

From brown sugar to white sugar: Japan's modernization from the perspective of sugar preference

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Abstract. From raw brown sugar to refined white sugar, Japanese people have demonstrated a preference for modern commercial products in their consumption of sugar in the 19th century. To make such transformation possible, the Japanese colonial empire refined imported sugar in domestic Japan to serve the ever-increasing sugar demand. From depending on brown sugar import from Ryukyu and yellow sugar import from Taiwan to exporting white sugar to its colonies, Japan's industrialization and colonial expansion have made this nation modernized which is also reflected in people's taste for refined white sugar and the notion of "civilization" that the commodity symbolizes.

Keywords: Imperial Japan, History of sugar consumption, modernization.

1. Introduction

People consume products not only for the material values, but more importantly, their own beliefs which were shaped by others' opinion, the persuasion of society, and the transformational era. Sugar was once a luxury item until advances in sugar trade and production techniques transformed it into an everyday condiment, and eventually, the symbol of successful modernity, imperialism, and industrialization. In such context of industrial era, the Japanese eliminated unrefined sugar and praised white sugar under the particular narrative. This essay examines the materialization of consuming both traditional and refined sugar and the simultaneous change in preference for sugar varieties from brown sugar to white sugar under the context of an industrialized and colonialist Japanese sugar empire. It argues that such transformation of flavor was an outcome constructed by Japan's industrial progress, colonial expansion into Ryukyu and Taiwan, and modern approaches to mold sugar consumers.

2. Industrialization, Colonial Expansion, and the Transformation of Sugar Consumption in Modern Japan

Despite its presence in Japan dating back to the 8th century, sugar would not become accessible to the general populace for another nine centuries. [1] This is because domestic sugar manufacture in Japan did not make significant progress until the 18th century so that sugar remained an exotic commodity.[2] In terms of its types, Japan's sugar imports may be categorized into unrefined (such as brown and yellow) and refined white sugar. Specifically, they consisted of brown sugar from the Ryukyu Islands and yellow sugar from Taiwan, with China, the Iberian merchants, and the Dutch East India Company (VOC) serving as the primary exporters of white sugar. [3] Given its scarcity, sugar has long been perceived as luxury goods in the pre-industrial era. White sugars, for instance, would cost 25 to 36 times more than rice in equal amount in the early 17th century. [3] Sugar, especially high-grade sugar, was thus used for gifts to demonstrate social prestige and wealth for the elite class (including court nobles and samurai). [4] Under exceptional circumstances, sugar possessed medicinal value as well. In the general populace, only the sick had the chance to receive sugar as a gift of consolation, because sugar helps restore physical strength. [5] People also bought sugar at medicine stores for its painkilling effects that could alleviate the bitterness of Chinese medicine. [6] With trade flourishing in the 16th century, sugars became more available and popular in Japan. The demand for sugars was so prodigious that more than 600,000 kg of brown sugar was imported from China from 1651 to 1682 even after the border-closure in 1639 [5] Gradually, sugar established its role as seasoning since the 1680s, when the Japanese became so familiar with this

flavor that they no longer indicated it as a special added ingredient. [7] Driven by such substantial demand, Japan first expanded overseas to secure raw sugars, and subsequently developed domestic industries to refine them into white sugar. In this process of seizing the initiative, Japan's industrialization and colonial expansion forged a sugar empire, leading to unprecedented prosperity of refined white sugar consumption within its domestic market.

In the pre-industrial era, unrefined sugars such as brown and yellow varieties were more accessible as a result of substantial supply of the Ryukyu Islands and Taiwan under Japanese occupation. First of all, brown sugar is a chunk of sugar cane juice boiled down by evaporation which has not been (thoroughly) refined, and thus in a raw state and features a local flavor. [5] Brown sugar may never have been favored, but it has indeed become the mainstream variety in sugar consumption due to its greater accessibility. Japan established its first sugar island by means of Satsuma's invasion of Amami Ōshima in 1609 to meet a domestic demand of 700,000 to 800,000 million pounds of Ryukyu brown sugar every year on average. [8] By 1713, an annual production of 1,130,000 caddies of brown sugar was made possible through a combination of Chinese sugar refining techniques and Japanese governmental support in the form of equipment and infrastructure. [9] Through the monopoly of Ryukyu's brown sugar, Satsuma also forced the islanders to pay taxes in sugar at a price much lower than the market value. [10] It reaped 881.250 kan of silver in 1831 from 750,000 kin of sugar, which was almost six times more than the return of tribute-tax in rice. [10] For Japanese market, brown sugar from the southern islands served as a critical input for the confectionery industry in cities like Kyoto, Osaka, and Edo, directly stimulating the growth of commercial confectionery shops and abundant sweets offered. [11] However, Japan peripheralized the Ryukyu Islands to the extent that the latter became a remote and "dependent pool of labor manufacturing a single commodity for distant markets by the larger imperial polity." [11] Despite the islanders worked arduously in cane fields and refining huts, Ryukyu's supply proved inadequate for Japanese proliferating consumption. [12] According to Mazumdar, the southern islands could not even satisfy one-fifth of Japan's annual sugar demand—from 2.27 kg per capita in 1888 to 4.55 kg nine years later, and to 5.45 kg by 1903. [13] The empire therefore set its sights on Taiwan and eventually achieved a transformation from a net sugar importer to an refined sugar exporter.



Figure 1. A Depiction of Sugar Making in Amami Islands, Nagoya Sagenta [14]

Following the rapid advancement of industrialization and colonial expansion, the yellow sugar that Japan acquired from its colony of Taiwan transitioned from a commodity for direct export to a raw material for refining white sugar in Japan's factories. Beginning with a trial import of 140,000 kg in 1864, the volume of Taiwanese yellow sugar climbed to 7,500,000 kg within five years, reaching a peak of approximately 21,250,000 kg in 1884. [15] Except for China, Japan was the largest customer

of Taiwanese yellow sugar in the world over this thirty-year period. [16] Since the imperial expansion in 1895, Taiwan was treated as "the first imperial company set up abroad," relating closely to Japan's image abroad and the overall success of its imperialism. [17] Therefore it is a crucial step for Japan to promote industrialized sugar production as well. By the 19th century, a modernized Japan was capable of developing more complex steps that remove white sugar from the brown sugar crystals. [18] Such grade of sugar is characterized by high purity as well as a granular and brittle texture. [19] Yellow sugar imported from Taiwan would now be further processed into purified white sugar in Japanese refineries such as the Dai-Nippon Seitō and sold to Taiwanese local market and exported to countries such as China and North Korea. [20] As a result, Japan still imported as much as 66,068 tons of sugar from Taiwan in 1897 despite the fact that Taiwanese mechanical appliances in cane-sugar-producing was one of the most backward at the time. [21] Furthermore, Japanese government's distinct authority in Taiwan swept many obstacles from its path to industrial manufacture of sugar. [22] The entrenchment of its 20th-century colonial rule channeled capital and policy into Taiwan, facilitating a modern sugar refinery network that replaced traditional smallholder production of raw sugar. [23] Sugar production at Japanese industries has even exceeded local demand, forcing the manufacturers to export the surplus to the rest of the empire. By the 1930s, Japan and China had exchanged their roles in the sugar trade with each other—the former (including Taiwan) supplied 54% of the importation of purified sugar in China. Meanwhile, precisely because Japan exported sugar mostly in the refined state, its raw sugar import only furnished 8% of the sum in China. [24]

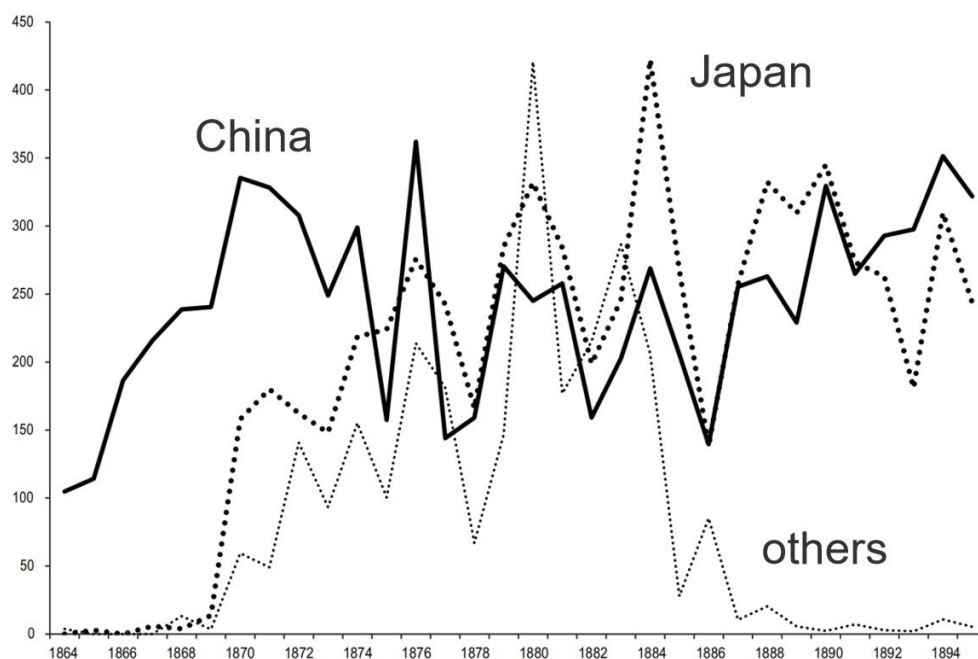


Figure 2. Japan's consumption of Taiwanese yellow sugar from 1864 to 1894 (in thousand *dan*) [25]

Refined white sugar meeting modern standards replaced traditional brown sugar ultimately as the modernization process accompanying industrialization and colonial expansion in the 19th century prompted people to reexamine the symbolic significance of consuming these two types of sugars. This shift of Japanese preference for sugar from brown to white was a corollary of "development" and one of the hallmarks of Japan's modernity. [26] Until 1895, Japan's imports of white sugar had surpassed brown sugar in amount, yet the upward trend of refined sugars importation became evident since the second half of the Tokugawa era. [27] Tracing back to a decade earlier, the import of yellow sugar from Taiwan has already on a declining curve because consumers' preference for refined white sugar from Hong Kong's British companies emerged gradually. [27] One year later, as the graph points out, Japan's white sugar import outnumbered yellow sugar for the first time and maintained a

growth momentum. White sugar from refineries in Hong Kong could be priced at a much higher number in comparison with Taiwanese and Philippine non-refined sugar. [28] In the following decades, raw sugar was still on the import list, but mainly for the purpose of further refining in Japan and export rather than direct consumption.

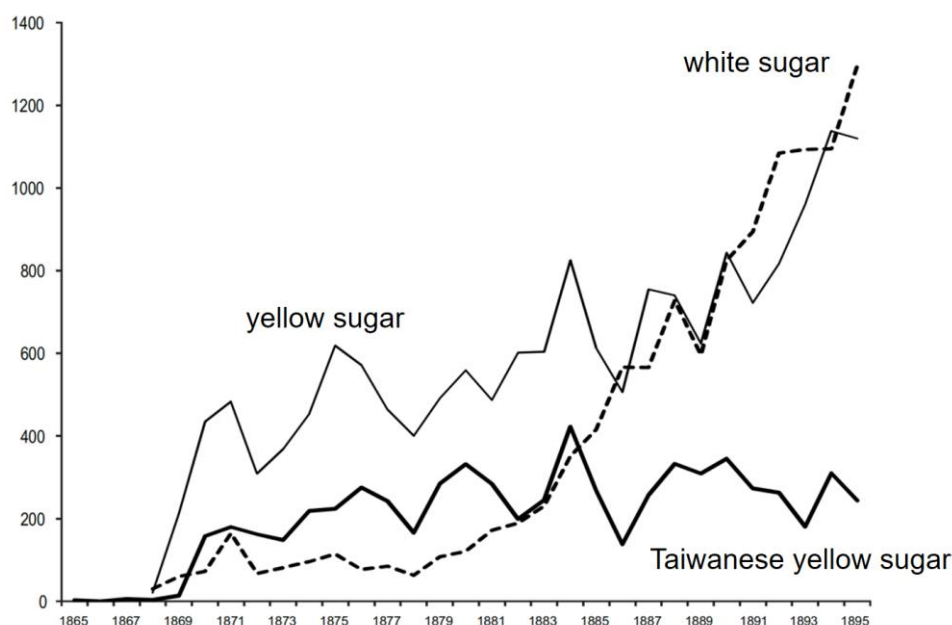


Figure 3. Japan's imports of white sugar and yellow sugar (in thousand *dan*) [29]

During the industrial era, the Japanese preferred white sugar to brown sugar because the former represents the crystallization of modernity that people pursue, while the latter symbolizes backwardness that they spurn. There is a general consensus worldwide that whiteness symbolizes purity and fineness, thus white sugar was deemed to be the finest, sanitary, and prized for aesthetic reason. [30] The old-fashioned sugars produced restrictedly in certain areas—whether Ryukyuan brown sugar or Taiwanese yellow sugar—became more of local specialties or "expensive relics of the past." [31] They were eliminated reasonably to the extent that their lower production efficiency and poorer usability in food processing. [31] Moreover, just as the color reminded people in different ways, the Ryukyu Islands symbolized a prison from which one must escape, while "the Darwinian horrors of an Industrial Revolution at full throttle proved more a draw than a deterrent." [32] Despite the overwhelmingly negative portrayal of brown sugar, it indeed possesses the advantage of healthier elements in comparison with white sugar. [33] The black sugar which was imperfectly refined preserves its health-promoting properties in contrast to factory white. Ryukyuan local brown sugar, for instance, was rich in minerals like magnesium, calcium, potassium, sodium and vitamins B1 and B2, contributing to the long life of the residents. [34]

Most significantly, the socially constructed notion of "modernity" drove this change in preference. Japan's metamorphosis into the first modern nation in Asia endowed refined white sugar with added value as a modern symbol within mass commodity perception. The newly urbanizing society of Japan during the early 20th century consumed ever greater amounts of sugar as suggested by the society. [35] First, consuming refined sugar was a part of the prevailing and advanced Western lifestyle in Japanese society. [36] The middle class in cities got into the daily routine of patronizing coffee shops which sprang up since 1899, which greatly promoting the consumption of sugar as well. [37] Secondly, in comparison with traditional sugars sold in large chunks, sweets made from refined sugars is more sanitary because it was usually put in pocket-size box in iron or paper. [38] Their design catered to modern urban settings (such as cinema), fast-paced lifestyle, and national watchword of nutrition and therefore it was inevitable that consumers associated the refined sugars

and its products with modernity in these social contexts. [38] Candy manufacturer also added English text to their packaging to increase the likelihood that consumers would pay a premium for the exotic frisson. [38] Furthermore, manufacturers such as the Meiji Confectionary Company associated sugar consumption with "civilization," claiming that the amount of sugar or sweets consumption of a nation could measure its level of civilization or barbarism and its understanding of nutrition. [39] Ironically, Japanese people once considered sugar trades to be shameful because the more sugar consumed, the more precious metals left the state, thus harmed the national interests. [40] In addition, the upper class did not suppose people from the lower class were eligible to consume sugar and hoped that the goods remained luxury. [40] Undoubtedly, there were also those who feel nostalgic for the past. In the 1920s and 1930s, as Barak Kushner reported, some intellectuals and consumers sought to compensate for what they perceived as lost in the course of westernization by purchasing foreign products including sugar from China, Taiwan, and the south islands. [41] Consuming upsurge of unrefined sugar at industrial era demonstrated "a desire to return to a cherished 'Asian' past" in particular. [41]

3. Conclusion

In conclusion, during the process of colonial expansion and industrialization, white sugar was given a new significance by Japan as it underwent modernization, thereby supplanting the outdated unrefined sugar. From an exotic luxury to domestically manufactured export goods, sugar demonstrated the success of Japanese sugar empire. Besides, from raw brown sugar to refined white sugar, people's preference for the latter variety witnessed Japan's construction of the public perception of symbols that represent modernity. The transformation of Japanese people's tastes of sugar might provide a novel lens to observe Japan's expeditious modernization, industrial transformation, and imperialism.

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