PART THREE
FOOD CONTROVERSY
Making the “Perfect Food” Safe

The Milk Pasteurization Debate

Catherine Carstairs, Paige Schell, and Sheilagh Quaile

Pasteurization, named for the famous French bacteriologist Louis Pasteur, involves heating milk to a high temperature and then cooling it quickly, a process that destroys the disease organisms that multiply easily in raw milk. Since 1991, pasteurization has been required across Canada, but even before that, it was extremely common: many municipalities required that all milk sold be pasteurized, and both Ontario and Saskatchewan had laws mandating pasteurization. When pasteurization became compulsory across Canada in 1991, there was little debate about it, but, over the past decade, a movement in favour of raw milk has grown, based on the idea that pasteurization may be destroying beneficial as well as harmful bacteria. The current popularity of raw milk is related to the broader raw food movement, whose proponents believe that raw foods deliver health benefits that may not yet be recognized by mainstream doctors and nutritionists. Raw milk advocates argue that people should have the right to consume the foods that they believe are best for the health of their families (see, for example, Gumpert 2009; Millar 2010). But public health officials insist that pasteurization continues to be the best way to deliver a safe milk supply.

The controversy over pasteurized milk is not new. When the compulsory pasteurization of milk was proposed in the first half of the twentieth century, Canadians debated the health benefits of raw versus unpasteurized milk and questioned whether legislation requiring pasteurization was
the appropriate response to safety concerns. Until very recently, most historians considered pasteurization to be a public health triumph: according to their narrative, forward-thinking doctors and public health officials imposed it, despite opposition from farmers and some members of the public. After it was put in place, infant and childhood mortality from diarrhea, tuberculosis, and typhoid dropped substantially (MacDougall 1990, 97–106; Sutherland 1976, 56–70).

The publication of *Nature’s Perfect Food*, by historical sociologist Melanie Dupuis (2002), complicated this narrative by pointing out that pasteurization is not the only option for improving the safety of milk. Other options included tubercular testing, or a certification process that carefully controlled the conditions under which milk was produced. Dupuis, an American, argues that pasteurization served the interests of large dairies who could afford the new technologies involved: she concludes that pasteurization was the result of an “industrial bargain”—an alliance among consumers, large industry, and intensive farmers that aimed to provide “cheap nutrition” (Dupuis 2002). More recently, in the Canadian context, historian Jane Jenkins (2008) has argued that opponents to pasteurization in New Brunswick were not “anti-modern”; rather, they believed that there were better alternatives to pasteurization in terms of improving the safety of the milk supply. Andrew Ebejer (2010) has shown the degree to which the pasteurization debates in Ontario were tied into growing concern about the cost of milk and concentration in the dairy industry. Alan Czaplicki (2007) demonstrates that progress toward pasteurization in Chicago was uneven and contested. Even public health officials sometimes supported hygienic measures and tubercular testing over pasteurization as a way to ensure the safety of milk. Likewise, Susan Jones (2004) shows that many doctors were deeply suspicious of pasteurized milk in the early part of the twentieth century: they worried about the nutritional value of pasteurized milk and feared that pasteurization would allow milk producers to be unsanitary.

This chapter emphasizes that in Canada, most milk was pasteurized long before compulsory pasteurization measures were put in place and that public health authorities worked in close cooperation with the larger dairies to make the case for pasteurization. It was the large dairies who spoke most effectively in favour of pasteurized milk; their advertising claimed that pasteurization ensured that their product was safe. As other chapters
in this volume suggest, corporate communications were often the most effective means of encouraging Canadians to change their food habits. The opposition to compulsory pasteurization was weak, at least in comparison to the better-known public health controversies over vaccination and fluoridation. The opposition that did exist centred on the impact that pasteurization would have on the food system. Pasteurization allowed for the milk of many cows to be pooled without multiplying the health risks to the consumer, and opponents believed that this was not the safest way of providing milk. They argued that inspection and tubercular testing would be more effective in producing a safe and healthy milk supply while also allowing for the existence of small farms. They also believed that pasteurized milk was less tasty and less nutritious than raw milk.

**The Progress of Pasteurization**

The pasteurization movement was spearheaded by the large dairies that adopted pasteurization well before it became compulsory. Pasteurized milk kept longer without souring and was safe to drink: it made sound business sense to large dairies that were pooling milk from many cows and distributing the milk over long distances, making the risk of milk-borne illness much greater. At least initially, public health authorities and doctors were far from unanimous in their support of the idea: throughout the 1910s and 1920s, some doctors and sanitary inspectors feared that pasteurization allowed dairies to take sanitary shortcuts; they worried that the pasteurization process was not always carried out correctly and expressed concern that pasteurized milk was less digestible, especially for babies (Black 1911; Shireff 1912; White 1924). By the 1930s, public health officials were more fully in support of pasteurization, although a few still expressed concern about compulsory pasteurization. The shift was indicative of a larger transition. As it became clear that specific and identifiable microbes could be countered through measures like chlorination, vaccination, and pasteurization, the principles of sanitary science (which prioritized cleanliness above all else) were being left behind (Tomes 1998). Because the issue rarely came to a public vote, most people did not give pasteurization a great deal of thought: they bought pasteurized milk because the larger dairies told them that pasteurization was a safer choice for their families. This left the opposition to pasteurization in the hands of small dairy producers who could not
afford to invest in pasteurization equipment or a few health food crusaders whose views were well outside of the mainstream.

Compulsory pasteurization was a remarkably slow process. The first dairies to adopt pasteurization did so just after the turn of the century, and by World War I, it was increasingly common for the milk in Canada’s largest cities to be pasteurized (see table 12.1). The first cities to introduce compulsory pasteurization were Saskatoon and Toronto, in 1914, although the regulations in Saskatoon still allowed raw milk to be sold with a special permit (Jeff O’Brien, pers. comm., 28 June 2013). In 1938, when Ontario became the first province to implement compulsory pasteurization, only five of Canada’s largest cities had embraced it—Windsor introduced it in 1926, Hamilton in 1928, and St. Catharine’s in 1929 (Murray 1934, 31). But even where pasteurization was not compulsory, it was extremely common. By the early 1930s, 72.4 percent of the milk sold in Canada’s twenty-four largest cities was pasteurized (Murray 1932, 259). The third annual report of the Committee on Milk Control, presented at the June 1937 meeting of the Canadian Public Health Association, indicates that by that date, 95 percent of all milk in Montréal was pasteurized, while in Winnipeg, Edmonton, and Vancouver, more than three-quarters of all milk sold was pasteurized (“Reports from the Annual Meeting” 1937, 462). In the years after World War II, Saskatchewan introduced compulsory pasteurization in towns with a population of more than a thousand, while other cities, including Vancouver and Québec City, mandated pasteurization. Although no other provinces passed compulsory pasteurization laws, the amount of pasteurized milk being consumed increased steadily, as shown by a study published in the Public Health Journal (Canada) and Health League of Canada surveys (see table 12.2).

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<thead>
<tr>
<th></th>
<th>Toronto</th>
<th>Winnipeg</th>
<th>Vancouver</th>
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<tbody>
<tr>
<td>1905</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>1910</td>
<td>—</td>
<td>—</td>
<td>10%</td>
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<tr>
<td>1913</td>
<td>80%</td>
<td>—</td>
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<tr>
<td>1915</td>
<td>—</td>
<td>65%</td>
<td>75%</td>
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Source: Boudouin 1918.
Table 12.2 Pasteurized milk consumed, 1951 and 1964

<table>
<thead>
<tr>
<th></th>
<th>1951</th>
<th>1964</th>
</tr>
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<tbody>
<tr>
<td>Ontario</td>
<td>99%</td>
<td>100% except in a few northern settlements</td>
</tr>
<tr>
<td>Québec</td>
<td>85%</td>
<td>92% in cities and towns with a population over 1,000</td>
</tr>
<tr>
<td>British Columbia</td>
<td>85%</td>
<td>99% in urban areas; 97% in rural areas</td>
</tr>
<tr>
<td>Manitoba</td>
<td>65% to 70%</td>
<td>Percentage unknown, but milk was usually pasteurized</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>35%</td>
<td>90%</td>
</tr>
<tr>
<td>Alberta</td>
<td>32%</td>
<td>90% to 95%</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>55% to 60%</td>
<td>99%</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>88%</td>
<td>Percentage unknown, but milk was usually pasteurized</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>Unknown</td>
<td>99%</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>Unknown</td>
<td>75% but fluid milk consumption very low</td>
</tr>
</tbody>
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To understand the debates over pasteurization, one needs to understand the importance of milk to the diet of Canadians and especially to the diet of children. Historically, fluid milk was not a particularly valued food, nor was it a very safe drink. Even societies that consumed a lot of dairy products tended to use fermented milk products such as yogurt, which lasted longer and contained less lactose. But from the mid-nineteenth century onwards, milk was touted as one of our most valuable foods. Early milk advocates looked to the Bible for inspiration, arguing that humans have always been herders and milk drinkers (Dupuis 2002, 25–27). Cow’s milk had long been regarded as a substitute for mother’s milk, and as wet-nursing declined and more working-class women were employed outside the home, the sale of fluid milk grew as women increasingly substituted cow’s milk for breast milk (Levenstein 1983, 75–94). At the same time, temperance supporters encouraged the consumption of nonalcoholic beverages, including water and milk.
By the interwar years, Canadian doctors and nutritionists were recommending that Canadians, and especially children, drink enormous quantities of the white beverage. In a 1921 pamphlet titled *Canadians Need Milk*, Helen MacMurchy, the well-known author of the Canadian government’s “blue books” on child care, told parents that children needed at least a quart of milk and day and that “more children are delicate and sickly from the want of milk than from any other cause.” She claimed that parents who deprived their children of milk were “wronging their children and depriving them of their indispensable food.” (MacMurchy 1921, 3). E. W. McHenry, Canada’s best-known nutritionist, declared that milk was the most valuable “protective food.” He explained that nutritional surveys showed that the most common dietary defects were a lack of protein, calcium, and suboptimal supplies of vitamins. Foods that made up these deficits were called “protective” foods, and milk, which is high in protein and calcium and is easily digested (or so he thought), was the best food for combatting the most common nutritional deficiencies. He pronounced, “Every scientific expert in nutrition would agree that a liberal use of milk improves health, provided the milk is safe and does not spread infectious disease” (McHenry 1938, 295). The widely circulated 1930s nutritional pamphlet titled *What to Eat to Be Healthy* prominently displayed pasteurized milk on its cover and recommended that children drink one and a half pints of milk, and adults at least half a pint, every day.1 While milk consumption never rose to recommended levels, there was a steady increase in the consumption of fluid milk from 320 pounds per person per annum in 1880 to 360 in 1900 and 370 in 1920 (Urquhart 1993, 114). Consumption gradually reached a high of 460 pounds per person per annum at the end of World War II but fell to just under 400 pounds per person per annum in the early 1950s, or approximately four-fifths of a pint per person per day (Statistics Canada 1955, 14).

But milk could be a dangerous food. Bovine tuberculosis was a real risk, especially to children: in the 1920s, medical authorities believed that at least 10 percent of extrapulmonary tuberculosis in Canada in children under fourteen years of age was of the bovine variety. Research done in England and Germany suggested that somewhere between 6 percent and 10 percent of the deaths from tuberculosis in children under the age of five were probably due to bovine tuberculosis (“Human and Bovine Tuberculosis” 1926). When it attacked the bones, the disease could lead to significant disability,
including deformations of the spine. But thanks to the culling of tubercular cattle and the increased incidence of pasteurization, bovine tuberculosis was rare in Canada by the end of the 1930s (McCuaig 1999, 177).

A survey of milk-borne disease across Canada over the twenty-five years stretching from 1912 to 1937 determined that there were almost 9,000 cases of illness and 703 deaths during that period, although it is worth pointing out that more than two-thirds of the deaths could be traced to a typhoid epidemic in Montréal in 1927 that was actually traced to a dairy that sold pasteurized milk (Defries 1938, 259). Much of this dairy’s milk had mistakenly passed through the plant without being pasteurized (“Montreal Typhoid Fever Situation” 1927). Another problem, probably underreported, was undulant fever, which caused very high fevers, headaches, and weakness for several months. The number of deaths caused by undulant fever was low, but the consequences for the adults who contracted it could be severe in terms of time lost to illness (McNabb 1934). In 1938, the Department of Agriculture estimated that approximately 2 percent of all cattle under supervision were positive for *Brucella abortus*, the pathogen that leads to undulant fever (Marriott 1938).

Pasteurization provided a simple solution to the problem of dangerous milk, but there were other possible solutions as well, including certifying milk production. Henry L. Coit, a New Jersey physician, devised a system for certifying milk in 1892 after the death of his son from the consumption of contaminated raw milk (Wolf 2007, 140). In Canada, medical milk commissions or medical societies took responsibility for certifying milk production (Parry 1926). Usually, these organizations required that doctors and veterinarians check the health of the employees and herds regularly; in addition, the milk was tested for bacteria, and there were strict rules about how the milk was handled. This process was expensive; certified milk cost 18 to 20 cents per quart, compared to 6 to 13 cents for uncertified milk. Some doctors, dairy producers, and members of the public believed that certified milk was a better product because certification forced the farmer to be more sanitary; they worried that pasteurization, although it killed germs, would give licence to dairy farmers to allow pus, blood, straw, dirt, and other contaminants into their milk.

In addition to pasteurization and certification of milk, there were also efforts to reduce the spread of bovine tuberculosis through testing and culling of dairy herds. Beginning in 1897, the Dominion Department of
Agriculture offered to test cattle for bovine tuberculosis free of charge. By the late 1930s, approximately one-third of all cattle in Canada were being tested regularly, and nearly all of the cows providing milk to major urban centres had been tested. The federal department offered tuberculin testing under three separate plans, some of which provided compensation to farmers who had to slaughter cattle that tested positive. As a result of these programs, the department estimated that the rate of bovine tuberculosis in Canada was less than 3 percent by the mid-1930s (Cameron 1938). Even so, the testing of cattle was not a perfect solution. Cattle could only be tested so often, and occasionally, a cow acquired tuberculosis before the next routine test took place. Also, there were diseases that could not be prevented through the testing of cattle. For example, septic sore throat, scarlet fever, and typhoid fever did not come from the cow but from the handlers of unbottled, unpasteurized milk (Brown 1938).

THE CAMPAIGN FOR COMPULSORY PASTEURIZATION

One of the earliest and most important proponents of pasteurization in Canada was Charles Hastings, an obstetrician whose infant daughter had died of typhoid caused by drinking raw milk. In 1908, Hastings became the chair of the Canadian Medical Association (CMA) Milk Commission, which was established to investigate the status of milk supplies across the country and to pass legislation to secure a safe milk supply. When Hastings became the medical officer of health in Toronto in 1910, the CMA Milk Commission decided to turn over its efforts to Toronto’s Department of Health. Hastings forged an alliance with local Member of Provincial Parliament W. K. McNaught, who urged the provincial legislature to establish a commission to investigate the means by which the milk supply could be made safer. In 1911, the Province of Ontario passed a law giving municipalities the power to pass bylaws regulating the production, handling, and sale of milk. Toronto immediately passed a milk bylaw that placed strict regulations on the handling of milk, although it did not make pasteurization compulsory. Three years later, when a bylaw mandating pasteurization was passed, 80 percent of the milk sold in Toronto was already pasteurized (Hastings and Elliott 1915; MacDougall 1990, 98–104).

Another strong proponent was Alan Brown, the autocratic physician-in-chief at Toronto’s Hospital for Sick Children (also known as Sick Kids).
Brown, who gained much renown for his advocacy of child and maternal health and for his role as physician to the Dionne quintuplets, frequently pointed out that after the passage of Toronto’s compulsory pasteurization law in 1914, all of the children suffering from bovine tuberculosis at Sick Kids came from outside of the city of Toronto (Arnup 1994). Brown was often credited for convincing Premier Mitch Hepburn to pass a law mandating compulsory pasteurization in the province of Ontario, after giving him a tour of Sick Kids, where he saw children suffering from bovine tuberculosis (McCuaig 1999, 170).

The leading force behind the pasteurization campaign from the early 1930s to the 1960s was Gordon Bates, the founder of the Social Hygiene Council of Canada. In the early 1930s, the Social Hygiene Council, which had previously been concerned primarily with venereal disease, took on pasteurization as a way to expand the reach of the organization. Bates was an innovative communicator who stressed the value of pasteurization in newspaper articles, pamphlets, exhibits, and film. The council developed an exhibit titled “The Value of Pasteurization,” which travelled to health exhibits and fairs. At a typical event, children were shown health films, toured exhibits, and were given a glass of milk. The council also circulated articles touting the value of pasteurization, which ran in weekly newspapers across the country. In the 1930s, when the Social Hygiene Council became the Health League of Canada (HLC), the organization took over the mandate of the Ontario Committee for Safe Milk. The Ontario Committee for Safe Milk had been a broad committee that included public health workers, social service organizations, insurance companies, milk producers, milk distributors, women’s organizations, and the Canadian Public Health Association. The committee distributed more than a hundred thousand pamphlets promoting pasteurization. The Metropolitan Life Insurance Company of Canada and the Ontario Milk and Cream Distributors Association largely covered the costs of the pamphlets (Bell 1934).

The Health League strongly believed in promoting health messages through new media, and in 1936, the organization received permission from Famous Players to distribute pamphlets on the need for the pasteurization of milk at the showings of the Hollywood blockbuster The Story of Louis Pasteur. The league delivered radio addresses on the value of pasteurized milk and mounted large exhibits at the Canadian National Exhibition (1938, 1939) and the Royal Winter Fair (1938). Through its magazine, Health,
which had a wide circulation among doctors who placed it in their waiting rooms, the organization emphasized the importance of consuming pasteurized milk. They also lobbied summer resorts to serve pasteurized milk and published lists of resorts that did serve it. During the war, they published a manual for municipal and provincial committees interested in securing compulsory pasteurization.

In 1943, the league launched an all-out campaign for pasteurization in Québec, releasing a series of fifteen-minute talks by eminent physicians and professors that were broadcast over CBC stations in the province. Several of these were reprinted in L’Union médicale, which was sent to “all French-speaking physicians” in North America. Nearly every newspaper in the province ran editorials in favour of pasteurized milk, while dozens of organizations—including women’s clubs, chambers of commerce, and service clubs—sent resolutions to the government encouraging them to pass legislation mandating pasteurization. The campaign convinced the city of Hull to adopt compulsory pasteurization but failed to convince the provincial legislature.

In the late 1940s, the league cooperated with the National Film Board to produce two short films: Your Morning Milk and Pure Milk. The films provided information about the nutritional value of milk, the production process, and the importance of pasteurization. The league released a series of articles for publication in local newspapers promoting the pasteurization of milk and contacted organizations across the country, urging them to go on record as supporting the pasteurization of milk. Signed resolutions were received from the Canadian Congress of Labour, the Canadian Order of Foresters, the Chief Constables Association of Canada, the Girl Guides Association, provincial teachers’ associations, and the Canadian Nurses Association, among many others. The league also continued to produce a wide array of pamphlets and posters promoting pasteurized milk.

Gordon Bates, the general director of the HLC, had a bombastic style and little patience with opponents. During the Québec campaign for pasteurization in 1943, the league suggested that children prepare armbands or lapel cards saying: “I may be the next Quebec child to die from drinking raw milk.” Bates had unwavering faith in the rightness of the medical profession and little understanding of why people might be suspicious of the claims of leading medical bodies. In its pamphlets, the league stressed that all leading health organizations had endorsed pasteurized milk.
Bates often claimed that as many people had died from drinking raw milk as had died on the battlefield. When questioned about the claim, he reasoned that “this is almost certainly true because human beings die from infected milk every day in all countries of the world, while serious wars are rare.” In any case, he did not worry too much about playing loose with the facts if he believed it would advance his cause. Additionally, he had little patience with people who were unconvinced of the merits of pasteurization. Bates told one opponent that he was “unspeakably silly” and reprimanded him for not being more grateful to the doctors who were trying to help him, while in another letter, he asserted that the opponents of pasteurization were selfish farmers who were willing to sell milk that crippled children. In one of the articles circulated to newspapers by the Health League in 1945–46, he condemned pasteurization opponents as “ill-informed and selfish.” On occasion, even his supporters urged him to tone down his rhetoric.

Another of Bates’s weaknesses was that he never seemed to realize that people in other parts of the country did not always take well to a Toronto-based organization telling them what they should do to improve health in their locality, especially when Bates was always promoting what Toronto and Ontario had done to reduce infant mortality, insinuating that other parts of the country were backwards or less concerned about the health of their children.

The Health League had the firm support of the larger dairies and their organizations. In 1929, the Canadian Dairy and Ice Cream Journal included a model pasteurization law in its pages. In 1936, the journal editorialized: “Every Medical Officer of Health, every progressive Sanitary engineer and every wide-awake milk plant operator will agree that the final goal is UNIVERSAL PASTEURIZATION of all milk supplies in every municipality.” The Ontario Milk Distributors’ Association had Gordon Bates address their annual convention on the importance of pasteurization (Bates 1935). The Saskatchewan Dairy Association went on record as favouring compulsory pasteurization in 1921. Twelve years later, the Ontario Milk Producers’ Association and the Ontario Milk and Cream Distributors’ Association urged their province to adopt compulsory pasteurization (“Public and Safe Milk” 1934, 50). In the late 1920s, the Milk and Cream Distributors’ Association blazoned on their letterhead “Universal Pasteurization Our First Objective” (Bell 1929). The National Dairy Council also promoted pasteurization.
The Health League’s pasteurization campaign also gained the support of most of the newspapers across the country. When compulsory pasteurization was under consideration in Ontario in 1934 and again in 1938, dozens of newspapers editorialized in favour of the measure, while only a handful expressed reservations. In Montréal, the two largest newspapers, the Montreal Star and La Presse, both editorialized in favour of pasteurization.25

THE FIGHT AGAINST PASTEURIZATION

While the larger dairies promoted pasteurization, small producers worried about how much pasteurization equipment would cost. When the Ontario legislature debated compulsory pasteurization in 1938, A. W. Downer, a Conservative member from Dufferin-Simcoe, was cited in the 30 January issue of the Globe and Mail as complaining that the price of milk was high enough already and that pasteurization would only add to the costs and create further difficulties for the small dairies. Instead, he advocated inspection and compulsory testing of herds. Because the federal government paid for the testing and farmers were compensated when cattle were slaughtered, this option was less expensive for producers. In a letter that appeared in the Toronto Daily Star on 2 April 1938, one dairy farmer complained that pasteurization would increase his costs by 80 percent. He was particularly angry that farmers would need to purchase back their own milk, at a 100 percent markup, because of compulsory pasteurization. His chosen alias, “Uncivilized,” suggests the extent to which some rural people felt singled out and ill-treated by this legislation. A month earlier, another dairy farmer, William Shook, of Clarkson, Ontario, had likewise expressed outrage over the idea of selling his milk to dairies for 3.5 cents a quart and being forced to buy it back at 13 cents a quart.26 To ease these concerns, the Ontario government passed an order-in-council indicating that compulsory pasteurization did not apply to milk intended for consumption by the producer.27 In fact, pasteurization did not have a noticeable effect on the retail price of milk. In Ontario, during the 1938 debate, it was estimated that pasteurization would increase the price of milk by less than a cent per quart.28 In Vancouver, the director of the Division of Laboratories at the Provincial Board of Health countered by pointing out that a quart of pasteurized milk in that city sold for only a dime, while unpasteurized milk was actually more expensive, at 11 cents per quart.29
Small producers and their sympathizers correctly believed that compulsory pasteurization would lead to growing concentration in the milk industry. One regular (and angry) correspondent to the Health League, Dr. C. G. S. Baronsfeather, of Edmonton, called pasteurized milk “a Yankee Racket to smash the small man and get a monopoly of the milk trade in North America.” A pamphlet authored by K. W. Gunn, of London, Ontario, titled Pasteurized Milk: Unnatural Milk and Broken Children, complained that pasteurization was a “commercial process that has permitted the formation of monopoly and high prices.” Another opponent, this time from British Columbia, raged that the dairymen of North America were being reduced to serfs while “large pasteurizing dairies were allowed to grow into the greatest monopolistic empire the world has ever known.” Indeed, after compulsory pasteurization was introduced in Ontario, the number of dairies fell substantially (Berry 1938; Milk Committee of the Canadian Public Health Association 1941).

Others objected to the compulsory nature of pasteurization. The manager of the advertising department of the Calgary Herald wrote a letter to Bates in 1936 saying that he was not opposed to pasteurization but that he thought that people should also have the right to obtain natural whole milk from a “properly inspected and supervised single herd source.” Another person complained about the government telling the average man “what foods he may and may not use.” This, of course, had long been the reason behind many people’s opposition to vaccination, and it would play a major role in the fluoridation debates that wracked Canadian cities in the 1950s and 1960s.

Some opponents worried that pasteurized milk would not have the same nutritional benefits as raw milk: as knowledge of vitamins became widespread, many argued that pasteurization reduced the vitamin and mineral content in the milk. In an October 1938 letter to the Toronto Daily Star, one consumer—who had read an article in the London-based magazine Armchair Science according to which pasteurization “definitely” lowered the food value of milk—questioned the support of the medical profession for pasteurization. In another letter to the Star, J. H. Schofield, of Kitchener, argued that Ontarians were eating too many processed, refined, and devitalized foods. Raw milk would help keep people safe from disease. Such concerns seemed perennial. Writing to the Halifax Herald in 1925, a school principal opposed compulsory pasteurization in
that city because he believed that drinking fresh milk was crucial to children’s health: he included a photo of a child who he said had gotten rickets from drinking pasteurized milk.\textsuperscript{38} Two decades later, a BC letter writer asserted that his doctor had told him that pasteurization changed the calcium in the milk so that babies could no longer assimilate it.\textsuperscript{39} An opponent in rural Ontario asserted that more illness was caused by malnutrition among children fed with pasteurized milk than was caused by raw milk.\textsuperscript{40} Nutritionists countered that although pasteurization did slightly reduce vitamins C, B\textsubscript{1}, and B\textsubscript{2} in milk, the B vitamins were already consumed in sufficient amounts in other foods and the vitamin C content of milk was so low that its destruction was of minimal import (McHenry 1934).

A few opponents raised the possibility of other health risks. A Dr. W. E. Wessels threatened that a growing number of doctors believed that the increase in cancer had to do with the increased use of pasteurized milk.\textsuperscript{41} An older man from Vernon, BC, complained that pasteurized milk made him constipated—when he switched back to using raw milk, he had no problems with regularity and people commented on how well he looked. He said that his milk dealer always kept raw milk on hand for babies.\textsuperscript{42} Others protested that pasteurized milk did not keep children safe from harm. A number commented that even though the Dionne quintuplets had all been fed pasteurized milk, they still suffered from diseased tonsils.\textsuperscript{43} A Dr. Nowell in Vancouver claimed that more children in the Barnardo homes in the UK came down with tuberculosis after the homes switched from raw milk to pasteurized milk.\textsuperscript{44}

Occasionally, critics of pasteurization commented that people in rural areas were healthier than people in urban areas and that this could be accounted for by the fact that they drank raw milk. R. E. K. Pemberton, who published a three-part antipasteurization piece in the left-wing Canadian Forum, argued that the incidence of tuberculosis was much lower in rural areas. He sarcastically added, “The wretched farm people, deprived of the blessings of pasteurization and condemned to drink the raw milk which transmits tuberculosis, nevertheless resist the disease more successfully than their more favoured cousins in the cities” (Pemberton 1941, 249). Some of those who were for pasteurization countered that children in the country were actually less healthy than children in cities, who drank pasteurized milk. Manning Doherty—a former Ontario minister of Agriculture who served as head of the Health League’s Milk Committee—asserted that “it
is time that the children of our villages and country-side should have similar protection.” The HLC, in its publication *Canada's Health News*, claimed that “country children are peculiarly subject to such affections as bovine tuberculosis, undulant fever, septic sore throat, typhoid and paratyphoid fevers, scarlet fever and diphtheria” (“Milk News” 1938, 1–2).

A final argument in favour of raw milk was that milk was designed by the Creator to be the perfect food for humans. A letter from pasteurization opponent K. W. Gunn asserted that “natural milk is a marvelous finished product conceived and given to us by an all wise Creator for the benefit of the human race.” An antipasteurization radio broadcast in Alberta emphasized that it was important to eat foods in as natural a state as possible. The author claimed that “when the creator finished his handiwork he is reported to have said it was very good” and threatened that “we will suffer unless we choose habits of life which harmonize with the never changing order of Divine Law.” This, of course, was one of the reasons for milk’s reputation as a “perfect” food during the nineteenth century.

Overall, opponents to pasteurization were most concerned about cost, the impetus that pasteurization would give to centralization in the dairy industry, and the possibility that pasteurized milk was less nutritious and less digestible than raw milk. Even so, opposition to pasteurization was not strong, at least in comparison to the other public health measures such as fluoridation and vaccination. Partly, this had to do with the issue of compulsion. Even cities like Toronto, which was an early adopter of pasteurization, allowed for some sale of certified milk, although it was a very small part of the market. Unlike the water supply, milk remained a private commodity: just as people were more prepared to buy fluoridated toothpaste than they were to have fluorides added to their municipal water supply, they were happy enough to purchase pasteurized milk, as long as they had the possibility of choice. Even pasteurization’s proponents appreciated the complexity of the pasteurization issue. They expressed concern about the possibility that pasteurization would allow farmers and dairies to pay less attention to sanitation and worried that pasteurization might not always be carried out appropriately. They believed that milk was a vital food, especially for children, and were sympathetic to the concern that pasteurization might increase the cost of milk.
CONCLUSION

By the 1930s, a growing consensus existed among doctors, public health officials, and sanitary inspectors that pasteurization was a useful tool, but there was never complete unanimity. As a result, pasteurization proceeded slowly, and the debate over pasteurization was fairly nuanced. While a few public health advocates, such as Gordon Bates, failed to understand how anyone could oppose the measure, other government officials were more sanguine—they promoted milk inspection alongside pasteurization and were sympathetic to the concern that pasteurization might increase the cost of milk or cut down on the consumption of milk. Meanwhile, as the distribution of milk became concentrated in the hands of a few large dairies, rates of pasteurization increased, so that long before 1991, when the Canadian government mandated pasteurization, it was rare for Canadians (other than those who lived on farms) to drink raw milk.

Interestingly, today, we are seeing a resurgence of interest in raw milk. In Ontario, dairy farmer and raw milk advocate Michael Schmidt has received widespread media attention for his legal struggles, which he chronicles on his blog, The Bovine (https://thebovine.wordpress.com/). In March 2014, the Ontario Court of Appeal upheld his 2011 conviction for selling raw milk, and the Supreme Court subsequently refused to hear the case (Perkel 2014; Canadian Press 2014). In British Columbia, Alice Jongerden operated the largest herd share in Canada, until the Fraser Health authority shut her down. Jongerden is no longer involved in the cowshare, but she continues to speak in favour of raw milk to audiences across the country.48 The Canadian Constitution Foundation, a libertarian organization, has supported Schmidt’s legal efforts, while the Canadian Consumer Raw Milk Advocacy Group and the Natural Milk Coalition of Canada fight for the right for Canadians to consume raw milk. In many respects, their arguments are similar to those used in first part of the twentieth century, although they have been updated to address twenty-first-century health concerns such as allergies. Raw milk supporters fear that pasteurization might be destroying beneficial as well as harmful bacteria and believe that raw milk may play a role in preventing asthma, allergies, and other health problems (see, for example, Millar 2010). The popularity of raw milk is related to the broader raw food movement, whose proponents believe that raw foods deliver health benefits that may not yet
be recognized by mainstream doctors and nutritionists. The proponents of raw milk also argue that people should have the right to consume the foods they believe are the healthiest. While a few foodies and parents will continue to seek out raw milk from small operations, drinking raw milk seems unlikely to become a mass movement. Our industrialized food supply system ensures that it is in the interest of both producers and consumers to ensure that milk remains pasteurized.

NOTES

1 Library and Archives Canada, Health League of Canada fonds, MG 28, I 332 [hereafter HLC], vol. 107, file 8.
3 Social Health 7, no. 6 (1931): 5, HLC, vol. 107, file 3.
4 Newspaper clippings, HLC, vol. 107, files 27 and 28.
5 Minutes of the Budget committee, 6 January 1932, found in HLC vol. 4, file 15, and Minutes of the Preliminary Committee to Consider Ways and Means of Organizing a National Movement for Safe Milk, 4 November 1935, found in HLC, vol. 106, file 14.
10 Émile Vaillancourt to Gordon Bates, 2 June 1943; and “Le Ministère de la Santé et du Bien-être social a reçu des resolutions au sujet de la pasteurisation du lait dans la province, de la part des associations dont les noms suivent,” [1943], both in HLC, vol. 110, file 8.
13 These resolutions are in HLC, vol. 109, file 22.
29 C. E. Dolman, “Pasteurization of Milk,” radio address broadcast on CJOR, April 1938, HLC, vol. 107, file 3.
33 As these sources indicate, in communities that had been home to large numbers of raw milk dairies prior to compulsory pasteurization, these dairies tended to give way to pasteurizing plants as well as a decrease in raw milk dairies. For example, in 1938, Fort William had nine pasteurization plants and nine dairies selling raw milk; by 1941, there were twelve pasteurizing plants and no raw milk dairies. Similarly, Kenora had sixteen raw milk dairies and two pasteurizing plants in 1938; by 1941, the town had five pasteurizing plants and no longer had any raw milk dairies.

REFERENCES


