

The Development of Modern Household Objects; Modernization of Pots and Pans in Japan, 1900-1970

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1. INTRODUCTION

Japanese pots and pans have totally changed in the past one hundred years. They have been modernised and Westernised as have many other everyday artifacts and today, they are few obvious differences with the West. With a closer look, however, we do find some significant difference in their development process. In this paper, we will trace these processes and try to account for their design changes.(1) Before tracing these processes and changes, we should look at types of traditional pans.

2. TYPES OF TRADITIONAL POTS AND PANS

In the late 19th century, at the beginning of the Westernization period, various sizes of TETSU-NABE (iron pans) were in use (Fig.1). This is the commonest type of traditional pan, often hung over an open fire, made of cast iron or copper with a wooden lid. The diameter of the larger ones often reaches three feet, and they were mainly used in large families. They also symbolised the importance once associated with social occasions in villages. Small pans were for small families and personal use that developed in cities in the later of the Edo Period (- 1867).

Also there were other cast iron pots and pans such as HAGAMA (a pot for cooking rice, used at the top of clay ovens. Fig.1), YUGAMA(a pot for boiling water at top of clay ovens), THETSUBIN(a kettle hung over the open fire). To supplement these basic pans, there were some earthenware pots and plates.

These pans have a round bottom to fit over an open fire or to be hung over the oven. Flat bottomed pans for stove-top-cooking never developed in Japan until Westernization began. This is because of the type of heat for cooking. Cooking was done on an open fire in the middle of a room, or on a clay oven in the kitchen. Closed type cooking ranges never developed.

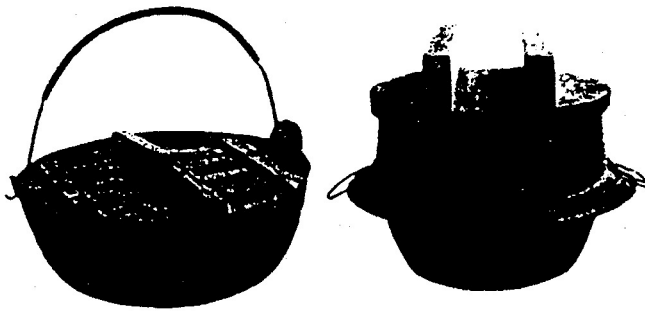


Fig.1 *Tetsu-Nabe (left) and Hagama (right)*

3. THE BEGINNING OF THE WESTERNIZATION

Since Meiji Era (1867-)to the present, many changes occurred to these pans and some traditional pans almost disappeared. This modernization or Westernization of pots happened as earthenware pans declined, material changed and some foreign pans such as the Chinese wok and western frying pan were introduced.

One significant event in the era was the arrival of SUKIYAKINABE (Fig.2). This pan is a shallow pan for cooking beef, and is often mentioned as a symbol of the Westernization at the time. Eating beef meat was a new experience for most Japanese, and eating out at restaurants serving beef became the vogue among citizens looking forward to a new 'civilised' society. Beef was cooked and served in a small shallow pan, made of cast-iron or copper, on a portable charcoal stove. It is a one-pot dish cooked usually right at the table; diners cook for themselves and eat it directly from the boiling pan. Even today SUKIYAKI and other one-pot dishes are consumed in the same manner.(2)

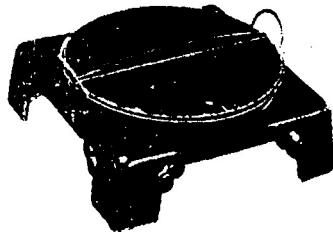


Fig.2 *Sukiyaki-Nabe on a wooden stand*

A more direct influence from the west was the introduction of frying pans They first appeared in Japan around the 1860s, and widely spread in popularity by the 1920s. The spread of frying pans also means a spread in the use of oil cooking, which was never seen in traditional dishes.

4. MATERIAL CHANGES OF PANS

The material of pans, first changed from cast-iron into sheet metal. This change was observed particularly in cities. Tin-plate was used to make cheap miscellaneous pans from the 1860s. Porcelain enamel finish was introduced almost the same time as tin-plate in the 1870s. The arrival of porcelain enamel pans brought colours into the Japanese kitchen for the first time, and they were regarded as a symbol of Westernization. However, it was not until Taisho Era(1912-1925) that porcelain enamel pans became common in kitchens of

ordinary households. Colours used in those pans were black, dark blue and dark green, but sometimes light blue that must have been exceptionally modern looking in the contemporary kitchen. By the 1930s, cast-iron pans no longer dominated the market.(3)

Aluminium, the ultimate material for cooking utensils, began to dominate the market soon after its arrival (Fig.3), as in the West. It is noticeable that the Japanese aluminium industry was developed with the strong support of the army and the government. The army had noticed the importance of aluminium as a highly strategic material for producing arms, and the building the aluminium industry was a top priority in the industrial policy. This commitment resulted in the quick formation of the industry. Use of aluminium in Japan began first in 1894 when an army arsenal produced utensils such as water bottles and mess kits for the infantry with machinery imported from Germany, and aluminium ware production boomed during the Russian-Japanese War(1904-1905). Aluminium smelting in Japan started in 1935 and then grew rapidly alongside the aircraft industry both being supported by the military authorities.



Fig.3 An aluminium pan, c1900, Osaka Army Arsenal

Another characteristic of the Japanese aluminium ware industry is its frequent use of anodizing. A method of anodizing aluminium to harden its surface, called ALMAITO, was developed in Japan in 1931 and full-scale production started in 1937. After World War II, almost every aluminium product was anodized. Aluminium pans in early years were paper thin, being made by crude stamping, and it is likely that anodizing was employed to improve their poor quality. The technique of adding colour onto anodized aluminium was also developed and was used extensively for cooking utensils in postwar years.

Also in postwar years porcelain enamel pans revived with vivid colours and stainless steel made inroads into pots and pans market and grew rapidly from 1970s.

5. DURING THE WAR TIME

One topic during the war years has to be mentioned here. That is the collecting of metal objects for arms production. As metal pans were collected, in due course earthenware pans revived. Almost every kind of pots and pans was produced in earthen ware. However, they were not durable enough and very short lived.

During the war and for some years after, the production of pots and pans was under government control and the distribution of them was on a rationing system. After bombings of most cities, the lack of pots and pans was very serious and they were often sold in the black market at the time.

For those market, material stocked for making arms, even light metal for airplanes such as duralumin, was utilised to make pots and pans. Factories that had been making aircraft

parts and other products suddenly began to make domestic utensils such as pots and pans, kettles and lunch boxes. The number of firms producing aluminium ware increased to 2,000 (before the war, there were only 100), most of which were small workshops producing poor quality goods.

6. CHANGES IN THE INDUSTRY

Traditional cast-iron pan manufactures, which were mostly regional firms based on craft techniques, suffered from a sudden 'Westernization' and never caught up with the progress of the mass production technology employed by the new material sector such as aluminium ware manufacturers. To just glimpse the situation here we look at the history of two manufacturers for contrast.

1) MIZUSAWA: CAST IRON PANS

Mizusawa is a city in northeastern Japan where the cast -iron industry had been situated since medieval times. In the Edo period, the feudal clan of the area set up a guild in Mizusawa to promote the industry, Their products included arms, Buddhist altar fittings, bells, agricultural utensils and domestic objects. In the later Edo period the production of pans increased and there were more than twenty factories in the area.

The opening of the railway service expanded the market and the area became the biggest center of cast-iron products in the northeast by the middle of Meiji Era. The area's products sold well in the northeast until porcelain enamel pans started to appear from KAWAGUCHI, a large cast-iron production centre on the outskirts of Tokyo, in Taisho Era. Early porcelain enamel pans from Kawaguchi were made of cast-iron and their insides were coated with white enamel. Later this was superseded by stamped steel pans with a porcelain enamel finish(blue outer and white inner). Most of these pans were smaller than average cast-iron pans and were fit for increasing small families, and quicker to boil than cast-iron pans.

During the war, ten factories in MIZUSAWA were converted into munitions plants producing shells and grenades. After the war World War II , manufacturers in the area started the production of pots and pans using stocked material, including duralumin. All sold well, but the market was soon dominated by aluminium pans. The manufacturers were obliged to turn their production into two fields: Industrial art objects of decorative use such as utensils for the tea ceremony, kettles, ashtrays, vases, wind-bells, etc. Today the production of machine parts exceeds the industrial art sector.(4)

Obviously the manufactures in Mizusawa could not catch up with the changes in the hollowware market fully. A trade catalogue of 1953 from Mizuta (Fig.4), a major company in the area, shows very conservative designs for their product range: all cast-iron with no porcelain enamel finish, including some huge pans, probably serving the needs of villages or rural areas.(5) Recently, however, the cast-iron SUKIYAKINABE and its kin have been revived with modern designs.

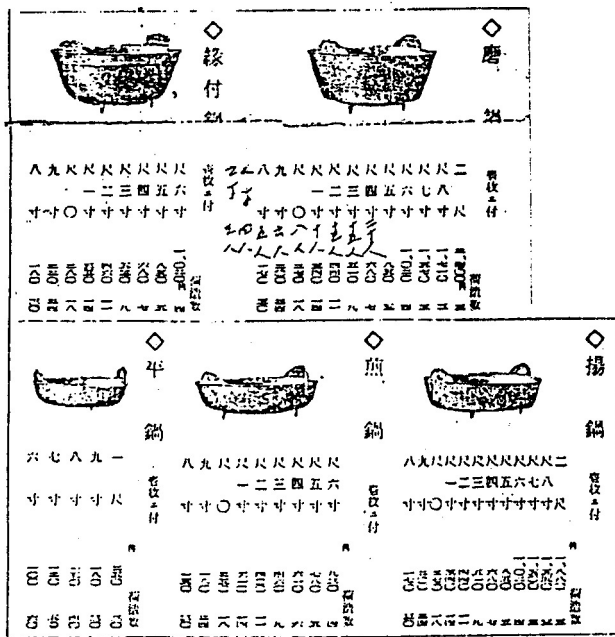


Fig.4 Cast-iron pans from a catalogue of 1953.
Mizuta Cast-iron Foundry in Mizusawa.

2) TSURUMARU: ALUMINIUM PANS

The Nihon Aluminium Co. (Takagi Aluminium in their early years) is a major aluminium ware manufacturer today and known for its Tsurumaru brand, and was the first private aluminium ware company in Japan. The company was set up by Tsurumaru Takagi and others in Osaka in 1901. The first engineers of the company were ex-workers from the Osaka Army Arsenal. Their product ranges in early years were pans, cups, lunch boxes, dishes, bowls and even chopsticks.

When production started, the pots and pan's market was dominated by cast-iron and porcelain enamel pans, but twenty years later, by the 1920s, aluminium ware almost drove other materials out of the market.

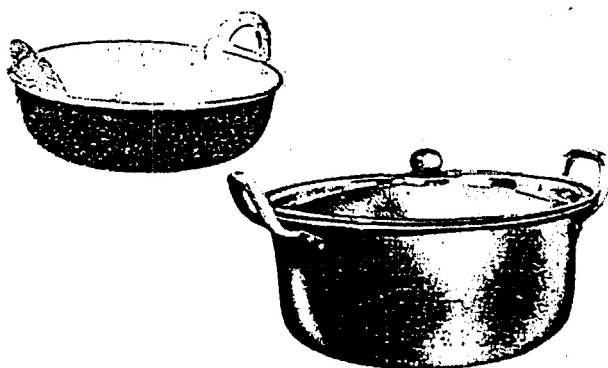


Fig.5 An aluminium pan, 1915 (left) and Nishiki-Nabe, 1920 (right). Nippon Aluminium Co.,

Tsurumaru claims that they are the first manufactures of NISHIKINABE (Fig.5), the commonest design of aluminium pans. It is made of sheet aluminium. It has two handles on both sides of the body, and the lid is also of aluminium (before this design, lids were

made of wood). Interestingly, this design was a result of the decline of export of aluminium ware when European countries resumed their export to South Asia and cut Japanese exports by half. Tsurumaru remodeled their products (a pan with a lid, called Deguchy or Deguchie) for the Indian market, and to fit the domestic market, added handles and a lid-knob, making the flat bottom round. They worked on Deguchie from their stock and started to sell them in 1920. The design has not changed a lot today, and similar pans are still found in many homes.(6)

One factor which led to Tsurumaru's success was its introduction of anodized finish called Alumite or Alumaito, which was first completed by the Rikagaku Institute. Tsurumaru set up the world's first Alumite processing factory under the supervision of the institute in 1932.

As for its design, of all the colours available they chose gold or yellow as a standard colour of the finish. (In anodizing, the colour of final products varies due to the condition of the processing.) They had chosen gold because it was liked by the Asian market.

Tsurumaru's history records some successful aluminium products even after the War: tubs for washing sold well around 1950, pans with a red Alumite lid were popular around 1960, Teflon coated frying pans were in vogue around 1970.

7. DESIGN CHANGES OF POTS AND PANS

Here we should look at some factors of general design changes of pots and pans around 1900 to 1970.

1) Round Bottom / Flat Bottom

Japanese pans in the late 19th century were round bottomed. Even when gas cookers were introduced into wealthy households, round bottom pots and pans had not changed and not energy efficient. Some attempts were made to solve this problem with gas ranges and gas cooking stoves designed so that round bottomed pans could sit in the gas rings arranged in the shape of a bowl. Gradually, however, round bottomed pans made way for flat bottomed pans (Fig.6). Obviously this was the result of fuel change in cooking. In large cities, gas and kerosine cooking were common by the 1930s, however, in villages and small towns charcoal and firewood were the main fuel for cooking until long after The World War II. Round bottomed pans, mostly made of cast-iron, survived until recently. HAGAMA, a rice cooking pot made of cast-iron and later of cast-aluminium, never adopted a flat bottom right up to its disappearance when it was superseded by the electric rice cooker.

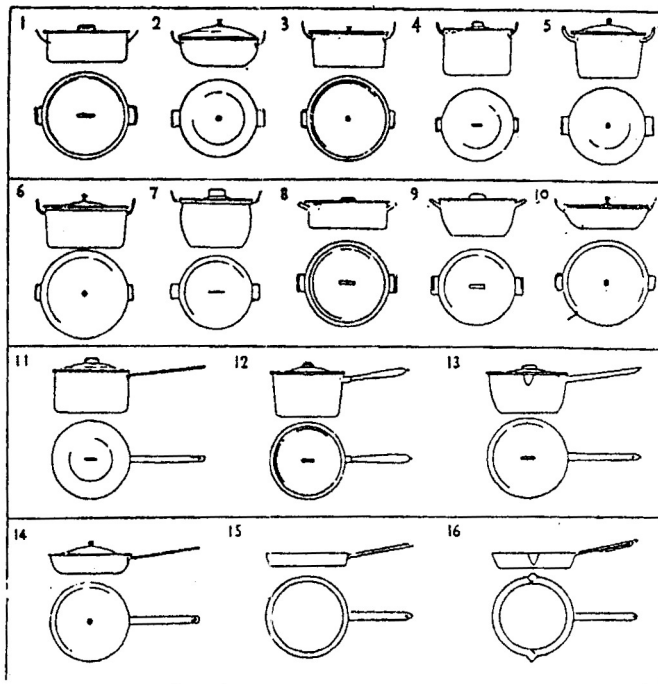


Fig.6 Pans sold in department stores in Tokyo, 1937.
 from 'Kougei News' VOL.6-8

2) Large Pans / Small Pans

As in the West, the size of Japanese pans 'shrank'. Among traditional cast-iron village pans there were very large ones. In the northeast there were huge pans called 'twenty-five-people pan' or 'forty-people pan' which could have prepared meals for twenty-five or forty workers in the days of collective rice planting. The diameter of pans possessed by large families at the turn of the century was about 20 inches, then around the 1920s pans of 14 inches were quite common even in cities, but now most pans are of almost 8 inches. This is a result not only of the 'shrinking' of family sizes but also of the changes in cooking. The number of dishes for one meal has increased, and each dish is prepared in more delicate way than before, frequently using smaller pans. Also in farm house kitchens, pans were used for processing foods that were to be preserved. Making preserved foods such as soybean paste seasoning for the whole year was large-scale work and required large size pans. Today, however, such work of processing food is mostly carried out not in home kitchens, but in the factories of the food industry.

3) Double Handles / Single Handles

Among traditional pans, one handle type was very rare except small earthenware pots. Single handle pans in the West developed to avoid heat from the open hearth. The Japanese did not have this problem. The convenience of the single handle was noticed when pans were imported, but after the pan size shrank, the advantage of single handle pans became clear. A consumer magazine in 1959 has an article on single handle pans. It says there were few single handle pans on the market when the magazine started its shopping guide page, and the magazine accused makers of their uninventiveness saying "The same pans used to sit on charcoal cooking stoves are still sold today in the age of gas cookers and electric rings." In 1959, However, the magazine found nearly 70 of the pans sold in department stores were the single handle type. Most of them were of an aluminium body, of 7-8 inches in diameter, and the handle was covered by Bakelite.(7)

4) Thin Wall / Thick Wall

Perhaps one type of pans not seen in the west would be the paper thin aluminium pans, which were common in Japan. Pots and pans were not paper thin in the age of cast-iron, but it was so when aluminium pans dominated the market. Pans made of thin aluminium were easily bend and distorted. Even in the 1930s, it is said that the thickness of the wall of domestic pans was a third of those of the imports from Sweden, the US and Germany.(8)

Just after the World War II, when many small firms suddenly joined the market, the situation became even worse. Aluminium pans of low quality overwhelmed the market. They were kept to be made until the time of economic boom from the 1960s, when people started to care the 'appearance' of pans, and colourful porcelain enamel pans with flower patterns became popular. For the most people, pots and pans are of no longer 'companions for life time', but objects for consumption.

8. INCREASE OF POTS AND PANS

One phenomenon characteristic on postwar Japan is the increase of pans possessed in ordinary households. A survey on ownership patterns of pots and pans in the 1930s shows that five pans was average, fifteen was the maximum, in families of five people.(9) To contrast, a similar survey today shows twenty pans per house was the average. Even a young family without children had ten pans. Thirty pans were found in a house, of which the wife was a 'serious cook'. Most household has more pans than they can use and even to store in the kitchen (Fig.7). Some pans are rarely or never used and are just kept at the back of cupboards.(10)

The increase of pans was caused partly by the Japanese cooking: Western style cooking as well as equipment was introduced in greater amounts, while the Japanese still keeps their way of cooking. This means each household has to have kitchen utensils for both styles and sometimes Chinese pans as well. Also in order to make some Japanese dishes in the authentic way, it is necessary to have pans for special use: TENPURA pans for deep frying, SUKIYAKI pans for sukiyaki, earthenware pans for one-pot dishes, etc.

Another reason for the increase of pans is the Japanese custom of giving gifts. Pots and pans are often bought as gifts. Decorative pans, such as porcelain enamel pans with the flower pattern, are regarded as appropriate for gifts, for wedding in particular.

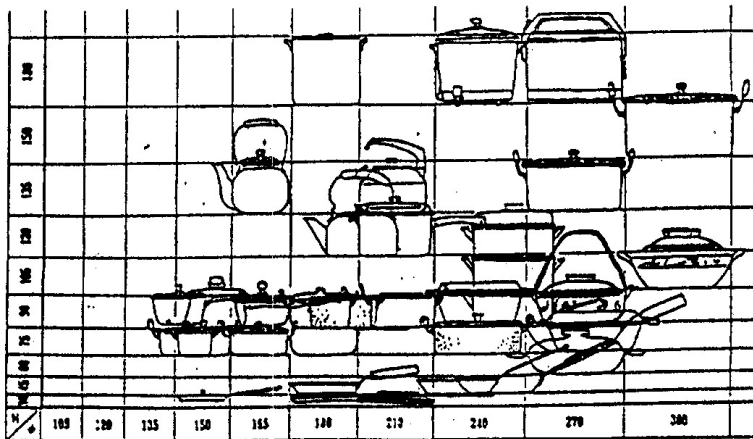


Fig.7 Various shapes and sizes of pans found in a house in 1988 (hight and diameter in mm).¹⁰

9. CONCLUSION

The design of Japanese pans has changed and diversified in a short period, and this rapid change and diversification resulted in chaotic situations both in the market and in the kitchen. However, the evolution of pots and pans in these hundred years reflects many changes both in the industry and in the habitual way of everyday cooking.

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