles also had a small dairy and hog operation; according to family lore, Jesse composed poetry while milking his Jerseys and Guernseys. His daily record tracks when cows are bred, when he doctors and shoes his bay saddle horse Dixie, when Laura is away visiting the sick or tending patients at home, and when he and his sons haul hay, put up blocks of ice, butcher hogs, and spend days sawing wood in bitter (-10F) cold. On spring evenings, he uses a horse team to plow the family garden (planting cabbage, corn, squash, raspberries, beans, and potatoes), sows oats and alfalfa for the livestock, “drills” peas that he will later sell to the cannery, prunes his half-dozen apple trees, and tends to calves and piglets. He serves in the North Morgan congregation of the Church of Jesus Christ of Latter-day Saints and volunteers at the church farm that grows food for the needy, fixing fences and managing the irrigation headgates. During this period his time diary also documents a range of infectious diseases, from smallpox to diphtheria. In one of his first entries, he struggles to break frozen ground in subzero weather as he digs a grave for a neighbor who had died in California.¹⁸

¹⁶ Jesse Carter Little Jr., “Current Events,” c1924, Poetry Scrapbook.

¹⁷ May, “Pioneers in Deseret,” 210. Notebooks from the mid-1920s reveal that Jesse was regularly composing and performing at job-related gatherings during this time; Jesse C. Little Jr., “Daily Expense Record 1922-1923” and “Daily Expense Record 1924-1926,” both in possession of the author.

¹⁸ JC Little, “Daily Expense Record 1922-1923” and “Daily Expense Record 1924-1926”; GR Little, “Life History of George Rich Little,” 4; Interview with Edna May Little Walton by the author, April 17, 2001, Centerville, UT.

Remarkably, most of this skilled, physical labor took place after Jesse's shifts for the Morgan Canning Company ended, or during a short holiday in June. He sometimes had a little downtime in March, but by the end of that month he was generally working eight to nine hours each day for the company, finalizing contracts with growers, repairing machinery in the factories and viner sheds in several nearby communities, and hauling pea silage for livestock operations. In May and June he worked as a fieldman, checking in on crops, prepping cabbage seedlings and delivering them to farmers who had contracted to grow for the company's sauerkraut operation. His steady work also involved rigging up the viners, pulling down old sheds, and cutting and baling peas; in the fall, he tracked the progress of seed peas and canned, labeled, and loaded kraut. In December 1923, his check for two-weeks' work was \$63.¹⁹

But as Zeide notes, peas have a short harvest season, and when the "peas were running" the job grew more intense. Days were long in canning factories—in 1919, the Illinois Senate had passed a bill that limited most women's work in public institutions to 48 hours a week. However, "those engaged in the preservation or canning of perishable fruits and vegetables during the canning season" could legally work up to sixty hours a week, with a maximum ten-hour workday.²⁰ Jesse's diary illustrates the human impact of an agricultural fact: "peas' exceptional vulnerability to spoilage" (Zeide 50). While packing peas in Utah, my great-grandfather worked on average about 11 hours a day, six days a week, with many fourteen-hour days between early July and mid-August.²¹ In 1925, a year with a "fine crop," he even had to work on a Sunday, starting "the viners at 5 a.m. after milking 5 cows." During that fourteen-hour July day he "thrashed 70 loads of peas," running the plants through a viner in order to separate food from foliage. He thrashed even more the next two days by beginning work at 4 a.m. The next year, when he was 53, he was up at 3 am one day and stayed on the job for eighteen hours.²²

His poetry reiterates the physical strain of the season. In one poem, he mentions peers dragging themselves from bed to start machinery at midnight, eating meals with one hand during eighteen-hour days of "broken rest." Women apparently fainted while doing quality control work alongside steamy conveyor belts:

Our second floor boss is thin and pale,
His belt is getting slack.
The girls were saved from off the rail
by the lily white arm of Jack.

¹⁹ Little, "Daily Expense Record 1922-1923" and "Daily Expense Record 1924-1926."

²⁰ "Eight Hour Bill Passes State Senate," *Hotel World: The Hotel and Travelers Journal* 88, no. 22 (May 31, 1919): 10.

²¹ Little, "Daily Expense Record 1922-1923" and "Daily Expense Record 1924-1926." In 1923, the Smithfield plant packed 30,000 cases in one day with one shift, reportedly the "world's record for any single commercial canning plant for fruits and vegetables"; Arrington, "Vegetable Growing."

²² Little, "Daily Expense Record 1924-1926"; Crosby, "The Utilization of Pea Cannery Refuse."

At first the men picked yellow peas
 From off the moving belt.
 Our heads did swim as though at sea
 Now we know how the poor girls felt.”²³

He could not empathize exactly: in the early years of the Morgan plant, women earned less than 25 cents an hour and sometimes worked nineteen hours straight; once, upon threatening to strike, they were reportedly told they could easily be replaced by Mexican labor.²⁴ Thus, Jesse’s records have their own blindspots. It is significant, however, that he called this poem, which documents a number of unpleasanties, “Just as It Happened”—a title that claims both the veracity and the historical importance of its contents.

Jobs outside the factory walls took their physical and emotional tolls, too. As elsewhere in the country, “farmer-canner collaboration” was institutionalized in Morgan and at the company’s sister plant in Smithfield; Jesse reports enjoying “Farmers & Factory” evenings of dinner and entertainment attended by up to 600 contracted growers and packing plant workers.²⁵ But as in other plants, tensions emerged around timing, quality, and pricing of this contracted work (Zeide 66); in his poetry, Jesse also highlighted perceived threats to farmers’ autonomy. In “Just as it Happened,” he describes the arrogance of fieldmen like himself, who told growers when to plant and when to harvest:

To see the fieldmen promenade,
 as they trail through the tangled peas
 You’d think they’d almost be afraid,
 but they go just where they please.

Meanwhile, the harried, ordered-about farmer “with his beaded brow and arms so stout/ finds he should have been born twins.” Tempers flared as growers told the viners that their peas had been “clipped too quick”; other men at the plant sometimes “kick[ed] to beat the deuce” and occasionally raised their fists.²⁶

Morgan Canning Company president James Anderson had developed a reputation (in the words of *Canning Clan* author Earl May) for his “honest interest in his employees’ welfare” and “the pleasure which he coupled with their wages”; that is, Anderson had invested in what we might now call a form of welfare capitalism. The employee association insured its 900 members; there were informal “songfests” on the lawn after lunch and sponsored outings with Smithfield plant comrades. In 1923, the company built an entertainment room in Morgan’s east warehouse, complete

²³ Jesse Carter Little Jr., “Just as it Happened,” Poetry Scrapbook.

²⁴ Gregory, “Those Good Peas.” Even within unions, women’s rights were tenuous and contested; Ruth Milkman, ed., *Women, Work, and Protest: A Century of U.S. Women’s Labor* (London: Routledge, 1985).

²⁵ Jesse C. Little Jr., “Daily Expense Record 1924-1926”; see Zeide 52, 64, 66.

²⁶ Little, “Just as it Happened.”

with kitchen, dishes and tables, and a hardwood dance floor. Every pea campaign was followed by a party in the space for employees and their families.²⁷ By all accounts, the Anderson brothers and their canning enterprise were admired, respected, well liked. Yet the poetry performed at company events tempers the image of perpetual harmony that dominates industry-supported and community-boosting published histories. Many of Jesse's poems ribbed management by joking about who actually wielded power, peppering the verse with inside jokes and verbal glances at events and people that needed no further explication for the immediate audience. Thus, they are sometimes difficult to parse from a distance. But some alleged altercations sound serious. Referring to the scramble of one man who made production decisions, Jesse wrote,

Can you imagine how Charl did feel
As he climbed that wire fence,
When he saw the gleam of that cold steel
in the hand of Jakie Pentz?"²⁸

The offseason could be hazardous, too. On August 21, 1922, as he loaded railroad cars for eight hours, Jesse ran a boxnail through his hand. A few months later, he left work on a Saturday after just three hours. The November 1 entry reads: "Fell from R.R. car case of peas struck in the face." In October 1923 he was off the job for two days (and received \$11.40 compensation) because of a "mashed hand" suffered at the factory; the next year in November he experienced the same: "Had my ha[n]d smashed between conveyors it stormed most of the day." These injuries and his physical labor at farm and factory no doubt contributed to more general aches and pains: in July 1923, near his fiftieth birthday, he was bothered by a "severe attack of neuritis in leg while the peas were running" (probably sciatica), and he reported rheumatism as well.²⁹

Alongside accounts of physical toil and emotional tension, these documents also capture the brief heady promise of local industry in the early decades of the twentieth century. Though he lived in a rural mountain valley, Jesse's factory job tied him to the broader institutional currents that Zeide documents in *Canned*. Januarys, he attended the Utah Cannery Convention in Salt Lake City—several days of meetings that included banquets and entertainment provided by the American Can Company. His boss Jim Anderson may not have made it to the moon, but he *did* become Vice-President of the National Cannery Association in 1922 and was elected its president in 1923.³⁰ Jesse was proud of this national prominence, musing, "And to think our President is a resident/ of our own little town," and encouraging Anderson

²⁷ May, "Pioneers in Deseret," 210; Andrea Tone, *The Business of Benevolence: Industrial Paternalism in Progressive America* (Ithaca, NY: Cornell University Press, 1997); Little, "Morgan Canning Company Employee's Assn.," c1923, Poetry Scrapbook; Gregory, "Those Good Peas."

²⁸ Little, "Just as it Happened."

²⁹ Little, "Daily Expense Record 1922-1923" and "Daily Expense Record 1924-1926."

³⁰ Little, "Daily Expense Record 1922-1923" and "Daily Expense Record 1924-1926"; May, "Pioneers in Deseret," 211.

to “speak of our mountains, streams, and trout/ of THOSE GOOD PEAS AND THAT GOOD KRAUT” while traveling on NCA business.³¹ Nevertheless, in records that highlighted occupational hazards, needled his superiors, and navigated the sometimes fraught relationships among food processors, producers, and researchers, Jesse kept his narrative focus on worker experience. “With these few lines,” he ended one poem, “I’ve meant no harm/ I hope you don’t feel hurt./ All hail to the men upon the farm/ and the boys mid grease and dirt.”³²

No book can cover everything, and in *Canned* Anna Zeide marshals an impressive set of primary sources that trace how trade organizations built alliances with university departments and public agencies, bacteriologists and psychologists and legislators, to shape the course of food production and consumption in the United States. It is eminently helpful for my own work on home canning—especially because the same players were forging related collaborations in that adjacent industry. Zeide’s work also points to the ways that industrial canners positioned home canning rhetorically. Just as the grocery industry today downplays the impact of farmers’ markets and direct-to-consumer marketing, commercial canners at the turn of the century were keen to portray home efforts (and the competing industry that supported them) as inconsequential, naive, or dangerous.³³ Again, however, because of the way Zeide employs her sources, she sometimes replicates commercial canners’ positionality regarding home canning—for example, uncritically reproducing botulism graphs produced by the Grocery Manufacturers Association (79)—rather than calling it out.

Canned suggests a number of fruitful future engagements that could further develop our understanding of food processing in the United States. Additional attention to market research, for instance, could reveal valuable consumer perspectives. In *Canned*, Zeide focuses on industry efforts to increase profits by building consumer trust. Indeed, when academics-turned-USDA chemists-turned-industry researchers Katherine and A. W. Bitting wrote their consumer-oriented *Canning and How to Use Canned Foods* in 1916, they explicitly aimed to address “a lurking suspicion” about canned goods that had developed after factories took food preparation “out of observation.”³⁴ Yet early consumer research also suggests that for many, food safety wasn’t a primary concern. In 1919, when the Curtis Publishing Company interviewed 1071 consumers and merchants around the country, respondents

³¹ Jesse Carter Little Jr., “Morgan Canning Company Employee’s Assn.,” and “Those Good Peas and That Good Kraut,” Poetry Scrapbook. “Those good peas . . .” was the company’s slogan, and the fact that it is typed in capital letters four times in the poem suggests that the phrase was meant to be shouted by the audience. The poem was likely composed during Anderson’s presidency; Jesse’s diary notes that he recited it at a company festival on February 9, 1925.

³² Little, “Just as It Happened.”

³³ John M. Hoenig, *Garden Variety: The American Tomato from Corporate to Heirloom* (New York: Columbia University Press, 2018), 159.

³⁴ A. W. Bitting and K. G. Bitting, *Canning and How to Use Canned Foods* (Washington, DC: National Capital Press, 1916), 9.

overwhelmingly linked canned bean purchases to labor systems, energy infrastructure, social customs, and physical environments. As one Boston grocer summarized, “Maids and coal stoves use the home cooked bean method. Gas stoves, Memorial Day, and the Kitchenette lead to canned beans.” Further, ready-made products in general indexed changing demographics and social mores. According to interview transcripts, consumers linked purchasing decisions to social signifiers: some bought canned goods because they felt modern, high-class, and “American”; others stigmatized canned goods and their (female) buyers as lazy, rebellious, intemperate, and low-grade.³⁵

In addition to transcripts and reports about canned beans, the University of Pennsylvania holds other Curtis records that could provide fascinating insights into why consumers were buying processed foods and how they were using them. In the end, perhaps, it is scholarly collaboration in roundtables like these that can help make the identification of such valuable “alternative” sources—recipe collections, private documents, on-the-street interviews—less accidental and more routine.

³⁵ Curtis Publishing, *Canned Beans, Vol. A. Interviews*, Box 59, Interview #935, and *Vol. B. Report of Investigation* (1919), Box 60, Curtis Publishing Company Records, ca. 1887-1960, Rare Book and Manuscript Library, University of Pennsylvania.

Comments by Bart Elmore, Ohio State University

My nine-month-old son might have liked this book as much as I did, evidenced by the fact that he chomped down on the hardback cover and left slobber marks across several pages. Perhaps he was enticed by the catchy cover, which features a bright-yellow label being peeled from a metal can by rosy-red fingertips. If so, Zeide may well have accomplished something that she says canners have long sought: the kind of branding and marketing that attracts the eye, making consumers want to devour hidden contents within.

But unlike a BPA-laced can of Campbell's soup or a bacteria-filled jar of olives, there is a lot of good stuff packed in *Canned*. Zeide makes the compelling case that if we really want to understand our current food system, we have to look beyond shiny brands—"Coca-Cola, McDonald's, and Kraft Foods"—and consider the canning and packaging firms that make the processed food industry work (6). She argues that canning trade organizations, such as the National Canners Association (NCA), were instrumental in funding university research, lobbying for pro-industry food regulations, and developing marketing plans that all served to normalize the consumption of canned food. As Zeide puts it, because these organizations "are positioned in the middle between factories and consumers, they allow us to understand more about both" (6). These trade groups helped to promote a "general move toward opacity," where consumers' connection to their food became increasingly mediated by powerful corporate players, privately-funded research institutions, and pro-business federal regulatory agencies that consumers felt increasingly isolated from throughout the twentieth century (5).

Surprising and illuminating findings abound in this book. For example, Zeide writes about a University of Wisconsin research fellowship sponsored by the state's Pea Packer's Association in 1911 and explains how this was the "first instance of an industrial organization providing funds for targeted research" at this institution (51). Zeide goes on to discuss the origins of private investment in food-related studies at public universities, a topic that should appeal to a wide range of scholars. This is one of the great strengths of *Canned*: Zeide not only shows us how canning companies transformed what we eat, but also demonstrates the ways in which these firms, operating through powerful trade associations, helped remove barriers that once protected corporate interests from influencing public research. In short, this is a book that is as much about canned peas as it is about politics. Zeide expands beyond canning discussions to expose the dismantling of key democratic bulwarks that were designed to create an informed citizenry in America.

Another fascinating section of the book covers debates about grading canned goods. In a chapter entitled "Grade A Tomatoes," Zeide shows how canners actually welcomed grading schemes when applied to agricultural produce coming into their factories, but ultimately rejected proposals in the 1930s for quality grades when assigned to their finished products destined for consumers. Zeide thus offers an

interesting extension to the work of William Cronon, showing how canners proved instrumental in increasing the flow of agricultural goods from countryside to market by removing quality indicators assigned to natural resources further up the commodity stream.³⁶

Scholars working at the nexus of business and environmental history will be delighted to find the archival sources Zeide has unpacked in this history of the packaging industry. She deftly mines NCA trade association literature (much of it housed at the Grocery Manufacturers Association's (GMA) DC-based headquarters) and shows how useful these materials can be for research on a range of interesting topics. But as much as she should be commended for her deep dive into industry archives, her book raises a central question that many scholars working with corporate records have to confront: To what degree can we trust these sources? This question came to mind on page 42, when Zeide explained that by 1938, "nearly 40 percent of American farmers (about 300,000 of some 750,000) grew vegetables for canning, and the total acreage of vegetables grown for the general market was almost equivalent to that of vegetables grown for canning" (42). The footnote made clear that this came from an NCA publication published in 1939. Might the NCA have had an interest in inflating numbers? Should such potential motivation make us question statistics calculated by the association?

To be clear, this is certainly not meant as a specific indictment of Zeide's work. Every scholar working with business sources has to wrestle with assessing the veracity of the documents they use to tell their story, and there are no easy answers. But a healthy debate about how to deal with corporate statistics strikes me as important, especially as new scholarship fusing business and environmental history emerges. As Zeide's work beautifully shows, the canning industry spent a lot of money and resources to bend scientific research in directions favorable to the interests of big firms. Given this track record of massaging the truth, how should we deal with in-house corporate publications? Stanford historian Richard White put it bluntly in *Railroaded*: "I don't trust annual reports."³⁷ So should we trust the NCA's statistics? And if not, what techniques should we as business historians deploy in order to parse fiction from fact when reading internally-produced industry documents designed to entice investor interest?

To deal with this dilemma, Zeide peppers the book with references found in repositories for public institutions. In addition to industry papers, she includes FDA reports, USDA publications, archival documents at the California Department of Health, and sources from medical archives at Stanford University. She also digests an incredibly wide-range of secondary literature covering agricultural, environmental, business, and political history. Discussions of Deborah Fitzgerald's

³⁶ William Cronon, *Nature's Metropolis: Chicago and the Great West* Reprint (New York: W. W. Norton & Company, 1992).

³⁷ Richard White, *Railroaded: The Transcontinentals and the Making of Modern America* (New York: W. W. Norton, 2011), xxx.

and David Danbom's work on American agriculture flow into discussions of Meg Jacobs's and Lizabeth Cohen's work on US political economy. Graduate students preparing for comprehensive exams on post-Civil War American history might well mine the bibliography for useful readings.³⁸

Nevertheless, some other source bases absent in the book might have yielded interesting stories. For example, I wonder what Zeide's sharp eyes would have found in overseas archives had she grappled with the global material history of the can itself, which would have introduced interesting discussions about international trade in key metals. Though chapters do talk about lead poisoning associated with lead-soldered tin cans and the problems with BPA-plastic linings in Campbell soup, Zeide offers very little discussion of container manufacture or even the mining practices further back in the supply stream. As Trump's recent trade tariffs on aluminum and steel make clear, containers have an international history that link American consumptive practices to faraway lands. Coca-Cola recently raised the price of its drinks in light of Trump's tariffs.³⁹ Might there have been similar stories for can companies in the past?

Zeide might also have spent some time researching the environmental organizations that fought the canning industry in the post-Rachel-Carson era. After all, one of the big environmental issues associated with canned food is the waste generated at the end of the product lifecycle. Though Zeide documents the rise of environmental activism in the 1970s and talks about how Ralph Nader, Michael Jacobson, and others consumer advocates mounted resistance to big corporate food companies, she might have explored how canning concerns fared in the heated ant-litter campaigns of the 1970s and beyond. Did environmental activists express similar ire for discarded cans of Campbell's soup as they did for aluminum Coke cans? If not, why not? I would have liked to have known what the archival record revealed about this.

But we all have to leave things on the cutting board, and these omissions do nothing to detract from the overall quality of this excellent book. *Canned* offers remarkable chronological coverage, going back to the eighteenth century to show how firms out of sight and out of mind helped shape how and what we eat. I have no doubt it will become standard fare in food history courses for years to come.

³⁸ Deborah Kay Fitzgerald, *The Business of Breeding: Hybrid Corn in Illinois, 1890-1940* (Ithaca, NY: Cornell University Press, 2003); Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in American Agriculture* (New Haven, CT: Yale University Press, 2003); David B. Danbom, "The Agricultural Experiment Station and Professionalization: Scientists' Goals for Agriculture," *Agricultural History* 60, no. 2 (Spring 1986): 264-55; Meg Jacobs, *Pocketbook Politics: Economic Citizenship in Twentieth-Century America*. Politics and Society in Twentieth-Century America Series (Princeton, NJ: Princeton University Press, 2005); Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York: Vintage Books, 2004).

³⁹ "Coke Raising U.S. Soda Prices, Citing Tariffs," *The Wall Street Journal*, July 25, 2018, <https://www.wsj.com/articles/coca-cola-gets-lift-from-trademark-drinks-1532519083>.

Response by Anna Zeide, Oklahoma State University

What a pleasure it has been to read and consider these thoughtful critical engagements with my work, written by scholars with important perspectives on our shared research interests. I thank the three reviewers—Anastasia, Bart, and Danille—and H-Environment Roundtable Editor Melanie Kiechle, for their work in creating this forum. Putting a book out into the world and waiting for the feedback to come in for a year is tough. Having the work acknowledged, chewed over, understood, and challenged by colleagues has felt rewarding and pleasurable.

When I first began the work that became *Canned*, before I even knew canned food would be at the center, I put together a list of criteria for the project. The list included “a focus on how everyday people lived,” “a chance to do oral history,” “sources that might otherwise be forgotten—e.g., shopping lists.” This initial impulse and set of interests derived from a reflection on what kinds of historical works had inspired me up to that point. I felt drawn to microhistories, to stories of individual people and their lived experiences. And yet, as I delved deeper into the research, I was drawn instead to industry archives, trade journals, and business newsletters—something quite different from what I had initially imagined. I made this shift because, in thinking about how diets and food systems change, I increasingly found the canners’ vision of the “fictive consumer” to be as important as the consumers’ decisions themselves. In my focus on the industry and on the canning trade association, I sought to identify and zero in on one powerful player in our (present and historical) food system that often gets less attention, despite its outsized influence.

Though this shift in emphasis did lead me to writing something that maybe just narrowly avoids, as Anastasia Day writes, an “organizational and institutional history of the National Canners Association” (NCA), it also opened up a huge range of players with whom the canners interacted, and big moments in U.S. history that can be illuminated through this business history. Concentrating on the industry players led to me understand the complex web of relationships in which they were embedded, and which lay the foundation for our current food system. I realized that the building of trade organizations, collaboration with agricultural scientists, investment in public health, involvement in the regulatory process, and engagement with consumer representatives—all that big-picture behind-the-scenes stuff that first seems removed from the “ordinary people”—actually defined the everyday consumer experience. I thus chose to make the industry the *one thing* my book was going to be about. Centering on one thing makes a research project legible and manageable. Of course, it also requires the decision to put other avenues of fruitful research to the side. This is the challenge all writers have to take on, even as we acknowledge and cast longing glances toward those un(der)explored avenues.

The industry came to the fore in part because of my interest in how Americans eat today. Day wonders how much the canning industry can actually represent the story of processed food more broadly, diverse as it has become by the twenty-first century. I argue that canned food can and does tell us about the American food industry as a whole. The examples Day provides, “fresh packed Brussels sprouts, frozen dinners, cake mixes, meal kits, and canned beans,” all exist as part of our modern food system because of the trade associations, the relationships with laboratory and social scientists, the way of eating food out of time and place, and the sense of trust in “opaque” food that the canners helped build in the decades around the turn of the twentieth century. Further, the dramatic expansion of the processed food industry by the end of the twentieth century had two consequences. First, as Day points out, many other food products emerged to compete with the now old-fashioned canned foods. But even more importantly, trade industry consolidation brought all these would-be competitors together. As I write in the book, *The Canner* trade journal, so named for most of the twentieth century, changed its name to “*Canner/Packer*” in 1974, now serving, “the canners, glass-packers, pickle packers, dry mixers, sausage stuffers, ham boners, shrimp peelers, cheese makers, pet food packers, freezers, preservers, and others in the general category of food producers”⁴⁰ Then, in 1977, the journal changed its name again to the even broader *Processed Prepared Food*, and by 1978, the National Canners Association changed its name to the National Food Processors Association.⁴¹ Canners and their apparatus gave way to something much bigger.

Along with the scientific efforts and research collaborations that I describe in my first few chapters, labels were yet another tangible manifestation of all of the canning companies’ concerns and efforts to communicate trustworthiness to their consumers. Day rightly calls for more engagement with the meanings behind labels, their design, their changing content, and their visual representation. I recently wrote [a short essay about the evolution of label design](#), and was able to dig back in to some of the archival materials I found that point in that promising direction.⁴² Bringing in visual culture analysis—and an art history approach, to engage with Andy Warhol—would offer a way of understanding the meanings of the images plastered onto the opaque cans. I left this analysis out of the book as part of my decision to focus less on the can or the actual consumers, and more on the canning industry leaders themselves. As Day captures nicely, mine is a “story of how one industry contrived to surmount a marketing problem of colossal scale (opacity) and pursued a variety of means to achieve their desired solution (trust on the part of the fictive consumer), thus succeeding (if unevenly over time) in becoming a central pillar in the modern American food system.” This encapsulation reflects just what I

⁴⁰ “A Rose By Any Other . . .,” *Canner/Packer* 143, no. 7 (August 1974): 14.

⁴¹ Harry Stagnito, “Formerly Canner Packer: Processed Prepared Food,” *Processed Prepared Food* 146, no. 11 (November 1977): 1

⁴² Anna Zeide, “A Window into the Can: The Mediated Story of Canned Food Labels, *Food, Fatness and Fitness: Critical Perspectives*, June 1, 2019. <http://foodfatnessfitness.com/2019/06/01/the-story-of-canned-food-labels/>

intended to focus on in *Canned*, showcasing the characters and practices at the center of my study.

Opacity is indeed what drove the canners in their project of building trust. This point is well-made by Day's wonderful anecdotes about her family's April Fool's traditions, and her reigning prank in which she sowed confusion by removing the labels off all the canned foods in her family's pantry. The story captures so well *Canned's* arguments about the challenges of opacity that I may start telling her anecdote when I give talks about the book. Without the colorful labels to identity the foods that lay inside, no one in Day's family could tell one variety from another, no one could see the metal objects as particular foods—instead, they were mysterious and unknown. Her mom's attempt to give the anonymous cans away illustrates how unknowability led to undesirability.

Choosing to focus on the industry put its influences and actions at the center. To the canners, Nicolas Appert was their forefather. His legend of the "invention" of the canning method remained strong within the canning industry memory. And so his story, as the basis for their story, was the one I told. The NCA's marketing and image-making was so powerful that their own celebration of Appert went on to shape many accounts of the industry's founding. In writing this story based on the Appert-centered sources that predominate, I certainly assumed that Appert's "pioneering" technique did not emerge from a totally blank slate, and even saw suggestions that his preservation method relied on prior practices. Thus, I appreciate Danille Christensen's point about the false primacy of Nicolas Appert in the hagiographic recitations of the canning industry's origins. The decision to see their story as "the real subject at hand" eclipses other stories that would deepen our understanding and give credit where credit is due.

As both Christensen and Bartow J. Elmore indicate in their reviews, one drawback of this industrial history was a reliance on the industry sources, with all their attendant biases. Certainly, NCA reports were constructed for a particular audience, with a particular agenda: American canners who sought to boost and promote their own industry. I recognized early how difficult it was to maintain critical distance when diving so deeply into the stories and voices of a particular group of people, and their perspectives. It turns out it's hard to spend a lot of time with someone, even someone you don't particularly like at first, and not be pulled toward empathy.

But I also felt and continue to feel an even deeper empathy with those who were the targets of these "prominent men"—the eaters, the consumers, the laborers, all of us—who were the recipients and the on-the-ground builders of the food system launched by these business dealings. So, I especially appreciate Christensen's fascinating family history that gives life to the "big stories" told in *Canned*, strengthened by her training in folklore. The "smaller" stories of her great-grandfather Jesse Carter Little Jr., cannery worker and community poet, jump off the page with their liveliness and insight. I loved his poetry, and the way that Christensen is able to interpret it to better understand the world in which he lived

and worked. It was remarkable to see that the Wisconsin pea research I wrote about made its way to Utah through the agricultural short course taken by Little's boss's brother Joseph Anderson. This confirms the far-reaching impact of the industry's investment into agricultural research. It was that move on the part of the Wisconsin pea canning industry that had wide repercussions throughout the agricultural sector, across the nation, affecting everyone from the canner to the farm owner, from the field hand to the laborer, and eventually the consumer.

Reading about Little's injuries and health problems—running a boxnail through his hand, being struck in the face by a case of peas, smashing his hand between conveyors—articulated the human costs and bodily harm that was such a normal part of the bigger process of cannery work (and any kind of physical labor). But the fact that Little saw his vocation as a fitting subject for his poetry, that he wrote these thoughtful and charming lines about the daily grind of cannery labor and relationships, reminds me how embedded workers are in their workplaces, how much human lives were shaped by the work launched by the canning men.

When I made the decision to emphasize the industrial players, I not only set aside a more direct look at ordinary consumers, but also at home canning. For although the two stories are naturally tied together, the contrast between them—between the industrial can and the home can—highlights critical binaries: the gendered dimensions of the male-dominated canning industry and the woman-centered home canning enterprise, the physical environments of the factory versus the home, the varying distances between seed and table, the way that different forms of expertise came to bear on each, and the typically opaque metal cans contrasted with the transparent glass jars more commonly used at home. We need to understand both sides of these binaries, and I can't wait to read Christensen's book on home canning.

I'm also looking forward to Bart Elmore's coming work on a global environmental history of Monsanto, building on the model of bridging business and environmental history that Elmore set with his *Citizen Coke*.⁴³ Elmore skillfully takes on two of the most controversial and significant companies in our modern world—those “shiny brands” that rightfully command our attention—and engages with their global stories to show the devastating reach they have had into our health and physical environments through their business practices. I agree with the value of his call to imagine what kind of stories we could learn from a global history of the canning industry, one that uses overseas archives, engages with issues of international trade, and considers how mining and fishing and farming practices in support of the industry leave an environmental footprint around the world.

The environmental impacts of food production more broadly deserve our historical attention. *Canned* turned into a project that focused less directly on this aspect than I'd first imagined it would, but I am now developing a new project on the history of

⁴³ Bartow J. Elmore, *Citizen Coke: The Making of Coca-Cola Capitalism* (New York, NY: W.W. Norton & Company, 2014).

food waste. I continue to think about the ideas of perishability and decay, the fight against which animated early proponents of the canning industry, but am also considering what happens to the foods that do not get preserved. This work moves beyond *Canned*'s focus on the production to consumption lifeline to include the next step: disposal. The book will feature the United States—the uncontested leader of waste—but goes further to understand cross-cultural approaches to conservation and the many countries the U.S. connects to through the global market in both surplus agricultural products and in garbage. Food waste is a major contributor to climate change, with rotting food producing about 8% of global greenhouse gas emissions, in addition to emissions released in the production of food that eventually ends up wasted. The parties involved in this, what has been called our "[dumbest environmental problem](#)," are many—from food producers to grocery stores, from overly restrictive sell-by dates set by the federal government to consumers in the home.⁴⁴ I plan to engage with sources from all these parties in writing the next book, to tell stories big and small in trying to understand the historical roots of wasted food and its environmental effects.

In the end, I hope that *Canned* opens the doors for many fruitful avenues of research in the future, for myself, and for anyone else who sees within its pages ways to continue and deepen the intersections of food, business, and environmental history. I am grateful to H-Environment for the space to further explore these ideas. Venues like this make the research and publication process feel more like a community venture.

⁴⁴ I recently wrote a bit about the history of grocery store food waste: Anna Zeide, "Grocery garbage: food waste and the rise of supermarkets in the mid-twentieth century United States," *History of Retailing and Consumption* 5 (April 2019): 71-86.

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