

Business History



ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/fbsh20

Branding and retail strategy in the condensed milk trade: Borden and Nestlé in East Asia, 1870–1929

Thomas David DuBois

To cite this article: Thomas David DuBois (2023) Branding and retail strategy in the condensed milk trade: Borden and Nestlé in East Asia, 1870–1929, Business History, 65:5, 902-919, DOI: 10.1080/00076791.2019.1688302

To link to this article: https://doi.org/10.1080/00076791.2019.1688302

	Published online: 26 Nov 2019.
	Submit your article to this journal $oldsymbol{oldsymbol{\mathcal{G}}}$
ılıl	Article views: 1273
a a	View related articles ☑
CrossMark	View Crossmark data ☑
4	Citing articles: 5 View citing articles 🗹





Branding and retail strategy in the condensed milk trade: Borden and Nestlé in East Asia, 1870-1929

Thomas David DuBois (D)



Beijing Normal University, School of Humanities Beijing, China

ABSTRACT

This article examines the branding, retail and consumer acceptance of condensed milk in Asian markets during the late nineteenth and early twentieth centuries. The two giants of the trade, Borden in the United States and Nestlé & Anglo-Swiss in Europe, each carved out distinct new markets in colonial Southeast Asia, but only the latter was committed to maintaining a long term presence, investing in local production and marketing, and taking over rights to Borden's well-known Eagle brand after the Great War. As Nestlé expanded into Japan and China, its brandled strategy faced new challenges of protectionism and a wave of lower priced knockoff products. Lacking a dedicated local partner, Nestlé lost ground, but remained focussed on retaining the integrity of its premium brands, a strategy that served it well over the long term.

KEYWORDS

Nestlé; dairy industry; China; food branding; market entry

The early twentieth century global milk trade was dominated by two major names, the Borden Condensed Milk Company in the United States, and the merged European company, Nestlé & Anglo-Swiss Condensed Milk Company (hereafter Borden and Nestlé). Both companies built their brands in home markets around a promise of superior safety and quality, but pursued differed strategies to enter new markets into colonial Southeast Asia. While Borden was content to remain a simple exporter, Nestlé invested in a dedicated distribution network to promote its flagship Milkmaid brand. In the market slump that followed the Great War, Nestlé continued its Asian expansion by acquiring rights to Borden's popular Flying Eagle brand in Japan and China. However, the brand-led strategy that had been successful against other importers in Southeast Asia faced challenges from a new wave of domestic competitors.

Condensed milk entered Asian markets in stages—the initial acceptance of a new product, followed by competition among branded imports, and finally the development of a native industry. This process shows an evolving interaction between branding and consumer preference, especially around the issue of trust. Absent close control over retail in China, Nestlé's premium strategy was easily hijacked by locally produced knockoffs, which the company pursued through legal means, in part because it lacked other options for expanding its local footprint.

In order to present this larger social and legal context of consumer perception, this article relies on such external sources¹ as official and annual reports, legal cases, and newspapers.

It contains three parts. The first briefly introduces the ways that food branding and retail combine to imbue foods with meaning and trust, and the particular meanings that food branding have historically conveyed in places like China. The second part examines the global rise of the condensed milk industry, explaining how the two large producers avoided direct competition in their core markets, and how each used different branding and retail strategies to carve out territories in Southeast Asia. Finally, it shows how the different challenges that Nestlé faced in postwar Japan and China demonstrate the short-term limits, and long-term benefits of its brand-led strategy.

Food branding and retail strategies

As a global process, food branding developed in tandem with retailing. Among the earliest known branded goods, foods like bread were provided with marks to identify trusted producers (Wilkins, 1994). As the increasing physical distance of food chains raised the quality uncertainty of food that consumers encountered in the market (Fernandez, 2010; Jones, 1994), marks and the assurance they represented developed independent value, which during the nineteenth century was legally recognised across jurisdictions in Europe and the United States (Mercer, 2010). During the twentieth century, the shift from specialty food retailing to general provision groceries and later to supermarkets (Blackman, 1967) further raised the wall of anonymity around food purchases, removing trust from the person of the retailer, and placing the burden increasingly on the packaging and branding of the physical product itself. It also created a synergy for retailers to promote preferred brands, while also relying on the quality of branded goods to enhance their own image (Collantes, 2016), or in return for deep product discounts or loans of capital equipment like refrigerators (Tessari & Godley, 2014). Beyond quality, food brands connote the sense of heritage, culture and luxury, especially for such lifestyle items as wines and spirits. As the market for these items took on an increasingly global character after the Second World War, large distributors acquired and allied with smaller companies to develop valuable brand portfolios (Lopes, 2002).

The historical rise of branding in East Asia presented some variations. The first is the absence before the late nineteenth century of a legal apparatus to protect intellectual property. In colonial jurisdictions, such laws were externally imposed. In others, they were created ex novo, often as a result of foreign pressure. Japan was the first to do so, creating a patent office in 1885, signing the Paris Convention for the Protection of Industrial Property in 1899, and promulgating a series of bilateral trademark protection accords before its 1910 annexation of Korea. China followed suit, promulgating its first trademark law gradually over the course of the early twentieth century (Cochran, 2000; Kirby, 1995). Traditionally, non-fresh foods were marked by place and date of manufacture, but these marks were easily forged, and could say little about authenticity or quality of a physical product (Zuo, 2003). Instead, trust derived from retail networks, particularly the specialised guilds that controlled trade in such high value items as tea or salted ham (Kuo, 2013). This would change with the wave of low cost's undry goods', including such food goods as candy and patent medicines, that flooded Asian markets in the early twentieth century. In contrast to the guild-based retail of specialty goods, these items were sold across a widely dispersed network of small-scale general shops and local markets (Furuta, 2017; Hong, 2016).

The value of physical product identification led to widespread copying, first of foreign brands and then of native brands that had achieved a certain status. If the primary value of a food brand is its promise of quality, the simple conclusion is that buyers of copycat goods were unwary, unsophisticated, or undiscriminating. This was sometimes, but not always true. In her discussion of early twentieth century China, Grove (2017) contrasts counterfeits, which aim to fool the consumer, to 'knockoffs' that are sold with an intentionally misspelled or slightly altered logo, arguing persuasively that Chinese consumers understood and accepted knockoffs as a reasonable, and sometimes preferable alternative to the premium branded product. Knockoffs aim to evoke their more prestigious competitors, yet retain a separate brand identify that can eventually become known in its own right. Conversely, locally produced copycat goods can serve as a gateway that expands acceptance of unfamiliar product categories (Furuta, 2017). The continued popularity of knockoffs in food, electronics or luxury goods adds a necessary element to any simple equation of brands, especially premium brands, and consumer trust.

Origins and spread of the concentrated-milk trade

Concentrated milk was an innovation of the mid-nineteenth century. Earlier methods of preservation (generally variations on boiling) had produced milk that was neither palatable nor particularly long-lasting. Such milk had been acceptable for use on board ships or for military provisioning, but not as a consumer product. The breakthrough came in the 1850s, when American entrepreneur Elias Borden first produced tinned condensed milk in a form that was consistently sanitary, durable and acceptable to consumers. He quickly patented his vacuum pan extraction method and built the Borden Condensed Milk Company provisioning tinned condensed milk during the American Civil War to Union troops, who in turn carried the taste for the new product to the Western frontier and growing industrial cities. Within a few years, Borden had expanded his company into an empire that owned and purchased from dairy farms and condensers across a number of northern states, and by the 1880s dominated roughly half of the emerging American market (Collins & Borden Company, 1922; Hollingshead & Williamson, 1928, p. 1) At about the same time, American Charles Page brought the business to Europe. Initially seeking to establish a Borden condensery overseas, he and his brother George instead established their own business in 1866 at Cham, near Zurich. Aiming to reach markets in Britain, they named their business the Anglo-Swiss Condensed Milk Company (Heer, 1966, p. 74). These two companies were joined by scores of smaller enterprises, both condensers and affiliated suppliers, in Europe and North America.

Concentrated milk quickly grew into a diverse and widely traded commodity. In most markets, sweetened condensed milk (the sugar serving as an antibacterial agent) remained the most commonly traded form. Borden researchers later developed a method for producing unsweetened milk (which they sold as 'evaporated', Collins & Borden Company, 1922, p. 19), and Swiss confectioner Henri Nestlé perfected one of many methods for making milk powder, which he combined with other ingredients into an infant food that he marketed as 'milk flour' (farine lactée). Markets for different forms of milk overlapped. Although Britain already produced a significant surplus of fresh dairy, the tinned product was easier to store and ship to growing industrial cities. During the 1870s, the United Kingdom was the world's largest import market for sweetened condensed milk, accounting for 75% of Anglo-Swiss' production (Heer, 1966, p. 56). In contrast, Americans consumed much of their nation's growing output of concentrated milk as ingredients in baked goods or ice cream (Hollingshead & Williamson, 1928, pp. 33, 36). Across retail markets, milk powder was sold primarily as infant formula.

The early years of the concentrated milk trade in both Europe and North America reveal two important, and mutually reinforcing tendencies. The first was the importance of brand recognition. The sale of fresh liquid milk had always invited safety concerns. Since the source producers of fresh milk were poorly identified, there was little to dissuade farmers, carriers and sellers from adulterating their product with water, chalk, or worse. One breathless account from 1853 estimated that just under half the product brought into New York City that year was 'swill milk', a category that included adulterated milk, as well as milk from the 'miserable-looking and diseased animals' that were reared on distillery waste in filthy underground cellars (Dillon, 1941, pp. 1-2, 20-25; Mullaly, 1853, pp. 41-48). In response, concentrated milk branding emphasised safety and wholesomeness. Borden made strict demands of its suppliers, refusing milk from cows that had been fed on brewers grain or silage (Dillon, 1941, p. 16). Like butter exporters in Denmark and New Zealand (Barnes & Higgins, 2017; Higgins & Mordhorst, 2008), producers tied geographic origin to a promise of superior quality (e.g., 'pure Swiss milk'), and built brand identities around the core values of their founding figures, such as the idealised portrayal of Elias Borden in Collins & Borden Company (1922). Like the Quaker-owned chocolate companies Cadbury Brothers and Rowntree & Co. (Lopes, 2016), milk condensers projected these virtues through third party endorsements, particularly those coming from the medical profession (Heer, 1966, pp. 40–42, Koese, 2008, pp. 729–730, 735).

Established producers jealously quarded their brand identity. Henri Nestlé refused third party requests to market his milk powder with the mark of the Swiss Cross, insisting that all products be branded with the recognisable nest logo, and his own signature (Heer, 1966, p. 43). Having registered its flagship 'Milkmaid' logo in 1877, Anglo-Swiss relentlessly pursued such imitators as the makers of the 'Dairymaid' brand that portrayed the same iconic image in a slightly different pose, in what the company's lawyers claimed was a deliberate attempt to deceive customers (Anglo-Swiss Condensed Milk Company v. Metcalf, 1886; Koese, 2008, p. 740). As Mercer (2010) has shown, product-based branding also allowed greater differentiation within product types. As they expanded into larger and more diverse sales areas, both companies floated cheaper substitutes, like Borden's 'Champion' and 'Magnolia' brands of condensed milk, branded with the product rather than the manufacturer so as to undercut competitors on price without tarnishing the reputation of the premium lines (Federal Trade Commission, 1921, p. 155; Heer, 1966, pp. 73–75).

The second tendency was to industry consolidation. Larger producers were better able to force down the price of raw milk (Dillon, 1941, pp. 15-18, 34-35, 186-194), and weather price fluctuations in sugar, tin and other materials (Heer, 1966, pp. 67, 73). They earned income through supplementary services up and down the production chain, for example hiring out specialised glass-lined tanker trucks to transport raw milk to dairies or other processors. The emergence of chain retailers gave a further advantage to producers who could offer price quarantees on large orders, gaining in return ever-wider brand dissemination. Smaller producers were forced to sell through wholesalers, often having their product rebranded along the way (Federal Trade Commission, 1921, pp. 54–56). As a result of these advantages, much of the industry would come to work for a handful of major companies, either as subsidiaries or as contract agents. Anglo-Swiss dominated in Europe, while an investigation by the US Federal Trade Commission of 'concentration of control' in the concentrated milk industry revealed that 56% of American output in 1914 lay the hands of three companies: Borden at the top, followed by Nestlé and Carnation (Federal Trade Commission, 1921, pp. 20–21, 56–58; Federal Trade Commission, 1938, pp. 233–255).

Each unable to dislodge the other, Anglo-Swiss and Borden agreed in 1902 to divide the world's markets. Anglo-Swiss would sell to Borden all of its assets in the United States and Canada, and in return, Borden would cede entirely sales to Europe. This agreement was modified in 1905 to allow the two companies partial access to each other's markets in return for a set schedule of royalty payments on products sold in each other's territories. In that same year, Anglo-Swiss completed its merger with Nestlé, giving the new company unified control over European markets (Federal Trade Commission, 1921, pp. 13, 56–61, 156–164).

Their core markets now secured; the top companies embarked on very different expansion strategies. While Borden focussed its energies on containing and buying up smaller domestic rivals, Anglo-Swiss and Nestlé looked outward. Even before their merger, the two European companies had established new operations near promising markets, devolving management to regional subsidiaries (Donzé and Kurosawa, 2013, p. 1318; Hollingshead & Williamson, 1928, p. 7). Anglo-Swiss set up production in England and Bavaria (1872), purchased the English Condensed Milk Co. of London (1874), and established a branch office in France (1875) (Heer, 1966, pp. 35, 56–58, 65, 76). Nestlé established factories in Germany (1903) and Spain (1905), and an office in Istanbul, from which it aimed to reach deep into the Ottoman Empire (Koese, 2008). Formerly a battleground between Anglo-Swiss and Nestlé, Australia became the target site of significant new investment by the merged company. Nestlé purchased the Cressbrook Dairy Company, a 3000-acre farm and condenser near Brisbane in 1907, and in 1911 began construction in Warrnambol, Victoria on what was to become the world's largest condensing plant (*Sunday Times* [Sydney], 24 November 1907, p. 2; *The Herald* [Melbourne], 30 May 1908, p. 8; Heer, 1966, p. 75). By 1912, Australia had changed from an import market to a net exporter of dairy products.

Condensed milk in East Asia

At this time, East Asia was just emerging as a significant market for milk exports. Processed milk reached the string of colonial and commercial settlements that stretched from Singapore to Tokyo almost as soon as new products were invented. Concentrated milk was imported to Shanghai as early as 1850 (*North China Herald*, 5 October 1850). Sterilised tinned milk was in Singapore in 1853 (*SPF*, 15 July 1853, p. 3), and Nestlé milk powder was available in the Netherlands East Indies from 1873 (Heer, 1966, p. 42).

Like elsewhere, processed milk offered advantages of cost, durability and especially hygiene. Foreign-run dairies near Chinese cities like Shanghai and Tianjin already produced fresh milk for well-off urbanites (DuBois et al., 2019), and Western dairying practices were well established in many parts of Southeast Asia, notably such colonial cities as Manila and Batavia (Jakarta), but the high quality milk from these farms could be expensive and was impossible to keep (Doeppers, 2016, pp. 266–269; Hartog, 1986, pp. 72–74). Other fresh milk sources presented problems of quality and sanitation. Chinese newspapers reported such unhygienic practices as the watering of milk and the milking of diseased animals (Yang, 2015). Merchants in Batavia were known to bulk up their milk with a mixture of water and coconut flour, and a campaign to reform milk production in Manila revealed routine abuses, including one market vendor who regularly adulterated his product with unfiltered sewer water. Health risks prompted military authorities in Singapore and Malaya to ban milk hawkers from congregating outside camps and forbid soldiers from buying loose milk in markets (Doeppers, 2016, pp. 286–290; Hartog, 1986, pp. 84–85; Straits Times, 11 May 1907, 14 May 1907; Singapore Free Press and Mercantile Advertiser, 24 April 1909).

Although tinned milk imports were initially aimed at European expatriates, it soon became clear that the real market was among Asian consumers. In 1876, a village chieftain in inland Malaya surprised a visiting British official with English biscuits and a cup of teh tarik, strong dark tea sweetened with condensed milk (Zangger, 2014, pp. 96–97). In 1880, the Chinese city of Canton was importing 34,000 tins of condensed milk per year (Imperial Maritime Customs, 1881, p. 361). In 1911, the Commissioner of Customs in the southern port city of Qiongzhou predicted the 'enormous sale' of condensed milk to Chinese consumers (Imperial Maritime Customs, 1906, p. 379).

Branding

Since the 1902 agreement between Borden and Nestlé had only concerned North America and Europe, both were free to carve out distinct territories in Asia. Borden products were dominant in the Philippines, where the American consul in 1889 reported that 'everybody, except the very few who own cows, uses American condensed milk ([Borden's] Eagle brand)' (Doeppers, 2016, p. 269, Federal Trade Commission 1921, 158). In China, the Eagle brand (known locally as 'Flying Eagle') was well known. A 1905 survey of Shanghai trades stated that 'only the Flying Eagle Brand is accepted, every family fights for the ones with that mark' (Yi'an, 1996). Other Borden brands had a regional following. An article from 1903 described the popularity of the Borden 'St. Charles' brand among Russians in the Chinese northeast, where discarded milk tins were said to be as ubiquitous a sight as empty vodka bottles (Singapore Free Press and Mercantile Advertiser, 3 December 1903, p. 5). In contrast, Anglo-Swiss became the main supplier to most of Southeast Asia. A 1904 observer noted that growing demand in Singapore was satisfied largely by Swiss milk, although American imports were slowly catching up, especially in the Malayan 'outer ports'. A report from the following year confirmed that the 'well known sweetened Anglo-Swiss holds its own' against American competitors. Anglo-Swiss and its subsidiaries also held about 75% of the condensed milk market in the Netherlands East Indies (Hartog, 1986, p. 137; Straits Times, 16 June 1900; Singapore Free Press and Mercantile Advertiser, 21 September 1904, 26 October 1905).

In these markets, branding was vital. Contemporaries commented on the particular importance that Asian consumers placed on a trusted brand, such that demand expands spontaneously', and creates preferences that last for generations (Haering, 1930, p. 4). Producers built their brands by promising unique health benefits, showcasing endorsements from publications such as the British Medical Journal and The Lancet, and from European hospitals and militaries. As they had elsewhere (Koese, 2008, p.735), Nestlé offices in Singapore and Shanghai even kept a nurse on hand to answer questions from new mothers about its 'Lactogen' brand of infant food (Malaya Tribune, 12 June 1923, p. 6). Consumers generally felt that full cream milk was a more healthy and palatable product, far more so than skim, or 'filled' milk, which replaced butterfat with cheaper palm or coconut oil. Highlighting the full cream content, Borden boasted that its tinned Peerless brand of evaporated milk could be used to make butter, a claim that was apparently true, since Chinese families reportedly sought out that brand specifically in order to collect butterfat (su) (Yi'an, 1996).

Price competition was not simply a matter of being the cheapest. In order to 'maintain the leading position they have held so long in the market', the Anglo-Swiss office in Singapore began in 1886 offering a full quarantee of products sold. Half a century later, fraudsters were still trying to cash in on this guarantee by demanding cash refunds for empty tins they had

refilled with spoiled product (*Straits Times Weekly*, 3 June 1886, p. 17; *Straits Times*, 10 February 1934, p. 12). Nestlé's Milkmaid and Borden's Eagle were positioned as premium brands within their product types, and sold at a price to match. But as with the marketing of butter (Higgins & Mordhorst, 2008) or sherry (Fernandez, 2010), product branding around superior quality was a response to *decreasing* product differentiation. Nestlé and Borden continued to distribute lower-priced alternatives without their company name so as to avoid negative association with their own flagship brands. The products themselves were often indistinguishable. When forgers in Singapore were caught selling tins of Red Lantern milk that had been falsely labelled as the more expensive Green Shell brand, Nestlé, which owned both brands, reluctantly admitted that the contents of the two were the same, the price difference being 'merely a matter of brand value' (*Morning Tribune*, 26 August 1937, p. 21).

Retail networks

The two major companies operated very different on-the-ground retail strategies. Just as it retailed through groceries at home, Borden sales overseas were handled by import houses, which also did their own advertising, distribution and retail, either directly or through local wholesalers (Hollingshead & Williamson, 1928, pp. 32–33). As Cochran (2000), Yeh (2010) and others have shown, these merchant networks enjoyed the advantage of extensive local influence and market intelligence, and an internal structure that allowed them to quickly move resources and credit between branches. But relying on local retail networks could also leave importers vulnerable. In 1905, as anger over anti-Chinese immigration policies spilled over into a boycott of American goods, the Shanghai agent of Getz Brothers, an import firm that specialised in pharmaceuticals and foodstuffs—including Eagle brand milk—reported that their 'business is entirely suspended', because local merchants simply refused to sell their products (*Singapore Free Press and Mercantile Advertiser*, 31 August 1905, p. 135).

In contrast, Nestlé conducted its own retail distribution. Like Henri Nestlé's early preference to conduct sales 'via trusted agents', Anglo-Swiss initially conducted its Asian export business through such import firms as Cadonau and Diethelm. In the global reorganisation that followed the 1905 merger, the company changed to permanent and direct representation (Koese, 2008, p. 732, 740), establishing branches in Shanghai (1908), Manila (1911), Singapore, Penang, Saigon (1912), Yokohama (1913), and Bangkok (1915). Local presence was a significant investment. It required an infrastructure to keep track of production and stock (the Shanghai branch was initially plagued by massive product theft), and direct intervention into issues that otherwise would have been handled by agents (Zangger, 2014, pp. 97–98).

For Nestlé, the advantages of direct distribution outweighed these costs. General import houses like Getz Brothers or Connell Brothers handled a wide range of brands and products, from soap to whisky. Even if agents retained the necessary enthusiasm for any one item, their product knowledge and brand dedication could never match that of an expert. In contrast, Nestlé could train its people to understand not only the product, but also local language and culture. Aiming to expand its presence in Java, Nestlé sent representatives from the Singapore office across the island carrying samples directly to villages and retailers. In short order, its Milkmaid and Teapot brands became the undisputed standard, a ubiquitous sight in *kopitiams* (coffee shops) and stores. Nestlé's advantages were all too apparent to director of the Dutch Friesland Condensed Milk cooperative Sietze Hepkema, who spent five months touring Southeast Asia with the goal of gaining a foothold in the region. Visiting a small shop, Hepkema

observed with dismay some old and rusted cans of his cooperative's own products, well past their sell date. In contrast, Nestlé representatives personally checked all incoming stock, and contracted Chinese agents to visit the small shops and kopitiams to ensure that supply was fresh, attractive, and properly labelled, even taking the unique step of buying back unsold stock. Nestlé representatives could also ensure that no competing products were present, a provision that was often written directly into purchase agreements (Hartog, 1986, pp. 134–137).

Great War and shift to Asia

The Great War transformed the global trade in concentrated milk. Military demand for fodder, beef and leather prompted the slaughter of dairy herds, and even such non-belligerents as Switzerland and the Netherlands felt the impact of tin and sugar shortages. At the same time, the swell of armies and refugees created a vast surge in demand, overnight changing Europe from a major exporter of concentrated milk to a net importer. Wartime demand was initially a boon for American and Canadian producers, particularly Borden, which increased annual output from 700,000 to 1.9 million pint-tins of evaporated milk per year over the course of the war (Collins & Borden Company, 1922, pp. 19–20).

Exacerbated by a shortage of merchant shipping, civilian and military demand in Asia ran high. While Hong Kong was able to count on its local production (Dairy Farm, Ice and Cold Storage Co. Ltd., 1919, pp. 33–36), panic-buying in Bangkok doubled retail prices of imported goods overnight (Straits Times, 12 August 1914, p. 9, Singapore Free Press and Mercantile Advertiser, 4 August 1914, p. 5). In Singapore and Saigon, Nestlé opened its warehouses to retail customers, selling condensed milk directly or through competing importers who nevertheless agreed to distribute stocks in order to deter hoarding (Malaya Tribune, 4 August 1914, p. 9). Even these actions could not mask looming scarcity as the war continued. As shown in Table 1, a case of Milkmaid condensed milk (the product most frequently quoted) that retailed for 11 Straits dollars in 1913 had risen to 19 dollars four years later, prompting the Food Control Committee to enact price caps in the Malay States. To deter black-marketeers, Nestlé advertised its official prices in multilingual newspaper advertisements and leaflets, earning the praise of the Singapore press (Straits Times, 5 September 1917, p. 8), but keeping sight of its long-term brand reputation. When a shipment of condensed milk that had been impounded on a German freighter was delivered months late to the Singapore office, the company chose to destroy it rather than risk sale of an inferior product, a decision that it explained in numerous letters to the major newspapers (Straits Times, 12 November 1914, p. 9; Singapore Free Press and Mercantile Advertiser Weekly, 12 July 1917, p. 6).

The diversion of American production to Europe eroded American dominance in the Philippines and China. Manila was initially left to secure its own food supplies (Malaya Tribune, 5 June 1915, p. 12; Malaya Tribune, 23 March 1915, p. 5; Malaya Tribune, 28 April 1915, p. 6), with no policy put in place to prevent hoarding. Dependence on American milk imports also drove price speculation in China. As Table 2 shows, Chinese imports of condensed milk (tellingly classified as a 'provision for war') fluctuated significantly throughout the war. The volume and percentage of North American imports reached its peak in 1916 and 1917, and falling sharply after the United States entry into the war.

War provisioning brought the two large producers closer together, but also left them with similar problems. During the early years of the war, Borden and Nestlé grew increasingly dependent on each other to fill large government orders. In 1918, the two formally rewrote

Table 1. Retail price of milk in Singapore, 1909–1921.

	Brand	Price (Straits dollars)			
24 April 1909 (ST)	Sledge (Bernese Alps Milk Co.)	\$8.50			
29 March 1913 (ST)	Milkmaid (Nestlé)	\$11.00			
5 August 1914 (SFP)	Milkmaid prices rise to \$20 per case after outbreak of war, and fall to \$13 after Nestlé Singapore announces decision to sell directly from warehouse.				
11 November 1914 (MT)	Milkmaid	\$12.40			
10 April 1915 (ST)	Milkmaid	\$13.25			
12 October 1915 (ST)	Milkmaid	\$13.25			
21 February 1916 (SFP)	Milkmaid	\$13.90			
31 May 1916 (SFP)	Milkmaid	\$14.90			
30 May 1917 (MT)	Milkmaid	\$16.90			
25 June 1917 (MT)	Milkmaid	\$17.90			
26 June 1917 (MT)	Milkmaid	\$19.00			
26 June 1917 (ST)	Milkmaid	\$19.00			
14 July, 1917 (ST)	Government announces caps on milk prices.				
•	Milkmaid	\$19.00			
	Borden (product brand not mentioned)	\$19.00			
21 November 1917 (MT)	Milkmaid	\$18.00			
26 November 1919 (MT)	Milkmaid	\$20.50			
28 January 1920 (MT)	Milkmaid	\$22.50			
30 July 1920 (MT)	Milkmaid	\$23.50			
12 November 1920 (ST)	Milkmaid	\$24.95			
25 July 1921 (MT)	Nestlé Singapore announces price drop of \$2.00 per case on Milkmaid				
18 November 1921 (MT)	Milkmaid .	\$20.45			

Source: as listed in table. Note: MT- Malaya Tribune (Singapore); SFP- Singapore Free Press and Mercantile Advertiser (Singapore) and ST- Straits Times (Singapore).

their relationship, cancelling the agreements of 1902 and 1905, and ushering in a new era of cooperation, allowing Nestlé to produce (but not sell) in the United States, and making Nestlé the sole distributor for Borden overseas (Federal Trade Commission, 1921, pp. 56–60, 145–168). Both companies borrowed prodigiously to expand capacity, in particular by absorbing smaller producers; Nestlé's American subsidiary bought the Illinois-based Hires Condensed Milk Company, which expanded production from 500,000 to two million cases of condensed milk per year (Federal Trade Commission, 1921, pp. 41, 60–62). The armistice brought new challenges of mitigating wartime debt and winding down excess capacity. In 1921, Nestlé posted the first annual loss in the company's history. Over subsequent years, both they and Borden cut back on production, liquidated inventories, and sold off assets that they had acquired during the boom years (Borden, 1919–1921; Heer, 1966, 133–137)

Within this gloomy landscape, Asian markets provided a ray of hope. From 1919 to 1925, Asian consumption of condensed milk rose from a 6.9 to a 23.9 per cent share of the global import market, and continued to grow throughout the decade (Hollingshead & Williamson, 1928, p. 15). Nestlé's Australian investments gave it an immense advantage. Through years of expansion and acquisitions, Nestlé had come to dominate Australian exports—the Governor General of Australia estimated that Nestlé controlled all but a few thousand cases per month of export production (*Malaya Tribune*, 5 June 1920, p. 8). A 1920 inquiry into high prices in Singapore concluded that Nestlé supplied 90% of the island's milk (*Malaya Tribune*, 1 December 1920). Australia in 1925 still supplied 60 per cent of condensed milk imports to the Dutch East Indies and 83 per cent of those to Malaya, which together consumed nearly three quarters of the country's exports (Hollingshead & Williamson, 1928, pp. 9, 58). Nestlé also extended its formidable marketing network into

Table 2. C	hinese condensed	milk imports.	1910-1918.
------------	------------------	---------------	------------

Year			Gross import value (taels)				
	Gross imports, million tins	Price per dozen tins (taels)	United States	Hong Kong	Canada	Total	% value of North American origin
1910	4.04	1.61	46,272	171,731	100,180	540,617	27.1
1911	4.11	1.67	57,912	240,285	90,921	572,865	26.0
1912	4.73	1.58	202,865	204,726	12,909	624,876	34.5
1913	5.88	1.61	222,925	293,021	13,587	791,546	29.9
1914	6.48	1.71	300,047	310,518	17,662	923,392	34.4
1915	4.77	1.82	212,246	295,023	1,599	722,654	29.6
1916	6.00	1.66	386,470	289,781	37,038	830,806	51.0
1917	7.55	1.33	584,471	308,687	61,521	837,090	77.2
1918	4.80	1.72	218,709	371,114	29,958	687,743	36.2

Source: Imperial Maritime Customs, 1912, pt. 3, p. 386; 1914, pt. 3, vol. 1, p. 394; 1918, pt. 3, vol. 1, p. 396.

new territories like Java, which came to depend almost entirely on Australia for its dairy products (Straits Times, 19 February 1919, p. 10).

Borden was clearly on the retreat. American concentrated milk exports fell from 80 to 21 per cent of the global total from 1919 to 1925 (Hollingshead & Williamson, 1928, pp. 9, 15). Borden products featured briefly in the Singapore market, but fell away after the war. Favourable tariffs on American goods protected Borden's position in the Philippines, which in 1930 absorbed 63% of American condensed milk exports, ten times the amount they imported from Australia (Yuzuru, 1932, p. 52) Import firms were sufficient for these protected markets, but for markets such as China, where Nestle's Milkmaid brand was already available at a significantly cheaper price (See Table 3), Borden would need a partner that was reliably focussed on the specific challenges of retailing a branded good. That partner would be Nestlé. Continuing upon the 1918 agreement that outlined a royalty schedule for Nestlé to distribute Borden-branded goods in certain markets, Nestlé purchased outright the Eagle brand for use in Japan (1926) and China (1928) (Federal Trade Commission, 1921, p. 60).

Challenge of domestic competitors

Unlike Southeast Asia, Japan and China presented challenges of domestic competition. Prompted by strategic and commercial motivations, Japan had begun importing Western dairy breeds and practices as early as the 1860s, and invited a British expert to teach milk condensing to the Shimōfusa breeding farm, which began production in 1882 (Yukijirushi Nyūgyō Kabushiki Kaisha, 1988, pp. 103, 174). Industry expansion was driven by the provisioning of condensed dairy to military hospitals during Japan's decade of continental wars between 1894 and 1905. Reflecting the political importance of the industry, the 'Condensed Milk Industry Protection Law' (rennyū jigyō hogohō) of 1912 secured for producers preferential tax rates on such necessary ingredients as sugar and tin (Rennyū jigyō hogohō, 1912; Donzé & Kurosawa, 2013).

China's industry was close behind. Although lacking direct political backing or the ability to lobby for preferential tariffs, Chinese producers could rely on such preferential policies as discounted domestic shipping (Grove, 2017), and on the private investment that flowed into

Table 3. Retail price of Borden Eagle and Nestlé Milkmaid brands in Shanghai, 1923–1930, dollars per case.

	Eagle	Milkmaid
1923	11.35	9.49
1924	13.50	11.37
1925	13.50	11.66
1926	13.71	11.32
1927	14.79	12.61
1928	15.00	12.83
1929	15.86	13.72
1930	19.85	17.90

Source: Zhongguo huojia jikan [China price quarterly] 1923-1930.

the new dairying sector. Condensing offered a way to connect the most productive dairy regions, such as the pastures of northern Manchuria, to urban markets. Chinese trade journals circulated detailed drawings and photographs of the simple sort of tabletop condensing apparatus that was being used in Japan (*Shiye bao*, 1908 (18); *Jinbu* 1913, 5 (2)).

Small producers in both countries often started out copying well known foreign trademarks. In 1902, shops in Canton were found to be stocking cans of counterfeit Eagle brand milk, most likely a cheaper product that had been repackaged with similar (albeit misspelled) labels (*Straits Times*, 10 July 1902, p. 4). Although the fraudulent labelling of the 'coonsed' milk was assumed to have been the work of a Hong Kong importer, the product itself probably came from Japan, which was known for rampant use of fraudulent labelling (Furuta, 2017; Motono, 2011). Just a few years earlier, an article critical of the practice had mentioned by name the copying of 'Eagle, Lion and other brands' of condensed milk (*Straits Times*, 20 November 1897, p. 3). Sources that overlook Japanese dairy exports to the continent (*Singapore Free Press and Mercantile Advertiser*, 3 December 1903, p. 5), were probably simply unaware of this trade in counterfeit products.

Over time, the challenge in Japan shifted from piracy to protectionism. Tinned milk was already a politically favoured commodity, and increasing consolidation of producers gave the industry a voice. Forerunner of today's Meiji Dairies Corporation, the Meiji Sugar Manufacturing Company (Meiji Seitō) purchased the Bōsō Condensed Milk Company in 1917. In 1920, confectioner Morinaga purchased Japan Condensed Milk (Nippon Rennyū), since Morinaga (like Nestlé) also produced a line of caramel candies out of excess or defective condensed milk. Meiji and Morinaga led the Japanese Condensed Milk Association (Dainippon rennyū kyōkai), which successfully lobbied for preferential tax rates and access to ingredients, especially sugar, and pressed for tariffs to push MNE competitors out of the domestic market (Kanzei no mondai, 1929–1931). As Nestlé's sales began to suffer during the late 1920s, the company sought to acquire an existing local producer, but were repeatedly blocked by local dairy and condensed milk associations. Nestlé would not form an actual partnership in Japan until its 1933 purchase of the Fuji Condensed Milk Company, going as far as to create a new local company so as to disguise foreign ownership (Donzé & Kurosawa, 2013).

In China, importers faced the continued problem of counterfeit products. Borden had received from the Shanghai Superintendent recognition of its trademark as early as 1888, a fact raised two decades later, when Connell Brothers represented the company against a local distributor of 'inferior quality' Japanese milk that was labelled in English as 'Bird' brand, and 'Genuine Old Eagle Brand' in Chinese (China; Trade Marks, 1909). In

1915, a German importer levied through the American embassy in Beijing one of a series of complaints against sellers of products bearing forged labels of Borden's Eagle and Rose brands. The official response revolved around the losses incurred by Chinese merchants who had purchased what was now unsalable stock. Because the product was found to come from Japan, plaintiffs were advised to take up the case with the Japanese embassy (Xiangchen Mei-De liangquo, 1915). Similar accusations were soon being raised against products originating in China. In 1921, a plaintiff identified as the Anglo-American Milk Company raised suit against a Chinese producer for copying the Eagle brand. The court gave the Chinese producer one month to change the labels (Minshang Lin Guangyi, 1921).

The first significant Chinese brands arose in the late 1920s, a decade in which domestic legal reforms greatly favored the growth of Chinese businesses (Grove, 2017; Kirby, 1995), and when (as Table 3 shows) the price of imported milk was on the rise. At this time, a small entrepreneur named Wu Baiheng registered the Pe-Henc ('All's Well', a pun on the owner's name) brand. In 1924, Wu took out a loan to buy the Kangning Condensed Milk plant in the south-eastern city of Wenzhou, replacing its large evaporating pans with vacuum stills (claiming as well to have independently invented the process, Su Jiahan, 1932). He purchased six Holstein cows, and contracted local farmers to deliver raw milk. By 1926, local Ningbo merchants were distributing his 'Captive Bird' (qindiao) brand milk to neighbouring cities. Riding a swell of enthusiasm for national products (quohuo), the brand was awarded first prize at the 1929 Chinese National Products Exposition in Hangzhou.

In that same year, Nestlé formally accused Pe-Henc of brand infringement. Shown below, the symbol of Pe-Henc's Captive Bird was not a direct copy, but visually similar to Borden's Eagle, the added symbolism of a hand grasping the bird's feet resonating with the country's wave of consumer nationalism (Gerth, 2003, pp. 179-185; Tsai, 2010, pp. 103-125). Nestlé was not new to popular boycotts, having already faced a similar situation in Istanbul (Koese, 2008, p. 750), but it was evidently less prepared for the political changes to China's business environment, which included greater legal recognition of trademark ownership, culminating in the Chinese Trademark Law of 1923 (Furudate, 1926; Kirby, 1995). Even as it was preparing to expand the Eagle brand in the Chinese market, the company was caught off-guard by events on the ground, having neglected to formally renew registration of the trademark after the change of Chinese government in 1927 (Motono, 2011; Nestlé v. Baihao lianru chang, 1929; Qigong niunai gongsi v. Yashide gong, 1932). Despite having lost its suit, Nestlé remained undeterred. As it had done in Japan and elsewhere, the company attempted to buy its local adversary, offering to purchase Pe-Henc outright, or to buy 49% ownership that would leave Wu the majority stake. Perhaps sensing that political winds were now blowing in his favour, Wu refused (Figures 1-3).

Nestlé soon found itself fighting a wave of Chinese products, both counterfeit and knockoff. Nestlé both to the courts. In 1933, the company filed suit with a provincial court in order to ensure the destruction of fraudulently labelled products (Hebei shunling, 1933), and (shown in Table 4) repeatedly raised claims against Chinese brands that it claimed infringed its Eagle and other trademarks. As with action against Pe-Henc, and 'Dairymaid' before that, the core of Nestlé's suits was the 'threat of mistaken purchase' (wucuo zhi yu), the potential of a visually similar logo to mislead the consumer. Cases thus turned on such details as the placement and colour of text, whether a pictured bird faced right or left, whether it stood in a distinctive pose, or against distinctive background. Rulings generally favoured the



Figure 1. Borden Eagle early twentieth century product logo, Massachusetts Historical Society.

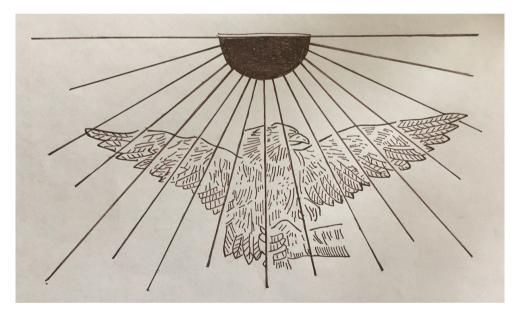


Figure 2. Earlier version of the Pe-Henc Captive Bird logo, *Shangbiao gongbao* [Trademark bulletin] 58, 1931, p. 23.

Chinese defendant, but when the similarity was deemed to be too great, as in the suit raised by American producer Carnation against the Chinese 'Flower' brand, courts ordered the offending logos removed.

It is difficult to say how the expansion of China's domestic industry affected imports as a whole. Measured in value, imports fluctuated across the 1920s, peaking between 1928 and 1931, followed by a sharp drop over the subsequent decade (George, 1926, p. 51; Ho, 1935, p. 699; Lu, 2018, pp. 30–36; United States Department of Commerce, 1935). However, the precise reason for this decline is not clear, given the existence of such other factors as currency instability, introduction of pasteurisation requirements, and a rapidly deteriorating

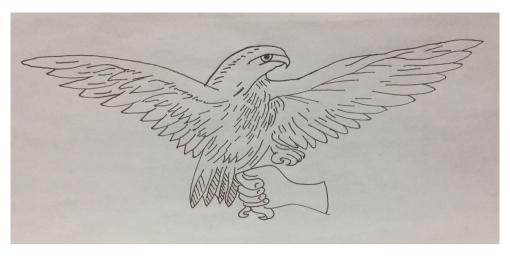


Figure 3. Pe-Henc Captive Bird logo, as seen on contemporary product packaging.

Table 4. Trademark infringement suits brought before Chinese courts, 1929–1936.

Nestlé v Baihao lianru chang [Captive bird brand condensed milk] (28, 1) 1929

Anglo-Swiss v Meizuishi [Cow head brand condensed milk] (28, 2) 1929

Nestlé v Riguang lianru chang [Old Parrot brand milk] (59, 2) 1931 Nestlé v Minsheng gongsi [Phoenix brand condensed milk] (66, 3) 1932

Nestlé v Datong hang [Starts chocolate] (91, 12) 1934

Nestlé v Chen Yuxi [Golden bird brand condensed milk] (92, 11) 1934

Nestlé v Datong hang [Starts chocolate] (97, 7) 1935

Nestlé v Maojihang [Young Parrot brand condensed milk] (99, 10) 1935

Carnation v Dashen hang [Flower brand condensed milk] (116, 1), 1936

Source: Shanabiao gong bao (issue and page).

security situation that affected particularly the coastal cities. What is clear is that by the late 1920s, the domestic industry had clearly taken off: most of the condensed milk sold in such major cities as Dalian, Tianjin and Hankou was of Chinese origin, consisting largely of Chinese brands that were priced well below Eagle (Fenlei shi jia, 1933-1936; Imperial Maritime Customs, 1926, p. 61).

In other words, while Eagle and other premium imports retained their original consumer base, growth among the mass segment of the Chinese market was being satisfied by domestic competitors. This fits with other studies of how Chinese consumers of the period came to accept new product types, especially of everyday, household items like machine-made cigarettes, packaged foods and manufactured soap that were sold locally in neighbourhood shops, and carried by peddlers to consumers in the countryside (Tsai, 2010, pp.18-44, 71-102; Yeh, 2010, pp. 57-60). With milk imports priced out of the range of urban middle class (Glosser, 1999), it was the emergence of cheap, and widely available domestic alternatives that led the transformation of daily-life consumer habits.

Although the Japanese invasion in 1937, and Communist victory in 1949 upturned any trajectory of gradual change within the China market, a coda from the years in between suggests how the industry might otherwise have developed. Despite having incurred severe financial and equipment losses, China's domestic milk producers immediately began to regroup as early as 1943. Unlike small producers like Pe-henc, newly formed companies like West Lake Dairy and Giantor planned for scale, securing investment for large new production bases around Shanghai, and in southwestern Sichuan province (DuBois et al., 2019; Huaqu *ribao* [China stocks daily] 237, 1942, p. 2; 253, 1943, p. 4). Even if they expected foreign products like Eagle to return, local investors were anticipating that Chinese brands would be the ones to satisfy the new domestic market.

Conclusion

Any discussion of the success or failure of brand entry in new markets will depend heavily on the time frame chosen. In entering Asian markets, Nestlé's approach to brand building remained characteristically focussed on the long term. The company spent prodigiously to guarantee the quality of its product, and like its patient approach to product scarcity during the Great War, repeatedly sacrificed short term gain in favour of maintaining reputation and public good will. The same can be said for its approach to difficulties entering East Asia. As Japan edged towards war during the 1930s, Nestlé decided to remain in country, and wait out the storm (Donzé & Kurosawa, 2013). That strategy served the company well, allowing it to become one of the first to reenter the postwar market. It showed the same patience in China, which ejected foreign companies during the early 1950s. Poised to move when conditions were right, Nestlé returned in 1990 to establish one of the earliest and most successful Chinese joint ventures.

In the same way, the effectiveness of using a premium line to lead market entry looks very different viewed from a short or long term. This strategy had served Nestlé well in new markets such as Istanbul, Southeast Asia, and had worked initially for Eagle in China. In each case, because competition consisted of other importers, emphasising superior quality was a way of standing out among similar choices. It was less effective against local producers who could draw on political support, significant price advantage, and what no doubt appeared to be a culture of impunity for brand infringement. But here again, the long-term view is different. Even as the premium brands lost market share to domestic competitors like Pe-henc, the availability of this cheaper product was probably responsible for the growing the market for condensed milk as a commodity. Nestlé had ample experience adapting to such conditions. Had China not experienced its Communist revolution, the company most likely would have found a way to localise, partnering with a local producer to regain advantages in price and distribution, while leveraging its premium reputation to reap the benefits of China's new taste for condensed milk. This is in fact the exact blueprint it followed to reenter the Chinese market four decades later.

Finally, while food brands are most prominently a mark of product quality, the successful expansion of second tier brands suggests that trust can be a threshold consideration. Even if consumers recognise a premium brand as the quality leader, many of those faced with a difference in price, convenience, or such non-quality meaning as political or social stigma will be happy to look below it. Unlike the deceptive intent of counterfeits, knockoffs consciously place themselves within this tier of acceptable alternatives. Packaged with familiar colour and design, knockoffs evoke the premium brand in order to claim that their product is just as good, but in doing so indirectly promote it as an aspirational purchase.

Note

 Corporate archives from Nestlé have been ably used by other scholars (Donzé and Kurosawa, 2013; Heer, 1966; Koese, 2008), and those from now-defunct Borden no longer exist.

Acknowledgments

I am deeply indebted to Marten Boon and Espen Storli for patiently introducing me to the field of business history, to Alicia E for her insightful perspectives on market entry strategy, and to participants in the 'Commodity Trading Companies in the First Global Economy, 1870-1914', workshop at the Norwegian University of Science and Technology, and the two journal readers for their extremely useful comments on early drafts of this article. Thanks as well to the Singapore National, Shanghai Municipal, and Cornell University libraries, and as always to Misako Suzuki.

Disclosure statement

This paper presents no conflict of interest.

Notes on contributors

Thomas David DuBois is a historian of modern China, and Professor of Humanities at Beijing Normal University. He is currently conducting an extensive fieldwork-based study of China's cattle, beef and dairy industries.

ORCID

Thomas David DuBois http://orcid.org/0000-0002-7970-2472

References

Anglo-Swiss Condensed Milk Company v. Metcalf. (1886). Reports of Patent, Design and Trade Mark Cases, 3(2), 28-32.

Barnes, F., & Higgins, D. M. (2017). Brand image, cultural association and marketing: 'New Zealand' butter and lamb exports to Britain, c. 1920–1938. Business History. doi:10.1080/00076791.2017.

Blackman, J. (1967). The development of the retail grocery trade in the nineteenth century. Business History, 9(2), 110–117. doi:10.1080/00076796700000012

Borden Company. (1919–1921). Annual reports. New York.

China; Trade Marks, Decisions of the Mixed Court. (1909). Patent and Trade Mark Review 7(9), 2771-2774. Cochran, S. (2000). Encountering Chinese networks: Western, Japanese, and Chinese corporations in China, 1880–1937. Berkeley: University of California Press.

Collantes, F. (2016). Food chains and the retailing revolution: Supermarkets, dairy processors and consumers in Spain (1960 to the present). Business History, 58(7), 1055–1076. doi:10.1080/00076791. 2016.1155558

Collins, J. H, & Borden Company (1922). The story of condensed milk. New York, NY: Borden Co.

Dairy Farm, Ice and Cold Storage Co. Ltd. (1919). The Dairy Farm, Ice and Cold Storage Co., Ltd., Hong Kong: 1886 to 1919: Being the story of a remarkable enterprise, the keystone of the food supply of Hong Kong and its shipping, of its early struggle against adversity in many forms and of its ultimate triumph. Hong Kong: Dairy Farm, Ice and Cold Storage Co.

Dillon, J. J. (1941). Seven decades of milk: A history of New York's diary industry. New York, NY: Orange Judd Publishing Company.

Doeppers, D. F. (2016). Feeding Manila in peace and war, 1850–1945. Madison: University of Wisconsin Press. Donzé, P., & Kurosawa, T. (2013). Nestlé coping with Japanese nationalism: Political risk and the strategy of a foreign multinational enterprise in Japan, 1913-45. Business History, 55(8), 1318-1338. doi:10.1080/00076791.2012.745065

DuBois, T. D., et al. (2019). China's dairy century: Making, drinking and dreaming of milk. In R. Kowner, G. Bar-Oz, M. Biran, M. Shahar, G. Shelach (Eds.), Animals and human society in Asia: Historical, cultural and ethical perspectives, 179-211. London: Palgrave Macmillan. doi.org/10.1007/978-3-030-24363-0_6

Federal Trade Commission. (1921). Report of the Federal Trade Commission on milk and milk products 1914-1918: June 6, 1921. Washington, DC: Govt. Printing Office.

Federal Trade Commission. (1938). Interim report of the Federal Trade Commission on the agricultural income inquiry. Part 1. Washington, DC: U. S. Govt. Printing Office.

Fenlei shi jia [Current market prices by category]. (1933–1936). Huayang yuebao [Huayang monthly]. Fernandez, E. (2010). Unsuccessful responses to quality uncertainty: Brands in Spain's sherry industry, 1920–1990. Business History, 52(1), 100–119.

Furudate, N. (1926). Shina ni okeru qaijin no shōhyōken [Foreign trademark ownership in China]. Dairen: Mantetsu chōsa shiryō, no. 53.

Furuta, K. (2017). Imitation, counterfeiting, and the market in early twentieth century Japan and China: Intra-Asian trade in modern small sundry goods. In K. Furuta & L. Grove (Eds.), Imitation, Counterfeiting and the Quality of Goods in Modern Asian History, 139–160. Singapore: Springer.

George, A. H. (1926). Report on the commercial, industrial and economic situation in China. London: H. M. Stationery Office.

Gerth, K. (2003). China made: Consumer culture and the creation of the nation. Cambridge, MA: Harvard University Press.

Glosser, S. (1999). Milk for health, milk for profit: Shanghai's Chinese dairy industry under Japanese occupation. In S. Cochran (Ed.), Inventing Nanjing road: Commercial culture in Shanghai, 1900–1945, 207–233. Ithaca, NY: East Asia Program, Cornell University.

Grove, L. (2017). Technology transfer, imitation and local production: The soap industry in early twentieth-century Tianjin. In K.Furuta & L.Grove (Eds.), Imitation, counterfeiting and the quality of goods in modern Asian history, 161–182. Singapore: Springer.

Haering, G. J. (1930). The market in Burma for imported foodstuffs' United States Department of Commerce. Trade Information Bulletin, 724.

Hartog, A. d. (1986). Diffusion of milk as a new food to tropical regions: The example of Indonesia, 1880–1942. Wageningen: Stichting Voeding Nederland.

Heer, J. (1966). World events 1866-1966: The first hundred years of Nestlé. Lausanne: Imprimeries

Higgins, D. M., & Mordhorst, M. (2008). Reputation and export performance: Danish butter exports and the British market, c.1880-c.1914. Business History, 50(2), 185–204. doi:10.1080/00076790701868601 Ho, P.-Y. (1935). The foreign trade of China. Shanghai: Commercial Press.

Hollingshead, R. S., & Williamson, H. T. (1928). International trade in concentrated milk. Washington, DC: Govt. Printing Office.

Hong, J. (2016). Transcultural politics of department stores: Colonialism and mass culture in East Asia, 1900–1945. International Journal of Asian Studies, 13(2), 123–150. doi:10.1017/S1479591416000012 Huagu ribao [China stocks daily].

Imperial Maritime Customs, China. (1881). Special series. Shanghai: Inspector General of Customs.

Imperial Maritime Customs, China. (1906). Decennial Reports of the Trade, navigation, industries, etc. of the ports open to foreign commerce in China, and on the Condition and Development of the Treaty Port Provinces, 1892-1901 (Vol. II. Southern Ports, with Appendices). Shanghai: Statistical Department of the Inspectorate General of Customs.

Imperial Maritime Customs, China. (1912, 1914, 1918). Returns of trade and trade reports. Shanghai: Statistical Dept. of the Inspectorate General of Customs.

Imperial Maritime Customs, China. (1926). Foreign trade of China, report and abstract of statistics. Shanghai: Statistical Dept. of the Inspectorate General of Customs.

Jones, G. (1994). Brands and marketing. In G.Jones & N.Morgan (Eds.), Adding value: Brands and marketing in food and drink, 1–12. London: Routledge.

Kanzei no mondai ni kan suru seikan oyobi sanjō kankei zakken, renyū [Assorted requests and petitions concerning tariffs, condensed milk]. (1929–1931). Japan Centre for Historical Records, item number B08062231100.

Kirby, W. (1995). China unincorporated: Company law and business enterprise in twentieth-century China. The Journal of Asian Studies, 54(1), 43–63. doi:10.2307/2058950



Koese, Y. (2008). Nestlé in the Ottoman Empire: Global marketing with local flavor 1870-1927. Enterprise & Society, 9(4), 724–761. doi:10.1017/S1467222700007606

Kuo, C. H. (2013). Pigs, pork and ham: The practice of pig-farming and the consumption of pork in Ming-Qing China (PhD Thesis). New York University.

Lopes, T. D S. (2002). Brands and the evolution of multinationals in alcoholic beverages. Business History, 44(3), 1-30.

Lopes, T. D S. (2016). Building reputation through third-party endorsement: Fair trade in British chocolate. Business History Review, 90(3), 457-482, doi:10.1017/S0007680516000738

Lu, S. Y. (2018). Muru yu niunai: Jindai Zhongguo mugin juese chongsu 1895-1937 [Mother's milk and cow milk: Reinvention of the role of the Chinese mother 1895-1937]. Hong Kong: Zhonghua Shuju.

Mercer, J. (2010). A mark of distinction: Branding and trade mark law in the UK from the 1860s. Business History, 52(1), 17-42. doi:10.1080/00076790903281033

Minshang Lin Guangyi fangzao Ying-Mei niunai gongsi shangbiao an [Case of Eagle brand milk trademark infringement Fujian merchant Lin Guangyi]. (1921). Academia Sinica Modern history archives item: 03-18-122-03-001.

Motono, E. (2011). Anglo-Japanese trademark conflict in China and the birth of the Chinese trademark law (1923), 1906-26. East Asian History, 37, 9-26.

Mullaly, J. (1853). The milk trade of New York and vicinity. New York, NY: Fowlers and Wells.

Qigong niunai gongsi [Milkman (sic) dairy company] v. Yashide gong. (1932). Sifayuan gongbao, 85, panjue, pp. 14-15.

Rennyū jigyō hogohō seitei no ken [Promulgation of the condensed milk industry protection law]. (1912). Japan Centre for Historical Records, item number A14080486000.

Su Jiahan Xu Kangzu faming lianru zhenkong ji [Su Jiahan and Xu Kangzu invent vacuum milk condenser]. (1932). Zhejiang jiaoyu xingzheng zhouji. 3(23), 3.

Tessari, A., & Godley, A. (2014). Made in Italy. Made in Britain. Quality, brands and innovation in the European poultry market, 1950–80. Business History, 56(7), 1057–1083.

Tsai, W. (2010). Reading Shenbao: Nationalism, consumerism and individuality in China, 1919-37. Basingstoke: Palgrave Macmillan.

United States Department of Commerce. (1935). Where China buys and sells. Trade information bulletin 827. Washington, DC: US Government Printing Office.

Wilkins, M. (1994). When and why brand names in food and drink? In G. Jones & N. Morgan (Eds.), Adding value: Brands and marketing in food and drink, 15–40. London: Routledge.

Xiangchen Mei-De liangguo Yingpai niunai zhengzhi shangbiao ruhe jiejue Huashang xiaoshou ci xiang huopin ruhe banli zhuan qingshi zun you [Concerning the resolution of Chinese merchant capital and stock in the US-German trademark conflict over Eagle brand milk]. (1915). Academia Sinica Modern history archives item: AS 03-18-122-01-001.

Yang, Z. Y. (2015). Wan Qing shigi Zhongquode niunaiye yu niunai shichang—yi Dongbu digi wei li [The milk industry and market in Late Qing China, example of Manchuria]. Zhongnan Daxue Xuebao (Shehui Kexue Ban), 21(6), 223-228.

Yeh, W. H. (2010). Shanghai splendor: Economic sentiments and the making of modern China, 1843-1949. Berkeley: University of California Press.

Yi'an, zhuren. (1996). Guantou niunai hang [Tinned milk trade]. Folio 2 of Hujiang shangye shijing ci. [Ode to Shanghai trades and markets]. Shanghai: Shanghai shudian chubanshe. (Original work published 1905).

Yukijirushi Nyūgyō Kabushiki Kaisha. (1988). Gyūnyū to nihonjin [Milk and the Japanese]. Tokyo: Shinjuku Shobō.

Yuzuru, N. (1932). Bei-Hi kan jiyū tsūshō bōeki mondai to Hirippin Guntō kokusai bōeki no sūsei ni tsuite [Problem of US-Philippines free trade and the direction of commerce in the Philippine archipelago]. Yokohama: Yokohama Specie Bank.

Zangger, A. (2014). The Swiss in Singapore. Singapore: Didier Millet.

Zuo, X. (2003). Zhongquo jindai shangbiao jianshi [A simple history of trademarks in modern China]. Shanghai: Xuelin chubanshe.