

TOOTHPASTE CONTAINERS THROUGH TIME – REUSABLE, RECYCLABLE, OR RUBBISH

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This paper was presented at the 2022 SCA Annual Meeting in Visalia, California, as part of a series called “Three-Minute Papers, Our Disposable Economy – Artifacts from Past to Present,” organized by Julia Huddleson and Kimberly Wooten. In this article based on that paper, the following describes the milestones of dental cleaning products through time.

The dental industry has followed the trend of most industries transitioning from historical models to modern times: products that were once reusable are now disposable. This article briefly identifies the milestones of dental cleaning products, their containers, and the implications for our disposable culture.

Humans have used tooth cleaning products for millennia. The earliest evidence of dental hygiene is from around 5,000 BC in ancient Egyptian tombs (Colgate-Palmolive 2022). These elite Egyptians used chew sticks and paste to clean their teeth. Ancient Chinese, Greeks, and Romans also used tooth powder made of various components, including ash from ox hooves, myrrh, burned eggshells, and pumice.

In post-medieval Europe, people used tooth cleaning products made from simple grit, soap, and flavorings. European manufacturers started producing tooth powders commercially in the late 1700s, and ultimately developed ointments and pastes (Pennsylvania Dental Association 2022a, 2022b). These products were sold in a variety of containers including glass jars, metal cannisters, and ceramic pots. Manufacturers used various ceramic materials, ultimately settling on stoneware (Coleman 2016:737) (Figure 1).



Figure 1. Cherry toothpaste patronized by the Queen. Image courtesy of the Smithsonian Institution (https://www.si.edu/object/cherry-tooth-paste-patronized-queen:nmah_1441206).

In the mid-eighteenth century, the commercialization trend continued, and several kinds of toothpastes and tooth powders were developed. Increasing commoditizing of tooth products coincided with, or contributed to, the decrease of independent apothecaries who mixed their own products, in favor of chemists and druggist shops that sold mass-produced products like toothpastes and tooth powders. These were also sold in ceramic pots, as well as metal cannisters and ultimately metal tubes. Ceramic pots were introduced in Europe in the 1850s and were sold until World War I (Coleman 2016:734-735). These pots, and especially the pot lids, were very collectible. Up to 4,000 different styles of lids were produced in the nineteenth century (Coleman 2016: 737). American companies like Colgate started mass producing toothpaste in jars by 1873 (Colgate-Palmolive 2022). Tooth powder was packaged in glass (e.g., DVIDS 2020) and later metal cannisters (Figure 2).



Figure 2. Drucker's Revelation Tooth Powder cannister from CA-BUT-191H, dating between 1907 and the 1930s. Image courtesy of Lisa Bright at the California Department of Transportation.

Tooth powder contained a variety of surprising (and perhaps disturbing for modern consumers) ingredients that were intended to be abrasive. These included brick dust, crushed china, baking soda, borax, orris root, powdered cuttlebone, calcium carbonate (chalk), and charcoal. Some ingredients were for grit and others for flavor. As noted in Kenilworth Historical Society (2022), “Many commercial tooth powders were unregulated, leaving consumers with little information about the safety of the products they used.” A

Canadian recipe included orris root, charcoal, and whiting or chalk, which would be pulverized together and applied on the teeth with either a finger or brush (Coleman 2016:738). By the mid-1940s, toothpaste had overtaken tooth powder as the most popular form of dentifrice.

Collapsible metal tubes were first used for artist paints in the mid-nineteenth century. It took until the 1890s for toothpaste to be packaged this way (Gurowitz 2012) (Figure 3). There were no standards for the ingredients and advertisers made wild claims. *Scientific American* published an article in 1933 about the veracity of claims (A. E. B. 1933). Their conclusion was that the toothbrush was much more important than the toothpaste for getting teeth clean: “In spite of what the advertisements say, it’s the toothbrush that cleans your teeth” (A. E. B. 1933:39). Ultimately, hundreds of companies manufactured toothpaste. An archaeological study of the Kooskia Internment Camp (1943-1945) in central Idaho examined a large quantity of oral health products, including toothpaste produced by a several manufacturers (Hosken and Tiede 2018).



Figure 2. Colgate Ribbon Dental Cream, ca. 1908-1910. Image courtesy of Smithsonian Institution, Oral Care online exhibit, <https://www.si.edu/spotlight/health-hygiene-and-beauty/oral-care>.

Metal tubes and later aluminum/plastic tubes are not reusable. Modern toothpaste tubes are often made with a combination of different plastics and a thin layer of aluminum. This mix of materials makes them hard to recycle, especially through your curbside recycling pickup. Advocacy groups like *As You Sow* (2022) and the growing concern of consumers have encouraged Colgate-Palmolive Company to package their products in fully recyclable containers. In 2019, their “Toms of Maine” brand was the first to have a toothpaste tube recognized as recyclable by plastic recyclers (MacKerron 2019). Their other products will follow in the next few years.

In the 1800s, toothpaste sold in ceramic pots was a widely advertised product. At the time of their manufacture, these attractive ceramic pots were reusable. Later in their lives, they became highly sought-after collectibles. Toothpaste now dominates the oral hygiene market and is currently sold in disposable plastic tubes. The United States oral care market was valued at \$33.7 billion in 2021 and is expected to steadily increase in the future (Grand View Research 2022). Colgate estimates 400 million toothpaste tubes are thrown away in the United States every year (MacKerron 2019). Toothpaste tubes contribute to the plastic waste that is overwhelming landfills. In addition, plastic items, which include toothpaste tubes, are

the most common litter at some beaches (Burns 2022). The evolution of tooth cleaning product containers from reusable to disposable and now recyclable, exemplifies the trends of increased mass production and commoditization in American businesses.

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