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**AGRO-INDUSTRIALIZATION OF URBAN-  
BASED SMALL INDUSTRIES**

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**This paper is being circulated in a pre-publication form to elicit comments from readers and generate dialogue on the subject at this stage of the research.**

## INTRODUCTION

The "urban-type small and medium industries" with which this paper is concerned were enterprises new to Japan in the late nineteenth century, whose foundations were laid in the cities at a time when the economy was still centered on agriculture. From the latter half of the Meiji period (1868-1912), they were able to draw directly and indirectly on the potential surplus in the urban population for their labour supply. Eventually they became a major productive sector of labour-intensive, medium-, small-, and mini-scale enterprises, promoted by the innovations and perseverance of the manufacturers. They started small and remained small even when they began to proliferate, but their productivity level generally rose in the long term. This was possible because the kind of industry dealt with here, although it was essentially urban-based, at a certain point extended its operations to the villages in order to capitalize on the overflow of agricultural labour. They took root there, and created a wave of rural industrialization.

Here we will examine the conditions that enabled such industries to get started, become solidly established, and develop successfully, and we will try to determine which of those conditions were the most important. For example, what connection was there between the mode of operation of the immediate producers and the merchants who controlled them externally--wholesalers and foreign trading houses? What kind of stratification emerged among direct producers themselves? These and other questions will be taken up in some detail.

This report will center on a case study of shell button manufacturing, which arose and developed mainly in Osaka and its rural periphery. Beginning with the early Meiji period when this industry was introduced into Japan, we shall

trace the process through which a unique system of production was established--particularly among those shell button enterprises that branched into the rural regions--until the early Shōwa period (1926-- ) when the industry began to demonstrate significant expansion.

Like most other urban-type industries, shell-button manufacturing was essentially a foreign transplant that took root and flourished in Japan during the Meiji period. In this country, the key industries among these "foreign transplants" could not avoid orienting their operations to large-scale, integrated multicommodity production, receiving government support from the outset. But aside from this larger, special strategic sector, in most cases an enterprise got off the ground as a middle- or small-scale enterprise geared to the conditions of the urban economy and labour force. By virtue of their labour-intensive production and distribution processes, these urban-type small industries--the lowest strata of which were often called "odd-jobbers"--absorbed the greatest part of the surplus labour force created in the city as a result of the massive migration from the rural areas from the 1890s onward. Despite their smallness, however, and the very makeshift nature of their operations, the striking thing is that the producers in these middle-, small-, and mini-scale factories emerged as the forerunners in a pattern of industry that was to become another essential sector in Japan's industrialization.

The social character of the sector is complex. Built upon the activities of medium and small industry, or the petite bourgeoisie, the sector included such constituents of the "old middle class" as small entrepreneurs and/or master craftsmen.<sup>1</sup> At the same time, however, it was beset with the problems of low urban wages, sweatshops, and the urban "odd-jobber" strata.<sup>2</sup> The lower levels of the sector, moreover, were tied to and affected by the formation of urban slums, pressure from rural overpopulation and the presence of abundant cheap labour. In short, it formed a special area where the bottom layers in the structure of Japanese capitalism tended to converge and influence each other. One reason for selecting this virtually unknown, highly specialised sector for study and going back to reconstruct its history is for the opportunity it provides to highlight some of those elements and their patterns of interaction in the

stratified structure of early Japanese capitalism. It also affords a glimpse of at least some of the problems and special circumstances that characterised the process of industrialization in Japan.<sup>3</sup>

In researching this study, with its special focus on shell button production in Japan, it was inevitable that I had to work with limited materials. I have concentrated on those materials that I could study for my immediate purposes and have tried to work out their significance and interpret their content as best I could. Because my materials very often contradicted each other, I concentrated on trying to resolve those points and recreate the early stages of the industry in a way that is consistent and comprehensible. For that reason there are numerous places in the text where, in the absence of new evidence to suggest the correct interpretation, I had to make my own logical deductions. That meant concentrating many footnotes in some of the sections, which is hardly conducive to smooth reading. The footnotes also contain my comments on two or three relatively recent studies.

In view of the limited documentary sources available, I decided to gather first-hand comments and information from people with experience in the industry. Interviews took me to Kashiwara city and Fujiidera city (Osaka prefecture), and Ōkawa county in Kagawa. There may be limits to what oral history could provide, but it seemed necessary to get much more information, and in view of the often arbitrary nature and doubtful accuracy of statements in the written materials--especially those by industrialists--I felt compelled to gather as many oral reports as I could. I am deeply indebted to all those individuals whose help was so valuable, and I only wish that my manuscript were worthy of their efforts. I did not give detailed commentary on the fine points made in each source, or their mistakes, largely because it seemed that listing all the questionable points would make the manuscript unnecessarily fussy and difficult to read. I hope the reader will understand that omission.

The lack of consistency in technical terms and jargon used within the industry also caused me considerable worry. The very fact that disparate expressions had long been in use bears witness to the persistence of pre-modern tendencies in the industry. But in this paper I have made all such

terminology uniform. I hope the reader will note that the meaning of some of the quoted material is different from what is written in the text. For the sake of consistency, and risking some oversimplification, I had to forgo description or analysis of the transitional and intermediate forms that emerged in the structure of production and organisation as the industry developed.



## I. ESTABLISHING THE SHELL BUTTON INDUSTRY IN JAPAN

Among relatively recent studies that deal with the formative period of the shell button industry in Japan are joint reports published by the Small and Medium Enterprises Agency and the National Council for Regional Survey Agencies,<sup>4</sup> as well as publications by Jun'ichirō Miyake.<sup>5</sup> These works are the products of thorough study of the area covering Osaka city and Kawachi after the first world war, but Miyake's research is particularly valuable for the way it relates the parasitic, long-established system of rural landownership to the new industry, and for other important information concerning shell button making. But his work depends almost exclusively on surveys made in the late 1920s by the Osaka city office<sup>6</sup> for information on the process in which the shell button industry was transplanted, and became established. Because those surveys have their own limits, we knew little about the actual means of production during the early period of the industry. Even individuals directly involved in the industry<sup>7</sup> were able to confirm little more than certain terminology regarding the means of production used during the period when shell button making was coming into its own, i.e. terms used for the indigenous skills and techniques practised prior to 1890.

It just so happened, however, that when I was searching the library of Osaka Municipal University for materials, I turned up a manuscript thought to have been written by the son of a shell button manufacturer, as well as some documents probably prepared for reference by him.<sup>8</sup> These materials supplied valuable clues in preparing the following study on the inception and characteristics of shell button production in Japan.

The shell button industry in Japan started in or around 1878. Japan had already adopted a Western military system, including uniforms, more than

a decade earlier and court attire had also undergone a broad shift to Western styles, which meant that the demand for shell buttons was gradually increasing.<sup>9</sup> Furthermore, because imported materials for the new uniforms "were not cheap by any means,"<sup>10</sup> Japanese craftsmen tried to make the buttons themselves by processes already known to them, using the files, whetstones, and punches already in use at that time in Japan.<sup>11</sup>

What is of prime interest here is that while this was a kind of transplanted industry, it did not develop on the basis of new, imported technology or foreign tools. The craftsmen "had merely the one model in the finished imported buttons"<sup>12</sup> to go on, and in their endeavor to create buttons of the same type themselves, they plunged in, armed only with determination to meet the challenge.

Those pioneering efforts bore fruit little by little, and the industry made steady progress. Shell button makers first shaped the buttons with a whetstone, but their efficiency rose slightly when they learned to line up pieces of shell on a base with glue and "polish the surface" of several at the same time. We can also trace the discovery that by gluing pieces of shell into the hollow of an iron plate with a concave groove made for the purpose, it was possible to file them down into uniform thickness. Holes were made in the buttons by a tool resembling a hand awl spun between the palms.<sup>13</sup>

The invention in 1880 by Rinpei Arita of the mechanical die (kantōsen)<sup>14</sup> for cutting out the shell discs made it possible to turn out the rough button pieces with far greater efficiency than the old punch and file method, and with much more uniformity in the buttons. People in the industry today apparently are not familiar with Arita's invention, and extant documents tell us no more than its name and when it was used. We do have a clue, however, in a rough sketch that Tsunetarō Kobayashi made, which has been preserved and gives a general idea of how the die worked. Basically it operated like a woodworker's hand drill. The top had a smooth cap, on which the operator leaned the weight of his chest while turning the handle which protruded from the middle section. The cutting section was a round cylinder, onto the outside of which several hard needlers were fixed with

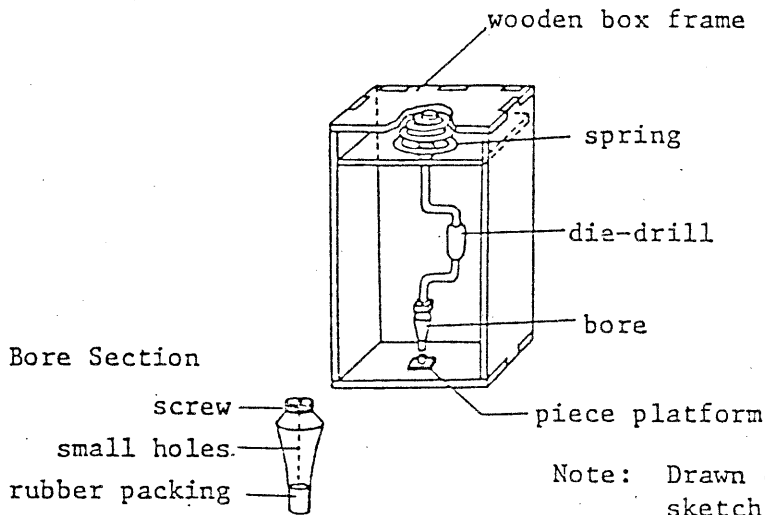
wire to extend slightly below the lower edge. By turning the handle and pressing down onto a piece of shell, round discs could be cut out one at a time. One worker could cut out about 500 discs a day with the drill-die, but it was difficult to make perfect discs even then. The craftsman had to smooth rough edges by twisting off remaining protrusions with pliers. Finally, to give the button surface a rounded look, discs were placed in a jar partially filled with shell fragments and shell powder; it was then the job of the "cocktail shaker" to simply shake the mixture for hours on end until the abrasion had rounded the buttons-to-be.<sup>15</sup>

Even if progress was painfully slow, the industry continued to advance. Arita's die-drill was streamlined a little by fitting it into a box frame that eliminated the need for chest pressure, and a piece-platform was furnished on the bottom to hold the shell being cut. Further, a method of removing the cut disc easily was devised by placing rubber packing inside the head of the cylindrical die so that when it was lifted, the disc inside popped out, sprung by the packing.<sup>13</sup> This is shown in Figure 1. In the same period two more devices were contrived to carve out a pattern on the top surface of the button.<sup>17</sup> One, called an "iron bar imprinter," had a horizontal iron bar with a head fitted onto it at right angles that carved an oval design into the button placed beneath it (these were called "iron bar-type buttons"). By printing three ovals on one button, each 60 degrees apart, it was possible to make a floral design in the centre of the button. This was called the "maple-leaf type." The other, the "concave imprinter," was designed to carve out a lens-shaped depression in the surface of the button.

Such persistent efforts demonstrated eagerness to turn out buttons that approached the quality of those imported from abroad. Also by creating a multi-angular surface, craftsmen aimed at bringing out, even a little, the glossy lustre of the native pearl oyster shell. Thus, while continuing to rely on the old, indigenous technical procedures, craftsmen made steady advances in their production methods. They pooled their ideas to solve problems, and no sooner was a need perceived, than a way to meet it was found. The very speed with which an idea was translated into reality was the most remarkable feature of this industry. Rinpei Arita worked together

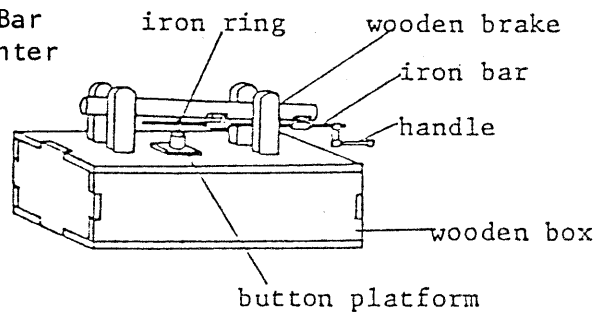
with Western-trained blacksmiths to make further advances.<sup>19</sup> The head on his early mechanical die was apparently only a series of needles arranged around a cylinder, but later he is said to have come up with a solid metal head wound with wrought iron that could be used with greater efficiency. The implement in the concave imprinter that made the groove was also a steel blade. These are shown in figures 1 to 3.

Fig. 1: Improved Die-drill



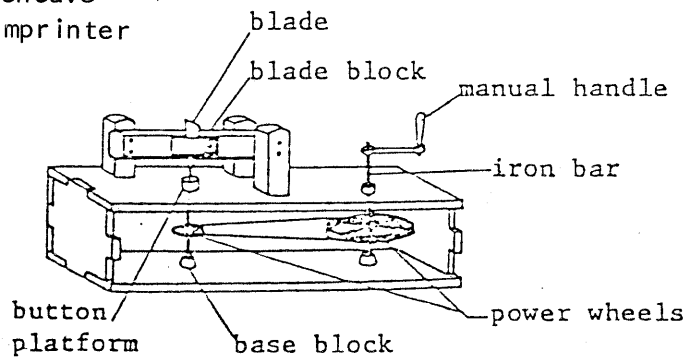
Note: Drawn on the basis of a sketch by Tsunetarō Kobayashi, elaborated from description by Jun'ichi Miyamoto.

Fig. 2: Iron Bar Imprinter



Note: Same as figure 1.

Fig. 3: Concave Imprinter



Note: Same as figure 1.

Until this time buttons were shipped off after no more than a water bath, but then the producers began to boil them in a small amount of ash and water, which removed almost all the colloids of glue remaining from the previous processes.<sup>20</sup> Then it occurred to a one Hidetarō Sasaki that treatment with plum blossom oil would prevent the powdery erosion of the shell surface that resulted from abrasion, and so he tried it. It was found, however, that the effectiveness of the oil wore off in six months, whereupon insect wax was applied over the oil for more permanent protection.<sup>21</sup>

Early Japanese button makers worked very hard to move ahead in their endeavor, and as reward for their labors, we read of the following development:

Thus the production of shell buttons in this country steadily progressed, mainly in and around Osaka. Then in 1892 it took an important step forward with the importation of a foreign shell button machine by a German named Winkler

Mr. Winkler resided at No. 85 (today it is No. 100) in the foreign settlement of Kobe, and he knew of the abundance of abalone, pearl oyster, and other fine shells native to Japan. Believing that shell button making could be a profitable enterprise here, in 1890 he set up a secret workshop in Onahama, Kobe and recruited workers from far and wide. He brought in 200 wheel lathes made in the Miyanaga factory in Hyogo, 48 mechanical borers imported from abroad, and 20 hole punchers. Using a hand-turned engine, his factory was able to produce shell buttons from abalone, conch and other indigenous shells. He asked Messrs. Eikichi Kikusawa, Hidetarō Sasaki, and Ryūnosuke Ishida to act as foremen and he built up a factory of several hundred workers. Of the imported machines, only two or three were actually used; most of the machinery was designed and made in Japan and had already been in use in this country for some time. Even in making the holes, they used a Japanese bore, not the foreign drilling machines. Later ... they invited button craftsmen ... from Germany to try and improve production methods, but because the cost of replacing worn-out parts for the imported machines was so high, the foreign machines proved to be impracticable....<sup>22</sup> [emphasis added]

In most cases, new industries transplanted from abroad, such as the manufacture of knitted goods, paint brushes, and so on, which later became typical middle- and small-scale urban industries, were brought in and run

on a modern, European system of factory management. Then they were broken up and reorganized into permanent enterprises run under a new type of pseudo-putting-out system. The growth curve in each industry reflects the same pattern of dissolution and reorganization.<sup>23</sup> The shell button industry was very small in comparison, never producing enough to attain status as an "important export goods" or "growth" industry.<sup>24</sup> Nevertheless, the industry was quick to adapt existing, traditional techniques and begin production well before the factory system had been established. In consequence its technology advanced to the point where it could threaten the potential scale merit of large factories with "hundreds of workers." But its effective technical advances were limited and applicable only to labour-intensive production, which was premised on an abundance of cheap labour. No one in the industry had any illusions of bringing about radical technological renovations that would propel Japan's shell button production beyond that of the advanced countries; regardless, they never relaxed their efforts to keep on making technical improvements whenever a new idea came up.

Among the developments during the decade between 1878 and 1888, the old head on Arita's mechanical die was replaced with one of steel, and Tokusaburō (Kumezō) Miyao and others began to specialize in the manufacturing and marketing of shell buttons.<sup>25</sup>

In 1892 a man named Takematsu Ōno tried an interesting experiment: he put shell buttons together with sawdust and water into a barrel which was rotated by a water wheel. The friction was supposed to bring out the lustre on the buttons. This became the predecessor of what was known as the kasha, or "cosmetic wheel."<sup>23</sup>

Whatever new machines German entrepreneurs introduced, inevitably they were Japanized once they were accepted into the industry. The engine-powered bore (to cut out the button disc), the surface file, and hole-punch<sup>27</sup> were among the devices imported from Germany, and in each case, within a few years, they were replaced by a unique and usually simplified "Japanese" alternative.

In the case of the engine-powered bore, in 1892 a sundries dealer from

Tennōji, Osaka, who visited Mr. Winkler's house in Kobe, saw the imported machines and was able to understand how they were put together. Almost immediately he produced a hand-powered bore that could do the same job. Two years later Yoshiaki Okada, a shell button producer in Kobe, completed a treadle-bore. The mechanical bores that one found in rural villages throughout Japan during the period between 1912 and 1925 were all improved models of this treadle bore.<sup>29</sup>

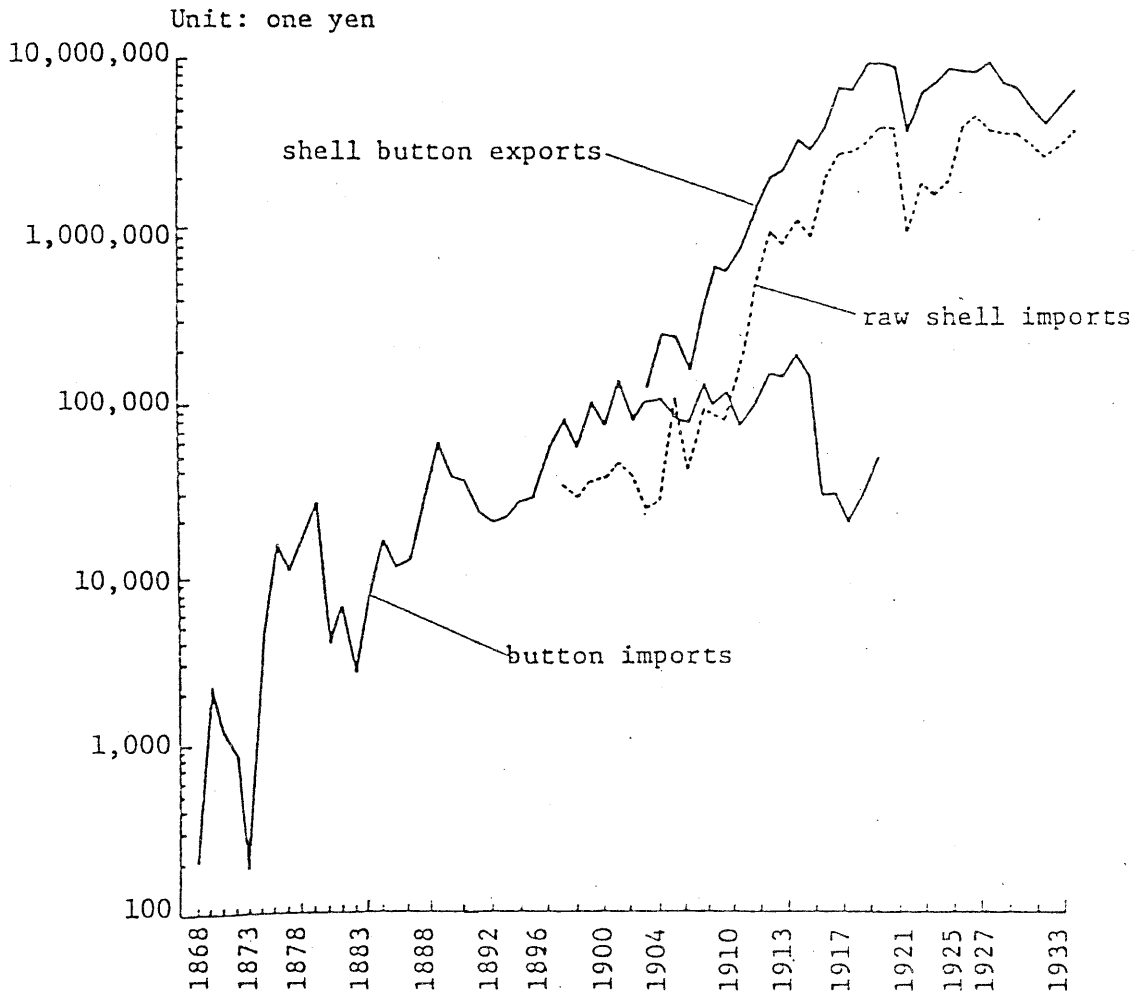
The surface-file was also copied, with modifications, when a man named Hisatarō Nawata in 1893 thought up the idea of making a treadle-file using what is essentially a potter's wheel.<sup>30</sup> By the end of the first decade of the next century, Japan had its own version of the engine-powered, automatic file.<sup>31</sup>

Even the hole-punch was transformed. Minematsu Okamoto invented his own machine that would punch four holes at once, thus eliminating the old manual process by hand-drill and pliers, and simultaneously providing a way to create enough evenness and regularity in the holes that the buttons could be sewn on by machine.<sup>32</sup>

With alternative methods becoming available, the button output increased markedly. Figures from the 1880s and 1890s are unknown, but according to the Foreign Trade Monthly Statistics of the Ministry of Finance, in 1896 the volume of imported shell was valued at ¥30,818. There are no figures for exports before 1896, but that year they totalled ¥174,425, which, if the ¥76,616 spent on finished imported buttons is totalled with the cost of raw shell imports, indicates a considerable margin, reflecting the rapid growth tendency in all shell product industries, including buttons. Statistics were compiled on shell button exports as an independent category for the first time in 1903. In that year the export value came to ¥119,088, in comparison with ¥99,367 spent on total imports of all kinds of buttons and ¥22,743 on imports of shell. Thus the balance of imports and exports in buttons came out roughly equal that year. Figure 4 shows the actual movement of figures in the industry over 65 years.

The shell button industry was clearly growing, but there was a serious

Figure 4: Shell Button Exports



Source: Ministry of Finance, Tax Bureau, "Dai Nippon gaikoku bōeki yori Meiji gannen itaru dō nijūgonen taishōhyō" [Graphs of Foreign Trade of Greater Japan 1868-93]; *Ibid.*, Gaikoku bōeki geppyō [Monthly Figures on Foreign Trade]; and Tōyō Keizai Shinpōsha, Nihon bōeki seiran [Handbook on Japan's Trade], 1935.



bottleneck in efforts to increase production. Even though the final product was considered "finished" in Japan, those same buttons were regarded as "half-finished" by the importing advanced countries because they were left unbleached. Thus because Japanese did not yet know the techniques for bleaching, "Most of the profits were absorbed by the foreign buyers"<sup>33</sup> who sold the Japanese buttons after bleaching. Germans in particular bought large volumes of shell buttons from Japan and, since theirs was one of the world's most advanced shell button industries, they not only sent buttons to Germany for bleaching and dyeing, but they also had some buttons bleached right in Japan. They did this in factories run by Germans -- the aforementioned Mr. Winkler's being one--and then "exported" them as "German buttons." Furthermore, Germans hired to work in Japan as craftsmen in German-run factories also tended to wander around Osaka from one workshop to another like "migrant workers," engaging in polishing jobs that required considerable skill. At the same time, it is said, they also carried out bleaching, "whose technique was kept secret" by using dumb-mute labourers. Naturally, these German craftsmen received "very high salaries."<sup>34</sup>

But eventually even the bleaching impediment saw a breakthrough. Sometime around 1893 or 1894<sup>35</sup> the Osaka "manufacturer"<sup>36</sup> Matazaemon Nishihara developed the technique. He had seen in the Official Gazette a report on the discovery of a bleaching method by an engineer in the Ministry of Agriculture and Commerce, and he applied the method to shell buttons.<sup>37</sup> Then around 1897-98, a German craftsman living in Osaka showed Japanese how to bring out the gloss in the buttons using hydrochloric acid,<sup>38</sup> and in 1907 it was reported that, "At last what seemed so difficult, the dyeing method, has been figured out."<sup>36</sup> By then the Japanese button-manufacturers were jubilant. Proudly they declared, "We have now reached the point, open and above board, where shell buttons labelled 'made in Japan' are appearing with distinction in the international market."<sup>40</sup>

Table 1 shows the means of production and methods used for each process up to this stage in the development of the industry.

Table 1. Changes in Means of Production and Methods of Shell Button Manufacturing

| Industrial Process | 1878-88         | 1888-98            | late Meiji-early Taishō (c. 1905-15) |
|--------------------|-----------------|--------------------|--------------------------------------|
| Disc cutting       | die-drill       | mechanical borer   | mechanical borer                     |
| Sorting            |                 | hand-sorting       | roller                               |
| Filing             | whetstone       | rotating whetstone | engine-powered file                  |
| Gouging            | umbrella-spokes | design imprinter   | surface carver                       |
| Hole drilling      | hand-awl        | perforator         | hole punch                           |
| Polishing          |                 | polishing tank     | polishing tank                       |
| Bleaching          |                 | chemical bleach    | chemical bleach                      |
| Burnishing         |                 |                    | burnishing solution                  |
| Finishing          |                 | card attachment    | card attachment                      |

Source: Compiled from Nihon kai botan dōgyō kumiai enkakushi [The Development of the Japan Shell Button Industrial Syndicate], 1981, pp. 54-55. See also Tsunetarō Kobayashi, "Nihon kai botan gyō oyobi genryō" (unpublished ms.), pp. 21-28.

Note: Blank entries indicate that the process itself did not exist at the time.

## II. CHANGING MECHANISMS OF PRODUCTION: THE MEIJI PERIOD

By the 1880s shell button production had become firmly established in the Osaka area, having been set up initially as "small craft industry"<sup>41</sup> with capital supplied by the wholesalers. Research undertaken by Osaka city cites Gisuke Nakamura as a man who produced buttons from water-buffalo horn during 1865-68 "in family-type production units," and who first manufactured shell buttons.<sup>42</sup> Another source<sup>43</sup> tells us, however, that Nakamura was known not as a small producer but as a merchant who had established for himself a secure entrepreneurial base. No matter how he started it, actual production seems to have been carried out by workers and their families who received advance payments from him.

But like many other consumer goods manufacturing industries which were introduced in Japan from the 1850s onwards, the shell button industry also had to recognize the meager potential in the domestic market, where poverty still dominated the economic outlook for most of the population. Any new enterprise was saddled with the necessity to tap the export market as the only method of propulsion to growth, and this became a universal characteristic of Japan's infant industries. Raw materials, moreover, were not always available. For shell buttons, even though producers got by with abalone and conch at the beginning, by the end of the nineteenth century imported button shell had become the main material.<sup>44</sup> This symbolised an increasingly disadvantageous position for Japanese producers, because the large foreign trade houses, centered in Kobe, exerted enormous pressure on Japanese producers. But without them, no domestic industry could expect to grow.

Hemmed in by these restrictions, shell button production of the Meiji period was controlled by the foreign commercial houses, which handled both imports

of raw materials and exports of semi-finished goods, and also by domestic merchant capital tied in with the foreign firms, which provided advance payments to producers under a kind of putting-out system. That meant that any Japanese attempt to import raw materials themselves and to control shell button production required considerable capital.

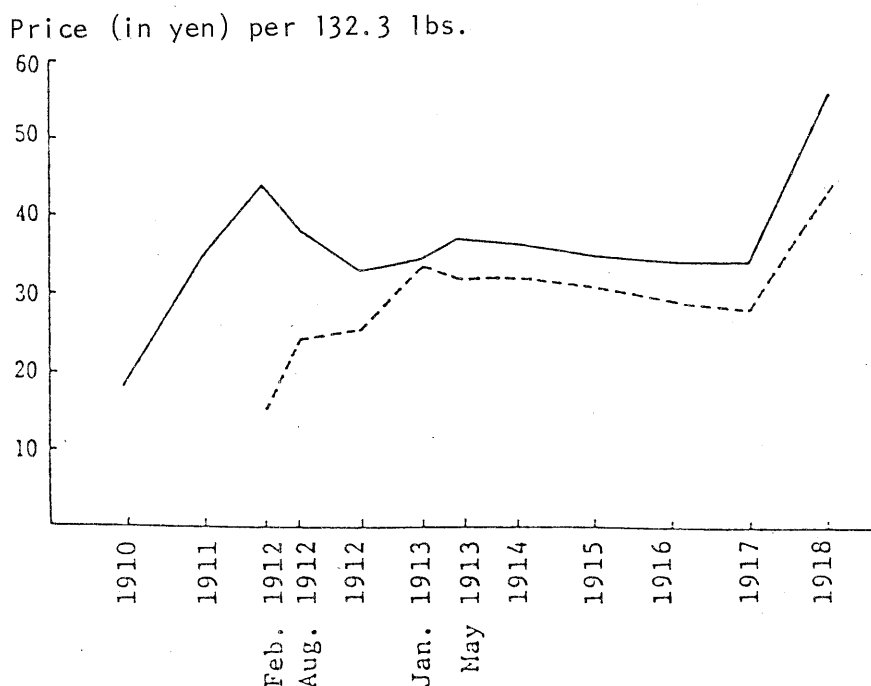
The shell button wholesalers, i.e., merchants involved in direct raw materials importing, obtained the button shells needed for the industry from Australia and either resold these to other raw materials dealers or supplied them to the manufacturers. They accrued profit from the margin between the two transactions and other increments. Almost all these raw materials merchants held considerable amounts of capital, and in effect they seemed to wield more authority than anyone else in shell button manufacturing.<sup>45</sup>

The raw materials wholesalers supplied raw materials to the producers and usually received promissory notes in return, which were cashed one or two months later, after the producer had obtained the sum from sales of finished buttons. Otherwise the wholesaler would take finished products in exchange for raw materials and pay the producer the equivalent of the difference in value between the raw shell and the product.<sup>46</sup>

Still, in this kind of settlement on exports, when Chinese merchants were involved, they took 2 percent as their own margin in advance deduction, and Indian merchants took 5 percent. The producers were then paid approximately 70-80 percent of the remaining amount.<sup>47</sup> Their cash receipt was meager when they had received promissory notes and made settlements using finished products. But once an export transaction was completed, these merchants often refused to pay the full sum of the balance on grounds that the finished product was different from the sample, or that there were some defects among the exported goods. This kind of occurrence was not unusual.<sup>48</sup>

Fluctuations in the price of raw materials were especially hard on producers. Figure 5 shows the soaring leaps in prices made at times when the raw shell was the object of speculative buying. Even when the prices were relatively stable, there were of course daily fluctuations.

Fig. 5: Fluctuations in Price of Button Shell



Source: Ms. attributed to Tsunetarō Kobayashi.

Note: The solid line represents Macassar button shell, and the broken line, Australian button shell.

Most manufacturers, consequently, were repeatedly harassed with problems:

What manufacturers generally dreaded most, and what had the most severe impact was a rise in price of the raw shell. When the raw materials rose, one would expect the price of the finished product--shell buttons--to jump upwards accordingly. But in actuality the product price could not keep up with the cost of raw materials; when the price of shell buttons went up by 10 percent, raw materials would increase 20 percent. This was usually too much for producers, who had very little capital, and it often caused them to go bankrupt....<sup>49</sup>

The merchant capitalists, while using the system of advance payments to the producer on the one hand, resorted to a pre-capitalistic accumulation of capital on the other, through their control over the distribution process. Granted that was the historical nature of the merchant, but it exerted complex influences on the production process, eventually making

reorganization of the production mechanisms necessary. The following is an example of the critical reaction towards a form of advance payment known as "deferred transaction."

By buying raw materials on a sixteen-day time bargain and selling the finished product for cash, one could be without capital but still inaugurate production quite easily. There were, therefore, numerous cases when people without any experience at all or craftsmen without any sense of commercial ethics set up manufacturing operations. Once business conditions began to slide, they sold indiscriminately, dumping at very low prices, which had a harmful effect on the entire industry.<sup>50</sup>

The above is not completely objective. The writer categorically declares that sales were transacted in cash, without once referring to speculative buying by the wholesaler. He is only arguing against the "abuses of the deferred transaction" to make a case for the abolition of the system. In that sense this paragraph openly reflects the social background that prompted him to write. But the point that should be made is, rather, that as the small manufacturing class continued to multiply in growing clusters, manufacturers operating under the putting-out system, i.e. the main shell button producers who "employed 50-60 workers" between about 1898-1908,<sup>56</sup> began to break up. As can be seen in Table 2, while the number of workers per factory began to decline sharply towards the end of the first decade of this century, the number of factories themselves proliferated.

Nonetheless, there is some question as to how far the Osaka Prefectural Statistical Report could include the mini-enterprises. To elaborate, Table 3 shows numbers of enterprises classified by size, taken from the Osaka City Statistical Report. The problem with this is that statistics on metal and other types of button manufacturers are included. Still, as we will see later, a general reorganization was taking place in the structure of production throughout the entire button industry; and so these figures represent a pattern roughly typical of shell button production, too.<sup>53</sup> Jun'ichirō Miyake pointed out in this connection that, "The price of raw materials, which comprised more than half the total production cost of shell buttons, underwent constant, large fluctuations as a result of repeated speculation by importers, which was very threatening to the management of manufacture-type enterprises."<sup>54</sup>

Table 2. Number of Workshops, Workmen, and Workers per Workshop in Shell Button Industries in Osaka Prefecture

| Year | Workshops | Workmen | Workers per Workshop |
|------|-----------|---------|----------------------|
| 1902 | 5         | 315     | 63                   |
| 1904 | 9         | 426     | 47                   |
| 1908 | 48        | 985     | 20                   |
| 1912 | 188       | 1,310   | 7                    |
| 1915 | 257       | 2,273   | 9                    |
| 1917 | 527       | 4,388   | 8                    |
| 1919 | 512       | 3,391   | 6                    |
| 1921 | 332       | 1,927   | 6                    |
| 1923 | 345       | 1,534   | 4                    |
| 1925 | 293       | 1,538   | 5                    |
| 1927 | 278       | 1,557   | 5                    |

Source: Compiled from Osaka Prefectural Statistical Report

Table 3. Number of Button Manufacturing Workshops in Osaka City According to Workforce Size

| Year | 1-9 persons | 10-49 persons | 50-99 persons | 100-199 persons | more than 200 persons |
|------|-------------|---------------|---------------|-----------------|-----------------------|
| 1904 | 17          | 7             | 0             | 0               | 1                     |
| 1906 | 22          | 8             | 0             | 0               | 1                     |
| 1908 | 23          | 11            | 4             | 0               | 0                     |
| 1910 | 67          | 9             | 3             | 1               | 0                     |
| 1912 | 66          | 14            | 2             | 0               | 0                     |
| 1914 | 81          | 20            | 1             | 0               | 0                     |
| 1918 | 281         | 15            | 2             | 0               | 0                     |
| 1921 | 115         | 5             | 1             | 0               | 0                     |
| 1923 | 129         | 1             | 1             | 0               | 0                     |

Source: Compiled from the Osaka City Statistical Report.

Note: This includes all types of button manufacture.  
The entries for 1921 and 1923 include only metal and shell button workshops.

Table 4. Business Background of Charter Members of the Japan Shell Button Industrial Syndicate

| Name                 | Year founded | Business activities at time of founding                 | Business activities in 1906  |
|----------------------|--------------|---|--|
| Kyutarō Nawata       | 1883         | shell button manufacture                                | shell button manufacture and distribution  |
| Tanezō Masuda        | 1890         | "   | shell button manufacture and production of metal button fittings and paper boxes |
| Mokichi Ishikawa     | 1901         | "   | production and brokerage   |
| Genjiro Ishida       | 1887         | "   | production, distribution and brokerage   |
| Shinpei Nakagawa     | 1898         | "   | same   |
| Nisaburō Kanetsuki   | 1886         | "   | same   |
| Heitarō Fujii        | 1896         | "   | same   |
| Otohachi Takada      | 1890         | "   | same   |
| Tadami Nagano        | 1896         | "   | same   |
| Hidetarō Sasaki      | 1890         | "   | same   |
| Kumezō Miyao         | 1894         | production of cutting head for shell button manufacture | shell button manufacture and brokerage   |
| Unokichi Shōgaki     | 1891         | shell button manufacture                                | same   |
| Masayoshi Aoyagi     | 1889         | "   | same   |
| Matazaemon Nishihara | 1896         | "   | shell button manufacture and brokerage   |

Source: Nihon kai botan dōgyō kumiai enkakushi, pp. 102-6, 115-18, 321, 442.

Note: As far as possible the business activities of each person have been represented as they are noted in the above source.

Under these circumstances there arose a specific movement to "stop the over-production of inferior goods, thus maintaining the [industry's] reputation both at home and abroad," and to do this by "stabilizing prices and abolishing the evil competition of indiscriminate selling, and heightening the credibility of our transactions."<sup>55</sup> That effort took the form of organizing an industrial syndicate. The first application to set up the syndicate was filed in October 1907, but to accommodate the different opinions within the industry, a second application was submitted in December the following year.



Finally on January 17, 1909, approval was granted and the association came into being.<sup>55</sup>

At the end of the application form there appeared the name and summary of the business background of each of the petitioners. The salient points appear in Table 4. As the table shows, most of them got their start as producers between 1884 and 1897, but not as managers. Genjirō Ishida, Hidetarō Sasaki, Nisaburō Kanetsuki, Otohachi Takada and others began as workers in the Arita factory.<sup>56</sup> With the exception of bona-fide managers like Masayoshi Aoyagi, who is identified as a "shell button manufacturer" in the application despite his strong commercial inclinations, almost all began as workers or perhaps as foremen. Several others whose names do not appear on the list were first employed at the Arita factory. Ryūnosuke Ishida, Teizaburō Ishida, and Saburō Matsuo<sup>57</sup> were among these men, and their names appear as registered participants in the inaugural meeting of the Japan Shell Button Industrial Syndicate.

Hisatarō Nawata, who we recall was the originator of the treadle-file, had a mania for tools and gimmicks. He began his career as a foreman. Matazaemon Nishihara got started as the man who developed a technique for bleaching shell buttons. Uhei Ōnishi, who was made president of the syndicate in August 1922, was engaged in disc cutting. He was the person who thought up the improved cutting head.<sup>58</sup>

About this time when the industry was gradually being reorganized, a very atypical phenomenon took place. That was the emergence of new types of distributors and brokers--people who, as can be seen from Table 4, started out as producers and gradually assumed the functions of commercial entrepreneurs. Komezō Miyao, originator of the punch to cut out the rough disks, was probably trained as a highly skilled blacksmith. He later became such a successful and competent commercial middleman in the industry that he earned the nickname "Founding Father of Brokers."<sup>59</sup>

But the saga of Masayoshi Aoyagi, who was heavily involved in production as manager of Tōyō Shell Button Factory<sup>60</sup> when the syndicate was founded, is an even more dramatic example of the journey of producers into the

brokerage business. In 1913 he was appointed general director of the Japan Shell Button Auction Committee organized by brokers.<sup>61</sup> A 1918 survey presents him as one of the foremost brokers in the city of Kobe.<sup>62</sup>

Thus "shell button manufacturers" as referred to in The History of the Japan Shell Button Industrial Syndicate make up a rather unique category which merits more detailed treatment. The career of Unokichi Shōgaki, who appears in Table 4, gives further clues.

Meiji 24 (1891): began production of shell buttons in Osaka city; Meiji 28 (1895): set up factory in Kashiwara and Yuge villages, Shiki county, Kawachi province; Meiji 30 (1897), February: moved entire operation to Kashiwara; Meiji 37 (1904), May: production in Naha Prison, Okinawa prefecture; Meiji 38 (1905), December: ceased production in Okinawa due to insufficient supply of raw shell; all production carried out at the present address since then: Unokichi Shogaki, Imamachi, Kashiwara, Minami Kawachi county, Osaka Prefecture.<sup>63</sup>

There were others like Shōgaki. Tadami Nagano set up production operations in Ehime prefecture; Matazaemon Nishihara managed a plant in Okayama for a while<sup>64</sup>; Uhei Ōnishi, mentioned above, also tried to set up shop in Okinawa for a time and later returned to Osaka.<sup>65</sup> There seemed to be a recurring pattern in this industry of individuals who moved quite easily from place to place "setting up factories" and "operating." It is fair to say that an important element in their peripatetic style was the fundamental and industry-wide reorganization that was taking place at that time, which affected all shell-button producers. One person described the situation all too clearly:

In Osaka, when one speaks of "manufacturers," what he really means is the people who can place orders with different producers and present any volume of products to the buyer. Such people do not need factories. Those who actually set up a factory and do the piecework themselves are called "processors." Sometimes manufacturers are called manufacturer-wholesalers. Somehow the name makes their goods seem as though they might be a little cheaper.<sup>66</sup>

Among the original petitioners in the final application to establish the syndicate, quite a few had considerably varied backgrounds. Still, most of them began as small manufacturers or master craftsmen in family workshops operating under the putting-out system. Just about this time, during the

first decade or so of this century, the whole character of the industry was changing. How, therefore, did the direct producers manage to carry on? How did their enterprises change, and what happened to the wholesalers? We will explore these questions in the following sections.

### III. PRODUCTION PROCESSES IN THE POST-WORLD WAR I YEARS

Before about 1870, when production was still carried on by master craftsmen in their family-run workshops, the production process of shell buttons was still simple and the means of production very limited, as seen in Table 1. Following the first world war, however, the production process grew much more complex, as figures 6 and 7 illustrate, and by then the process varied, depending on the kind of raw shell used. We will focus our discussion of this period first on production using the button shell (*Jectus niloticus*), which was the main shell type used in the industry at that time.

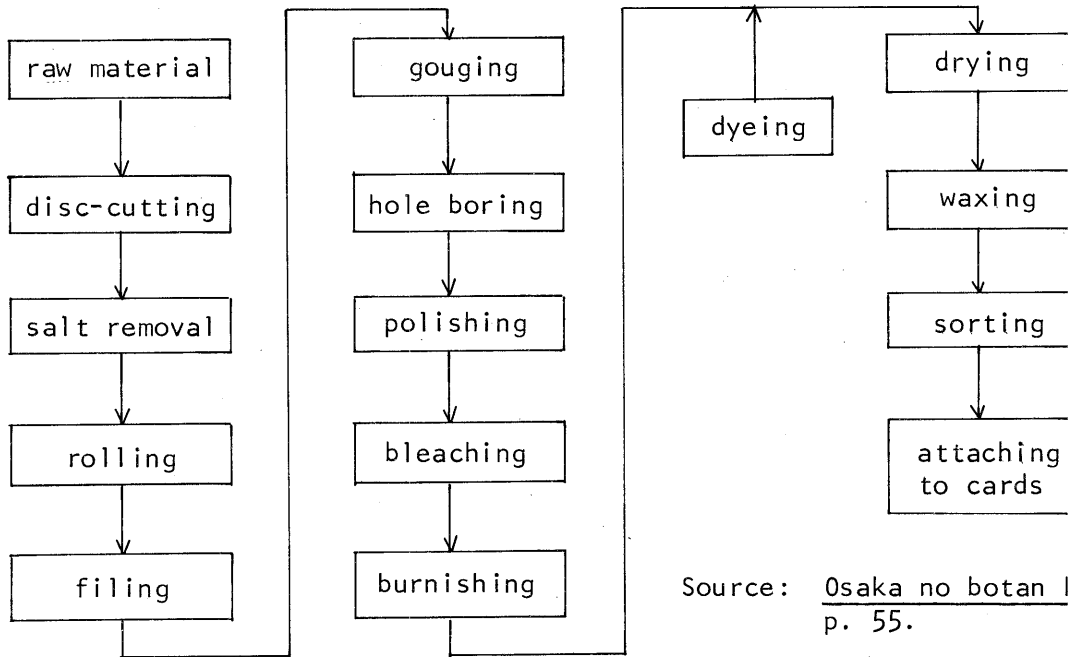
#### (1) Disc cutting

This is the process of cutting out discs of a prescribed size and shape from raw shell using a borer (punch). There were both engine-powered and treadle-type borers, but as will be discussed later, the treadle type was still far and away the most common in the rural areas even after the first world war. The cutting head was a hollow cylinder fitted with a gum core that operated to eject the round shell disc after punching. The size of the disc could be varied by replacing one cutting head with another, but each workshop tended to keep turning out discs of certain sizes only.

The button shell is spiral shaped and winds into a cone, and its mouth flares out into a wide, flat lip around the base. The lip part was called "foremost one" and was cut out first. The inclined part of the shell, "side one," was cut next. Until World War I, the "ear," or the material between those two places, was scrapped. After the shell was cut and the thorny "ear" cut off with a hammer, a part called "foremost two" was left. During the process two more usable parts then emerged in order, "side two" and "foremost three." Button shells were grouped according to size into large, medium, or small. From the large and medium shells

Fig. 6:

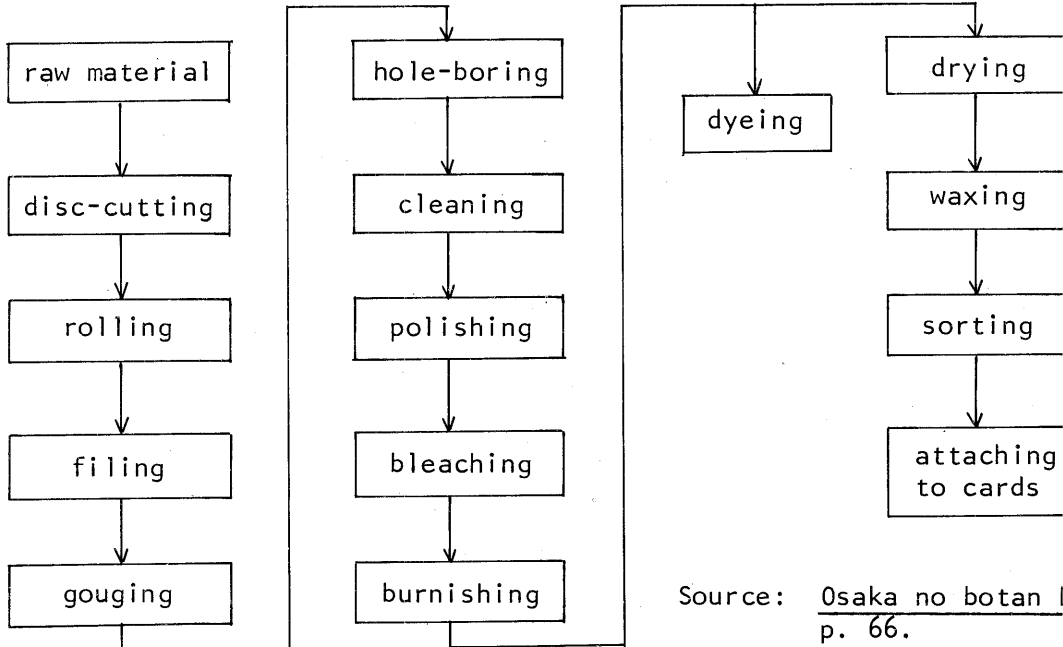
Manufacturing Process of "Button Shell" Buttons (flat)



Source: Osaka no botan kōgyō,  
p. 55.

Fig. 7

Manufacturing Process of "Bivalve Shell" Buttons (flat)



Source: Osaka no botan kōgyō,  
p. 66.

it was possible to use parts up to "foremost four" and "side four," and small shells yielded parts up to "foremost three" and "side three." Today a constant stream of water flows over the cutting head whenever it is in operation, but even that does not prevent a swirl of white powder from flying out to gather like a layer of volcanic ash on one's work clothes.<sup>68</sup>

In the Taishō period (1912-26) not even water was used, and the inside of the cutting room reportedly was covered with white dust and permeated by a strange odor.<sup>69</sup> A single worker in one day could cut an average of 3,500 large size discs and 6,000 small size discs.

#### (2) "Salt" Removal

Being a natural marine project, shell is encrusted with a whitish coating that has to be removed for button-making. The process following the cutting stage involved application of hydrochloric acid, which acted to smooth the surface somewhat and also to break down and remove the crusty outer layer, called "salt," of the shell's coat. The practice in Japan, however, was to cut the discs to exactly the desired size, leaving no outside margin, which posed the problem of how to keep the acid from eating into the sides of the discs and reducing the size. That was solved by applying a mixture of vegetable wax, paraffin, and machine oil around the sides, where it hardened into a protective cover, and then treating the exposed surface of the disc with hydrochloric acid. This method made several extra procedures necessary. First the discs had to be removed from their wax-oil sheaths, one by one, using a needle, and then they were boiled to get rid of any remaining wax. One virtue of this method was that even if the edges of the discs were nicked, that did not affect the rest of the processing.<sup>70</sup>

#### (3) Rolling

The thickness of the unfinished discs, of course, was uneven, and so they were sorted by means of a revolving roller into "thick," "medium," "thin," and "extra thin." This procedure was adopted throughout the industry after World War I, as was the salt-removing above, and it was sometimes carried out after, instead of before, the filing.

#### (4) Filing

This process removed protruberances and depressions and evened out the top

and bottom surfaces of the disc. An ordinary whetstone was used for this purpose in the Meiji period, but by the post-World War I years a carborundum resembling a diamond grinding stone had been imported from the United States and was in wide use. Both engine-powered and treadle files were used, but in either case the carborundum was fitted on top of a rotating shaft. The top surface of the shell disc, which was held in place by a fixture called a press, was filed flat. The process took only a moment, and one man could file between 16,000 and 35,000 small-size discs in a day. Buttons made to be sewn on from the back, however, required back-side filing that would leave a central protruberance or shank ("foot") through which a hole could be bored parallel with the top surface. Specially trained skilled workmen performed the filing of these buttons.

#### (5) Gouging

Gouging meant carving a design into the surface by means of a surface scraping device. At one time more than one hundred designs were being made on shell buttons, designated by number (Number One design, Number Five, etc.).<sup>71</sup> The shell was fixed into a mechanism that was rotated, either by engine or treadle, and a cutting claw was brought onto the rotating shell, carving out the prescribed design by scraping. There were only a few types of "claws" to create all those patterns, so that the actual work involved considerable concentration. Furthermore, the operator had to turn out large numbers of patterned surfaces. Working on small-size discs, a worker at that time could finish the designs on 10,000 to 12,000 buttons in one day.

Sculptured buttons or non-standard shaped buttons required special treatment. The carved designs -- chrysanthemums, clouds, etc. -- on sculptured buttons were done by hand with a small knife, one at a time; triangular, hexagonal, diamond-shaped, square, or other odd shapes were formed by using a whetstone. An engine-driven machine that could carve out some designs came into use after the first world war.

#### (6) Hole Punching

In this process, also called "hole boring," the thread holes for sewing buttons onto garments were made. Holes were either punched down through the button body, or a single lateral hole was bored through the "foot"

protruding from the back. Back-hole boring was often done by the standard punching machine for perpendicular holes, but there was also a special back-hole borer in use among some makers. Punchers for the common "flat" buttons with holes bored down through the top came in several types -- one-hole, two-hole, and four-hole punchers. Depending on how many holes were needed, the operator selected a punch with one, two, or four awls attached, lined up buttons by hand in a rotating vice under the head of the punch, and made the holes. The punching was completed momentarily, but if a worker could not finish the holes in 15,000-20,000 small-size buttons in a day, he would not earn the standard wage. If the maintenance of the punching machine was neglected, buttons were often scratched, but the same was true of the other processes as well.

#### (7) Polishing

This process was carried out using a device called a gasha (or kasha), a nickname which apparently derived from the sound it made. Its purpose was to smooth off the surface of the button and remove any blemishes or scratches incurred during the previous processes by the whetstone, knife, or awl. Basically it was a barrel, with a diameter of two or three feet, into which water, Bōshū sand, and the buttons (sometimes only water and buttons) were placed. Then the whole mixture was churned, either by motor or manually. The churning was carried on for 3-5 hours, with an occasional addition of rice bran to dampen the foam that arose.<sup>72</sup>

#### (8) Bleaching

This was also called "whitening." Natural shell always has a brownish tinge, but bleaching, followed by burnishing, removed that coloration and heightened the lustre of the shell. European and American demand was not satisfied unless shell buttons were bleached and burnished, and so these processes were crucial for the export market. In fact, in the years when Japanese still could not carry out these steps themselves, they had to hand over their consignments of unbleached buttons to foreign trading houses and be satisfied with payment for "semi-finished goods." Bleaching involved the use of hydrogen peroxide, which was derived from mixing sodium peroxide and sulfuric acid;<sup>73</sup> and to keep the remaining sulfuric acid from blemishing the shell, silicic acid or magnesium sulfate was added. The buttons were placed in a



container (a tub or an oil can) of this solution, which was then closed tight and left at a temperature of 50-60 degrees centigrade. The bleaching solution was changed every twenty-four hours. According to some accounts, from around the turn of the century through the early 1920s the bleaching process had to be continued for as long as a week. Small, slender buttons took less time -- 48 hours was usually enough -- but the entire process apparently was shrouded in the utmost secrecy, from the proportion of chemicals and volume of solution used for each type of button to the number of hours each type was treated. No one who did not belong to the factory was allowed into the bleaching room.<sup>74</sup>

#### (9) Burnishing

Like bleaching, burnishing was a top secret process. It seems that it involved immersing the bleached buttons in a solution of hydrochloric acid and nitric acid at about 60 degrees centigrade for somewhere in the vicinity of half an hour.<sup>75</sup> The volume of solution, proportions of chemicals, temperature, and immersion time for each size of button in given volumes were carefully guarded secrets, and only very skilled workers handled this process. The solution was discarded after one use, and the buttons were cooled in cold water and cleaned several times to get rid of the chemicals. In view of the ten-odd years of struggle and the significant cost the producers had invested to arrive at their knowledge of bleaching, it is not surprising that they should not want to divulge that information.

#### (10) Drying

Until World War I drying often was done simply by leaving the buttons out in the sun. But later two other methods came into wider use, one a device using sawdust, the other a moisture removing machine, or a combination of both.

#### (11) Waxing

The buttons were placed in a barrel with a quantity of rice hulls or sawdust that was soaked in tree wax (insect wax, Chinese wax), and the mixture was gyrated for about ten minutes. The button shell has a natural shine, but waxing brings it out further.

(12) Sorting

At this stage buttons were screened and sorted according to thickness, flaws, and so on into categories of first, second, and third grades and two intermediate grades. Sorting was done with punctilious care, for the grade of button directly influenced the price the producer could get. It was not unusual for the factory manager to do the whole process himself, for "this work alone cannot be entrusted to others."<sup>76</sup> Buttons of grades one and two could be sent out for export, while grade three buttons, often called the flawed or "rotten" buttons, were distributed only in the domestic markets.

(13) Attachment to Cards

This procedure varied according to the customer's order, but generally a piece of cardboard was covered with tin foil or aluminum foil and the buttons were sewn onto that, one by one. One dozen, two dozen, or one gross (twelve dozen) were attached to a single card, depending on the order.

The above outlines the steps in the production of buttons made from the button shell. In Japan, however, buttons were also made from other kinds of shell and in each case the processing methods differed. Table 5 shows the many kinds of shell buttons that were produced. There were 29 different shapes, 22 sizes, and 13 types of shell used. Considering the total number of possible combinations, more than 8,000 kinds of shell buttons could be made, all different. If we also take into account the hand-cut nonstandard and carved buttons, as well as those with back-holes, the number of possible variations confounds the imagination. In the 1920s and 1930s the number of different designs hand carved onto buttons was reported to be between 70 and 80.<sup>78</sup>

The problem in Japan was that difficulties inherent in small-volume, multi-type production were overcome not by upgrading the means of production or introducing multipurpose equipment, but by adopting an arduous, complex process of manual operations and maintaining low pay and long hours by the small producer. As the division of labor grew more definite and sophisticated, the manufacture system did not shift into modern factory production; rather, the tendency for the "processor," the person in charge of each

separate process of production, to break away and become a small producer himself grew progressively stronger. We will look into this development in the next chapter.

Table 5. Varieties of Shell Buttons

|                |   |
|----------------|---|
| Button type    | No.1, No.2, No.3, No.5, No.8, No.9, No.16, No.18, No.19, No.25, No.37, No.64, No.100, German type, Bull's eye, Round bar, Saber bar, Rope-twist bar, Two-joint bar, Cup, Helmet, Carved design, Nonstandard shape, Back-hole, Collar button, Cuff button, Hook-eyelet, Rod button |
| Size           | 18, 22, 26, 30, 34, 38, 42, 46, 50, 54, 58, 62, 66, 70, 74, 75, 78, 82, 90, <u>sun</u> (1.2 inch), <u>sun</u> No.2, <u>sun</u> No.5   |
| Types of shell | White butterfly, Black butterfly, Pearl oyster, Hirose, Button shell, Conch shell, Turban shell, <u>Nankōgai</u> , Jewel shell, Abalone, River snail, Wide Bivalve shell, Inland Bivalve shell  |

Source: Nihon kai botan dōgyō kumiaiishi [History of the Japan Shell Button Industrial Syndicate], p. 46; Ōsaka no botan kōgyō [Osaka's Button-Making Industry], p. 34, 37.

N.B. The information above pertains to buttons made in the 1920s and early 1930s. The numerous different kinds of carved buttons, nonstandard buttons, and back-hole buttons have been omitted.

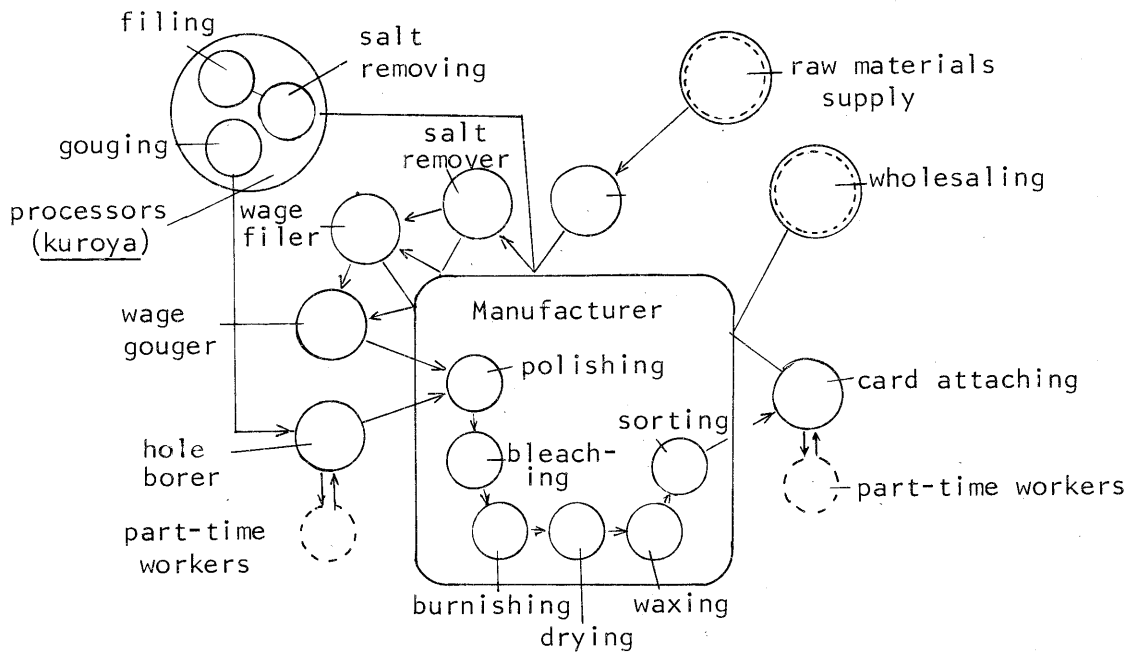
#### IV. THE PRODUCTIVE ORGANIZATION CENTERED ON THE MANUFACTURER

After World War I shell buttons were produced under a system whose organization corresponded to the diagram in Figure 8. It is quite similar to the organization of production of other kinds of buttons, as illustrated in Figure 9, but the fact is that almost all medium and small industries, which supported the lowest level of Japan's whole industrial structure at that time, shared many of the same peculiarities.<sup>79</sup>

Above all, the characteristic way of dividing types of work created virtually a separate industrial subcategory around each manufacturing process. This came about when -- contrary to patterns in European and American economic history -- the division of labour within the workplace spread outward at a given time to form a new system of "dispersed manufacture." At one point such a system developed in Britain's textile industry, but it broke down under a strong new trend towards integrated factory production and quickly lost its necessary base. The productive structure in Japan, however, as we have already seen in Winkler's factory, took root as a system of dispersed manufacture and expanded on that basis, while the integrated factory system continued to decline. It should be possible to see in that process a unique pattern of development taking place in the lower levels of Japan's industrial structure. Let us examine in slightly more detail some of the industrial subcategories in the shell button industry.<sup>81</sup>

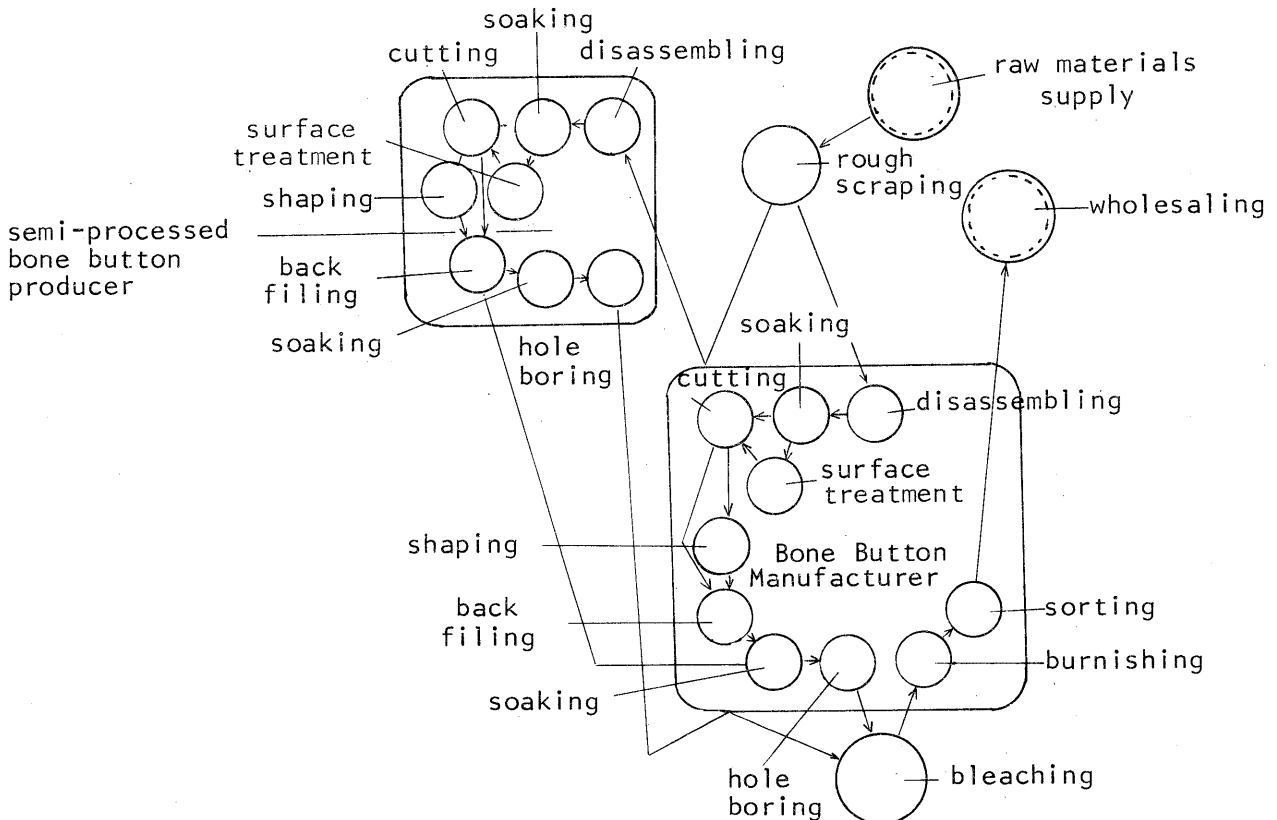
People whose activities were central to the production of shell buttons were called "manufacturers" or "button-makers." In some cases they purchased the raw shell directly from a raw materials dealer (wholesaler) and had it cut into discs, or on occasion they cut out the discs themselves. But it became general practice at that time to acquire shell that had already been processed by a separate group of craftsmen who specialized in raw shell cutting

Fig. 8: Organization Chart of Shell Button Production Using Button Shell



Source: Osaka no botan kōgyō, in addition to oral reports in Kashiwara City, Osaka Prefecture.

Fig. 9: Organization Chart of Bone Button Production



Source: Osaka no botan kōgyō, pp. 83, 101.

(called disc cutters). In the next section, we shall touch upon how the cutting process broke away from the factory to become its own industry, but in operation, disc cutters either delivered the shell directly to the manufacturers, or through a broker. When considerable distances were involved, deliveries were made chiefly by broker.<sup>82</sup>

Once it left the cutting plant the progress of the shell was somewhat complicated. Sometimes the manufacturer would subcontract it out to processors called kuroya, who put it through the three processes of "salt" removal, filing, and gouging and then sent it back to the manufacturer. If a kuroya were not used, the shell was either sent around to three different craftsmen in turn -- a salt remover, piecework filer, and piecework gouger -- and was then returned to the manufacturer, or it went one more step to the hole-borer before it came back. When the shell came back from the kuroya without holes, the manufacturer had to send it out again to be bored.

In yet another pattern, the shell did not even reach the manufacturer until after it had gone through the hands of the disc cutter, kuroya, and borers. If they had settled their accounts at each stage when the goods passed from one processor to another, they would have been independent entrepreneurs. But instead of realising their profits by subtracting overhead and materials cost from total proceeds, these subcontracted processors received wages from the manufacturer for the volume of piecework they finished.<sup>83</sup> As we have seen, sometimes the manufacturer did not see his shell again until after it had been processed through the hole boring stage. Since not one bit of work was done on it in his own workplace, it was possible that the manufacturer never laid eyes on the shell at all. Ordinarily those producers, other than the manufacturer, were called "processors" (kakōya).

It was not at all unusual at the time to find manufacturers who themselves did almost nothing of the actual production, carrying on other medium and small industries of what we call the "urban type." In fact, in the stratum of manufacturers, most wholesalers and other industrial middlemen functioned in very much the same way as did the manufacturer in the shell button industry. Certain unique features of shell button production, however, gave the manufacturer a role in the production process that his

counterpart might not have in another industry. He was responsible for polishing, bleaching, burnishing, waxing, and sorting.

It was only common sense for the manufacturer to handle sorting himself. For one thing, how the finished buttons were sorted had a direct influence on their price. But more important, sorting was the key to successful (or unsuccessful) bargaining when it came to a trade settlement with the wholesale button dealer or foreign trader, to whom a finished lot was always delivered. Most of the products -- which leaned heavily towards consumer items -- of Japan's medium- and small-scale urban industries in their early stages were made for export, and the bulk were handled by foreign trading firms. Even into the late 1920s, these firms were still shipping out as much as 60 percent of Japan's shell button, and every one of those buttons was scrupulously checked within the inspection control section of the trading firm itself. Since final pricing really hinged on screening before the buttons were consigned to one of these firms, the manufacturer screened the buttons himself and did it with particular severity. The same was true of manufacturers in other industries.

The other four processes, of which bleaching was central, were significant for a different reason. They incorporated technical secrets known only to those who did the processing. The manufacturer carefully guarded his industrial territory and did not permit his subcontractors even to enter the workshop where these processes were carried out. Originally, German entrepreneurs themselves handled the bleaching and related finishing processes, to the exclusion of others, and treated the small Japanese producers as subcontracted makers of semi-finished goods. Germans, reportedly, "monopolized most of the profits."<sup>84</sup> Later, therefore, when all the processing had moved into Japanese hands, the manufacturers attempted to maintain a similar position of superiority over the processors by dint of their control over the finishing processes. Most of the manufacturers themselves were once small producers like the kakōya they now subcontracted. The production secrets in the four finishing processes noted above were not confined simply to the kind of amounts of chemical substances used; even the method of churning the buttons in a barrel was kept confidential.<sup>85</sup> In any case, the shell button manufacturer's direct involvement in part of the production process

gave his relationship with the subcontractors a somewhat more premodern character than in other urban-type medium and small industries.

It was an understood rule that no subcontractor (kakōya) could take work from another manufacturer unless he first obtained permission from the manufacturer to whom he belonged. The same procedure was necessary when the kakōya wished to hire or dismiss a worker.<sup>86</sup>

What is extraordinary in this is that it describes the situation after the Second World War, and conditions hardly could have been any more "modern" before the war. The same premodern character of the relationship between manufacturer and kakōya comes out in their relations with the workers under their employment. A number of interesting rules are clearly stipulated in the articles of incorporation drawn up in the early Shōwa period for the Japan Shell Button Industrial Syndicate, formed at the end of the Meiji period:<sup>87</sup>

#### Section 5 Personnel Regulations (excerpts)

Article 106 Upon employment, all information concerning the permanent domicile, present address, social rank, name and date of birth of employee must be reported within five days of employment to the head of the Syndicate, and an identification certificate will be issued in return....

If any change occurs in employee's social rank, address, or other items recorded on said certificate, they must be reported within three days and the changes duly made on the employee certificate.

Article 107 Dismissal of an employee must be reported to the Syndicate head within three days of dismissal.

Article 108 The employers shall keep each certificate of employment for the duration of employment and upon dismissal shall record the year, month, and day of dismissal and the reason for dismissal, and shall fix his seal on the back of the certificate and give it to the employee who was dismissed.

Article 109 Anyone already employed by a member of the Syndicate cannot be employed by another without the agreement of his employer.

Article 111 When an employee is dismissed for one of the reasons listed below, the Syndicate member who



was his employer shall report the circumstances of dismissal to the Syndicate head.

- a) Misrepresentation by employee of his social rank, name, or other important items, upon employment.
- b) Failure to perform work duties properly or other infractions of work discipline.
- c) Request without adequate reason for increase in wage, monetary loan, or dismissal.
- d) Incurrence of loss or damage to employer by deliberate intent or serious oversight.
- e) Abduction of another employee.
- f) Attempt to conduct a strike.
- g) Incurring a situation of unknown whereabouts, obtaining employment elsewhere, or failing to return to duty without approval of employer.
- h) Incurring punishment by imprisonment.

Article 112 Upon being informed of the perpetration of any of the acts or behaviour specified above (a)-(h), if the head of the Syndicate can certify by investigation that such act has taken place, he shall, with the endorsement of the Syndicate Council, carry into effect the suspension of employment by any member of the Syndicate of the employee concerned for a period of not more than one year. In the case that the head of the Syndicate can certify that the probationer has demonstrated due repentance, he can, with the approval of the Syndicate Council, rescind the probation during the course of its execution.

In the event that the head of the Syndicate takes either action, he must notify all members of the Syndicate to that effect.

Despite going to such great lengths to establish discipline and strict order of status among workers, the Syndicate was relatively receptive to employed workers becoming small entrepreneurs on their own.

Most small producers [here, the kakōya] receive their supply of raw materials from the wholesaler [here, the manufacturer], and deliver the products to the wholesaler. Very few producers themselves buy materials, make the product, and then sell it. Thus, generally, the small producer need not concern himself with procuring large volumes of raw materials. A few machines are all that is necessary to start a business.<sup>88</sup>

The cost of machinery for producing buttons around the time of the First World War was, in most cases, about 50 yen per unit. Considering that the monthly salary for a skilled workman was 30 yen,<sup>89</sup> plus or minus, the initial cost of opening a business was not that high. The advantages to the manufacturer of dividing the various processes were clear. He could avoid the burden of fixed capital and equipment costs, and hours of labor within the family-type workshop of each individual producer could often be stretched to the limits of human endurance. The manufacturer himself, moreover, did not have to enforce such long hours; the producers themselves made efforts to finish what they were doing without coercion. Long hours and heavy work were, for independent entrepreneurs under pressure to produce as much as possible, taken for granted in their efforts to build up their business. Also, when the work was done as a family enterprise, family members, unpaid, also put in back-breaking hours with no coercion from the manufacturer.

The small plants, set up as seemingly independent establishments, also served as a buffer for the manufacturer, absorbing the effects of a slump or recession and acting as a valve in economic adjustment. Thus it was to the advantage of the manufacturer to encourage the separation and dispersal of manufacturing processes as far as it could go. Further, since the manufacturer preempted for himself control over the vital processes of finishing and sorting, without which the buttons could not reach the market, there seemed little way to squeeze him out of dominance. The sine qua non for the industry was intensive labor, but the separation of manufacturing processes was premised, technologically, on the establishment of the system of production described earlier, which made a certain level of output possible, even though the essential machinery was simple and cheap. Its social premise, the condition that made intensive labor an option in the first place, was the existence everywhere of pools of surplus labor.

All the same, a base built on these conditions did not necessarily provide a guarantee of a firm position in the social structure or moving up in it, neither for the manufacturer nor the owner of the processing workshops, the producers. This point bears further scrutiny. Let us look at the case of the manufacturer first.

To begin with, there were clearly many remnants of the past still at work in the methods of transaction and in the process of production, but there was nothing at all in the assumptions or organization modes underlying the industry which could operate to prevent the manufacturers from proliferating. Moreover, since the proliferation of immediate producers was the condition that sustained the manufacturer's entire operation, it was inevitable that numerous "outsider" manufacturers should spring up, having no relation to the syndicate at all. When business was good, various brokers who had virtually nothing to do with production mushroomed, filling in gaps in the lines of production and distribution. The speculative moves by these brokers proved to be severely unsettling to the modus operandi the industry had achieved. While their activities were motivated by dreams and greed, in the end they succeeded only in spreading despair.

In Hyogo prefecture, for example, during late 1916-early 1917, while the number of persons involved in manufacturing fell by 12, from 87 to 75, those involved in some kind of distribution or sales increased by 17, from 20 to 37. Apparently most of these new intermediaries were "former producers who had shifted over to distribution, or apprentice shop clerks who became independent entrepreneurs."<sup>90</sup> It is safe to say that "producer" here is equivalent to "manufacturer."<sup>91</sup> This kind of shift is also seen in statistics on syndicate personnel in the Osaka industry taken from the mid-twenties, which appear in Table 6.

Table 6. Total Membership in the Japan Shell Button Industrial Syndicate, Osaka Prefecture

| category<br>year | I: Manufacturers | II: Distributors | Total |
|------------------|------------------|------------------|-------|
| 1926             | 126              | 96               | 227   |
| 1927             | 170              | 109              | 297   |
| 1928             | 196              | 111              | 307   |

Source: Department of Industry, Osaka City Office, Osaka no botan kōgyō [Osaka's Button Industry], 1930, p. 27.

Since manufacturers could be included in category II as well as in category I, it is difficult to trace the details of movements with any certainty, but it is clearly documented that the increment in numbers of manufacturers and brokers represents the tendency for "workers to set up independent operations,"<sup>92</sup> on the manufacturing or on the commercial side. It was exceptional for a processor to become a member of the syndicate.<sup>93</sup> After these brokers and some of the manufacturers had run the limits of their speculative activities, familiar results followed, and this was by no means limited to the shell button industry:

The brokers' handling charges, when transactions were carried out among brokers themselves, were about one yen out of each hundred yen, but it is said that when the broker received cash from X and then bought and delivered goods to X, he charged only about 50 sen [.5 yen]. But the brokers' real aim was not to gain these trivial commissions; rather, he sought a way to predict the level and volume of the market through speculation.

Brokers regarded the consignments they bought as their own goods, and depending on the year they realized huge profits in their distribution to the markets around the country, but inevitably they sustained losses quite often. In the case of losses, the broker transferred them onto the producer, from whom he bought the goods, by failing to honor his promise. Such activities in the past have caused a lot of trouble....<sup>94</sup>

Thus, the manufacturers were often hurt in market competition by brokers, who were actually erstwhile manufacturers themselves, or carried out some of their functions. On the other hand, the manufacturers did not entirely sweep away old relationships with wholesalers' capital. Shell button production was a new industry, transplanted to Japan after the Meiji Restoration, so that the nature of the putting-out system in the industry remained ambiguous. The conditions, even so, were as follows.

The Japan Shell Button Industrial Syndicate was actually formed in 1907, but its formal establishment was not until January 1908. The prime movers of the syndicate were people who got their start as small producers and then gradually acquired the character of commercial capitalists. However, in 1910, there arose a movement to make partial revisions in the organization, to establish "cooperative relations with the people in distribution." Then, "as a result of talks with distributors, an extraordinary general

convention was held on August 25, 1910 at the Osaka Chamber of Commerce."<sup>95</sup>  
The following resolution was adopted at the meeting:

#### Agreement

This syndicate was originally established as an organization of shell button producers, but in view of steady expansion of button exports overseas, we have agreed hereby to amend the Articles of Incorporation to provide for joint membership together with persons involved in distribution of shell buttons.

(76 signatures follow)<sup>96</sup>

Article Two of Chapter One (General Principles) of the amended Articles of Incorporation states:

The present syndicate shall be separated into two sections by types of business operations.

Section One -- Shell button producers.

However, the members of Section One shall be limited only to producers; the finished shell button products shall be sold in their entirety to the distributors, that is to say, the members of Section Two, and to no other party.

Those members of Section One who wish to engage in distribution activities shall additionally register their names in Section Two and shall assume all the duties and obligations thereof.

Section Two -- Distributors (retailers excluded)

Members of Section Two shall engage only in distribution activities and shall not enter into production.

Those members of Section Two who wish to conduct production activities shall register their names in Section One and shall assume all the duties and obligations thereof.<sup>97</sup>

Gisuke Nakamura, Tsunetarō Kobayashi, Sōsuke Ōta, and others took this opportunity to join the syndicate with guaranteed monopoly rights to sales, but "distribution specialists" numbered only ten. Over 70 percent of these people were in the hybrid "producer-distributor" category, registered both in Section One and Section Two. There are studies which indicate that these people indeed exercised virtual hegemony within the syndicate. But if that were the case, they could have done so even without specially inviting ten members to join. Those studies also ignore the fact that the

producer-distributors included both what I have called "manufacturers" and those wholesalers like Masayoshi Aoyagi, mentioned earlier, who operated their own factories to capitalize on their dominant position in distribution. Masayoshi Aoyagi was made president of the syndicate a month later on September 26 when an officers' election took place. Sōsuke Ōta became vice-president along with Hisatarō Nawata who had occupied the position since the syndicate was formed. In 1914 Ōta succeeded Aoyagi as head of the syndicate.<sup>98</sup>

There is one point worth special note. That is, that if a manufacturer had any chance of improving his social status, it was most likely not through pursuit of economic rationality as a producer, but only by strengthening his identity as a commercial capitalist.

However, the old wholesale capitalists also were forced to reduce their arena of action to some extent. They were plagued by the production of more and more inferior goods, falling prices,<sup>99</sup> wild vacillations in the price of raw shell, and intervention by speculators.<sup>100</sup> All in all, they grew rapidly less willing to handle raw materials.<sup>101</sup> This tendency had already surfaced by around 1910. As Figure 5 shows, inflation in the price of button shell, the most important of the raw shell types, could already be seen as early as 1910-11.

On investigating the actual cause of this precipitous advance [in the price of raw shell], it was found to be not the fault of people engaged in the shell button industry, but other powerful individuals and companies in Japan. They imported [the materials] themselves all for their own profits, never giving a thought to how the fluctuations in price might affect profits and losses for the people who needed [the raw shell] most -- those in the shell button industry.... Some volunteers in the syndicate studied ways to buy the raw materials themselves by purchasing them directly in the foreign markets. They planned to facilitate procedures for the Syndicate members and made great efforts to strengthen the base of their operations.... But they had little credibility abroad....<sup>102</sup>

It turned out that reliance upon the foreign trading firms to acquire the raw materials without having to put up with violent fluctuations in price was easier. Prices grew even more unstable during the First World War and afterward. In records after that period, it seems that the capital behind

wholesalers of finished goods and that for raw materials were almost always distinct. Thus a little less than 70 percent of the cutting shell used by manufacturers was obtained from "shell cutters" and slightly over 20 percent from brokers. These raw materials were no longer provided through advance payments or credit extension by wholesalers but purchased in simple transactions.<sup>103</sup>

However, it is doubtful that these circumstances actually indicate that dominant power in the shell button industry shifted to the manufacturers, that wholesale capitalists turned themselves into mere "middlemen," or that the manufacturers were "de facto industrial capitalists."<sup>104</sup> Among that broad stratum called "manufacturers" were small producers who rose up to attain a degree of security by being able to transfer the contradictions in the business onto someone else, and wholesalers who began manufacturing while functioning as distributors. In an analogy made from examining another area,<sup>105</sup> of the two types -- small producer-turned-manufacturer and wholesaler-cum-manufacturer -- it is generally the latter which established a relatively stable base and large-scale operations. They had the leverage of capital and control over the market, but what spurred the wholesaler types to abandon their complex identification as "manufacturers" could very well be a deliberate attempt to stay away from upheavals in the wartime markets and aggravating sales competition.

It is also important to note that in most cases merchant capitalists plunged fully into production of goods primarily for domestic consumption. The domestic market did not suffer the kind of fluctuations felt in external trade; rather, it was able to achieve stable market conditions, and that is what became the premise for factory operation which handled the entire process of production. It is interesting that, in a possibly natural irony, industries which handled the entire production process themselves developed first in Tokyo, which had gradually become the center of the domestic market, while Osaka, which had an incomparably greater concentration of export-oriented industries, lagged behind.<sup>107</sup>

The main customers for a button factory set up by the owner of a sundries establishment were "government offices, military establishments, schools,

companies, and factories."<sup>108</sup> This particular factory had already achieved a good measure of stability in handling the entire production process itself by the end of the first decade of this century. In contrast, the makeshift operations under conditions of instability of manufacturers and manufacturer-wholesalers who did not move into the integrated system of production go to show how badly off they were. One can speculate either that these people were "actually no more than wage laborers," or that they were "de facto industrial capitalists" without thinking much about the social and historical factors that made such stagnancy inevitable. But the present paper is more concerned with an honest appraisal of the special role that had to be borne by people in the direct producer stratum in the process of industrialization in the Japanese pattern, and with the historical consequences of that role.

We have discussed manufacturers perhaps more than enough in this section, so let us turn to the "processors" (kakōya). In the following section we shall see how they were "in almost every case former factory workers in the same industry,"<sup>109</sup> who, having worked in a system that retained many elements of the old, paternalistic system of master-servant relations, tended to "follow" the manufacturer. It was these people who managed the separate processes in the production of shell buttons. These people, not quite subcontractors and yet different from regular workers under the manufacturer, may nonetheless properly be called "de facto wage laborers."<sup>110</sup> But there were elements in their place in the industry and the economy that made their operations in many respects extremely complex. We shall devote the next chapter to this subject.



## V. THE TREND TOWARDS RURAL INDUSTRY

The shell button industry took root in Japan as a unique form of decentralized production. Its foundation lay in the numerous small operators known as kakōya, who carried out specific processes as subcontractees to the manufacturers, under conditions of intensive labour and very low wages. But low wages could not sustain life in the urban areas, where rent and cost of living were constantly rising. An Osaka prefectural government report, published in 1926, states:

The homeground of the shell button industry is the area of Tennōji-chō, Osaka city. Shell button production had been going on there for decades, but as the city developed, land rent, wages, and other costs rose steadily and the button manufacturers began to experience severe difficulties in operation. The industry gradually moved out into the rural areas, where in many regions shell button production began.

About twenty years ago in Kusune village, Naka Kawachi county, a certain Mr. Miyano started to manufacture buttons after having acquired the production techniques in Osaka city. After that the number of button manufacturers in the village increased year by year.

The gradual migration of workers in button production to rural areas recently has become a trend....<sup>111</sup>

Nevertheless, even though the industry wanted to secure a cheap labour force from among the idle surplus population in the farm villages<sup>112</sup> and farmers seeking by-employment, the need for adjustment in the industry in response to vacillations in business could not always be accommodated by the cycle of busy and slack seasons in agriculture. Also the industry could not afford to sit and wait until processors had scattered themselves around and become established in the villages. Finally, no matter how carefully the industry might plan for subcontracting farmers, it would not

work where their communities were completely self-sufficient and self-contained under the tenancy system.

From the end of the nineteenth century on, urban-type medium and small button manufacturing companies penetrated rural villages, but only those villages where commodity production had already been going on for generations and had developed the high degree of socioeconomic specialisation needed for such work. It was also necessary to locate in villages where the rural commodity market and money economy was stagnating at a certain level, or where severe economic difficulties loomed on the horizon. Otherwise industry would have had no appeal.

It is probably for these reasons that between the 1890s and the mid-1920s, rural industries and part-time industrial piecework done by farmers spread most widely and diversely throughout the more developed rural areas of Kinki and Osaka.<sup>113</sup> This work was completely separate from the manual processing of agriculture-related products. Tables 7 and 8 show the varied industrial and other items produced by farmers as part-time work in Osaka and Hiroshima prefectures.

In Osaka prefecture, part-time work in two or more industries was a going concern in almost every village. There the industrial output tended to exceed agricultural output.<sup>114</sup> In Ikuno village, Higashinari county, production from part-time work already surpassed agricultural production by the time of World War I. (See Table 9) On the other hand, in the five prefectures facing the Inland Sea -- except Hyogo -- part-time work produced around half as much as agriculture in terms of average value.<sup>115</sup> I should add that villages where part-time piecework remained undeveloped even later, if there was any rural industry at all, were quite numerous.<sup>116</sup> In such villages any industrial work was strictly confined to cooperative agricultural product processing factories controlled by influential villagers. The incomplete differentiation of the farming class prevented genuine transitional village industrialization, but it made some factory production possible. In such villages there were very few factors encouraging the spread of factory-system industry.

Table 7. Survey by Home Affairs Dept., Osaka Prefecture, on Industrial Work Engaged in Part-time by Farm Families

|                     |   |
|---------------------|---|
| Domestic Industry   | Umbrella shafts and handles, toothpicks, chests, rattan crafts, willow trunks, bamboo baskets, bamboo blinds, bamboo brushes, hampers, rope mats, ramie, braided cords, Sakai jute carpets, raku-raku cloth, velvet, tissue, cedar powder, white pigment, roof tiles, base for imitation pearls, shell-button disc cutting, nutshell buttons, water-buffalo-horn buttons, rubber toys, amber pipes, watch-glass, lenses, glasses frames, scissors, wire, wire netting, hair shearers, bamboo-shoot canning, agar gelatin, wheat noodles, freeze-dried beancurd, malt. |
| Piecework for Wages | Toweling, woven nets, woven hammocks, twisted yarn, woven jacket cords, ramie rope, braided ramie, thread dyeing, work gloves, leg guards, velvet, bristle-placement in brushes, toy chicks, envelope pasting, matchbox pasting, sedge work, wooden combs, powdered medicines, woven wire netting, mirror polishing, shell-button disc cutting, freeze-dried beancurd.  |

Source: Osaka Prefecture, Home Affairs Dept., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō [Summary of Part-time Industrial Work in Villages in Osaka Prefecture], 1929, p. 1-2.

Table 8. Products of Part-time Industrial Work in Villages in Hiroshima Prefecture during the Taishō Period

Dried persimmons, skewered persimmons, bleached ramie, processed ramie, freeze-dried beancurd, tatami matting, thin matting, figured mats, rice straw rope, barley straw woven hats, bottle wrapping, barley straw 4-diamond and 5-diamond woven stands, bamboo goods, bamboo baskets, bamboo rice-serving pots, bamboo chopsticks, trays, storm shutters, wooden clogs, paulownia pillows, paulownia boxes, fan boxes, writing paper, Japanese paper, writing brushes, sheet seaweed, charcoal

Source: Hiroshima Prefecture, Kenka shuyō kakō fukugyō seisanhin keizai shuyō shijō ni okeru fukugyōhin torihiki jōkyō chōsa [Survey on Transactions in the Main Markets for Major Part-time Products in Hiroshima Prefecture], 1926. All product categories mentioned in this work have been included in the table.

Table 9. Part-time Work in Ikuno Village, Higashinari County, Osaka Prefecture

| Work category   | Work type                          | Gross income |
|-----------------|------------------------------------|--------------|
| Main occupation | Agriculture                        | 65,114 yen   |
| Part-time       | glasses lens manufacture           | 52,800       |
|                 | poultry raising                    | 10,735       |
|                 | paper cord manufacture             | 2,500        |
|                 | mirror manufacture                 | 800          |
|                 | textile wrapping paper manufacture | 2,000        |
|                 | paper slate manufacture            | 100          |

Source: Osaka Prefecture, Home Affairs Dept., Nōka fukugyō seiseihin tenrankai hōkoku [Report on Exhibit of Superior Products of Part-Time Work by Farmers in the Prefecture], 1915, p. 97.

Specific social conditions were necessary, therefore, before urban-type medium and small enterprises, including button-makers, could advance into these villages. The areas into which the button industry moved included the Kawachi region. There it was clear that the cultivation of raw cotton and the cotton industry, as well as rape-seed cultivation and rape-seed oil production, which had been carried on since long before the Meiji Restoration (1868), were on the verge of ruin. And button-making went into the eastern part of Kagawa prefecture, where the centuries-old salt production industry was finally collapsing and geographical limitations had made sericulture prohibitively difficult.

The process of rural industrialization varied in each area, according to the specific characteristics of the local social structure. Let us look at the case of Kawachi, in Osaka prefecture.

Button production started in the Kawachi region during the years between 1887 and 1896. In addition to the record noted concerning "a certain Mr. Miyano," others include material describing a shell button concern begun by a Unosuke Shōgaki, who started manufacturing in Osaka in 1891.

"He set up factories in two villages, Kashiwara and Yuge, both in Shiki county, Kawachi" in 1895, and in 1897 he consolidated them into the Kashiwara factory.<sup>117</sup> As of 1901 the factory employed 39 male and 2 female workers. The following year those figures were 37 and 5 respectively.<sup>118</sup> It was reported that when the plant started it was a "fairly large manufacturing factory" with 50-60 employees, so we see that the scale of operations was reduced considerably. Heitarō Fujii set up a factory in Osaka city in 1896 and moved it to Mikimoto village, Naka Kawachi county, in 1904. The new factory was the same size as the Shogaki plant in its early stages.<sup>120</sup>

The following remark can apply to these people, including Mr. Miyano.

[Their activities] were directly assisted by the commercial capital of wholesalers in Osaka city.... [But] there were extremely few cases in which capital accumulated by the landlord class, whose parasitic nature had almost come of age during that time, or by upper class owner-farmers who had begun moving into commercial agriculture, or by cultivating landlords, was mobilized.... The people who participated in the button industry in these villages were chiefly those who had been to Osaka city and became journeymen or apprentices of wholesalers, or became successful wholesalers from scratch, and later returned to their villages. Some of them and their relatives went into the button business. All these people were originally from the lower classes of the villages....<sup>121</sup>

These factories followed a path that deviated considerably from the common course usually taken by industrial capital. Industrial capital was usually invested with the expectation of winning in market competition, by enhancing productivity through raising the level of the organic composition of capital and realizing greater relative surplus value. But button manufacturers in the rural areas made their own factories' workers independent, one after another. When Unosuke Shogaki amalgamated his Kashiwara and Yuge factories into one at Kashiwara, he did not literally close down the Yuge factory. He himself moved to the Kashiwara factory, but first made certain that local workers in Yuge village could continue to operate the factory themselves to produce semi-finished goods. In 1902 he encouraged Kahei Kobayashi, a man who had mastered the production techniques at Shōgaki's factory, to open his own shell button factory.<sup>122</sup> Then Shōgaki actually closed down his factory in 1904, and he went to Okinawa where, with inmates of the Naha Prison, he started button production using local shells. In

1905 he gave up his efforts in Naha, owing to shortage of material, and returned to Kashiwara.<sup>123</sup> He started button production again, but in number of employees the new Kashiwara factory was far smaller than its predecessor.<sup>124</sup>

In later years as well, shell button factories spring up in the Kawachi region. According to documents in the decade around the turn of the century, shell button factories were started by Hachisaburō Tatsubo, Ushimatsu Kawabata, and Kamejirō Tani in Yuge, Shiki village.<sup>125</sup> "Each of these factories had seven or eight male and about the same number of female workers." In 1908 the Terada Shell Button Manufacturing Factory had four male and one female employees. During the first years of this century most factories had around ten.<sup>126</sup> As the number of factory employees dropped, the number of farming families engaged part-time in shell button production increased drastically in the surrounding areas.

In Taishō village, Naka Kawachi county, for example, "After the Russo-Japanese War (1904-05) shell button exports rose sharply, and the number of farmers engaged in shell button production greatly increased." In the early years of the next decade, 110 households, or 200 people out of a total of 400 farming households in the village were involved in shell button production, bringing a net income of about ¥10,000 to the villagers.<sup>127</sup> The button industry also prospered in Minami Kawachi county, as can be seen in the following statement.

Shell button manufacturing has invigorated the lives of farm girls in all the villages of Minami Kawachi to an amazing degree. They are producing more than five hundred different kinds of buttons, and total production last year amounted to ¥100,000 in Furuichi village, ¥1,174 in Mikkaichi, ¥14,475 in Kashiwara, ¥36,000 in Shiki village, ¥6,400 in Nakamura....<sup>128</sup>  
(Emphasis added)

Thus, Kawachi's share of shell button production in Osaka prefecture showed a dramatic increase. As Figure 10 shows, in 1904 Kawachi's output was only 0.3 percent of the total in Osaka city, but that figure gradually rose to 2.5 percent in 1906, and to 2.9 percent in 1912. Two years later, in 1914, the percentage jumped to 14.2 percent, and during the First World War the region's share reached 35 percent. Volume of production also showed startl-

ing increases: compared with 1904, the region's total production was 57 times higher in 1912, 177 times higher in 1914, and over 3,000 times higher in 1918.<sup>129</sup> This phenomenal growth was made without the benefit of any new elements in the system of production. It was achieved simply by hard, almost entirely manual work carried out in small factories and part-time in farming households. And, as a result, the very system of dispersed processing, once it was firmly established, and the vertical relations of production themselves became the characteristic base for capital accumulation by the founders of shell button industries in the region. It is safe to say that the objective of those who started up industries was not to sustain and expand comprehensive "factory operation," but to use their factories as a facility to provide training in button manufacture for processors, or direct producers. That would explain why Unosuke Shōgaki could shut down his factory so easily. And some, like Kamejirō Tani, who moved out from under the small direct producer and became independent relatively earlier than others, were able to rise to become "producer-sales" entrepreneurs, or "manufacturers," themselves.<sup>130</sup>

As "manufacturers" emerged on the one hand, "producers" (kakōya) were born, on the other, the former controlling the latter on the basis of the putting-out system. In much the same pattern, shell button production spread and grew in the rural areas of Osaka prefecture, centering on Kawachi. This development did not, however, represent a revival of the dispersal of processes as was once seen in Osaka city. From the outset, the villages remained in the position of being limited suppliers of partially-processed goods, a contradiction that was never overcome.

As a case in point, right after the First World War a large drop occurred in production volume. Postwar business was devastated, even in the aggregate picture of Osaka prefecture. In 1919 value of production increased over the previous year, but quantity showed a sharp decline. In 1920, production volume dropped drastically to only 25 percent of that during a peak year, while production value also plummeted to a little less than 30 percent. The Kawachi region suffered the most in that recession. Industries in Osaka city and the Kawachi region were the pillars of shell button production in the prefecture, but Kawachi's share of total production

in Osaka and Kawachi combined dropped from 35.0 percent in 1918 to 28.0 percent the next year. In 1922 it had fallen to 6.4 percent. It seems unfair that Osaka city manufacturers along continued to enjoy stability in production at the expense of the Kawachi producers.

Another factor in Kawachi's declining button production was technical. Most manufacturers who relied on part-time work by farmers used dated or obsolescent means of production. Their "production techniques were inferior,"<sup>131</sup> but worse, they were unable to overcome the syndrome of producing low-quality products, or "peke-hin" (defective goods) as they were called. It was natural that the makers of low-quality goods, which they exported during wartime by exploiting an abnormal situation, should suffer setbacks later. But it would be unfair to criticize direct producers for those failures. They did not have the leeway to plan rationally for the future; they bought old-fashioned machines,<sup>132</sup> and grew interested -- in their own way -- in button products which appeared totally new in their eyes. These people devoted themselves to their work, mobilizing their families, even their children. They must not be lumped together with manufacturers who tried their best to avoid committing any fixed capital and busied themselves in speculative buying and selling in the distribution processes; or with those export merchants whose position was powerful enough to let them capitalize to the maximum on the prosperous business of wartime production.

Around the 1920s, Kawachi button production began a gradual recovery. As it revived, the numerous contradictions created by the fragmentation of industrial processes began to surface in purer form.

First of all, it must be noted that shell button production in the Kawachi region after the First World War tended heavily towards disc cutting only, to the exclusion of other processes. A report by the Osaka prefectural government mentions that during the years spanning the late Taishō and early Shōwa periods (roughly post-World War I through the 1920s), people in disc cutting (kurikiji gyōsha, also called kiji-ya) who "bought and used chiefly old machines" and "operated their machines by treadling," were "moving into rural areas," such as "Kusune, Tamagawa, Nishi Rokugō, Fuse



(Town), Taishō, and Katagami villages in Naka Kawachi county, and Shiki and Isonaga villages in Minami Kawachi county."<sup>133</sup> The number of households engaged in this business was 41, and individual workers, 200 -- all male.

It should be pointed out that by that time direct relations between those workers and the manufacturers or erstwhile wholesalers had ceased. It is certain that during the Meiji period (until 1912) disc cutters had been closely connected with manufacturers and/or wholesalers; so much so that they "shared the same fate." It is said that Uhei Ōnishi was the pioneer in farming out production by dividing the processes in the button industry. It was Ōnishi who had succeeded in improving the cutting head, and when, thereupon, he moved the whole cutting process to a "subsidiary," Ōnishi himself became a "manufacturer." In his time, manufacturers were "in a position to supply materials."<sup>134</sup> After the end of the First World War, however, disc cutters began to buy raw shell from specialized raw materials suppliers with cash from their own capital. Moreover, the cut discs were not passed directly to the manufacturers. Manufacturer-producer relations were such that "most of the products were sold to intermediary merchants, who took a commission of about five sen on the sale of one hundred disc products and sold them to 'manufacturers.' If there were any disc cutters who sold their products directly to 'manufacturers,' their number was very small."<sup>135</sup>

This may suggest that by then disc cutters were no longer marginal suppliers of products and that they had rid themselves of the yoke of the old putting-out system and become independent entrepreneurs in a specific area of processing. But such an understanding is short-sighted. Before we can make any conclusions, we must examine the circumstances that gave rise to the brokers called "intermediary merchants." Let us take a look at a statement concerning the Kawachi region during the Taishō period.

In those days, some grape farmers from Taiheiji and Hirano in Katashita village put borers in corners of their yards and began cutting shell buttons. A certain Mr. Sakaguchi of Taiheiji opened a market in his own house to sell these semi-processed shell button products. Not only manufacturers nearby but those from as far away as Osaka, Kawachi, and Izumi gathered at this market to buy them. Those from around Tennōji in Osaka city were the most numerous.<sup>136</sup>

Indicentally, Yoshimatsu (Teijirō) Sakaguchi was originally a small factory owner who then became a manufacturer. During both the Russo-Japanese and the First World Wars, when drastic changes hit the prices of raw shell and cut discs, he was able to exploit the weakening control over materials traditionally exerted by merchant capital, and he himself became an "intermediary merchant."<sup>137</sup>

Many other local manufacturers became brokers of cut shell discs, while at the same time they began to engage in raw shell buying. When business was good, they were able to realize fairly large profits through speculation.<sup>138</sup> Manufacturers from Osaka had to go far out into the villages of Kawachi to get discs, and sometimes they had to make concessions to the demands of the local people.<sup>139</sup> Transactions were made in cash.<sup>140</sup>

However, when business slacked off after the end of the First World War, the broker's relative position was deflated to a reasonable level. Now the intermediary merchants had to deliver products to manufacturers themselves. Increasingly, settlements were made by the recently widespread "15-day to one-month check." Moreover, manufacturers began rapidly disappearing from the Kawachi region. In 1934, there were 104 "distributors" and "manufacturer-distributors" who maintained control over the Kawachi region by virtue of wholesale capital, but these people all lived in Kobe and Osaka. Not one lived in Kawachi.

Some among them may have lived in Kawachi and had moved to Osaka or Kobe cities, thus dissipating any mutual interests between them and the small producers in the villages of Kawachi. But most functioned as a type of broker in shell discs, their position reduced to a middle-echelon role within the organizational network of control over small producers by merchant capital. Their last resort to raise their socioeconomic position was in speculation. Of course they hoped for big gains. But not a few, like Yoshimatsu Sakaguchi, fell back on speculation and suffered such severe damages that they were pushed virtually through the bottom of the shell button industry. There were probably many such disasters.<sup>141</sup>

For producers and brokers whose roots were in the agricultural class of

the Kawachi region, the environment did not necessarily offer the "warm" permissiveness that might be expected in a feudal society, when a person strayed within the bounds of his class. The fact was that the city manufacturers were concerned first and foremost with securing cheap rural labour, and if a village did not seem to promise such labour, they were sometimes cold-blooded enough to desert the village and set their sights elsewhere in their strategic goals.

Shell button manufacturing originated in the area of Tennōji in Osaka city, but as the city developed, the button manufacturers experienced financial strain due to increases in house rentals and employees' wages. They gradually moved out to the rural villages, one after the other, where they trained farmers in the neighborhood and began manufacturing there.... But even in the villages wages have risen sharply recently, reaching the level of wages paid in Tennōji. Some manufacturers finally moved to Isoshiro county, Nara prefecture, where wages are much lower. They started businesses there and have seen rapid growth. Today<sup>142</sup> the center of shell button production has shifted to that place.

The above helps to explain why, in the 1920s and early 1930s, 60 percent of cut shell discs obtained by Osaka's "manufacturers" were from Nara prefecture, and why a high 48 percent were obtained without brokers.<sup>143</sup> How brokers dealt with this situation will be discussed in another paper. In a statement concerning disc-cutting enterprises, which usually consisted of only five or so people,<sup>144</sup> we read that:

...today disc-cutting enterprises in the prefecture have forgotten the nature of their business and they employ a large number (!?) of workers. This makes it impossible for them to compete with their counterparts in the Yamato region, and, moreover, they are hard-pressed to pay wages. It is inevitable that they will steadily decline. They must reorganize, and under the initiatives of manufacturers, bring together small-scale disc-cutting entrepreneurs who rely for labor on their own family members.<sup>145</sup>  
(Parentheses added)

But it was, rather, the producers (kakōya) who complied with this bureaucratic line of thinking. That point will be discussed below. Not even allowed to undergo the capitalistic class differentiation of the peasantry -- both in reality and by the intension of the ruling elites -- many small producers in rural villages had no choice but to be incorporated into the bottom rungs of the small and medium enterprises of the urban areas. But these were not the only difficulties the disc cutters faced.

Superficially they seemed more independent than other "kakōya." But even within the sphere where they appeared independent, there remained wide margin for the principle of merchant capital to operate. Drastic fluctuations occurred in the price of raw shell, business relationships were unstable, and the quality of imported raw materials could not be guaranteed. Inferior materials were often mixed in, so that "no one could tell whether what he imported was good or bad until he opened the containers."<sup>36</sup> By relaxing their exclusive control over the direct producers, wholesalers and manufacturers were able to pass these risks -- which were sometimes fatal -- onto disc cutters and intermediary merchants of shell disks. A force of independent disc cutters operating in the villages also enabled urban wholesalers and manufacturers to effectively reduce the burden of fund operations and make effective adjustment for busy and slack intervals. A member of the syndicate commented as follows:

These arrangements not only gave the buyer freedom of selecting his shell discs and enabled him to use his funds effectively, but also shortened the time needed for production done under the system of dispersed processing, and ensured that the appointed day of delivery would always be honored. Further, when an accidental shortage of products occurred, it was easy to compensate. These relationships, which had too many benefits to enumerate, also gave rise to the intermediary merchants. For farmers producing semi-finished goods part-time, dealing with those merchants was the safest way, especially since a lot of money was involved. Strange as it may seem, those involved in intermediary transactions prospered more during a slump, and were an object of envy.<sup>147</sup>

Let us now take a look at the other types of "processors." When the disc-cutting work began to move on to Nara, Wakayama, and the island of Shikoku, the other industrial processors had to reorganize, too, if they were to survive. A typical effort, in a few words, was for the "processors" to organize farmers in part-time piecework on a larger scale and get more people in the neighborhood to do piecework at home. For example, producers in charge of hole-boring at first directly employed women, but later quickly adopted the system of paper-time work at home.<sup>148</sup> In Kokubu village, Minami Kawachi county, there were four contracting hole-boring producers, who did some other processing as well. Fifty women and girls worked under them as "domestic workers."<sup>149</sup> Originally manufacturers entrusted card-attachment (sewing buttons on cards) directly to "domestic" part-time people working

at home, and in the late twenties a new breed of agents called "carders" appeared who specialized in mobilizing domestic part-time workers.<sup>150</sup> There were 200 women and girls engaged in this manual labour in Kokubu village.<sup>151</sup>

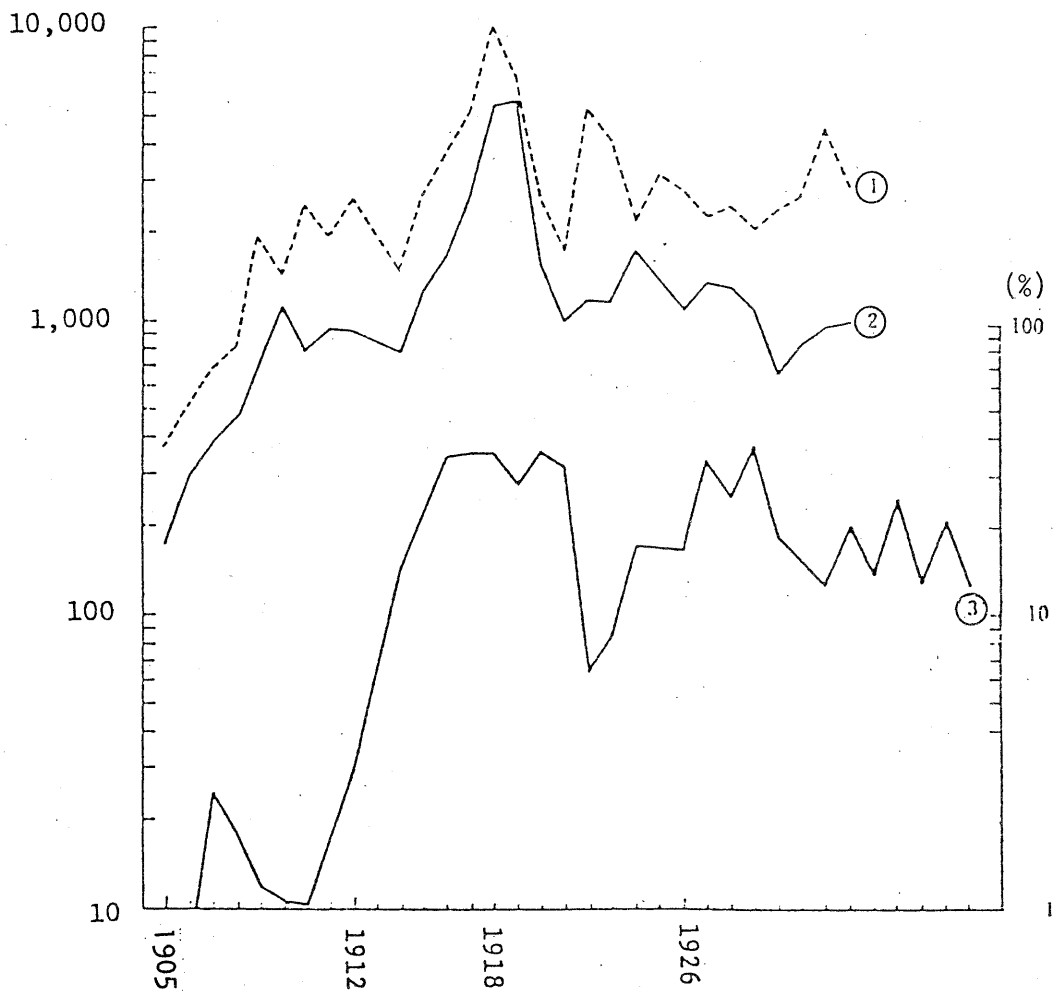
Because of such possibilities more and more "processors" (kakōya) gave up their own direct participation in the manufacturing processes to become a type of mediating broker, and as outside supervisors they were able to strengthen control over the teams of "domestic labourers" under them. Thus, penetrating the ranks of the direct producers, some kakōya created a wholesaler's type of hierarchy, reproduced in a Lilliputian, and much more severe, form. In the case of hole-drilling work, "almost one half [the wages for piecework] were sucked up by brokers in the drilling business,"<sup>152</sup> and worse, "when making a hole, if a worker broke a button, the amount of compensation demanded equalled the wages earned from holing 40-50 buttons. Although piece wages were divided half and half between the boss and his workers, all the compensation money from broken buttons had to be paid by the workers."<sup>153</sup> Moreover, there was "an effective unwritten rule that once a shell button manufacturer shuts the door on one of his workers, this man will never be employed by any other manufacturer [in the same industrial category -- in this case, drilling (boring), etc.]."<sup>154</sup>

Thus, the direct producers themselves constituted a vertical, small hierarchy oriented towards greater utilization of labour in the home -- "domestic labour." This structure became the base for expansion of shell button production in the rural areas in Osaka prefecture.

Fig. 10: Shell Button Production Volume in Osaka Prefecture

- ① Production volume (in gross units)
- ② Values in yen
- ③ Kawachi share in total Osaka city/  
Kawachi (3 countries) production  
(as percent)

values in yen, and no. gross production  
(in units of 1,000)



Source: Osaka-fu tōkeisho [Osaka Prefecture Statistical Report].

## CONCLUSION

In this study I have tried to give an overview of the early shell button industry in Osaka and its environs. I have used shell-button making to illustrate changes in industrial structure, the position and behavior patterns of all those in the immediate producer class, the flow of part of the industry to the rural regions, and the actual role of the manufacturer. Let me add a few brief remarks on several points that emerge from the research and materials that are available on this subject.

The first point relates to the question of when the factory system of production became unfeasible in the shell-button industry, giving way to an arrangement whereby production was dispersed, with the manufacturer remaining at the core. Both Nihon kai botan dōgyō kumiai enkakushi [The Development of the Japan Shell Button Industrial Syndicate] and Osaka no botan kōgyō [Osaka's Button Industry] indicate that this change occurred in the Taishō period, and later volumes confirm the same. But the basic moves towards reorganization of the industry began, as we have seen, in the last decades of the Meiji period (1867-1912). In the Taishō period, the average factory size stabilized at 5-6 workers,<sup>155</sup> but in actuality, large-scale factories had begun to undergo a rapid structural change since some time before. Table 10 illustrates that point. What developed in those factories was the beginning of a shift in the labour force towards an overwhelming predominance of female workers. This change in the labour structure reflects the growing trend towards specialization by the large-scale plants in the finishing processes. Thus it appears that workers who learned the techniques of placing buttons on cards, etc., in the factory rather soon afterwards began practicing those skills outside, in their homes, doing piecework. For the record, the male-female worker ratio in factories employing between 10 and 50 workers in 1904 was (in 7 factories) males 126 :

females 60; in 1906 (8 factories) it was 214 : 82; in 1908 it was 156 : 79. The smaller the enterprise, the higher the ratio of male to female workers. We can infer from this that by the first decade of this century, the large-scale factories had devised measures with which to cope with reorganization in the system of production.

Table 10. Total Work Force and Sex Distribution in Shell Button Factories in Osaka City

| plant size | 50-100 employees |                          |       | 100-200 employees |           |       | 200 or more employees |           |       |         |
|------------|------------------|--------------------------|-------|-------------------|-----------|-------|-----------------------|-----------|-------|---------|
|            | year             | no.plants                | males | females           | no.plants | males | females               | no.plants | males | females |
|            | 1903             |                          |       |                   |           |       |                       | 1         | 275   | 180     |
|            | 1904             |                          |       |                   |           |       |                       | 1         | 150   | 50      |
|            | 1905             |                          |       |                   |           |       |                       | 1         | 26    | 204     |
|            | 1906             |                          |       |                   |           |       |                       | 1         | 32    | 221     |
|            | 1907             | 3                        | 128   | 47                |           |       |                       |           |       |         |
|            | 1908             | 4 (male 380, female 178) |       |                   |           |       |                       |           |       |         |
|            | 1909             |                          |       |                   | 1         | 60    | 40                    |           |       |         |
|            | 1910             | 3                        | 139   | 56                | 1         | 60    | 40                    |           |       |         |
|            | 1911             | 1                        | 51    | 15                |           |       |                       |           |       |         |

Source: Osaka-shi tōkeisho [Osaka City Statistical Report].

Note: Figures for 1908 represent aggregate data for all companies with 50 or more employees.

Second, I would like to say something about the particular kind of "manufactures" and "producers" that arose in the course of reorganizing the industry. Some studies regard them as "de facto industrial capitalists" and "de facto wage labourers,"<sup>156</sup> while other studies treat "manufacturers" simply as "wholesalers."<sup>157</sup> I certainly do not intend to reject the validity of such analyses out of hand, but they do not contribute to our understanding of the special conditions that the direct producers in our country sustained and perpetuated in the industry. Some of Japan's so-called progressive historians dwell on the ingenuity of the system of control and the inhumanity of capitalism, and they make general observations about the distress and adversity of the "controlled." But most of them stop there. Rarely do



they exhibit anything but outright unconcern for the multiple contradictions the direct producers faced, contradictions that, in sheer complexity, far outstripped the imagination of our progressive historians. Throughout the side-ranging and highly diversified class of direct producers, the onus felt most keenly was the near-impossibility of upward social and economic mobility as producers. The class differentiation of producers did not take place, as it did in the West, to create a typical capitalistic social order. The only way producers could keep building and expanding, in order to better themselves economically and socially, was by becoming merchants themselves--sometimes becoming speculators as well. The producers, furthermore, though they may have been "de facto wage laborers," did not out of historical necessity actually become wage laborers in the literal sense. Rather, in a firm and undeniable rebuttal of economic logic as Europeans saw it, in Japan producers arose from among the "wage labourers." Wage labourers were the "reserve army" of the producers. For that reason, people with a real flair for business and commerce rose up from the level of worker to become manufacturers, also. Given such a situation, the relationship of capital and wage labour, which Thorstein Veblen called "Japanese opportunity," demonstrated its efficacy, perhaps a great deal more than Veblen indicated.

We have seen that in areas where the production process underwent change and reorganization, the small producer tended to aim above all at moving into commercial entrepreneurship. This ambition only increased the inclination seen within the ranks of direct producers to jostle among themselves to try and outstrip each other. In the group life of Japan's traditional communities it was simply practical reality that one would "struggle to pull ahead of the others and gain honor."<sup>158</sup> This inborn proclivity was transferred to the industrial arena, creating a similar atmosphere on a larger scale. When it came to the small producers, their efforts to become small merchants were desperate enough to demonstrate downright ferocity.

The result was that most of the immediate producers were alienated from each other, fragmenting the bonds of social solidarity. Although a man might have the same class background and engage in a similar kind of work as the next fellow, if one became a manufacturer and the other a processor

(kakōya), their worlds would be poles apart. Although these people were themselves wage labourers only a short time before, in implementing the harsh rules that governed the work of labourers, as we have seen, they were considerably less than "modern" in their approach. This, in turn, gave rise to a peculiar kind of asceticism on the part of the immediate producers.

It is true that half of the wages for work at each stage of production went into the pockets of the manufacturer or the hole-boring master craftsman, but the immediate producer himself had to absorb losses from defective goods, including the cost of the raw materials. Besides, their wages always tended to be reduced to the level paid to subcontracted pieceworkers in the farm villages. Thus, those people responsible for production put in extremely long hours themselves, and still they could not be completely certain of a lot of goods until they had checked every item themselves. This kind of nerve-wracking inspection went on at every stage of production. Under such hard, unrewarding conditions, their restlessness and dissatisfaction festered, occasionally erupting in apparently senseless behavior.

There were some, it is said, who would receive the raw material, but instead of delivering the finished goods, they pawned them, or gave them as security to someone else in the industry. Or producers who were subcontracted by wholesalers would sometimes fail to pass on all the goods to the wholesaler, and take some straight to the foreign trading firms in Kobe and sell them directly for quick cash payments. They could get 80 percent of the price that way. When they could not agree on the prices, wanting to avoid the transport and labour costs of carrying goods to Osaka, among other things, some of them took the goods to the area of Sannomiya in Kobe, where many goods for pawning were traded, to exchange for cash on the spot.<sup>159</sup>

The special problems inherent in the production structure surfaced in other ways, too. In circumstances where the struggle to surpass others was a shattering, but ever-present fact of everyday life, sometimes the seemingly unbreakable grit of the producers simply gave out, or just as likely their ability to judge and appreciate their own plodding efforts went haywire.

Certainly there was no drastic technological innovation in Japan's medium and small urban-type industry. But the craftsmen and workers had the

ability to efficiently mobilize their own native tools, to create simple but convenient means of production, and to drive out the pseudo-Western-style factory production system. Even though large-scale operations were difficult, one of the salient characteristics of Japan's direct producers was their willingness to carry on, undaunted by the problems of multi-product, small-volume production and the labor-intensive process of production. The fortitude and perseverance was particularly marked in the case of carved and nonstandard shaped button production.

The variety in the shell buttons produced in Japan was, as noted, extraordinarily great. The production of carved and nonstandard buttons was arduous. On the surface of every single button, with a knife "one by one a different design was carved on each...skillfully they brought out a feeling of real beauty, of exquisite taste."<sup>160</sup> Of course, only the most skilled workers could produce such pieces. Unfortunately the price of the product was of greater concern than the skill of the workmanship. More important than the beauty of the button was whether or not it matched the ever-changing flow of fashion. As the new, different designs being ordered for buttons continued to proliferate, the social recognition of, and esteem for, the painstaking handiwork declined. It was probably inevitable that such conditions would drive a direct producer to lose pride in his product and to seek more comfortable horizons as a merchant. Further, for the typical consumer in Japan, consumer goods were no more than expendables. Perhaps few Japanese knew that good shell buttons were, for example, cherished in European families as indispensable to the wedding dress of a bride, or even that those valued, beautiful buttons were made in Japan. After Japan's leap into rapid economic growth in the 1950s, synthetic plastics began to take over shell, and fairly soon real shell buttons were only a memory for few people.<sup>161</sup>

Most research and survey reports, commenting on the plunging sales and dwindling manufacture of shell buttons in recent years, advise two things-- "become high-grade luxury items" and "knowledge-intensive products." Here is part of an exemplary report:

[Recent slumps in sales] are because there are so many relatively simple [shell button] products on the market and because the

developing countries are competing successfully. From now on they must develop high-quality, luxury shell buttons that appeal to the fashion market, and to make it a knowledge-intensive industry. 162

For anyone who knows anything about the history of shell-button making, that statement is preposterous.

## NOTES

1. The way the term "old middle class" is used in Japan seems to reflect to excess the results of Western research on the historical aspects of industrialization. I would like to elaborate on that elsewhere.
2. Mikio Sumiya, Nihon no rōdō mondai [The Labour Problem in Japan] (Tokyo Daigaku Shuppankai, 1964). Kazuo Ōkōchi and Mikio Sumiya, eds., Nihon no rōdōsha kaikyū [The Working Class in Japan] (Tōyō Keizai Shinpōsha, 1955). Ken'ichi Kobayashi and Tsutoku Hyōdō, Nihon shihonshugi to rōdō mondai [Japanese Capitalism and the Labour Problem] (Tokyo Daigaku Shuppankai, 1967).
3. I have addressed this issue and attempted analysis in previous works. Although they are hardly definitive, I take the opportunity to list them here:

"Waga kuni ni okeru toiyasei kaitai no ichi danmen" [One Aspect of the Dissolution of the Putting-out System in Japan], Fukushima University, Shōgyō ronshū, Vol. 43, No. 4; "Toshigata chūshō kōgyō no toiyaseiteki saihen ni tsuite: [The Reorganization of the urban-Type Small and Medium Industries under the Putting-out System], Hiroshima University, Seikei ronsō: I, Vol. 25, No. 1; II, Vol. 25, No.2; III, Vol. 26, No. 2.
4. Small and Medium Enterprises Agency, National Council for Regional Survey Agencies, Yushutsu chūshō kōgyō no jittai chōsa [Survey on the State of Exporting Medium and Small Industries], Tōyō Keizai Shinpōsha, 1957; hereinafter referred to as Jittai Chōsa.
5. Jun'ichirō Miyake, "Kawachi chihō ni okeru nōka keiei no henbō--budō to kai botan" [Change in Farm Management in the Kawachi Region: Grapes and Shell Buttons], in History of Agricultural Development Survey Committee, ed., Nihon nōgyō hattatsushi [History of Agricultural Development in Japan], Supplementary volume I, Chūō Kōronsha, 1958; hereinafter referred to as "Nōka keiei no henbō."
6. Osaka City Office, Department of Industry, Osaka no botan kōgyō [Osaka's Button Industry], Vol. 5 of the Osaka City Industry Series, 1930; hereinafter referred to as Botan kōgyō.

7. I am especially indebted to Takegorō Yamamoto of 3-chōme, Kamiichi, Kashiwara city for his assistance in my survey of the Osaka area. Mr. Yamamoto has been in the industry since before World War I. After that war he worked very hard to set up an industrial syndicate in the Kashiwara area. Today he is retired. Minoru Takahagi, of 3-chōme, Kawakita, Fujiidera city, was also very helpful. Mr. Takahagi manufactures ornaments from natural shell and has been very active in organising the makers of shell products and crafts within the local commerce and industry association.
8. Tsunetarō Kobayashi, "Nihon kai botan gyō oyobi genryō" [Japan's Shell Button Industry and Its Raw Materials] (unpublished manuscript). The manuscript paper bears the imprint, "Osaka Higher Commercial School, Supplies Department," and it is dated December 15, 1918. This is the oldest complete manuscript we have on the shell button industry. The exact identity of the author is still not definitely known, but from the preface, it seems that he was the son of someone involved in the industry, and that he wrote it while attending the Osaka Higher Commercial School. Among the names listed as members of the second division (the new division of distributors) in the 1910 directory of the Industrial Syndicate there appears the name "Tsunetarō Kobayashi," but it is not clear whether this is the same person as the author of the ms. noted above. (Information re the Syndicate comes from Rokujirō Ishii, Nihon kai botan dōgyō kumiai enkakushi [The Development of the Japan Shell Button Industrial Syndicate], pub. Industrial Syndicate, 1931. Hereinafter referred to as Dōgyō Kumiai enkakushi.) Pagination follows that of the Kobayashi ms.
9. According to Ministry of Finance, Gaikoku bōeki nenpyō [Chronological Report on Foreign Trade], also, total imports in 1868 were valued at 215 yen, and in 1869 that figure had increased tenfold, to 2,230 yen.
10. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 19.
11. Ibid., p. 20 and op. cit., Dōgyō kumiai enkakushi, pp. 6-7 and passim.
12. Op. cit., Jittai chōsa, p. 878.
13. Op. cit., Botan kōgyō, p. 4.
14. On the tombstone of Rinpei Arita in the Shitennōji temple compound in Osaka, the inscription "Grave of Rinpei Arita, Founder of the Shell Button Industry in Greater Japan" appears, indicating that he was the first producer. Although Arita played a major role in improving the techniques used in the early years of production, that does not mean no one had made any shell buttons before him. Tsunetarō Kobayashi mentions a man named Denkichi Uo as engaged in shell button making as early as 1875. (Op. cit., "Nihon kai botan gyō oyobi genryō," pp. 19-20.)
15. Ibid., p. 24. According to Yasaku Amano (of Ōkawa county, Kagawa prefecture), who had many years of experience in shell button making, it is hard to create a "rounded feeling" even after thirty minutes

or an hour of this kind of processing. I wish to express my deep sadness at the death of Mr. Amano, which occurred during the course of my investigation.

16. Ibid., p. 25; op. cit., Dōgyō kumiai enkakushi, pp. 10-11.
17. Ibid., "Nihon kai botan gyō oyobi genryō," pp. 22, 27.
18. Interview with Yasaku Amano.
19. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 22.
20. Op. cit., Jittai chōsa, p. 828; also op. cit., "Nōka keiei no henbō," p. 335. However, neither of these works gives more than a rough idea of advances in technology specific to the industry at that time. That may be unavoidable, since they both focus on the period after Taishō.
21. Op. cit., "Nihon kai botan gyō oyobi genryō," pp. 24, 28.
22. Ibid., pp. 28-30. Frequently used at this time was a large-scale driver rotated by hand, whose shaft in turn rotated followers devised to carry out the various types of processing. Very frequently a workman trained specially to handle the driver rotated it himself.
23. On this point, see my other articles; op. cit., fn. 3 of the introduction.
24. Kamekichi Takahashi, for example, listed 27 important export goods, of which 13 were noted as "growth industry" products. Shell buttons, however, were not on either list. (Kamekichi Takahashi, Meiji Taishō sangyō hattatsushi [History of Industrial Development in the Meiji and Taishō Periods], Kaizōshi, 1929, pp. 393-97.
25. Op. cit., Dōgyō kumiai enkakushi, p. 11.
26. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 32.
27. Op. cit., Dōgyō kumiai enkakushi, p. 16. This is only one of many documents which state that the man who brought new techniques to Japan was a German named Wernstadt. This man, however, came to Japan to work as a craftsman for the German industrialist noted above; he did not himself bring in the means of production. The following works demonstrated the same kind of misunderstanding about conditions of the industry in this period: Wakayama Prefecture, Medium and Small Enterprises Guidance Center, Tanabe chihō botan sanchi shindan hōkokusho [Report on the Button Manufacturing Areas of Tanabe and Its Vicinity], 1974; Kagawa Prefecture, Labour Standards Bureau, Botan seizōgyō jittai chōsa kekka hōkokusho [Report on a Survey of Conditions in the Button Industry], 1959; Editorial Committee for the History of Kashiwara City, Kashiwara-shi shi [History of Kashiwara City], Vol. 3, Chapter 2, Kashiwara City Government, 1972.
28. Op. cit., "Nihon kai botan gyō oyobi genryō," pp. 32-33.

29. Interview with Jitsue Rokusha, of Ōkawa-chō, Ōkawa county, Kagawa prefecture.
30. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 33.
31. Op. cit., Dōgyō kumiai enkakushi, pp. 51-52.
32. Ibid., p. 51.
33. Op. cit., Jittai chōsa, p. 879; "Nōka keiei no henbō," p. 335.
34. Op. cit., Kashiwabara-shi shi, p. 260. This quotation seems somewhat exaggerated. I heard something similar in Tsuda-chō, Ōkawa county, Kagawa. Judging from the spread of the bleaching technique later, I think the Kobayashi manuscript (op. cit.) is correct in recounting that Wernstadt himself introduced only the burnishing method.
35. According to Jittai chōsa (op. cit.), the year was 1904; in "Nōka keiei no henbō" (op. cit., p. 335) it was 1900; in the Kobayashi ms. (op. cit., p. 35) it was 1901 or 1902.
36. Op. cit., Jittai chōsa, p. 879; "Nōka keiei no henbo," p. 335.
37. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 36.
38. Ibid., p. 35.
39. Op. cit., Osaka no botan kogyō, p. 5.
40. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 37.
41. Op. cit., Jittai chōsa, p. 878.
42. Op. cit., Botan kōgyō, pp. 3-4.
43. Op. cit., Dōgyō kumiai enkakushi, p. 139; "Nōka keiei no henbō," p. 335.
44. From an interview with Yasaku Amano.
45. Ministry of Agriculture and Commerce, Agricultural Affairs Bureau, Ōsaka-shi oyobi Kōbe-shi ni okeru kai botan torihiki jōkyō chōsa [Survey on Shell Button Transactions in Osaka and Kobe], 1922, p. 32. Bear in mind that this survey deals only with the period before World War I. Hereinafter referred to as Jōkyō chōsa.
46. Ibid., p. 33.
47. Osaka Prefecture, Home Affairs Department, Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa [Survey on Mechanisms of Transactions in Products of Part-time Work by Farm Families and Small Industry], 1930, p. 28.



48. From an interview with Takao Nishikawa, Kita ward, Osaka city.
49. Op. cit., Jōkyō chōsa, pp. 33-34.
50. Op. cit., "Nihon kai botan gyō oyobi genryō," pp. 182-83.
51. Op. cit., Jittai chōsa, p. 879.
52. See figures for the years of the late Meiji period in Table 3.
53. Factories employing 200 or more workers for the years 1904 and 1906 indicated in Table 3 are metal button factories.
54. Statements from "Kumiai no mokuteki oyobi gyōmu no gaimoku" [Outline of the Syndicate's Objective and Programs] in "Dōgyō kumiai hokki kyōka shinsei" [Application for Authorization to Establish the Industrial Syndicate], October 1906.
55. Op. cit., Botan kōgyō, pp. 246-47; and Dōgyō kumiai enkakushi, pp. 93-110.
56. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 24.
57. Ibid.
58. Op. cit., Dōgyō kumiai enkakushi, pp. 56, 312; and "Nōka keiei no henbō," p. 365.
59. His photograph appears along with those of others who made major contributions to the industry, in the beginning of Dōgyō kumiai enkakushi (op. cit.). His given name first appeared as Kumezō and later as Tokusaburō, but it is certain that the two are the same person, going by evidence on pp. 11, 105, 111, 321, and 442.
60. Ibid., p. 105. The statement here, however, is a bit exaggerated. See op. cit., "Nihon kai botan gyō oyobi genryō," pp. 29-30.
61. Op. cit., Botan kōgyō, p. 249.
62. Ministry of Agriculture and Commerce, Agricultural Affairs Bureau, Kōbe-shi ni okeru kai botan torihiki jōkyō chōsa [Survey on Shell Button Transactions in Kobe City], 1922, pp. 11-12. In 1916-18 Mr. Aoyagi handled the third greatest volume of transactions of all those in the same business in Kobe.
63. Op. cit., Dōgyō kumiai enkakushi, p. 105.
64. Ibid., pp. 104-06.
65. Ibid., p. 56.
66. From an interview with Takao Nishikawa.

67. The following sources were consulted for information regarding the manufacturing processes:
- Ministry of Agriculture and Forestry, Agricultural Affairs Bureau, "Bungyōteki shōkōgyō ni kansuru chōsa" [Survey on Division of Labor in Small Industry] (manuscript), 1929, pp. 196-203.
- Op. cit., "Nihon kai botan gyō oyobi genryō," Chapter 3, Section 2.
- Op. cit., Botan kōgyō, pp. 55-56.
- Op. cit., Jittai chōsa, p. 885.
68. With the cooperation of Katsumi Tsukamoto, of the Kagawa Association for the Promotion of Button Exports, I was able to observe the actual processing of shell buttons at the workshop of Satoru Muguruma of Ōkawa-chō, Ōkawa-gun, Kagawa prefecture.
69. Interview with Kichihei Abe.
70. Interview with Takegorō Yamamoto.
71. According to Mr. Yamamoto, the producer had to create carved designs as ordered each year.
72. As reported during a visit to Sanuki Button, Inc. of Tsuda-chō, Ōkawa-gun, Kagawa prefecture. Even today the same process is followed in making polyester buttons.
73. The following reaction occurs:
- $$2 \text{NaO} + \text{H}_2\text{SO}_4 \rightleftharpoons \text{H}_2\text{O}_2 + \text{Na}_2\text{SO}_4$$
- The formular for neutralizing the residual sulfric acid is as follows:
- $$\text{Na}_2\text{SiO}_3 + \text{H}_2\text{SO}_4 \rightleftharpoons \text{H}_2\text{SiO}_3 + \text{Na}_2\text{SO}_4$$
74. Interview with Yasaku Amano.
75. The principles of chemistry do not seem to require that the acids be mixed, but with the production of shell buttons so fast becoming a thing of the past, I could not verify why they were mixed in this process.
76. Osaka Prefectural Commercial and Industrial Economic Research Institute, Yushutsu-muke chūshō kōgyō sōsho [Series on Export-Oriented Medium and Small Industries] (Volume 5, Shell Buttons), 1956, p. 33.
77. Sometimes the buttons were dyed. Generally dyeing was done after burnishing, using basic dyes.
78. Op. cit., Dōgyō kumiai enkakushi, p. 59; also in op. cit., Botan kōgyō, p. 60, more than 100 types are listed.
79. In addition to my works, see the following: Tokyo City, Social Affairs Bureau, Tōkyō-shi toiyasei shōkōgyō chōsa [Survey on Small Industries Under the Putting-out System], 1937; Hōchi Shinbun Economics Department, Chūshō sangyō no katsuyaku [Activities of Small and Medium Industries], Chikura Shobō, 1930.

80. See, for example, the following: Akihiko Yoshioka, "Igirisu sangyō kakumei to chinrōdō" [The Industrial Revolution in England and Wage Labour], in Kōhachirō Takahashi, ed., Sangyō kakumei no kenkyū (Studies on the Industrial Revolution), 1965; Neil J. Smelser, Social Change in the Industrial Revolution, 1959; Edward Baines, History of the Cotton Manufacture in Great Britain, 1835; G.D.H. Cole, A History of the British Working-Class Movement, 1789-1947, 1948.
81. In regard to processors (direct producers) and manufacturers, unless otherwise noted, the following provided source material: Op. cit., Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa, pp. 21-39; op. cit., Botan kogyo, pp. 25-30, 61-66; op. cit., Yushutsu-muke chūshō kōgyō sōsho (Volume 4, Shell Buttons), pp. 21-31.
82. Interview with Jitsue Muguruma, Ōkawa-chō, Ōkawa county, Kagawa prefecture.
83. Interview with Takegorō Yamamoto.
84. Op. cit., Jittai chōsa, p. 879.
85. Interview with Yasaku Amano.
86. Op. cit., Jittai chōsa, p. 893.
87. Similar by-laws had already been incorporated in the 1910 Articles of Incorporation in Chapter 10, "Regulations Concerning Workers and Employees." The later articles were rephrased considerably, but almost no change was made in the content. The document in its entirety appears in op. cit., Dōgyō kumiai enkakushi.
88. Op. cit., Torihiki jōkyō, p. 37.
89. According to Taishō rokunen shimohanki kai botan shokkō chinginhyō [Wage Schedule for Shell Button Workers During the Latter Half of 1917], which is attributed to Tsunetarō Kobayashi, the "top" per diem wage for "male workers" was somewhere between 1.8-1.20 yen.
90. Op. cit., Kōbe-shi ni okeru kai botan torihiki jōkyō chōsa, pp. 16-17.
91. Originally Kobe merchants, acting as agents or brokers -- they often called themselves "export merchants" -- were the prime movers. The case of Masayoshi Aoyagi, described earlier, is reminiscent of such a role.
92. Op. cit., Botan kōgyō, p. 27.
93. Interview with Takegorō Yamamoto.
94. Op. cit., Nōka fukugyō oyobi kōgyō seihin torihiki soshiki ni kansuru chōsa, p. 14.
95. Op. cit., Dōgyō kumiai enkakushi, pp. 136-37.

96. Ibid., pp. 137-38.
97. There was an error in the source cited immediately above, and so I consulted the Terada family archives in Kashiwara city. Osaka Prefecture's Department of Home Affairs notified the syndicate that the resolution "violates freedom of enterprise" (Shōkō, No. 1602, May 23, 1911), but there is no evidence that the articles were revised later.
98. Op. cit., Dōgyō kumiai enkakushi, p. 141.
99. Ibid., p. 302.
100. Op. cit., "Nihon kai botan gyō oyobi genryō," p. 187.
101. Op. cit. Jittai chosa, Yushutsu-muke chūshō kōgyō sōsho, and others give the impression that the two types -- raw shell wholesaler and export broker -- had existed since before World War I, but actually they did not emerge as separate types until after the war.
102. Op. cit., Dōgyō kumiai enkakushi, pp. 167-68. By 1911, when this document appeared, wholesalers had already been included in the syndicate.
103. Op. cit., Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa, pp. 28, 30. Osaka importers had had for some time strong control over the market for bivalve shell buttons, sold mostly in the domestic market, and it is possible that they also operated as wholesalers of manufactured goods, but that point has not been confirmed to date.
104. Op. cit., Yushutsu-muke chūshō kōgyō sōsho, p. 17
105. See my articles noted in the introduction footnotes.
106. Greater Japan Industrial Survey Association, ed., Dai Nippon sangyō sōran [A Survey of Industry in Japan], 1914, p. 642.
107. Tokyo Prefecture, Education Department, Social Division, Shokugyō chōsa [Occupational Survey], No. 4, 1935, p. 92.
108. Taiseikai, ed., Dai Nippon no jitsugyō [Japanese Industry], 1908. This work gives profiles of persons representing each field of industry. There is no pagination, but in the section entitled "Part 9, Manufacturing Industries," of people in the button industry only Yasugorō Nagata, Shintomi-chō, Kyōbashi ward, Tokyo, is noted.
109. Op. cit., Yushutsu-muke chūshō kōgyō sōsho, p. 28.
110. Ibid., p. 27.

111. Osaka Prefecture, Department of Home Affairs, Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō [Summary of Part-time Industrial Work in Villages in Osaka Prefecture], 1929, p. 114.
112. On this point, see Yasoji Kazahaya, Nihon shakai seisakushi [A History of Japanese Social Policy], Nihon Hyōronsha, 1937.
113. The following works are particularly informative on this subject: Toshio Furushima and Keiji Nagahara, Shōhin seisan to kisei jinushi taisei [Commodity Production and Parasitic Landownership], Tokyo Daigaku Shuppankai, 1954; Hideo Tsuda, Hōken keizai seisaku no tenkai to shijō kōzō [The Development of Feudal Economic Policies and the Market Structure], Ochanomizu Shobo, 1961; and Akira Nakamura, Meiji ishin no kiso kōzō [The Basic Structure of the Meiji Restoration], Miraisha, 1968.
114. In addition to op. cit., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō, see Osaka Prefectural Council on Part-time Work, Fukugyō chōsa hōkokusho [Survey Report on Part-time Work], 1930, and Osaka Prefecture, Department of Home Affairs, Nōka fukugyō seisekihin tenrankai hōkoku [Report on Exhibit of Superior Products of Part-time Work by Farmers in the Prefecture], 1915.
115. I will discuss this topic in detail in another article. It is brought up in Ministry of Agriculture and Forestry, Agricultural Affairs Bureau, Chihō fukugyō shuninsha kaiqi yōroku [Proceedings of the Leaders' Conference on Auxiliary Work in Local Regions], 1927 and other years. Also see Kagawa Prefecture, Fukugyō chōsa [Survey on Part-time Work], 1930; Ehime Prefecture, Department of Home Affairs, Kakōteki fukugyō jōkyō [Conditions of Auxiliary Work in Processing], 1921; and Hiroshima Prefecture, Kenka shuyō fukugyō seisanhin keizai shuyō shijō ni okeru fukugyōhin torihiki jōkyō chōsa [Survey on Transactions in the Main Markets for Major Part-time Products in Hiroshima Prefecture], 1926.
116. See, among others, Iwate Prefecture, Department of Economic Affairs, Nōson kōgyō yōran [Outline of Rural Industries], 1937.
117. Op. cit., Dōgyō kumiai enkakushi, p. 105
118. Op. cit., Kashiwara-shi-shi, p. 259.
119. Op. cit., "Nōka keiei no henbō," p. 334.
120. Op. cit., Dōgyō kumiai enkakushi, pp. 104-05.
121. Op. cit., "Nōka keiei no henbō," pp. 334-35.  
I, too, when I was there interviewing local people, reacted with the same feeling. Still it is difficult to conclude, as Jun'ichirō Miyake did, that it was always the wealthy farmers who were inclined towards commercial agriculture, while poor tenant farmers became industrial subcontractors. It seems inconceivable that later newcomers could set up business with no assistance from anyone except the contractors,

and with virtually no capital of their own. Incidentally, it is doubtful that those who became wholesalers "from scratch" ever returned to their villages.

122. Op. cit., Kashiwara-shi-shi, p. 289. The number of employees at the factory were 16, male and 7, female.
123. Op. cit., Dōgyō kumiai enkakushi, p. 105. There were many cases in Japan during the Meiji and Taishō periods when people were trained as merchants in the major cities and then went to remote rural districts, with some production capability, to make a quick fortune. They did this by controlling small local producers through advance payments to them or buying up the products there, and then returning to the city. In Okinawa where such people were numerous, they were called "mainland Japanese." They even went in great numbers to the Sakijima islets, in the southern portion of the Ryūkyūs, where high-quality textiles were woven. (This account was reported to me by a woman in Hirara City, Okinawa prefecture)
124. Interview with Takegorō Yamamoto.
125. Op. cit., Kashiwara-shi-shi, p. 259.
126. Ibid., p. 261.
127. Op. cit., Nōka fukugyō seisekihin tenrankai hōkoku, p. 402. In the same village, 280 other households did part-time match-box pasting, and some were engaged part-time in cotton nap-raising, brush making, cotton weaving, and so forth. Probably almost all households in the village did some sort of industrial part-time work.
128. Osaka Mainichi Shimbun, February 28, 1915.
129. Calculations based on Osakafu tōkeisho [Osaka Prefecture Statistical Report].
130. Their names would later begin to appear in the chronological list of directors in op. cit., Dōgyō kumiai enkakushi. The majority of the syndicate members were manufacturers, as noted earlier. The cases of Yoshimatsu Sakaguchi and others were related to me by Takegorō Yamamoto.
131. "Ōsaka-fu fukugyō zadankai" [Round-table Talk: Auxiliary Work in Osaka Prefecture] in Asahi Shimbun, Osaka edition, Economic Department, ed., Warera no ikita fukugyō o kataru [Stories of Our Livelihood from Part-time work], 1931, p. 96.
132. The mechanical die-drill was still in use in Nara prefecture as late as the Taishō period. (Op. cit., Dōgyō kumiai enkakushi, p. 320.)
133. Op. cit., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō, 1929, pp. 113-14. "Manufacturers" here are people who did disc cutting
134. Op. cit., Dōgyō kumiai enkakushi, p. 330.

135. Op. cit., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyo, pp. 115-17. See also op. cit., Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa, 1930, p. 30.
136. Op. cit., Kashiwara-shi-shi (Vol. 3, Main text 11), p. 262.
137. From an interview with Takegorō Yamamoto. He once engaged in shell button production at Sakaguchi's factory.
138. Ibid.
139. Op. cit., Kashiwara-shi-shi, p. 262.
140. Op. cit., Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa, p. 30.
141. From interviews with Takegorō Yamamoto, Minoru Takahagi. Here too, as in many other interviews, I heard repeated an axiom regarding the precarious life of Japan's urban small- and medium-size industries: "Button makers and carbuncles collapse when they grow big."
142. Op. cit., Fukugyō chōsa hōkokusho, p. 44.
143. Op. cit., Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa, p. 30.
144. Op. cit., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō, p. 113.
145. Op. cit., Nōka fukugyō oyobi shōkōgyō seihin torihiki soshiki ni kansuru chōsa, p. 46.
146. Op. cit., "Nōka keiei no henbō," p. 370.
147. Op. cit., Dōgyō kumiai enkakushi, p. 53.
148. Op. cit., "Nōka keiei no henbō," p. 368.
149. Op. cit., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō, p. 272.
150. Op. cit., Botan kōgyō, p. 92.
151. Op. cit., Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō, p. 272.
152. Op. cit., Jittai chōsa, p. 896. This is a survey report made after the Second World War, but I used it because the situation was probably similar; it could not have been better before the war.
153. Ibid., pp. 892, 896. Also, op. cit., Yushutsu-muke chūshōkōgyō sōsho, pp. 32, 38.
154. Ibid.
155. Op. cit., Botan kōgyō, p. 30

156. See for example, op. cit., Yushutsu-muke chūshō kōgyō sōsho; and op. cit., Jittai chōsa, etc.
157. See for example, op. cit., "Nōka keiei no henbō," etc.
158. See for example, Minoru Kida, Nippon buraku [Japanese Hamlet] (Iwanami Shoten, 1962) *ibid.*, Kichigai buraku shinshiroku [Who's Who in the Mad Hamlet] (Jiji Tsūshinsha, 1950).
159. Op. cit., Ōsaka-shi oyobi Kōbe-shi ni okeru kai botan torihiki jōkyō chōsa, p. 34.
160. Op. cit., Dōgyō kumiai enkakushi, p. 59.
161. Minoru Takahagi brought out this point in an interview. He also said that when the manufacture of shell buttons became nearly impossible, he was so attracted to the beauty of shell as a material that he turned to production of accessories made of shell.
162. Shikoku Bureau of International Trade and Industry, Shikoku keizai gaikan [The Economy of Shikoku] (1977), p. 76.