

The Candy Prophylactic: Danger, Disease, and Children's Candy Around 1916

Samira Kawash

By 1916, America had firmly established its international reputation as “a great candy eating nation” (“Brooklyn Leads” 1). American candy consumption was by some estimates approaching half a pound per week per person; if that was an average, there were many eating significantly more (“Pure Candy”). Children, too, in the early decades of the twentieth century were buying and eating candy like never before. And candy was a notable economic force; by 1916, the retail value of the candy business was estimated by the trade journal *International Confectioner* at something close to US\$600 million, and the children's candy market was a big piece of that (April 1917: 43). But if, as Joseph Hawes and Ray Hiner argue, historians have been so long in turning their attention to children because “children were hidden from historians but in plain view,” even the historians who have noticed the children seem to have overlooked the children's candy, a substance so trivial, so insignificant, its existence barely registers (43). Despite the evident and inescapable fact that children bought and ate quite a lot of candy in the early twentieth century, there is little consideration of what all that buying and eating might mean.¹

Whether such candy eating was harmful or benign was in the first decades of the twentieth

century a matter of much dispute. In an era before the ideas of “junk food” and “empty calories” decided the question, candy's nutritive status was not entirely clear. The nutritional science of the day, commonly referred to as the “New Nutrition,” recognized the calorie as the unit of energy in food and distinguished between carbohydrates, proteins, and fats. Experts advocated a diet including calories from all these sources, each of which was understood to perform a distinct function in the body's growth and maintenance (Levenstein 57–58, 112–20). Sugar candy belongs to the class of carbohydrates. But carbohydrates as such were undifferentiated: fruit, grain, and candy alike were, in accordance with the best science of the early 1900s, equally good sources of “energy.” People needed to eat carbohydrates for fuel, and candy was a concentrated and delicious source of carbohydrates: good energy food.² Yet the “scientific” assurances were not always entirely persuasive. Even if carbohydrates were good fuel, many contemporaries could not quite accept the logical consequence that candy was good food.

In the decades leading up to the first World War, candy alarmists of every persuasion harangued the public with accounts of all the ills that could be expected as a consequence of

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children's uncontrolled candy consumption (Woloson 54–65). The wide and often surprising array of physical and moral maladies that were reputed to follow on children's candy eating make it clear that the meanings of candy, and its dangers in particular, had little to do with candy's nutritional qualities. Reformers' attacks on children's candy vacillated between an image of corrupted children whose innocence had been destroyed by candy's pleasures, and an image of vulnerable children whose innocence exposed them to the harmfulness of candy's pleasures. Some children had been lost to candy—a tragedy, perhaps, but also a hopeless cause. Others, younger and still untainted, needed to be saved from candy. There was, to be sure, a strong class bias in these attacks. The “worst” candies were supposed to be those made and sold by the “street vendors” and “immigrant peddlers” and bought by the working-class and immigrant children. The presumably delinquent behaviors associated with candy eating were by and large the recreations of working-class boys who earned their own money and spent most of their time in the street. And the children who needed to be protected from candy's physical and moral contaminations, the innocent and vulnerable children, were by and large the children of the white middle class.

Candy was but one of many possible threats to the health and well-being of children in the early 1900s, and certainly not the most urgent. “Child saving” focused primarily on the dire circumstances of children of the poor and immigrant urban populations (Macleod 26–30; Mintz 154–84). Poor sanitation, contaminated milk, errant streetcars, and lack of education were some of the dangers that brought the attention of progressive reformers who supported public hygiene and education, promoted milk stations, created playgrounds as alternatives to the street, and pushed for compulsory schooling. Although such reforms may have benefited middle-class children in their course, the perception of children as in need of reformers' “saving” primarily focused on the perceived hazards of economic and cultural deficit.

In 1916 a new and uniquely frightening danger to children appeared: “infantile paralysis,” more

familiar today as poliomyelitis or polio. The sudden and rapid spread of infantile paralysis, first in New York City and then throughout the Northeast, was like none of the familiar epidemic diseases: it appeared without warning, it did not follow traditional or recognizable paths of contagion, it was not treatable or preventable with any existing drugs or therapies (Oshinsky 16). Perhaps most distressing to the comfortable classes accustomed to a safe distance from such dangers, infantile paralysis seemed as likely to afflict the clean homes of the middle class as it was to appear in the squalid corridors of the tenements.

Candy is not a starring player in the 1916 polio epidemic. A fruitless search for “candy” in the indexes of any study of polio suggests something about candy's invisibility, and supposed irrelevance, to the history of the disease. Recovering the place of candy in relation to ideas about disease and contagion as they played out over the course of the 1916 epidemic requires paying attention to rumors and murmurs and echoes of popular fear and suspicion which leave but faint traces in the official record. Nevertheless, as I will try to show, candy was the point of convergence of a broad array of fears provoked by the spread of infantile paralysis. Candy came to signify fears regarding the vulnerability of children; worries about the dangers of filth, flies, and germs; anxiety about children's autonomy and pleasure particularly in relation to their mouths and what they put in them; as well as parents' doubts about their ability to protect their children. In the years leading up to 1916 candy was controversial: some thought it was dangerous, others thought it benign or even beneficial. But if candy could not be proved to be dangerous to children, the threat of infantile paralysis most certainly was. And while the supposed dangers of candy and the experienced or perceived dangers of polio were not the same, they nevertheless seemed to resonate and reflect a common concern about children's bodies, both in terms of safety and danger, and in terms of pleasure and control.

If children's unregulated candy eating carried with it the possibility of infection, candy was also the site of a potentially potent prophylaxis against

disease. Two primary techniques were the focus of the public health response to the spread of polio: quarantine and hygiene. Quarantine was the immediate response to the epidemic: a quarantine of the sick, but also a quarantine of the well. Uninfected children were to be isolated from the possible sources of contagion: other children and candy. At the same time, the rapid emergence of new wrapping materials and technologies in the candy industry made possible a new kind of candy, “hygienic candy” encased in its own impermeable barrier against contamination. The “candy prophylactic” offered a marketplace solution to the dangers of candy, promising worried parents that certain candies were safe, and that the makers and sellers of those safe candies would do in the candy shop what the mothers must do at home: shelter their children, protect them, keep them safe. The wrappers signified both a physical barrier against contamination (germs and dust) but also, by making particular candies identifiable by their wrappings, providing a physical correlate to the “quality” of the candy. Thus, prophylactic wrapping also created an imaginary barrier against “cheap” and “impure” candies. Candy thus protected also protected the children that would eat that candy. If parents would insist on such candies, and teach their children to recognize and prefer the right kinds of candy, children might again venture into the marketplace, protected by the candy prophylactic.

The strange and unheralded appearance of candy in the 1916 polio epidemic adds a significant and previously unseen element to more familiar stories about the era’s obsessions with “adulteration” and “pure food” in the context of a new consumerism. Early twentieth-century reformers saw adulterated candies as the consequence of an unfettered market. Bad candy was, in this view, the symptom of a deeper economic problem, an emerging market that rewarded greed and unscrupulousness and that failed to protect the innocent and the vulnerable. Modern critiques of children’s candy, as of all children’s consumer goods in the twentieth century, are likewise suspicious of the consequences of the commodification of children’s desire. Critics emphasize the ways in which choosing, buying, and eating candy gives children their first experiences with the role of

consumer, educating and socializing them into the practices and expectations necessary for their future roles as adult consumers (Honeyman 98–100; Woloson 39–40). But this critique of children’s candy as a child’s entry point into consumer capitalism fails to capture the material specificity of candy as it was made, sold, and eaten in the early twentieth century. The idea in currency around 1916 that candy might somehow be contributing to the spread of an infectious disease focused attention on the way candy mediates between individual bodies, causing the “germs” of one to enter the body of another. Candy thus connected bodily pleasure, consumption, and potential exposure to the contaminating touch of other bodies that might leave invisible germs in their wake. The emergence of what I am calling the “candy prophylactic” reflected concern not only about keeping disease at bay, but also a more subtle worry about the possibility of social contamination and the desirability of social hygiene (as manifested most virulently in attempts to secure racial and national “purity” through legal restrictions on immigration and prohibitions of interracial marriage). By learning to recognize and prefer “hygienic” candy, children directly and explicitly participated in the production of “hygiene” as incorporated in and through their bodily practices.

Candy and Infantile Paralysis

In the first years of the twentieth century, the American public was becoming vaguely aware of the new menace of “infantile paralysis,” but there was no reason to believe that the recent triumphs of medicine and hygiene over other infectious diseases would not extend to this disease. Thus, no one was prepared for what happened in 1916. The previous year, 1,639 cases had been reported nationally. By the time the epidemic had run its course in 1916, 27,363 cases would be diagnosed (primarily in the Northeast), of which 7,179 would result in death. New York City was the epicenter of the epidemic: the first cases were recorded in an Italian immigrant neighborhood in Brooklyn known as “Pigtown.” But against expectations,

the infection was not confined to the immigrant tenements of the city, where crowding and poor sanitation had encouraged other epidemic diseases like typhoid and cholera. In the case of poliomyelitis, affluent neighborhoods were vulnerable as were isolated rural communities. This would prove to be the most puzzling aspect of the epidemic.³

Poliomyelitis is an intestinal infection. The virus enters through the mouth, multiplies in the intestines, and is excreted in the stool. Most infected with the virus show no symptoms; but in a few cases, serious complications may present an alarming picture, including fever, intestinal illness, paralysis beginning with the lower extremities, and in some cases death (particularly from suffocation as a result of paralysis). Poliovirus spreads through contact with fecal waste, the result of unwashed hands or contaminated food and water (commonly called the “fecal–oral” route of transmission). But for a population facing the mystery of sudden outbreaks of a previously little-encountered disease, this discovery was in the distant future.

Investigators faced the 1916 outbreak with no definitive answers as to what was causing the epidemic or how to stop it. Even the efforts of public health officials to reassure the panicked population seemed to lack authority. In July the U.S. Public Health Service issued a pamphlet on “Poliomyelitis, (Infantile Paralysis)—What is Known of Its Cause and Modes of Transmission,” by Dr. Wade H. Frost, a prominent authority and former Assistant Surgeon to the Service. What was known was evidently not much; the *New York Times*, in announcing this pamphlet, concluded wryly, “Reading the pamphlet, one learns that the principal thing known about poliomyelitis is that it is one of the most baffling diseases studied by scientists, and that they really know very little about it” (“Believes Paralysis”). Given the general state of uncertainty, the official response to the rising rate of illness was to try anything. Streets were cleaned, dogs and cats rounded up, families quarantined, movie houses and playgrounds closed, all to no avail.

The New York Bureau of Health launched a public education campaign to combat the new epidemic, mobilizing the resources and good will

of the motion picture industry. In cooperation with medical experts and Health Department officials, the Universal Company produced a single-reel film titled *Fighting Infantile Paralysis* that was widely exhibited in New York and at thousands of theaters from coast to coast (Dench 188). The popularity of this film suggests both that it served an important educational function for public health officials and that it met with a receptive audience who were eager for its message.

Although the film appeared to advance a rational, scientific approach to educating the population, it nevertheless served to support rather than refute popular prejudices and assumptions regarding disease. The *Times* reported that “the pictures were taken . . . at the Rockefeller Institute under the direction of an official of the institute, and in other places, with two inspectors from the Department of Health” and accompanied by narration by an official from the Department of Health (“Paralysis Kills”). Yet descriptions by contemporaries suggest that the film’s scientific tone and expert narration were undermined by the reliance on sensational images deliberately calculated to evoke fears of filth, poverty, and immigrant tenements. Despite the repeated insistence on the part of researchers and health officials alike that there was no evidence to link the conditions of poverty with infantile paralysis, the film suggested through association that dirt, flies, crowding, and poor sanitation were in fact the implicit causes of the epidemic. One viewer described the opening scenes of the film as depicting “narrow streets lined with dirty and unsanitary pushcarts, the latter filled with fly-specked cakes and candy and decaying fruit, all touched by many hands before they are finally eaten” (Carrick 28). Such images at the beginning of a film devoted to educating the public about a contagious disease worked implicitly to link infection with the exposure of uncovered food to flies, the proximity of food and filth, and by extension, the sources of the foods that might be most suspect: pushcarts and the immigrant or poor vendors who would sell the goods. But it was not just any food that posed the danger of infection. *Fighting Infantile Paralysis* directed the viewer’s gaze to a particular category of food stuffs that seemed increasingly suspect, those

“fly-specked cakes and candy” on unsanitary push-carts.

Citizens’ letters to public officials also expressed suspicion surrounding certain foodstuffs. In July and August of 1916, The New York City Department of Health received 230 communications suggesting causes for the disease. Dr. Haven Emerson, the city’s Health Commissioner, described and discussed these letters in his monograph on the 1916 epidemic. Eighty of these letters, fully one-quarter, blamed the epidemic on food: “Ice cream, soft drinks, candy and summer fruits were generally accused, cereals and canned foods coming second in favor” (75). Perhaps some of these letter writers were inspired by the images in *Fighting Infantile Paralysis*. But a more likely explanation might be that both the film and the public correspondence express a common and prevalent idea about the potential dangers of contaminated cakes, candies, and fruits.

Emerson notes that “the largest number of authors attribut[e] the existing calamity to foods” (75). But he does not comment on this prevalence, nor does he explain why such ideas might be so widespread. Instead, he devotes his attention to dismissing the “prize suggestions” of the far-out fringes; it is a recounting of the more absurd and idiosyncratic ideas that dominates the three pages of the report that Emerson devotes to these letters. In contrast, the letters connecting candy, ice cream, and soft drinks with poliomyelitis draw neither attention nor comment. By highlighting this broad category as the single most prevalent theme, and by neither explaining nor dismissing it, Emerson’s report suggests that in the context of the popular ideas of the day the theory that candy or ice cream might be a cause of infantile paralysis was unremarkable, so obvious and so obviously wrong as to be neither interesting nor original. Emerson does not credit any of the citizen theories. He included the letters in his report merely, he explains, “as a record of human interest” (75). Of such ideas, he dismissively notes, “One hardly knows whether to laugh at the fantasies or weep over the ignorance and superstition exhibited” (75). Blaming candy and cakes for infantile paralysis was, from Emerson’s perspective, a sign of “ignorance and suspicion.”

Yet despite Emerson’s attempt to draw a clear distinction between public ignorance and professional expertise, the lack of any definitive answers on the sources and causes of infection meant that credible scientists might also have alternative theories. In October, the *Times* published a report of the research of Dr. Montrose T. Burrows of Johns Hopkins Hospital pathology department. The headline “Germ of Paralysis Carried by Food” was a direct challenge to the “respiratory theory of transmission” promoted by Simon Flexner, director of the powerful Rockefeller Institute. According to the *Times*, Burrows had “definitely ascertained that the seat of infection is in the large intestine, and that the germ is taken into the system by the mouth.” Burrows had been working with a member of the Baltimore Health Department, Dr. J. Frederick Hempel. While Hempel did not have any affiliation with the prestigious research department at Johns Hopkins, the newspapers also reported his own theory, which he suggested the research would vindicate: “Dr. Hempel has a theory that candy, ice cream, fruit, and other uncooked foods that children eat, are primarily responsible for bringing the germ into the system.” Where Flexner and his followers maintained that polio must be transmitted through the nose or lungs, Hempel proposed a direct connection between children’s eating habits and the poliomyelitis infection.

Ice cream and fruit might be eaten by anyone, of course; but candy, particularly penny candy, was the privileged province of children. The hypothetical nomination of children’s candy as the source of the “germ of paralysis” provided a compelling, if unproved, connection that would explain both the vulnerability of children and the random pattern of disease victims.

The official reply to Burrow’s and Hempel’s claims was swift and brutal. The very next day Johns Hopkins Professor of Pathology Dr. William Henry Welch, perhaps the most powerful medical authority of the day, contacted the *Times* to defend the reigning medical orthodoxy (“Denies Hopkins”). Welch’s refutation of Burrows and Hempel singled out the particular claim connecting infantile paralysis and candy: “The statement that the disease

may be transmitted through candy is entirely gratuitous.” Welch could have more diplomatically called Hempel’s theory “unfounded,” or “incorrect” or even “wrong.” Instead, Welch seemed to make a point of expressing scorn for the poor medical man who dared challenge the orthodox establishment. It was, according to Dr. Welch, preposterous even to wonder whether candy had some relation to polio.

Welch’s vehemence seems out of proportion with Hempel’s very tentative suggestion. But this was in fact not the first time that medical authorities had confronted popular ideas about children’s disease and candy. The newspaper in the late 1800s and early 1900s published frequent accounts of youngsters falling ill or dying as a result of the poisons delivered in the form of candy. It was frequently the case that doctors would arrive on the scene of “candy poisoning” to discover bad milk, escaping gas, contaminated water, or some other more prosaic cause of illness or injury. Candy was a popular culprit, so much so that beginning in 1884 the trade group that became the National Confectioners Association undertook a detailed investigation of virtually every published report of poisoning or illness that was alleged to be a result of candy eating.

By 1907, the Association had assembled a dossier of hundreds of cases of alleged candy poisoning which it published and distributed under the title *Facts: A compilation of various newspaper reports on the subject of supposed poisoning by candy and investigations of the circumstances by our Association*. A reporter for the *Jersey City Evening Journal* described the publication, and its underlying project, in glowing terms as a success for the confectionery industry in its campaign to defend candy from unfounded accusation:

Despite the many sensational reports of candy poisoning cases, the records of proceedings show in the final analysis that only a small percentage of them are based upon facts. . . . It was a very easy matter to show that a lot of criticism that was heaped upon the confectioners was unmerited and groundless.

(“Poisoned Candy”)

V. L. Price, the chairman of the N.C.A. Executive Committee, was the chief candy investigator

in the early 1900s. He had his own explanation for the ubiquity of claims of candy poison:

How so many erroneous reports got into the newspapers was always a mystery to me until I came to the conclusion that candy is so frequently and continuously eaten by children that it generally happens, when a child is taken sick, that it has been eating candy. Hence the conclusion.

Price was tireless and persistent in following up to expose the truth behind each candy poison story, but he was fighting an uphill battle. When a child fell ill, newspapers and the public were quick to blame cheap candy. More complex problems like poor and inadequate housing, dangerous food storage, water impurity, and a lack of public sanitation were the real issues for public health. Candy on the other hand was an easy and popularly vilified scapegoat.

Dr. Hempel’s notion that candy eating might “bring the germ into the system” also resonated with what was by 1916 a deeply entrenched association between candy poisoning and cerebrospinal meningitis, an infectious disease with symptoms similar to those of infantile paralysis. In New York City in 1899, three-year-old Robert Wilkerson and his five-year-old sister Lucy fell ill, supposedly as a result of eating poisoned candy. The boy died, but a doctor who examined Lucy “thought the symptoms were more like meningitis than poisoning” (“Two Children”). Two years later, the parents of two children who died of “meningitis, resulting from ptomaine poisoning,” blamed “candy, apples, and sour milk” for the deaths (“Another Kruger”). In 1906, the *Times* reported the announcement of the examining coroner who concluded that the death of a ten-year-old girl, Christina Klewin, “of what was supposed to be candy poisoning, was a victim of spinal meningitis” (“Meningitis”). And in 1914, after New York papers charged that seven-year-old Willie Oppenland had been killed by poison color adulterants in his candy, an autopsy revealed that he had in fact died of cerebrospinal meningitis (“Poison Candy”). In each of these cases, the symptoms that were believed by family and non-medical observers to be indicative of candy poisoning were in fact the symptoms of a specific

disease, meningitis. While doctors insisted that the children were suffering from an infection of the central nervous system, their parents and neighbors saw it otherwise, as evidence of the danger of candy.

The repeated confusion between candy poisoning and cerebrospinal meningitis suggests a powerful context for the popular understating of a possible connection between candy and poliomyelitis. Cerebrospinal meningitis is an infection of the membranes surrounding the brain and spinal cord. Although they are entirely different conditions, the symptoms of meningitis and polio can be quite similar, and definitive diagnosis may be possible only with laboratory analysis of the spinal fluid. As poliomyelitis emerged in epidemic form in the 1900s, medical researchers drew direct connections between the two diseases, often treating polio patients with antimeningitis serum (Rogers 95). Medical historian and polio researcher John Paul reveals that by the 1920s some doctors were diagnosing “a hodgepodge of viral and other infections” as “aseptic meningitis” or “serous meningitis”: “As its usual mild course had many of the clinical features of nonparalytic poliomyelitis, doctors began to use it as a convenient substitute diagnosis, and incidentally as a subterfuge in mild cases of poliomyelitis, telling parents that their child only had serous meningitis instead of ‘polio’” (171). If doctors viewed these two conditions as so similar as to be diagnostically interchangeable, or amenable to the same treatment, it is not surprising that the public might also see such connections.

By 1916, the public has sufficient grasp of the germ theory of disease causation to understand the idea that poliomyelitis was caused by a “germ.” But this did not mean that people shared a scientific understanding of germs, what they were or how they caused disease. Given the history of public suspicion of “meningitis” associated with candy poisoning, and the close connections between meningitis and poliomyelitis, it is not surprising that candy would be an obvious potential culprit in a sudden epidemic. The “poison” that had allegedly contaminated candy in previous years could be easily reimagined as a “germ of paralysis.” Like poison, germs were invisible and difficult to detect. Poison could

cause illness; germs could as well. When Dr. Welch defended his protégé Flexner by insisting that candy was a preposterous suggestion, in his vehemence he seemed to be struggling against the current. Despite Welch’s vigilance, the stories of a connection between candy and infection would not go away; the very article that quotes his dismissal of any research involving candy concludes by repeating the news of “stories reported to have emanated from the university,” including the claim that “uncooked food, particularly sweets like candy eaten by children, contained the germ” (“Denies Hopkins”). It was already common knowledge that candy could be poisoned or be poisonous; the notion that the reason for candy’s toxicity could be due to a “germ of infantile paralysis” rather than poison was not a novel theory but a plausible restating of an already existing popular sensibility.

The children reputed to have been poisoned by candy were between the ages of three and ten; in their prime candy-eating years, old enough to act independently, and to eat suspicious candy outside the view of their parents. In 1916, around eighty percent of the cases of infantile paralysis were diagnosed in children under five; fully ninety-five percent of the total cases occurred in children under the age of nine (Paul 347; Rogers 13). Serious infection was a result of lack of immunities, not age itself; in subsequent years, the average age of infection would rise. Nevertheless, as the common term *infantile paralysis* suggests, in the early 1900s babies were among the worst cases. Public health officials who were monitoring the outbreak were highly attuned to the risks to the youngest babies, therefore “a major consideration was the safety of infant foods, particularly milk” (Rogers 124). Thus it is even more striking that in the public rumors about causes for poliomyelitis, candy and ice cream emerge as prime food culprits; these are not the foods of infants, but of older children, like the children between the ages of three and ten who had been supposed to have been afflicted by poison candy in previous years.

This is the gap in the logic connecting candy to poliomyelitis: both have to do with children, but

not exactly the same children. The newspaper reports which every day recounted the newest victims emphasized especially the tragically young ages of the babies, measured in months rather than years. And yet, as the theories of causes swirled about, an image of “fly-specked cakes and candy and decaying fruit, all touched by many hands” persisted as the imaginary source of contagion. This is what we might call the “candy imaginary” of polio: children who ate those “fly-specked cakes and candy” were in danger. The stories of poisoned candy and suspected candy poisonings in the previous two decades had suggested some malevolent external agent working to poison children’s candy, either for profit or some other personal gain. But the emergence of candy as a potential culprit in the 1916 polio outbreak posed a more complex link between candy and danger.

Contaminated Candies

By 1916, candy specifically intended for children was ubiquitous and children’s candy eating was “universal” (Woloson 54). Candy shops were everywhere. An industry profile put the number in Brooklyn alone at 560 in 1908, adding with breathless enthusiasm: “The retail trade can scarcely be estimated, as not only the regular candy shops but practically all drug stores, news stands, stationery and department stores and some others carry confectionery as a side issue, with a display varying from one small showcase to a whole section of a room” (“Brooklyn Leads” 1). Street vendors and pushcarts also made cheaper candies available just about anywhere goods were sold. Candy shops and vendors were in the neighborhoods, near the schools, and even in the new playgrounds (“Kiddie Kandies”; “Playgrounds”). According to one contemporary observer, adults might buy candy for children, especially in the “better stores,” but “the big bulk of penny candies were sold at the little shops, with children as buyers” (“Little Stories”).

“Penny candy” encompassed a broad range of confection. Established and large-scale manufacturers who produced many higher priced goods also sold bulk candies designed to appeal to children and to be sold so many pieces to the penny. These might include molded hard or soft candies, suckers, licorice in all sorts of shapes, marshmallows, or caramels and would be distributed by “jobbers” to various retail stores. At the other extreme, such penny candies might also be manufactured by hand in small “candy kitchens” and sold in local shops or from street carts. The conditions of manufacture, and the quality of ingredients, might therefore vary significantly. Especially at the lower rungs of the trade, “adulterants” such as artificial dyes and nonfood fillers were occasionally used to make candy look more appealing or to lower the price of production.⁴

Alarmists and reformers witnessed the growing children’s candy trade with deep suspicion; the view was frequently expressed that “‘penny candies’ were unsafe for little children to eat, on account of the cheap, impure materials used in the making, as well as the bright, dangerous colors used upon the outside, to make them look attractive” (Waterman 9–10). One of the major concerns of the larger candy manufacturers from the 1890s until World War I was to regulate candy production and to distance the legitimate candy trade from the occasional unscrupulous candy maker.⁵ But despite the fact that very little candy was actually “adulterated,” and despite the absence of any credible evidence that the adulterants in penny candies actually made any children sick, “physicians and scientists alike were preoccupied with studying and publicizing the deleterious aspects of cheap candies” (Woloson 55). Penny candy, strongly identified with a romantic idea of vulnerable and innocent children, became a potent signifier for the ways in which the emerging marketplace of mass produced goods and increasing consumerism carried with it new risks and dangers. Children’s access to and consumption of penny candy also coincided with their personal and economic autonomy. Anxieties about candy and its potential for harm thus also suggested a certain unease about children’s independence in the marketplace.

As the 1916 polio epidemic progressed, some investigators were particularly worried that “immigrant peddlers were selling infected food to unwary middle-class children” (Rogers 157). This would be one possible explanation for the appearance of infantile paralysis in clean middle-class homes in uncrowded neighborhoods. It seemed inconceivable to investigators and observers that the clean home might itself be a factor in children’s vulnerability to poliomyelitis infection. Rather, the only imaginable explanation was that the consequences of poverty and filth were somehow penetrating the perimeters of the middle-class home: servants might bring dust and germs into the house on their dress hems, deliveries might arrive at the doorstep bringing infection along with the bread or milk, street vendors might be peddling germs and disease in the guise of shiny children’s candies.

The frightening image of the unwary middle-class child buying contaminated goods was of course not new. The idea that children might be falling victim to immigrant vendors who infected candy with their germs gave a nativist twist to the already familiar warnings of danger from unscrupulous candy makers who adulterated candies with various poisons. In both cases, spending and consuming outside the home exposed children to whatever dangers lay beyond the doorstep. A nice “American” middle-class neighborhood offered only illusory protection: as suggested by the image of the immigrant peddler who brings his cart full of infected food to the middle-class neighborhood, “bad” candy was not geographically contained. Furthermore, the serious problem of “poisons” and “adulterants” was similar to the problem of “germs”: both were invisible, making the difference between bad candy and good candy, or the difference between healthy candy and contaminated candy, difficult to ascertain. Street vendors were especially suspect, but insofar as “adulteration” was not obvious, there was no definitive way to know if the penny candy sold in the reputable shop was any better.

The risks entailed by children’s economic autonomy are made clear in a 1912 *Pearson’s Magazine* article titled “Fake Sweets and Soft Drinks

to be Dodged” by Mary and Lewis Theiss. The authors accuse the “hundreds of mothers” who will read the article with the crime of poisoning their children:

You don’t poison your own children. You let the children do it themselves. You are very careful as to how you handle poisons. You label them with a red label so that you cannot mistake them, and you put them up in a high closet where little fingers cannot reach them. And then, with mammoth inconsistency and sublime faith in crooked human nature, you give your child money—to go out and buy poison for himself. Every time you give your child a penny to buy a stick of candy you do it. (79)

In this light, money in the hands of children is potentially lethal. The vigilant mother would not “let the children do it themselves” but would insert herself between her vulnerable children and the dangers of the market. While reformers could excuse immigrant and poor mothers for their ignorance, even if that seemed a reason to “rescue” their children, middle-class mothers were expected to recognize the dangers of contemporary life and protect their children from the “poisons” on offer in the candy store by controlling their commercial actions and limiting their purchasing ability.

The demand that mothers control children’s public activities, and particularly their exposure to the dangerous contaminations of public spaces, reemerged with greater urgency as officials attempted to stop the spread of infantile paralysis. In early July Dr. Emerson, the New York health commissioner, considered “a proposal for the police to compel every child in the city under sixteen years of age to remain at home continuously for two weeks” (Gould 5). This proposal was not enacted, although children under sixteen were prohibited from movie theaters. The idea that the movements of the well should be controlled in order to limit the spread of disease was, however, not completely abandoned. A leaflet titled “What every Mother Should Know about Infantile Paralysis” was distributed by the department of health in August. In addition to domestic cleanliness and personal hygiene, the department counseled mothers to keep their children safe at home. The instructions emphasize the importance of controlling children’s movements

and social interactions: “Don’t let your children play with groups of children. Don’t let them attend parties and festivals. Don’t take them to the movies. Give them all the fresh air you can, but not on crowded streets, trolley cars, or boats. If you have a garden, keep the children there.” Although this advice was directed to “every mother,” the instructions clearly presuppose a middle-class home with sufficient space and privacy to bring children into the house and to separate them from others. Instead of attempting to contain sickness within the domestic space of the infected child, the social quarantine advocated by the author of “What Every Mother Should Know” contains wellness and safety within the home. By implication, every place else and everyone else is the source of potential infection.

The social isolation that was prescribed as a prophylactic against polio reflected anxiety both about children’s movement in the potentially infectious spaces of the city, and about the contact of children with each other. As a letter published in the *Times* on July 19 suggested, such contact was tantamount to contagion. In the letter, Dr. Donald B. Armstrong advocated “personal hygiene” as the most important sanitary precaution against the disease, including avoiding sick persons and those in contact with them, safely disposing of bodily discharges, and “the enforcement of rules of respiratory hygiene regarding kissing, sneezing, coughing, candy sucking, apple ‘swapping,’ &c.” In his catalogue of dangerous activities, Armstrong suggests a continuum of children’s contact and contagion. As children shared in games and play, so they were seen to share in their candy. Candy forms part of a children’s culture of bodily promiscuity; children are at risk, Armstrong implies, because of the way they share their pleasures.

Whereas the threat of chemical adulteration seemed to draw attention to the dangers of children consuming candy itself, the potential for contamination with polio germs draws attention to the circulation of candy among children, and by implication the sharing and circulation of pleasure. “Innocent” children, those under ten years old, most associated with the children’s

candy market, might appear as sexless. Yet the concern with children’s candy eating, and its obvious pleasures and satisfactions, carries with it an undertone of anxiety regarding these barely obscured sexual dimensions. The childish play of sharing an apple or taking turns on a candy stick is not so far from the more overt sexuality of kissing. Penny candy nomenclature made explicit reference to the slippery line between the oral pleasures of candy eating and more “adult” pleasures; candy “kisses” and “suckers” spoke to the mouth’s ambivalent status as simultaneously alimentary and sexual. In one especially striking example from 1915, Novelty Candy Company advertised their “Tom, Dick and Harry Kisses” with a profile drawing of a little boy and girl kissing, with the slogan “The kiss you can’t afford to miss.” Candy thus served as a culturally intensified locus for the interplay between children’s bodily pleasure and their perceived vulnerability to danger. Children could be protected from the vaguely sexualized dangers symbolized by candy eating by the vigilant regulation of their pleasure. Armstrong’s “rules for respiratory hygiene” prohibited children’s own inventive candy eating and sharing, suggesting instead that candy eating would be safe only under the direction of appropriate authorities.

Covers and Wrappings: the Rise of Hygienic Candy

Flies and infected dust were also among the perennially popular culprits in explaining the spread of poliomyelitis (Rogers 57–71). The random movements of insects explained the puzzling pattern of infection, even as the image of flies feeding on filth sustained the assumption that the disease must originate in the slums. Naomi Rogers argues that a fly vector was an especially attractive explanation for some, insofar as it exonerated the middle-class household: “It was not the fault of middle-class parents with a paralyzed child if a germ-carrying fly had traveled from the worst parts of the city” (152). Fly control also offered

citizens a positive action in the face of the epidemic. Despite their acknowledged failure to find any relation at all between flies and infantile paralysis, public health officials broadcast the message: “Swat the Fly.” Mothers in particular were charged with keeping flies from their children by screening their windows and putting netting over their infants’ cribs.

Window screens and fly swatting might protect children inside the well-scrubbed house, but the problem of flies both as nuisance and as health menace was not confined to what happened at home. At the disease toll rose in July, Mrs. Violette Reynolds wrote to the *Times* to decry the fly who “accumulates filth by going into the worst of places, and this he smears over his body and wings.” She continued: “it is the duty of every citizen to refuse to patronize restaurants, delicatessens, and candy shops that leave their displays uncovered.” Singling out the “east side stores, bakeshops, and delicatessens,” Mrs. Reynolds hinted at the implicit connection between the filthy flies and the filthy immigrants imagined to be contaminating the wares at those east side shops. The trajectory of the fly’s contamination, from the disease-inducing filth associated with the lower classes, to uncovered candy, to innocent children’s mouths, suggested another explanation for how disease associated with the poor and immigrant classes could infect middle-class children. The image of uncovered and infected candy in unsanitary shops suggested that domestic sanitation was insufficient; the menace could appear from any direction, and most particularly, as a consequence of children’s own pleasure-seeking activities.

For candy shops and vendors, trafficking in all things sticky and sweet, flies were an acute nuisance. One writer warned: “To keep the door of a candy store open and to have no obstruction such as a screen door in the way of those entering gives the flies full freedom to the sweetened goods” (“Shoo-Fly”). And it was not just a matter of an occasional fly; a 1914 account of a candy shop’s fly-swatting contest suggests that boys could be enticed to take over the shop’s fly control problem with a lucrative bounty at one penny per fly

(“Fly Time”). Although the candy trade journals assiduously avoided explicitly acknowledging the connection widely held in public belief between candy, flies, and disease, the problem was implicitly acknowledged in the attempt to improve conditions in the candy shops: “If screens are a good thing for the protection of sleeping children they are equally valuable in safeguarding the candies which they eat. The candy store that is effectively screened in the fly season is the right place to spend your money” (“Safety”). The candy shop could be made safe by becoming more like the home; the screening that protected “sleeping children” at home would also protect purchasing children in the marketplace. The candy trade would pick up where mother leaves off, safeguarding children away from home by “safeguarding the candies which they eat.”

Protecting candy from flies and dust was still a fairly novel idea in 1916. Although the association of disease with the poor and immigrant populations focused attention on the candy shops in tenement neighborhoods, the fact was that the practice of displaying uncovered candies was not restricted to any particular locale. Most candy did not come individually wrapped, and the glass jars and display cabinets that would allow candy to be seen and still protected were expensive; only the most luxurious candy stores would show every item under glass. The middling and cheaper candy dealers were accustomed to showing off their wares as they were, putting out uncovered boxes and trays of goods, displaying naked chocolates, and placing the whole stock in the window or on top of the show case. But changes in consumer expectations, as well as the new mania for eliminating “germs,” was already putting pressure on such relaxed retail practices. A 1913 editorial in *International Confectioner* bemoans the carelessness of retailers who display their chocolates and candies without concern for the customers’ perception of the resultant deterioration of the goods. While the exposure of the merchandise might be intended to entice the customer, the author warns that “the very fact that candy is uncovered might offset any inclination to buy, especially these days when the cry against germs

and contamination is heard on all sides” (“Laxity”). Beginning around 1914, candy shops and street carts with uncovered goods were increasingly coming under public scrutiny. In 1915, the Housewives League of New York took it upon themselves to campaign for enforcement of health department regulations regarding the display of food, encouraging shoppers to purchase only from dealers who protected their food goods from dust and flies (“A New York Sanitary Wave”). Small vendors in particular were the target of health departments in several cities, which promulgated regulations requiring goods to be covered. As consumers were made more aware of the potential dangers of uncovered goods, the demand for protected food put pressure on the candy industry to improve its packaging and display of candy.

While regulatory pressure and consumer demand emphasized the need to protect candy as a public health concern, the candy industry was beginning to promote the idea of hygienic packaging as a means of distinguishing goods of quality. In a very short time, between 1914 and 1917, the introduction and promotion of new technologies and materials for wrapping goods transformed the possibilities for producing wrapped candies. As candies appeared with new kinds of wrappers, the old unwrapped candies seemed increasingly suspicious. The rapid diffusion of the new wrapping practices was both a condition for the increasing public awareness of the danger of unwrapped goods, and a consequence of the market advantages of selling “hygienic” and “sanitary” wrapped goods in a context of increasing public awareness of and concern about germs and disease.

In the early teens, machines that could efficiently and cheaply wrap small candies such as kisses and drops as well as the larger bars became widely available. The “1913 Knott Wrapping Machine” was one of the first designed to wrap individual pieces of candy and was heavily promoted in confectionery trade journals. By 1914, a wide range of wrapping machines competed for trade, including machines to wrap chewing gum, stick candy, and caramels. Many of these machines were promoted with an em-

phasis on the hygienic advantage of wrapping. An ad for the Package Wrapping and Sealing Machine illustrates the machine with captions describing the machine’s actions: “Going in: Carton containing goods not protected against the common enemies of food products. Coming out: A sanitary package hermetically sealed in wax paper. Proof against air, moisture, dust, germs, etc.” (Package Machinery). This new technology held special interest to the public; one manufacturer proposes their wrapping machine, a small contraption operated by an attractive young woman, as “an ideal window display” (American Wrapping). To be sure, many candy makers had previously wrapped their candy by hand, a laborious and slow process. The new machinery made wrapping cheaper and faster. The speed with which this technology was adopted is remarkable; by 1917 wrapping machines had become a standard feature in a candy maker’s workplace. A *Confectioners Journal* item in the June 1917 issue headlined “Common Sense Handling of Wrapping Machines” declares that they are “in our midst and here to stay.”

New wrapping materials were also supplementing paper and foil. In the promotion of these new materials, the primary concern was to achieve wrapping without also hiding the goods. Wax paper suppliers began advertising heavily in the trade journals in around 1915, drawing attention to the improved quality of their papers. The wax papers were promoted as glossy and allowing a view of the wrapped candy. “La Cellophane” was imported from France (until DuPont began manufacturing in the United States in 1925), and new U.S.-made glassine paper wrappers with names like “Transparantine” promised entirely new possibilities for simultaneously covering and displaying the candy wares.

The advertising for these new materials emphasized their quality as being “attractive,” “transparent,” and “impregnable” (Nashua, “Firing Line”). These were the new imperatives of safe candy: that it should appeal to the visual sense, while providing a transparent barrier to keep out germs and flies and dust. Whether candy-packaging innovations had any public health significance was of less concern to candy manufactures and

dealers than the question of what would improve their bottom line. Thus, *International Confectioner* waxed rhapsodic in its praise of foil-wrapped Wilburbuds candy: “If a candy is wrapped artistically, it makes a favorable impression. If it is wrapped ‘hygienically,’ that is dust and moisture proof, that candy is bound to sell” (“Keeping Candy”).⁶

The demand for covered candy, and the availability of new technologies to wrap candy, transformed the landscape of candy products and marketing. Before 1915, many candies advertised to the retail trade drew attention to the attractiveness of their packaging; but the expectation of wrapping was not universal. As new wrapping machines came into use, the bulk and unwrapped goods were gradually displaced by goods that came in wrappers that both protected and identified the merchandise. New packaging technologies and materials also made it economical to package low-margin penny candy goods. Advertisements in the 1917 volume of *International Confectioner* introduced new products such as the U-NO Mint roll, which claimed to be “the only penny package of compressed mints on the market,” while E. Greenfield’s Sons of New York promoted its “Penny Specialties in Packages”: square-shaped wrapped candies including Giant Jellies, Candy Figs, and Peppermint Patties, all marked one cent. In this changed shop-scape, shoppers (at least adult shoppers) were increasingly aware of the distinction between wrapped candies that were branded and protected, and those cheap, exposed, potentially dangerous unwrapped candies.

Of course, hygienic wrappers and shiny glass display cases would appeal only to those shoppers whose primary concerns centered on “quality.” In the children’s candy market, it was quantity, novelty, and visual appeal that more typically closed the sale. One candy maker, having hired investigators to study candy shops and interview school children, concluded definitively that children’s candy choices were based on appearance, with the “brightest colors and biggest sizes making the popular sellers” (“Little Stories”). A 1915 ad for the Nashua Gummed and Coated Paper Com-

pany stages a dialogue in front of a candy counter that dramatizes the gap between children’s preferences and adults’ concerns:

Child (after looking the length of the case): Get that kind for me, mother; they look so good. I’d rather have some out of that tray than any other in the store.

Mother (indulgently): Well, the money is yours to spend as you like. Please yourself. (To dealer) I suppose the kind she wants are perfectly wholesome?

Dealer: Certainly, madam! I do not keep any other kinds.

Mother (apologetically): Well, you know we read so much these days about unwholesome candies—varnished and all that—those look so much brighter and attractive than the others—

Dealer: There is no varnish or artificial finish on any of this stock, madam. Some goods look brighter and more attractive because they are wrapped in NASHUA QUALITY WAXED PAPER.

(“Candy Counter”)

The child wants the shiniest candy, while the mother wants only the most wholesome. Nashua Waxed Paper is the solution. By wrapping candy in shiny paper, it is both protected and visually enhanced. The wrapping thus resolves the conflict between mother’s concern with health and child’s fascination with shiny candy. Mother does not need to interfere with her child’s candy consumption, and the child follows her superficial preferences to the correct choice.

The waxed paper ad suggests that the danger of candy is the danger of deceptive appearances, of menaces that cannot be discerned by the inexperienced eye. The adult might learn to be suspicious of overly bright colors or overly shiny surfaces, but the child “wants the best and the most that he can get for his penny, and being a child, he has no power to go behind appearances” (Theiss 80). The new technology of wrapping promised to align appearance with the truth of the candy beneath. The wrapper was an assuring presence, one that both protected against and visually signified the absence of the invisible threat of germs and contamination.

The purifying power of the new packaging technologies is suggested by an ad campaign launched in April 1916 by the New England Confectionery Company. In prominent half-page buys in the *Saturday Evening Post*, the makers of Necco candies ask:

Who Touches the Candy Your Children Eat? Most of the candy you buy for the children is dished up into a bag while you wait. You don't know how many hands, possibly unclean hands, have touched it. Yet it is for some curly-headed little youngster to eat. Necco Seal-packed Confections are made in the cleanest of factories. They cannot be touched by human hands on their way to you. And they are guaranteed always pure, fresh and tasty.

The "seal-packed" candy offered by Necco passed through the marketplace without being touched by contaminating human hands. But the consumer would benefit from this technology only by an active choice, as the tag line of the ad emphasized: "Remember to look for the Necco Seal, you and the children, when you want confections that are as pure as they are delicious." The command to remember Necco is addressed to "you" parents, but also "the children." Adults could be taught the value of the package and the brand. Parents would instruct their children. If children remembered the Necco Seal, their safety would be assured; the sealed and branded package could serve as proxy for the vigilant maternal eye.

Conclusion

The intimations that children's candy eating was somehow connected to the spread of epidemic disease emerged out of, and in turn amplified, the sense that something about the way children seek and attain pleasure in their independent, public activities was unwholesome, unhealthy, perhaps deadly. The dual techniques of quarantine and hygiene, which became familiar as a result of public health campaigns against infectious disease indicated a path for making candy safe for children. Parents would make their children safe by regulating their access to the marketplace. And candy makers and sellers would make their candy safe by "covering"; literally, as wrapping and covered or enclosed displays, and also metaphorically, "covering" candy with the brand name and advertised message that would communicate the invisible shield of "quality." Just as candy had appeared as the source of an inchoate menace, candy could be tamed and controlled,

and in that taming, candy could be made safe, and made to keep children safe.

The transformations of the candy business under the pressures of "purity" and "hygiene" also worked to make the candy store more like the ideal of the middle-class home. The same principles of cleanliness and fly prevention, which kept disease out of the clean home, would protect the candy merchandise in the responsible candy shop. And likewise, the "purity" of the candies, in manufacture, packaging, and display, would protect the candy customer from the menace of germs and disease. The candy trade sought to communicate and capitalize on the image of the safety of wrapped and branded candy in the candy shop. Middle-class parents could entrust their children to candy manufactured and purchased and possibly consumed outside the home because the candy incorporated the parental proxy, the wrapper and the brand that guaranteed "safety" and "purity." The candy shop thus could be refigured from the site of the wild and possibly dangerous freedom of the child to a space whose pleasures were regulated and controlled by a surrogate parent. The protections thus afforded might, of course, be illusory. But the notion that the interests of children's candy makers and sellers could and should be aligned with the interests of the children's parents had a powerful impact on the marketing of children's candy until the 1980s.⁷

The associations between children's candy, children's pleasure and autonomy, and infantile paralysis that circulated through the 1916 epidemic were inchoate, yet they were nevertheless powerful and persistent. Of course, such associations were also entirely mistaken. Nothing about candy either caused or contributed to poliovirus infection. So it is something of a historical irony that polio was vanquished, in the end, by candy: a physician-administered sugar cube colored pink or lavender by the Sabin oral vaccine serum. Through the 1960s, the oral polio vaccine was administered to millions of adults and children, the vast majority receiving the vaccine as a sugar cube.⁸ With the Sabin vaccine, children were provided a candy that was administered under a doctor's supervision for the purpose of safeguard-

ing against disease. The vaccine was effective; poliomyelitis is virtually unknown in the United States today. The candy vaccine took to its logical extreme the notion that candy, under the proper sorts of supervision, could make children safe: a literal candy prophylactic.

Notes

1. There are notable exceptions to the tendency to overlook children's candy consumption. Interested readers might turn to David Nasaw's glowing account of the freedom "street children" enjoyed in their spending on and consumption of candy in the early twentieth century (115–29). Woloson is indispensable for her account of the rise in children's candy consumption in the late 1800s, and the debates around the moral and nutritive "wholesomeness" of candy in that period (32–65).

2. "Candy is good food" was the defacto marketing slogan of the National Confectioners Association and the idea constantly promoted in trade journals through the teens and twenties. See for example: "Pure Candy," "Food Value," "Candy Is a Wholesome Food," "Candy Is a Food."

3. This account is drawn from Oshinsky 8–23. Other helpful summaries of the 1916 epidemic and its context can be found in Gould 3–28, and Rogers 1–30.

4. The list of possible adulterants included furniture glue, sulfuric acid, butyric and other ethers, shellac, coal-tar dyes, paraffin, grease, tallow, stearine, iron oxide (rust), metallic silver, shellac, sulfuric acid. It is worth noting that many of the substances that were targeted by the pure food reformers as dangerous adulterants later in the century would become approved and accepted as common "ingredients" in processed foods, including gelatin, glucose, sodium benzoate, and many artificial colors and flavors. Which is not to say that additives, dyes, preservatives, and the like are desirable as food, but rather to point out that the debates about adulteration were as much about the perception of new food technologies and the relation of science and "progress" to traditional ideas about food and health.

5. Brenner 166. Testing of major brands of candy for adulterants undertaken by the *Good Housekeeping Magazine* laboratories in the teens found only glucose (corn syrup) (Wiley 33–34). Glucose was commonly considered by reformers to be an adulterant, in part as a result of confusion between "glue" and "glucose." However, as Wiley acknowledged in the report, glucose has a legitimate use in candy making for producing soft, chewy textures as in caramel or nougat.

6. Wilburbuds in the teens were foil-wrapped chocolate drops, the apparent inspiration for the better-known Hershey's Kisses. The Wilbur Chocolate Company of Litz, Pennsylvania, still manufactures Wilburbuds, but no longer in foil wrappers.

7. See Schor for an analysis of the collapse in the 1980s of the "gatekeeper model" of marketing children's products by creating an alliance with mothers (15–17).

8. As early as 1959, scientists and confectioners in the USSR had collaborated to produce a candy that could deliver the live virus. While it is not recorded what the confection tasted like, over 1.5 million Russian children were successfully immunized by eating the vaccine candy ("Polio Vaccine"; "Polio Virus").

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