The Brush Industry

The first section of this chapter will trace the process of establishing the brush industry in Japan since its transplantation. The production system centring on seizoka, which constituted the mainstream of brush production after World War I, will also be discussed. Further touching on the presence of modern factory management, which declined with the establishment of this production system, I will refer to the unsuccessful early factories from the viewpoint of their social functions.

In the second section, production by the *seizoka* will be considered with particular reference to bone-handle brushes to demonstrate the relationship between *seizoka* and immediate producers and to illustrate the peculiar situation *vis-à-vis* power-lending plants.

The third section will reveal that the *seizoka* were in fact former immediate producers rather than ex-wholesale merchants and that they were field supervisors helping traditional wholesale merchants to obtain an overall grip on production to strengthen their power to build up merchant capital.

The fourth and final section will analyse the gradual move toward a modern factory production system, which began after World War I, and wholesale merchants' responses to that move, and describe how big businesses developed their networks of control over this small industry.

1. Emergence and Development of the Brush Industry

Transfer of the Modern Factory System

Western brushes came into Japan late in the Edo period as accessories to guns imported by the Tokugawa shogunate hurrying to organize Westernstyle armed forces. Because of this initial circumstance, a demand arose for military brushes, which makers of traditional Japanese brushes in Edo began to produce. The production of toothbrushes, foremost among all brushes, was started early in the Meiji period.

The production of brushes was generally undertaken by family workshops under the control of wholesalers. These workshops employed no outside labour and had very primitive technical standards. A single hand-twisted drill or a single saw was sufficient for the worker in this trade, and what was most important was the skill of the immediate producer. Production of Western brushes was not the result of the introduction of a new technology from the West.

In the early Meiji years, the wholesaler and the producer seem to have been equals at least in form. Such equality existed during the beginning phase of this industry partly because virtually no craftsmen specialized in the trade, and social demand preceded their emergence. Moreover, the Meiji government did not officially authorize guildlike control by merchants.

In reality, however, a difference in status existed, and the head of a wholesale merchant family was usually addressed by craftsmen as *danna-san* (master). In and around Osaka in 1887 there were 60 wholesale merchants referred to as *danna-san* and 225 *shokunin* (craftsmen) subordinate to them.¹

In 1888 a complete system for factory production of brushes was imported from the United States by Matsumoto Jutaro, president of the 130th National Bank in Osaka, for use by Osaka Seigyo Kabushiki Kaisha (later reorganized into Teikoku Brush Co., Ltd.) established in the same year. Producing mainly for export, the company used steam engines as power for its machinery, and its work-force grew to 300 people by 1891 and 500 by 1897. As if stimulated by the founding of this company, modern factories were successively set up, and nearly 10 had been founded by the turn of the century.

These factories will be referred to as early factories. The late Meiji years were the peak period for these early factories. According to statistics of the Ministry of Agriculture and Commerce in 1905, the number of workers per factory was 31.9 in Osaka, in contrast to the national average of 14.2. Osaka accounted for around 70 per cent of the work-force engaged in brush production in Japan and more than 90 per cent of the national output of brushes, which suggests a high productivity of early factories.

Investors in these factories were mostly big merchants. The factories, though nominally organized as joint-stock companies, were highly exclusive in character and had only a few stockholders each. There was no likelihood for small producers under the control of wholesaler merchants to rise in status high enough to join the management of any of these factories.

Formation of Seizoka

As a by-product of the development of the early factories, inexpensive production techniques developed that did not require a large work-force, and small workshops gradually increased. Toward the end of the nineteenth century and thereafter, some of the skilled workers who had worked at one or

another of the early factories became independent entrepreneurs specializing in bristle refining or bone bleaching.³ This did not mean, however, an expansion of the division of socially productive labour. The diminutive nature of this phenomenon is most typically reflected in the power-lending plants to be described below.

The moulding, polishing, and hole-boring steps of the brush production process could be far more efficiently accomplished with power-driven tools, and wholesaler-dominated family workshops were technically inferior to early factories. Moreover, power-driven tools were too expensive for the former and very inefficient to serve their narrowly limited market. An ink manufacturer in Osaka, whose steam-generated power was greater than his needs, began to sell off his excess power to other manufacturers. His pioneering venture was followed by a mushrooming of what came to be known as power-lending plants. Craftsmen who worked in these power-lending plants had simple machine tools such as perforators. They were supplied by seizoka with raw materials and finished only the specific step of the production process that could be accomplished with their own machine tools. They were paid by the seizoka for the particular work they did.

Toward the end of the Meiji period, the seizoka did not directly participate in production but supplied raw materials to a number of processors and finally collected the finished goods. Immediate producers received materials from either the seizoka or a craftsman responsible for the preceding step of processing and finished only a specific step. These producers delivered the processed goods to the craftsman in charge of the next step or the seizoka and received wages for their work from the seizoka. This describes generally how the brush production process was adapted.

These immediate producers organized around the *seizoka* would depend on massive exports of low-grade products and gradually grew to constitute the core of the brush industry. Their circumstances are vividly depicted in an autobiography by Kagawa Toyohiko, a well-known Christian socialist of those days.⁵

The rapid growth of brush production under the control of *seizoka* from late Meiji is indicated in the official records of the government. Some of the earlier wholesale merchants committed themselves to the production of low-quality brushes to become export wholesalers; thus, the exports of inferior products expanded enormously.

Because of these circumstances, brush production comprising seizoka, export wholesalers, and small producers began to surpass early factories. How this increase of small workshops specifically manifested itself can be understood from table 1. In Tokyo, where many small workshops had been existent since the outset, the slight increase in the number of workers per factory did not substantially affect the overall trend. In Osaka, previously the centre of early factory operation, the decline in factory size was remarkable (see table 2).

Given the world situation preceding World War II, heavy dependence on exports meant very unstable market conditions. This circumstance, coupled

Table 1. Factories and workers engaged in brush manufacturing in Japan, 19	€05 and
1911	

			1905			1911	
		Osaka	a Tokyo 5 54 6 134 9 24 5 158	Nation- wide	Osaka	Tokyo	Nation- wide
No. of fac	tories	75	54	197	179	89	402
No. of	Male	1,086	134	1,407	1,219	218	1,790
No. of workers	Female	1,309	24	1,455	734	221	1,487
	Total	2,395	158	2,862	1,953	439	3,277
No. of workers per factory		31.9	2.9	14.2	10.8	4.9	8.1

Source: Ministry of Agriculture and Commerce, Kōjō tōkei hyō (Statistical tables on factories) (Tokyo, editions for pertinent years).

with the exports of low-quality products, exposed the Japanese brush industry to wild fluctuations on the international market.

Besides the fluctuations in the export market, and despite the decline of the average factory size, the output per capita increased. Calculated from $N\bar{o}sh\bar{o}mush\bar{o}$ $t\bar{o}keihy\bar{o}$ (Statistical tables of the Ministry of Agriculture and Commerce), the per capita annual output, which had stood at \$475 in 1905, nearly doubled to \$802 by 1915. This trend continued after World War I (see table 3).

Under the combined impact of these circumstances, the early factories – epochal in brush production – almost disappeared shortly after World War I.6 During the turbulent market fluctuations following the war, the position of early factories in the brush industry was taken over by small producers clustered around seizoka. By that time, domestic sideline workers had begun to organize around the small producers.

Decline of the Early Factories

The early factories used steam engines as their primary power source, and the larger ones employed hundreds of workers each. They were advanced from the viewpoint of social policy for introducing retirement allowances and Sundays off. Mechanical power was used in virtually every stage of the production process. Though they did use machinery, they still depended on manual labour and on workers' skills, thus making further mechanization difficult.

The basis on which these factories existed was the extremely low wages paid to their workers, engaged in a wide range of manual jobs, and their predominant dependence on the overseas market. This foreign dependence for survival made them somewhat unrooted in the national economy.

Table 2. Number of brush manufacturing factories in Osaka; classification by scale of work-force, 1906–1915

	Le K	Less than 10 workers	0		10-50			50-100		1	100-1,000		Proportion of factories with
Year	Tot.	Σ	Т	Tot.	M	Ħ	Tot.	M	ഥ	Tot.	M	ъ	to total (%)
1906	4	127	34	19	383	108	1	25	55	1	298	730	89
1907	27	172	43	18	231	112	3	108	61	7	540	200	8
1908	11	296	70	∞	107	_		l	1	В	311	471	87
1909	6	202	36	6	134	57	I	I	1	3	727	272	&
1910													
With power	33	14	5	5	117	41	1	ı	1	7	311	200	ć
Without power	82	191	30	3	31	17	I	I	1	1	1	1	68 8
1911													
With power	1	3	I	5	107	18	1	40	∞	Э	727	730	Š
Without power	151	191	27	9	99	32	1	l		1	ļ	1	33
1912													
With power	2	12	1	3	62	23	1	41	11	2	402	190	ţ
Without power	110	211	15	2	21.	∞	ļ		. 1		I	I	/6
1913													
With power	æ	19	7	6	124	93	3	125	40	_	254	185	3
Without power	140	277	69	7	47	26	1	I	1	1	I	1	\$
1914													
With power	S	92	14	7	138	32	5	150	123	1	161	180	8
Without power	171	355	93	13	101	31	_	40	32	I	1	I	3,
1915	185	322	252	56	328	203	9	192	149	1	181	7	91

Source: Osaka Municipal Office, Osaka-shi tōkei sho (Statistics of Osaka City) (Osaka, editions for pertinent years).

Year	No. of enterprises	No. of workers	Output (¥)	No. of workers/ enterprise	Output/ worker
1914	468	3,683	3,213,570	7.8	783
1915	552	4,239	3,387,503	7.6	788
1916	667	5,485	4,308,876	8.2	786
1917	771	6,181	5,855,920	8.0	947
1918	777	6,811	9,394,189	8.9	1,233
1919	977	6,242	11,233,183	6.3	1,801
1920	566	4,161	9,130,265	8.0	2,194
1921	692	3,329	6,158,611	4.8	1,849
1922	1,110	3,827	8,803,661	3.4	2,301
1923	1,086	4,437	10,109,205	4.0	2,458
1924	1,047	4,028	8,160,855	3.8	2,026
1925	671	3,038	5,377,727	4.5	1,791

Source: Ministry of Agriculture and Commerce, Kōjō tōkei hyō (Tokyo, editions for pertinent years).

As the early factories needed overseas outlets for their products, their operations were inevitably subject to certain constraints. First, they had to turn out such an extremely wide range of products that they were unable to massproduce the same goods. For this reason, even Kyoto Kosho, whose output in 1906 was nearly \(\frac{\pmathbf{Y}}{226,000}\), a little less than 10 per cent of the national total of brush production in that year, was able to produce only 29 dozen bone-handle brushes of different sizes during the first half of the year.⁷ Also, the operations of these factories were always decisively - sometimes nearly fatally - affected by fluctuations in the overseas market, especially the United States market. To take Teikoku Brush as an example, though the company was able to export toothbrushes at a price of ¥8,800 per gross in the first half of 1910 when the U.S. economy took an upturn, it had been obliged to accept a price of \(\frac{\cuparts}{7}\),900, over 10 per cent less, in the second half of 1909 when business was slack. In 1921, another recessionary year in the United States, "price quotations from overseas were 40 per cent lower," and Kyoto Kosho went bankrupt.⁸ As brush factories began to be set up in the United States, these early factories suffered a landslide collapse.

Second, apart from the unfavourable conditions of their export market, these factories had no basis on which to develop a domestic market. Since cheap labour was an indispensable requisite for their survival, the popular demand for improvement in the standard of living was given little heed, and eventually the need to expand the domestic market went unanswered. This circumstance was reflected in the views of many business leaders, who were too preoccupied with the advantage of cheap labour available at home and their competition in the international market to think about the people's

standard of living in a long-term perspective. Similar views are sometimes found in present-day studies of developing nations.

Third, most of the managers of the early factories, who had been merchants or samurai, were enthusiastic about importing advanced technology but had no strong internal necessity to improve their initial technological base. For this reason, the production techniques used in the factories were determined by the traditional wholesaler-controlled productive relationship, and production by seizoka (who were able to mobilize the labour of immediate producers and their families) and small craftsmen caused the irreversible decline of the early factories, whose technical standards and product quality were further downgraded.

The early factories, which once appeared to establish a mechanized system of production, eventually proved able only to hand down a certain level of technical standards to another system of production centring on *seizoka*. This system was a partially improved version of the wholesaler-dominated productive relationship.

Although the work-force per factory declined, technical standards succeeded in a makeshift way, so that the output per worker increased (see table 3). Even if the overheating of business activities during World War I is disregarded, the output in the post-war years, when wholesaler-dominated production had become a common phenomenon, was far higher than before the war.

2. The Production System after World War I

Production Processes and Their Characteristics

The commonest forms of production of various brushes after World War I are illustrated in figures 1, 2, and 3. As a specific example of adaptation, the production process of bone-handle brushes will be discussed first. The bone-handle brush was the most popular item in this industrial sector between the world wars.

The production of bone-handle brushes involved sawyers who roughly cut ox bones, bristle refiners who refined imported animal hair, and bone bleachers who bleached, shaped, and polished brush handles. These workers had become entrepreneurs independent of the *seizoka*. The relationships between producers responsible for other steps of the manufacturing process and *seizoka* closely resembled what characterized the previous cottage industries under the putting-out system.⁹

Chipping

The seizoka bought ox bones roughly sawn into pieces of a prescribed length from sawyers and had them properly shaped by hatsuri shokunin (chipping craftsmen), who worked in a part of the seizoka's home converted into a workshop and called hatsuri-ba. Power-driven tools had been used for this

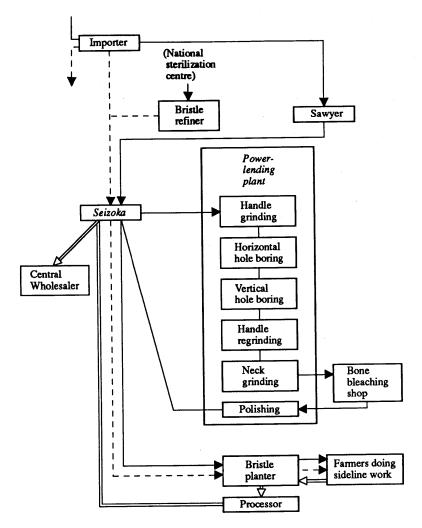


Fig. 1. Organization of bone-handle brush production

_____ = bones ____ = bristles ____ = brushes

Source: Takeuchi Johzen, "Waga kuni ni okeru toiyasei kaitai no ichi dammen" (On the decline of the Toiyasei System in Japan), in The Economic Society of Fukushima University, Shogaku Ronshu 43, no. 4 (Fukushima, 1975), p. 108.

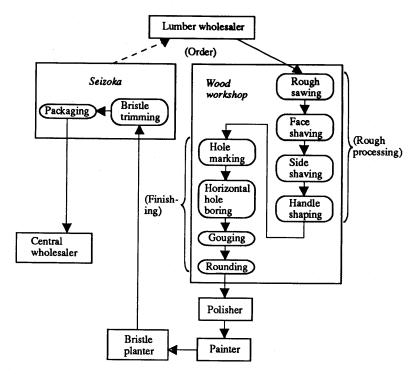


Fig. 2. Organization of wood-handle toilet brush production

Source: Takeuchi, "Waga kuni ni okeru toiyasei kaitai no ichi dammen," p. 109. Note: For brevity's sake, the flow of refined bristles is not given, and it is assumed the seizoka is concurrently performing virtually no other function (while in reality, he often did).

work in early factories, but manual work with a small hatchet was common in the post-war period. ¹⁰ The chipping craftsmen, though employed by specific *seizoka*, were expected to provide their own simple tools, such as a hatchet and a whetstone. The working environment of the *hatsuri-ba* was poor. Often a humid, earth-floored room with little sunlight located next to a lavatory was used as a *hatsuri-ba*.

Ezuri and anaake

Further processing of the chipped ox bones was subcontracted to independent craftsmen owning their own simple machine tools; the tools could be bought for \(\frac{\pmachemath{20}}{20}\) if intended for \(\textit{ezuri}\) (handle grinding), \(\textit{tate anaake}\) (vertical hole boring), or \(\textit{kubizuri}\) (neck grinding), or at most \(\frac{\pmachemath{40}}{20}\) to \(\frac{\pmachemath{470}}{27}\) for the most complex bristle hole-boring machine.\(^{11}\) A craftsman would install his own machine in the power-lending plant, go there every day to do his task with his

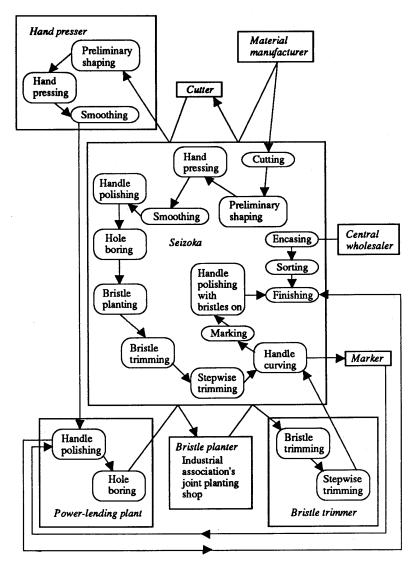


Fig. 3. Organization of celluloid-handle brush production

Source: Takeuchi, "Waga kuni ni okeru toiyasei kaitai no ichi dammen," p. 107. Note: The association's joint planting shop was used only by Mikuni Celluloid in and after 1937. To avoid complexity, the flow of refined bristles from the specialized refined bristle supplier is disregarded in this figure.

machine, and hand over the semi-finished product to another craftsman responsible for the next stage of the production process. In some power-lending plants, craftsmen worked for the same seizoka, while in others craftsmen serving different seizoka worked side by side. The craftsman would receive his wages from the seizoka on a fixed day, and out of that money he would pay (usually in advance) the power charge to the power-lending plant.

The main processes occurring in the power-lending plant were grinding handles, boring bristle holes, boring vertical holes, polishing handles, grinding necks, and cutting the ox bones into rough brush shapes for finishing into smoothly curved brush handles with holes for planting bristles. The brush handles were then brought from the power-lending plant to a bone bleacher's. There were far fewer bleachers than seizoka or power-lending plants. Bleachers were correspondingly more independent and usually employed few workers.

Bafu migaki (polishing)

This step made brush handles glossy. Bleached handles were brought back from the bone bleacher's to the power-lending plant, where a craftsman known as a bafu-ya (polisher) did the task. The master bafu-ya usually worked by himself, though sometimes he was assisted by some of his family members. After this step, the polished brush handles were returned to the seizoka's home.

Shiriana ake (tail hole boring)

Unlike the boring of holes in which to plant bristles, this was a simple, monotonous job done by manual labour. This step was sometimes subcontracted out, but more often the master *seizoka* took charge of it for himself or used the labour of family members.

Ke ue (bristle planting)

The seizoka handed over to a ke ue-ya (bristle planter) brush handles that have gone through the shiriana ake process, together with refined bristles bought from a specialized bristle refiner and flat metal planting wires. Every ke ue-ya had a tiny workshop in town, usually in a part of the master's home. His work-force was small and included his family members, mostly the women. Each workshop had two, three, or at most ten bristle-planting machines. They were simple machines with hand-driven (never power-driven) wheels. The number of bristle planters in and around Osaka stayed constant; they did not try to enlarge their operations, which remained stagnant (see table 4).¹²

Ke giri (bristle trimming), kuse naoshi (straightening), and ato giri (final trimming)

Brushes already planted with bristles were passed on by the *seizoka* to another processor, who would take charge of the finishing of the bristles through such steps as *ke giri*, *kuse naoshi*, and *ato giri*. These functions were usually performed by a limited number of processors concurrently with

Table 4. Number of bristle planters classified by scale of operation, 1930 and 1942

	Ye	ar
Planting machines owned	1930	1942
1	9	1
2	9	5
3	1.5	23
4	15	6
5		19
6		3
7	17	3
8		8
9		_
10		4
11		1
12	7	4
13		_
14		
15		2 2
16		2
17	1	. 1
18		1
19		
20	2	1

Source: Nihon Boeki Kenkyusho, Yushutsu burashi kōgyō (Brush export industry) (Tokyo, Nihon Boeki Kenkyusho, 1942) 1:381.

Note: In 1942, the average number of planting machines per house owned by the 35 houses in the one-to-four-machine bracket was 3, and that for the 49 houses in the five-to-twenty bracket was 8.5.

other processes. Mainly family members' labour was mobilized for these purposes. *Kuse naoshi* was usually the sideline task of the housewife, while *bonsan*, or teenage apprentices, often did *ato giri*. Each processor employed an average of five or six workers, including members of his family.

Further Polishing

This step of final polishing undertaken by the *bafu-ya* was to ensure brush handles were glossy.

Marking

Hand marking was jobbed out to subcontractors, who usually took charge of this step concurrently with another process or partial processing of some other product.

Final Inspection and Packaging

The brushes went through final inspection, partial readjustment, finishing, and packaging to prepare them for sale in stores. These processes were usual-

ly done by family members of seizoka. When the whole process was completed, the finished products were delivered through the seizoka to the wholesale merchant.

The Wholesaler Character of the Seizoka

Seizoka bought bristles from a bristle refiner and brush handle materials from three sources: (1) a bone cutter for bone handles, (2) a timber wholesaler for wooden handles, or (3) a celluloid wholesaler for celluloid handles. All purchases were on an end-of-month payment basis. He then supplied these raw materials in accordance with the above-described production process to have them processed as required, collected the finished products, and sold them to the wholesale merchant.

Seizoka would never undertake any major part of the production process as their own business; instead, they controlled supplying raw materials from outside to those directly in charge of one part or another of the process. Viewed in this aspect alone, they may seem qualitatively no different from Russian merchants in the late nineteenth century, to whom Lenin referred as "the supreme form of merchant capital" to organize and control small producers. ¹⁵ Another evaluation of seizoka is quoted below.

People commonly known as seizoka in the industry and constituting the association of bone-handle brush manufacturers really are not manufacturers but a sort of merchant or wholesaler. . . . Wholesalers of knitted goods who function merely as commercial capitalists are members only of the exporters' association but not of the manufacturers' association. However, in the brush industry, seizoka, who have no production facilities but who retain craftsmen and own various [brush-manufacturing] machines, are members of an industrial association. 16

This characteristic of seizoka, peculiar to traditional merchants, determined even the form of wage labour. The situation in power-lending plants will be described later, but here I would like to point out that chipping craftsmen worked in a part of a seizoka's own home. Though every chipping craftsman was directly employed by a specific seizoka, he had to provide all the means of production needed for his work. Although this was not unusual considering virtually all aspects of work had to rely on skilled manual labour, obviously it was a phenomenon most characteristic of a stage of the production process where the productivity was low and thus production was susceptible to exclusive control by traditional merchants.

Immediate Producers in the Brush Industry

The craftsman who worked in a power-lending plant and had his own machine tool driven by the power supplied by the plant was generally self-employed rather than an employee. He was at once an entrepreneur and an indispensable labourer. There is no instance of such a craftsman rising in so-

cial status, and his alleged independence meant nothing but isolation or stagnation. ¹⁷ Besides the necessity of owning his own machine tool and paying for power, he had to provide the belt used to connect the power mechanism to his machine tool and such auxiliary items as sandpaper, files, and saws. ¹⁸ Let us see how these conditions binding the producers manifested themselves in other areas.

The kiji uke-ya (wood processor) was a former craftsman who worked in a power-lending plant and who gained possession of plant facilities and owned many of his own machine tools besides the power generators. In that respect, his factory represented something closer to modern production relations than the power-lending plant. Nevertheless, all craftsmen working in his plant had to pay for power the master kiji uke-ya let them use. Exactly as in the power-lending plant, the craftsmen had to furnish all the auxiliary items needed, including the power transmission belt, at their own expense.

The circumstance that the immediate producer had to provide himself with virtually all the needed means of production at his own expense was not limited to power-lending plants and wood workshops, irrespective of the type of brush or the stage of production process. Hole borers and hand pressers producing celluloid-handle brushes and wood wholesalers, polishers, and varnishers manufacturing wood-handle brushes shared the same burden.

Notably, complex production relations, characteristic of such a transitional form of production, were also observed even in some integrated production factories incorporated between 1935 and 1944. According to a 1941 survey at a certain limited partnership engaged in brush production, only two handle-grinding machines belonged to the entrepreneurs; all other machines (nine for handle grinding, two for neck grinding, three for bristle-hole boring, five for polishing, two for bristle trimming, two for stepwise trimming, and three for handle-hole boring) were owned by the employees of the enterprise. Even at a larger joint-stock company, where so pre-modern a phenomenon was not observed, 14 out of a total of 54 machine tools belonged to employees.¹⁹

3. The Relationship between *Seizoka* and Wholesale Merchants

Emergence of Seizoka and Immediate Producers

The presence of *seizoka* in the brush industry dates back to late Meiji. In 1909, when an attempt to launch an early factory in Osaka failed on account of a shortage of funds, the owner wanted to lend part of his factory space and available power to fellow traders, and a "small investor who was trying to start some kind of business or other" organized craftsmen, offered to supply them with raw materials and wages for their work, and had them borrow part of the factory space and power to begin production.²⁰

Let us first compare seizoka and immediate producers by income level. For

	Capital invested	Annual income	Annual output	No. of workers employed	No. of family members engaged
Seizoka with assets of					
¥50,000 or more	13,8211	$3,840^{2}$	$47,891^3$	0.93	2.90
Small seizoka	5,4194	1,7965	19,011	2.34	3.21
Average	7,653	2,637	27,032	1.89	3.11

Source: Takeuchi Johzen, "Waga kuni ni okeru toiyasei kaitai no ichi dammen" (On the decline of the Toiyasei System in Japan), in The Economic Society of Fukushima University, Shogaku Ronshu 43, no. 4 (Fukushima, 1975), p. 122.

those engaged in brush production, there were considerable disparities in wage levels: unskilled workers were paid less than half as much as skilled workers, whose monthly wages averaged ¥100 after World War I, except during the post-war recession and the years of severe financial panic.

A survey by the Osaka municipal government in 1925 reported that a craftsman working in a power-lending plant earned monthly around \(\frac{\pmathbf{1}}{100.^{21}}\) In Osaka-shi k\(\tilde{o}gy\)\(\tilde{o}\) ch\(\tilde{o}sasho\) (Industrial survey of Osaka City) of 1933, which shows only the number of factories and average incomes in different capital brackets, entrepreneurs whose incomes are stated to be less than \(\frac{\pmathbf{1}}{100}\) seem to be either master or regular craftsmen. Their annual incomes per capita average \(\frac{\pmathbf{1}}{1},414\) for those exclusively engaged in their respective trades or \(\frac{\pmathbf{1}}{1},066\) for those concurrently involved in some other business; both roughly correspond to a monthly sum of \(\frac{\pmathbf{1}}{100}\). According to a 1937 survey in the celluloid-brush subsector, the monthly income of a cutting worker was \(\frac{\pmathbf{9}}{9}0\) and that of a clamping worker, whose task was believed to be the hardest, around \(\frac{\pmathbf{1}}{120}\).

The monthly incomes of seizoka cannot be estimated systematically, but figures for the latter half of the 1930s, when the industry was in a lull, show the financial circumstances of seizoka above and below the dividing line of \$50,000 in total assets (see table 5). According to the table, small-scale seizoka — who constituted around 70 per cent of all seizoka — were able to barely earn a yearly income of \$1,796 each, even though they mobilized the labour of family members (who averaged 3.21 per entrepreneur).

The data seem to suggest that there was an overall gap in average income between *seizoka* and craftsmen but that the gap was by no means too wide to be filled. Rather, the gap appears to have been moving up and down in more or less the same range of income.

¹Average of 14 houses

^{2,3}Averages of 10 houses each

⁴Average of 31 houses

⁵Average of 22 houses

Table 6. Number of entrepreneurs engaged in different stages of bone-handle brush production in the 1930s

Seizoka	26	Some were also engaged in chipping
Chipping craftsmen	39	Many worked in seizoka's houses
Handle grinders	53	Used power-lending plants
Horizontal hole borers	15	Used power-lending plants
Neck grinders	14	Used power-lending plants
Polishers	35	Of whom 10 or so were reportedly involved in bone-handle brush production
Processors	20	Many were engaged in other processes, too

Source: Nihon Boeki Kenkyusho, Yushutsu burashi kōgyō 2:6-7.

Note: As regards bristle planters, see table 7.

Table 7. Number of entrepreneurs engaged in different stages of wood-handle brush production in the 1930s

Seizoka	53	Only active ones are counted; there were others temporarily suspending operation
Wood processors	12	Each employed a few craftsmen
Painters	18	• •
Polishers	24	Total of master craftsmen, borrowing power and place of work from someone else, and
Bristle planters	12	independent entrepreneurs Also did bristle planting for bone-handle brushes

Source: Takeuchi, "Waga kuni ni okeru toiyasei kaitai no ichi dammen," p. 123

The numbers of *seizoka* and small producers of bone-handle and wood-handle brushes in the 1930s are listed in tables 6 and 7.

Control in a "putting-out system" (referring to the relations between the manufacturers, middlemen, or organizing agents, and the merchants) theoretically means exclusive control of producers by wholesale merchants, excluding intervention by any third party. Because of this exclusive tie between them, their relationship looks like one of an interdependent symbiosis when exposed to external pressures. The more remnants of the feudal system this tie retains, the more stagnant it is and, moreover, the stronger the predetermined bond appears to be to external observers.

What kept the quantitative balance between the supposedly dominant seizoka and the supposedly subordinate small producers? There were more seizoka dealing in brushes than master craftsmen or self-employed persons who specialized in one stage or another of the brush-production process. The number of manufacturer-wholesalers of bone-handle brushes was nearly double that of neck-grinding craftsmen, and a similar trend was even more conspicuous in the production of wood-handle brushes.

These facts reveal that the craftsmen and the seizoka were by no means

tied in an exclusive, fixed relationship. For this reason a brush-making craftsman declared, "If you ask me who is stronger, the craftsman or the master [seizoka], I'd say, in short, the craftsman is stronger when business is good and the master is stronger when business is bad."²²

Seizoka, in their ability to tightly control immediate producers in times of slack business or when there was no need to expand the production capacity, resembled traditional wholesale merchants who indispensably needed stagnation and technological limitations for their survival. The two parties were in a relationship of holding each other in check, and the tie between them was loosening into something temporary and casual. It should not be forgotten, however, that the repeated waves of recession had obliged them to restrengthen their tie, or that the chronic depression kept intact the relations of production binding them.

In the foregoing section, I pointed out that some seizoka of bone-handle brushes converted part of their homes into workshops for workers employed to take charge of some steps of the production process. Along with these instances, it was not rare for seizoka to engage in physical labour themselves. For example, a master who was a seizoka of bone-handle brushes could be at the same time a bone cutter who ran a bristle-planting business and, when time allowed, actually planted bristles himself. This trend was even more notable in the wood-handle and celluloid-handle brush subsectors, which were technologically more advanced. Seizoka who had celluloid-handle brush workshops in their own sheds had higher incomes than other seizoka, but they were often the principal workers in their shops. Some of them even were responsible for the clamping stage, which was considered the hardest step in the whole process of celluloid-handle brush production. The trend was most conspicuous in the production of wood-handle brushes.

The next question is how the *seizoka* came into being. In this regard, there is a report by the Japan Foreign Trade Research Institute that states the findings of a survey on the previous occupations of *seizoka*.²³ The survey concerned members of the Osaka Association of Toilet Brush Manufacturers, organized in 1926.

The previous occupations of the *seizoka* belonging to the association are listed in table 8. Some of those counted as former "company employees" seem to have been employed by one or another of the early factories. If this is correct, 28 of the 37 *seizoka* whose previous occupations were known would be former brush-making craftsmen. Further, adding the four who had been *bonsan* (boy apprentices) working under *seizoka* in the same category, the total of those directly engaged in the production of brushes would be 32 out of the identified 37.

The preceding section revealed that *seizoka* had a character and social function like that of wholesale merchants. It has been demonstrated in this section, however, that *seizoka* also had something in common with the immediate producers organized around them.

Regarding the decline of the *seizoka*, it is reported that in Osaka in the 1930s only eight member-households remained in the Shoei Kai, a friendship

Table 8. Previous occupations of seizo-don'ya of toilet brushes in Osaka, 1942

Previous occupation	Number
Rough shaper, hole borer	12
Finisher	8
Polisher	1
Bristle planter	1
Painter	1
Bristle trimmer, bristle blender	2
Subtotal	25
Company employee	3
Apprentice employed by seizo-don'ya	4
Subtotal	7
Carpenter	1
Footwear maker	1
Farmer	1
Rice dealer	. 1
Salt manufacturer	1 1
Total	37

Source: Takeuchi, "Waga kuni ni okeru toiyasei kaitai no ichi dammen," p. 126. Note: Former dealers of uncommon products or those who are either temporarily or permanently out of the trade are not included.

association organized by 72 seizoka of bone-handle brushes in Yao during World War I. Even in the whole bone-handle brush industry, only 32 house-holds are reported to have still been in business in 1942, though a survey by the Ministry of Agriculture and Commerce concerning the subsector in 1923 confirmed the engagement of 208 households in the trade in Osaka.

A similar trend was observed in the wood-handle brush subsector, where participation by 113 households in 1923 shrank to a membership of only 67 in the Osaka Association of Toilet Brush Manufacturers by 1942. Moreover, 17 of the remaining members had temporarily suspended their operations, closed down their shops, or transferred to other lines of business.

The number of power-lending plants, which had reached a peak of 40, tapered off to 8 by 1925, 5 by 1930, and 3 by 1942.

These figures indicate that the production set-up centring on seizoka was evidently declining from the early Showa years. It is nevertheless too hasty to conclude, merely on this basis, that the last remnants of the system disappeared. Since their disappearance can only be confirmed with the emergence of a new production system, this subject will be discussed in the next section.

The Triangular Relationship of Wholesalers, Seizoka, and Immediate Producers

The operators of the early factories pioneered the export marketing of brushes, whose development was stimulated by fierce competition. Their export endeavours, however, met formidable competition during and after the late Meiji years from export merchants selling mainly low-quality goods. Eventually the latter took over the major role in the export of brushes and totally ruined the very basis on which the early factories stood. By the time Teikoku Brush Co., Ltd., once predominantly the top manufacturer, went bankrupt during a recession immediately following the outbreak of World War I, an overwhelming majority in the production of brushes had been held by small enterprises tied to the export merchants.

Brush exports grew tremendously during World War I, and annual value during the war averaged 2.18 times as much as that of the three pre-war years.²⁴ This quick growth was attributable to export merchants – mainly Japanese agents of foreign trading houses – and foreign trading houses.²⁵

What these export merchants actually did, however, was so abusive that even the government deplored their "lack of commercial ethics." In a typical instance, one export merchant, showing samples received from a seizoka to an importer abroad, entered into a sales contract with the importer but would not immediately place his order with the seizoka who had presented the samples. Instead, he would pass around the samples among many seizoka and give the order to the lowest bidder. In competitive bidding, it was usual for the export merchant to unilaterally set the price ceiling. This competition imposed by the export merchant obliged the winning seizoka to discount his price by 20 to 30 per cent from what the merchant had initially promised. The extra profit the export merchant earned was commonly known as sageburi, and his tactics were referred to as tataku (literally, "to beat"). The establishment of this jargon indicates how widespread the exploitation was.

This practice by the export merchants inevitably gave rise to a vicious circle. The behaviour of the early factory operators, who sold their own products directly, and that of the export merchants, whose activities were limited to the distribution of goods, differed from each other decisively. The latter always gave priority to sales and profits over product quality control and consideration for the development of the industry itself. The merchant's own comprador-like character was partly accountable, but their behaviour in the international market of those days, where transactions stood on so precarious a basis, unavoidably contributed to a drop in product quality. The seizoka were most directly exposed to the merchants' pressures; the only way that they could somewhat take pressure off themselves was by such dishonest practices as making omissions or cheating. The massive export of low-quality goods was thereby accelerated. The circumstances are described by a Japanese merchant quoted below.

Let me make an account of what I experienced a few days ago. An employee of an American silken goods dealer having nothing to do with the brush business came to see

me and suggested we buy a shipment that they had just received of toothbrushes for popular use. I knew of some precedents in which goods handled by such dealers of others' merchandise had been found poor in quality, so I inspected half the brushes out of curiosity and came across something really astonishing. What I found in a carton, or half a gross, included (1) bristles missing in two, three, or even four of the holes, which were just filled with paraffin, (2) four-hole brushes with broken heads that had been patched up to make them look as if they had been three-hole brushes, (3) cracks in the head part of the bone from the edge that made the brushes very inconvenient to use and clumsy in appearance, and (4) similar cracks in the handle, making the brushes unusable. I was surprised and astonished to witness with my own eyes that more than 30 brushes in the half gross were too faulty to be usable at all.²⁶

The export merchants' "tricks" did not stop there, however. Seizoka, generally limited in their own financial resources, would often receive partial payments, known as "70 per-cent money," even before the products they delivered went through inspection. If the final delivery date was, say, six months ahead, a seizoka would receive such a payment every time he made a partial delivery, but at the time of final settlement it was not unusual for the export merchant to claim that the delivered goods contained many second- or third-rate products and refuse to pay the balance, which sometimes could prove to be even to the debit of the seizoka. The seizoka could not afford to demand the return of the goods he had delivered, and the export merchant therefore could add to his profit some, if not all, of the remaining 30 per cent. Furthermore, the mushrooming of seizoka and the consequent fierce competition among them served to intensify this trend. The concept or the practice of a contract was absent. There did exist legal norms on paper but not the conditions to make them effectively binding on the actions of individuals.

After World War I, however, the exports of semi-finished products, mainly refined bristles and brush handles, began to grow rapidly and even surpassed those of finished brushes.²⁷ The increased exports of semi-finished goods would obviously undermine the business basis of *seizoka* and other small producers. Not unexpectedly, they staged a vigorous campaign against the export of semi-finished goods, because it would overheat the market for the raw materials they used and deteriorate the conditions of the market for their finished products. The export merchants, however, took no heed of their objections. Nor was there any necessity for the merchants to do anything in particular to cope with the *seizoka*'s campaign, because bristle refiners undertook a fierce rollback against it. The bristle refiners, like the *seizoka*, had emerged out of those engaged in the direct production process in the days of wholesaler-controlled handicraft manufacturing and of early factories.

These findings have revealed an overall picture of limitless competition, a clash of interests, and an uncompromising race for survival between powerful export merchants on the one hand and, on the other, three subordinate parties – immediate producers, seizoka, and raw material suppliers, including bristle refiners – all deriving from the same root and relying solely on orders from the export merchants.

Historical Activities of Wholesalers

The wholesalers of haberdashery controlled brush-making craftsmen in the early Meiji period, when brush production was just beginning. The subsequent activities of those haberdashery wholesalers give some clues to their strong control over the *seizoka* and other small producers.²⁸ The following account will mainly base itself on the literature referred to immediately above.

Haberdashery wholesalers clustering along Kyuhojimachi in the Semba area of Osaka were among the most influential merchants in Japan. When early factories were developing in pursuit of overseas outlets for their products, these merchants, using their traditional control over the domestic market, remained powerful enough to dominate the brush market to some extent. As early as 1888, major wholesale merchants on Kyuhojimachi took the initiative in organizing an association of foreign traders. This association proved a bridgehead for the merchants' campaign to drive away the early factories and, at the same time, a base for the export of substandard goods. There are no reference materials on their subsequent activities, but it seems that the basic policy of the wholesalers to build up their capital by profiteering on the exports of poor-quality products was maintained consistently until World War I. Of the 54 registered members of the Japan Brush Exporters Association in 1931, as many as 11 were found among the 44 members of the Osaka Haberdashery Wholesalers Association. Since most of the senior officers of the brush department of the wholesalers' association were at the same time members of the exporters' association, the export merchants and the wholesale merchants mainly active in the domestic market presumably stood on the same ground. In other words, the earlier wholesale merchants' grip on the market remained unshaken even after World War I.

How did the relationship between these wholesale merchants and the producers develop? In 1886 the Commercial and Industrial Association of Haberdashery Wholesalers, the predecessor of the Osaka Haberdashery Wholesalers Association, was founded. It had a commercial department for wholesale merchants and an industrial department for master craftsmen. Though the association's statute provided for no discrimination between the commercial and industrial departments, the very fact that both wholesalers and craftsmen joined the same association reflected the need for the former to have a direct relation with the latter.

In 1900 the Law Concerning the Associations of Traders Dealing in Important Commodities was enacted. At about this time there arose moves to reorganize the trade association in the brush industry. The intention of those who had proposed the legislation was to promote the establishment of controlling mechanisms and joint facilities for the protection of producers.²⁹ In the brush industry, however, the wholesale merchants tried to make active use of the new law. Their attempts bore fruit in the founding of the Osaka Haberdashery Wholesalers Association in 1916. The craftsmen's association was set up a little later, but it was only after the government, disappointed by

the impotence of the law, instituted a revised law concerning the associations of traders dealing in important commodities to strengthen the basis of producers.

Shortly after the turn of the century, some began to argue that the existing commercial and industrial association was no longer anything more than a "private self-disciplining" body and that the "separation of commerce and industry" should be encouraged. This argument came not from small producers, who were under the control of the putting-out system, but from wholesale merchants. Presumably there was no longer any economic necessity for the wholesalers to continue their relations, symbolized by the commercial and industrial association, with the producers. Some wholesale merchants expressly denied the raison d'être of the industrial department of the association. Thus it seems not that the power of the producers within the association had become strong enough to overwhelm the merchants but that the latter began to find their traditional interdependent relations with the former a constraint on their business activities.

It was in this period that the production system centring on seizoka began to constitute the core of brush manufacturing. The wholesale merchants, following the typical pattern of behaviour for commercial capitalists, would become parasites to the producers, regardless of the system of production, only if they had reasonable prospects to earn "profits." Therefore, it was by no means unthinkable for the haberdashery wholesalers to switch from their traditional system of control that required the supply of raw materials and the advance accommodation of funds to another arrangement that had seizoka in between, because the merchant could indirectly dominate a broader range of immediate producers than before through the seizoka as long as the seizoka were unable to develop a market for themselves. The new system of control would enable the merchants to wipe out the early factories, their archenemies, once and for all. Thus new but highly compromising relations of production were established with the wholesale merchants at the top; they delegated part of their controlling functions under the putting-out system to the seizoka and yet firmly retained their traditional domination of the market. For this reason, brushes exhibited in competitive fairs toward the end of the Meiji period bore only the name of the wholesaler as exhibitor and not that of the actual producer.³⁰

4. Formation of a Modern Factory System in the Brush Industry

Transformation of Wholesale Merchants

The seizoka who emerged in the brush industry performed part of the social functions for which the wholesale merchant had previously been responsible. Influential merchants kept themselves detached from the production process temporarily by using seizoka as their substitutes. How they specifically did so

was observed in the above-described process of reorganization of their trade association, which split from the commercial and industrial association. At about the time of the financial panic in 1928, however, the wholesale merchants began moves to place the production process under their direct control and management. This trend was especially conspicuous in the production of celluloid-handle brushes, a relatively new subsector of the brush industry.

The wholesale merchants, partly because of their historical background, lacked consistency in their attempts to gain a direct grip on the production process and put into action their intention in two wholly contradictory directions: some acted retrogressively either to concurrently perform the role of seizoka or to absorb them, while others moved ahead toward a mechanized production system.

Let us look at the first direction. The average output of a wholesale merchant house engaged in brush production in 1937 was two to two-and-a-half times as large as that of a seizoka unit. In Osaka there were five such houses, each capitalized at around \$100,000. Two of them were run by wholesale merchants who had absorbed a number of seizoka shops. In one of them, of a capital stock comprising 2,000 shares, 1,000 were held by a former haber-dashery wholesaler, and 200 each by two ex-seizoka, one of whom was engaged in bristle trimming in the workshop.³¹

The second direction, representing the mainstream of wholesaler merchants' attempts to control the production process, was for the merchant to undertake direct management of factories. In and around Osaka, there were 28 such houses. All the factories had former brush wholesalers as their employers, but a few were run by ex-seizoka. The seizoka, however, had previously served influential wholesale merchants as senior clerks or had come from other branches of commerce, and their patterns of behaviour had essentially strong elements of wholesale merchants.

The way the factories were managed manifested no decisive difference from the early factories. The wholesaler merchants had their own social bases for undertaking the management of the factories in spite of the lack of significant difference from their unfortunate forerunners. First, one could readily point out the following characteristics: (1) they would not lose in competition with the traditional system of production using seizoka if they took care not to make their factories too big; (2) the chronic recession and inflation then prevailing enabled them to easily control labour and production; and (3) the use of small electric motors made efficient operation by a small work-force possible.32 However, these characteristics are only secondary factors. A far more essential and influential condition was the development of a domestic market far more stable than the overseas outlets that the earlier brush industry had relied on. What symbolized this new situation was the production of uniformly branded commodities to be marketed by such major commercial enterprises as Kobayashi Lion, Shiseido, Jintan, and Club. This tendency became typical in the 1920s. The traditional seizoka and small manufacturers were not productive enough to meet the big-volume orders by these big businesses. They could not afford to expand their production capacities correspondingly. Moreover, the big clients had a tight grip on the expanding domestic market. Thus the opportunity arose for the wholesale merchants, having strong connections with these enterprises, to become producers themselves.

The transformation of the wholesale merchants facilitated a switch in their management policies. Their indirect control of producers through the seizoka had made it totally unnecessary for them to use their capital for the supply of raw materials or the advance accommodation of funds to the producers. What concentrated in their purses were idle funds, completely free of commitment, and it was solely up to the market conditions and the merchants' discretion whether to reinvest those funds in the production process. Thus a mechanized production system was established again in the brush industry. Even so, the factory owners did not forget to use production by small entrepreneurs through the seizoka as a safety valve to protect them against the adverse effects of a downturn in the business cycle. In this way, the seizoka gradually descended to a merely supplementary position in the production of brushes.

The Entry of Big Businesses

The wholesale merchants attempted to transform themselves into factory owners and managers by freeing their own capital from its inherent obligations under the putting-out system and using it as uncommitted capital. This, however, meant that any capitalist with enough capital and control over the market could participate in the manufacture of brushes without being obstructed by the exclusive character inherent in the previous putting-out system dominating brush production. Thus big businesses from outside that had had nothing to do with the production or distribution of brushes began to select, guide, and control some of the small entrepreneurs directly rather than using influential wholesale merchants as intermediaries. Among the big businesses were Kobayashi Lion and Shiseido, both involved in related sectors of industry, and Taiyodo, a large commercial enterprise. During the 1930s, there were only two modern factories producing bone-handle brushes and both continued integrated production as "branch plants" of Kobayashi Lion. A much greater number of integrated plants were engaged in the production of celluloid-handle brushes. Hechima Cologne controlled a jointstock company capitalized at \\$200,000 with a work-force of 40; Morishita Jintan controlled a limited partnership of ¥100,000 with 71 workers; Nihon Soap had a small factory at ¥100,000 with 17 workers; and Shiseido owned a small factory with 63 employees and controlled a joint-stock company capitalized at ¥150,000 with a work-force of more than 30.

These major enterprises also tried to gain control over factories run by wholesale merchants. In 1939 a factory jointly operated by a big wholesale merchant in Semba and another wealthy person was launched with capital resources of a little over \(\fomega\)50,000 and a work-force of 32. When it was reorga-

Table 9. Japan's celluloid industry in the Taisho, Showa periods

Remarks		$J/W^a = 0.9\%$						Dai Nippon	Celluloid founded		J/W = 3.6%									
Dai Nippon Celluloid's share in total domestic output (%)	0	0	0	0	0	0	0	87.91	75.76	97.75	97.13	96.52	95.71	26.79	63.29	60.34	62.77	60.97	I	1
Export of celluloid products (¥)	0	0	0	0	0	3,196,922	6,640,980	7,290,836	8,463,783	2,369,369	4,731,382	6,792,490	7,088,912	9,392,470	10,013,708	9,257,976	10,292,083	13,828,255	6,332,899	4,725,566
Export of same (¥)	0	0	0	194,920	421,175	1,091,936	1,679,179	2,215,576	1,185,791	281,651	353,449	368,050	371,742	399,929	168,960	208,957	209,639	396,822	298,759	504,935
Import of raw celluloid (¥)	496,989	210,849	31,814	11,398	257	09	284	298	0	0	0	0		0	0	0	0	0	0	0
Sales of same (¥)	l	ŀ	I	1		١	1	2,819,247	11,162,843	4,341,834	6,588,836	2,011,718	9,938,687	12,674,503	9,848,001	9,372,344	11,078,705	12,278,950	8,029,945	7,800,999
Output of raw celluloid (tons)	480	515	495	286	1,170	1,206	2,203	ı	I	1,022,751	1,611,291	665,638	3,020,271	3,801,899	3,650,556	l	3,414,386	5,806,322	4,146,334	4,837,898
Year	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931

	5,700,518	7,794,866	0	876,428	5,490,068	67.24	
	8,893,684	16,674,715	0	2,963,013	8,635,203	60.74	J/W = 30%
	10,393,689	20,277,018	0	3,305,324	12,017,549	59.76	
	13,035,634	24,625,430	0	I	l	58.64	
	13,816,635	24,437,215	0	ļ	I	59.80	J/W = 40%
1937	14,227,060	25,392,107	0	1		*******	

nized into a joint-stock company the following year, the new company was capitalized at ¥150,000 through 3,000 shares; half these shares were bought by Shiseido, which switched the main market for the brushes manufactured by the factory from overseas to Japan.

The Formation of Oligopolistic Firms

The basic conditions for the participation of huge monopolistic firms in the brush industry were established first through their control over the market in the distribution process and second through the production of raw material celluloid.³³

Transactions of brush exports from Osaka were almost wholly arranged in Osaka or Kobe through foreign traders or the branches of foreign importers. Until the 1920s American importers had held a large share in these transactions, followed by a quick advance by the Kobe branch of Iwai Shoten, which by the second half of the decade became a leading member of the Japan Brush Exporters Association.³⁴ Toyama Eizo, the then Kobe branch manager of Iwai Shoten, represented export traders in the Celluloid Brush Improvement Committee established in 1932 as an advisory body to the Ministry of Commerce and Industry. By virtue of these and other achievements, Iwai Shoten eventually became a big shareholder in the Japan Celluloid and Rayon Company. In the 1930s the exporters organization included Mitsui & Co. and Mitsubishi Corporation.³⁵

The celluloid industry enjoyed an ample supply of camphor, its main raw material, from Taiwan, which was under the colonial rule of Japan. After the Russo-Japanese War of 1904–1905, such major enterprises as Japan Celluloid and Rayon, jointly dominated by Mitsubishi, Suzuki Shoten, and Iwai Shoten, and the Mitsui-affiliated Aboshi Celluloid Company were established. World War I suspended the supply of celluloid from Germany, which had overwhelmed the world market for the commodity, and the local production of celluloid rapidly increased (see table 9). Moreover, celluloid prices continued to soar in those years, making it impossible for brush producers to take orders for the fear of a further rise in raw material prices.³⁶

The situation prompted the eight major celluloid manufacturers in 1919 to merge into Dai Nippon Celluloid Co., Ltd., at the recommendation of the government. The government protected the new company by raising import duties on celluloid, authorizing its exclusive purchases of camphor from Taiwan, and guaranteeing rebates corresponding to 25 to 30 per cent of the price. These protectionist measures enabled the company to achieve a virtual monopoly (a 98 per cent share) of the domestic market in the late Taisho period. The biggest stockholder (67,450 shares) of Dai Nippon Celluloid was Mitsui Hachiroemon, head of the Mitsui zaibatsu, followed by Iwai Katsujiro (20,730 shares), first president of Iwai Shoten.³⁷

In those years the production of celluloid-handle brushes proliferated. In 1926 Dai Nippon Celluloid began mass production of these brushes at its Mikuni factory. In 1927 this plant became an independent corporation

named Mikuni Celluloid Co., Ltd., which, with its work-force of more than 300, distinguished itself as an "exceptional modern factory." Mikuni Celluloid, while overwhelming all major markets at home in collaboration with affiliated commercial enterprises, exported semi-finished products as an outlet for its excess output and thereby further narrowed the basis on which the seizoka-centred production of brushes could survive. By 1932 Tokabe Zen'ichi, executive director of Mikuni Celluloid, and Ito Kichijiro, executive director of Dai Nippon Celluloid, came to represent the brush industry in the Celluloid Brush Improvement Committee. 39