

## The Textile Industry in Hachioji, Tokyo Prefecture

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# The Textile Industry in Hachioji, Tokyo Prefecture

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## I. Outline

This is a study of the textile industry in Hachioji, Tokyo Prefecture, with reference to Gunnai region, eastern part of Yamanashi Prefecture. Hachioji is located in a basin surrounded by a part of Kanto Mountains to the west, by Musashino upland to the east, by Kasumi hills to the north and Tama hills to the south. The Asa River, a tributary to the Tama River flows eastward in the basin and the city has developed on the low terrace formed by the river. In the Edo period (1603-1867), the city was known as a stage town and a market town on the Koshu highway which connected Edo with Kofu. The textile industry in Hachioji started about 500 years ago. Nowadays, the weaving factories are distributed in the city area and in the western and northern suburbs. Many of the weavers in the suburbs carry on agriculture too, and most of them are the subcontractors of the weavers in the city area.

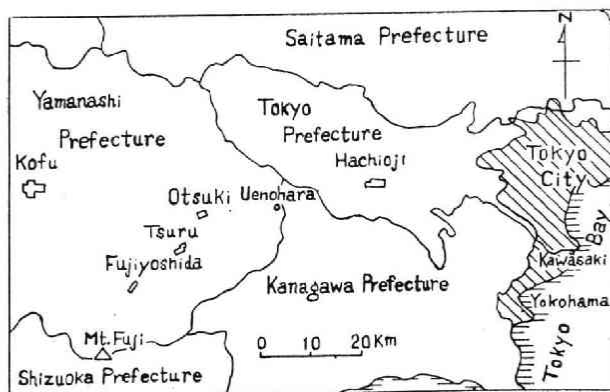


Fig. 1 Location Map

The output of fabric was over 15,000 million yen in 1962. Main articles are narrow fabric for *kimono* and miscellaneous goods including neckties (Table 1). Power looms are widely used and hand looms are scarcely seen. Almost all of weaving factories are in the same house-lots as the living places, that is to say, the

Table 1. Kinds of fabric (100 million yen)

		1958	1959	1960	1961	1962
narrow fabric		45.4	59.2	62.9	82.6	109.5
broad fabric	cloth	1.5	1.4	2.0	3.0	13.3
	miscellaneous goods	28.9	34.3	38.3	39.7	35.8
	export	2.0	2.1	2.4	2.5	2.9
	total	32.4	37.8	42.7	45.2	52.0
total		77.8	97.0	105.6	127.8	161.5

Table 2. The new factories in Hachioji and Hino (1962)

	number of factories	number of workers	
Electrical machinery, equipment and supplies	21	15,367	62.7%
Precision machinery and apparatus	4	4,524	18.5
Machinery	4	1,596	6.5
Food-stuff	6	1,207	4.9
Transportation equipment	2	613	2.5
Chemical	3	205	0.8
Others	2	892	4.1
total	42	24,504	100.0

textile industry in the city is carried on in the way of a domestic industry.

In 1954, Hachioji with Hino, an adjacent city to the west of Hachioji was appointed as one of the development districts under Metropolitan Tokyo Development Act aiming to avoid the over concentration of population and factories to Tokyo. The population of Hachioji is estimated to increase from 172,000 in 1963 to 330,000 in 1975. Based on this plan, new factories were constructed or are under construction (Table 2). The percentage of the textile to all manufacturing industries in 1962 was 66% in the number of factories, 52% in the number of workers and 47% in output. But the ratio will decrease when the new factories start to work. According to this program Hachioji will not be a textile center but an industrial city with many-sided development.

The development of these modern factories has brought about shortage of labor force on the textile industry. In general, working conditions in the textile industry are not so good owing to the smallness of the factories in scale. The workers in the textile industry are liable to move to other factories, attracted by the better working conditions.

To solve this shortage, the operators of weaving factories are trying to collect workers from regions far from Hachioji, for example, Tohoku district, with help of the association of the weavers in Hachioji.

## II. Development

We can divide the period of development of the textile industry in Hachioji into three, (1) before the Meiji Restoration (-1868), (2) from the Restoration to the end of the Second World War (1868-1945), (3) after the war (1945-)

### *Before the Meiji Restoration*

It is not clear when Japanese textile industry was formed as an independent one. The textile industry at the northern and western foot of Kanto Mountains was carried on by the farmers as their subsidiary job. Probably the separation of weaving from farming started in the 18th century. However, after the appearance of professional weavers, there were also farmers engaged in weaving.

About the middle of the 16th century, Hachioji Castle was constructed in the western suburbs of the present city area and a castle town was formed. The market of locally produced silk was opened. After the fall of the castle, the citizens migrated into the present city and reconstructed the city. Under Tokugawa's regime Hachioji was a stage town administrated by a magistrate. Hachioji was granted with a privilege to sell in Edo the silk produced in Gunnai. The relation between Hachioji and Edo, and between Hachioji and Gunnai became more intimate by this and the technique of weaving was improved and the merchants' activities became more active.

Thus the power of the merchants increased. They became to control the weavers. On the other hand, however, the weavers tried to protect their own interest against the merchants by establishing a guild of them.

Separation of the textile industry from agriculture caused division of work, that is to say, sericulture, filature and weaving were separated from each other, all of which had been carried on by farmers up to that time.

In case of Hachioji and its environs, such a division of work was manifested in regional division. The northeastern environs developed into a weaving area and the southern outskirts made a filature and sericulture area<sup>1)</sup>. It seems, however, that farmers did such processes as dyeing, twisting and finishing by themselves.

The weavers here were more independent of the merchants than in other

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1) **Shoda, K.** (1954): "Weaving and filature industry in Hachioji and its environs (in Japanese)". *An outline of history of Japanese industries*, Vol. 4, Tokyo, pp. 138-154.

fabric-producing places and main products were ordinary grade fabrics. These characteristics have been preserved after the Meiji Restoration.

*From the Restoration to the end of the Second World War*

The Meiji Restoration was a turning point for industrialization in Japan. The textile industry in a broad sense contains yarn-producing and fabric-producing processes. It is in the former that big businesses developed. The fabric-producing places formed in feudal age have been preserved after the Restoration, where fabric is produced by numerous small producers.

In the textile industry in a narrow sense, namely, in the fabric-producing process, the weaving machines were improved owing to the introduction of the power loom replacing hand one. In the 1890's the producing places differentiated into two types, one was the type developed in Fukui and Ishikawa Prefectures, where broad fabric for export was woven in large quantities using the power looms. The other was the type seen in Hachioji and others, where narrow fabric was woven from feudal age through the power looms or hand ones, since the narrow fabric for *kimono* was unfit for mass production. Consequently the number of power looms increased little by little in the places of the second type. In Hachioji power looms surpassed in 1920 at last the hand ones in number, the latter having almost disappeared by now. In spite of modernization of the weaving machines, however, the scale of factory remained small (Table 3).

Table 3. The number of the weavers in Hachioji by the number of power looms per weaver (1961)

number of power looms	less than 4	5~10	11~30	31~50	51~100	more than 100	total
number of weavers	514	205	157	16	6	3	901
ratio (%)	57.0	22.8	17.4	1.8	0.7	0.3	100.0

The division of work developed with the modernization of equipments. The fundamental form of present system was built up in the period from the Meiji Period (1868-1912) to the beginning of the Taisho Period (1913-1926). The yarn<sup>2)</sup>-processors and fabric-processers became the subcontractors of the weavers. Marketing organization in Hachioji consisted of the thread dealers and the commission merchants of fabric (Fig. 4). The thread dealers ordered the twisters to produce threads of raw silk, rayon filament and others. The commission

2) Yarn in this paper contains raw silk.

Table 4. The volume of dealings by fabric for man, woman and export in 1933 (thousand yen)

man	16,142	70.2%
woman	6,664	29.0
export	187	0.8
total	22,993	100.0

merchants subordinated the weavers only concerning money. Such a subcontract relation as was seen between the thread dealers and the twisters was scarcely seen between the commission merchants and the weavers.

Kinds of articles produced in Hachioji have changed. It was known as a place producing fabric for man before the Second World War (Table 4).

But after the First World War the fabric for woman were produced too, which were called *meisen*. The production of fabric for neckties and that for export began in 1930's. Sixty weaving households engaged in producing fabric for neckties in 1935.

In 1929 appeared a new silk fabric named *tama-yuki*, which became representative of expensive silk in Hachioji.

Though the textile industry in Hachioji has experienced several prosperities and depressions, it has been going well on the whole after the Restoration, except during the Second World War.

#### *After the Second World War*

The textile industry in Hachioji suffered war damage in 1945 but by 1950 it was almost reconstructed. Fabric was much demanded owing to shortage of clothing in those days and the industry made much profit. Broad fabric was also produced but as other places producing it were also reconstructed, that of Hachioji was shut out of market. Hachioji had to make a new start as a place of the narrow fabric. In 1952 two sorts of mixed silk filament fabrics with rayon filament were invented and *meisen* was gradually shut out by these. Productive capacity recovered but the industry suffered severely from the depressions starting in about 1952 and was the severest in 1954.

Now, all over the country, the chemical fiber makers had advanced into the fabric-producing places from about 1952 changing small manufacturers there into their subcontractors (Table 5).<sup>3)</sup> They tried at first to dominate the marketing organization in order to insure the use of their synthetic fiber and its products. In

3) The reason why the chemical fiber makers advanced is based for one thing on the fact that fiber makers except spinning companies had not their own weaving factories.

Table 5. Increase of fabric production by subcontractors in Japan (million m<sup>2</sup>)

	total	by Subcontractors	
1953	3,920	1,070	27%
54	4,223	1,373	33
55	4,480	1,682	38
56	5,242	2,158	41
57	5,812	2,633	45
58	4,949	2,139	43
59	5,310	2,397	45
60	6,182	2,891	47
61	6,451	3,009	47
62	6,078	2,807	46

source: year book of textile statistics (1962)

this way a chain organization of the small dealers was formed by each chemical fiber maker. Furthermore, the maker included the weavers and processing manufacturers of yarn and fabric. He supplied them chemical yarn, led technique to process it and subordinated them. Thus the chemical fiber maker succeeded to utilize the small factories and the marketing organization in the old fabric-producing places.

The depression started in 1954 did not end till 1958 in Hachioji. Efforts to make new fabric were continued in the stagnation of production. In 1958 a new woolen fabric for *kimono* was created getting a hint from the one produced in Nishijin, Kyoto, one of the most famous places for fabric production.

It gained public favor and a boom visited Hachioji after a long time (Fig. 2). The chemical fiber makers attempted to take advantage of the boom, namely, they attempted to let their subcontractors produce fabric with the synthetic yarn they produced. This was acril nitril synthetic yarn which gives an impression being similar to woolen yarn. Several makers advanced into Hachioji and organized the chain organization. Production structure changed. Existence of the independent weavers was characteristic in Hachioji but some of them became controlled by the big makers. But the attempt of the makers did not succeed as they expected. Production of synthetic filament fabric turned to decrease from 1959 (Fig. 2). At present there remain only two chain organizations in the weaving section for *kimono* and another two in the twisting process. In case of the latter, which have continued from 1954, about fifty or sixty of very small twisting processers were the subcontractors of the two big twisting processers and the big ones were similarly subordinated to the two chemical fiber makers. But the new organization are being formed in the section for neckties.

Some weavers in Hachioji ordered the weavers in Gunnai to produce the woolen fabric to satisfy the increasing demand for it. Most weavers in Gunnai are so

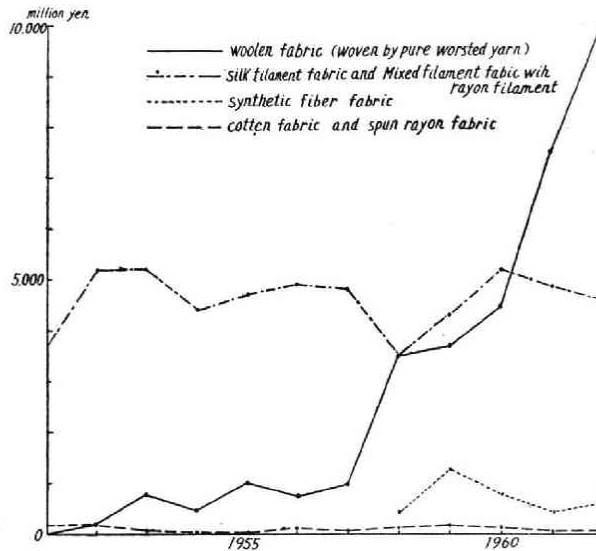


Fig. 2. Production of fabric in Hachioji by kinds of yarn

small compared with those in Hachioji that they are obliged to carry on agriculture in addition to the industry.<sup>4)</sup>

Subcontract relation is similarly found between the professional weavers at the built-up area in Hachioji and the side-jobber in its environs.

This boom of woolen fabric caused some events like these. While at present the industry is being faced again with depression due to over-production, since other places have also begun to produce woolen fabric.

### III Present situation

#### *Articles and marketing organization*

Fig. 3 shows change of production of narrow and broad fabrics. We can see in the figure that recently the ratio of narrow fabric, most for *kimono*, is increasing more and more than broad one which is woven for neckties and other miscellaneous goods, and that they are reverse proportion one another. We can say that the characteristics of Hachioji as a producing area of the narrow fabric for *kimono* is becoming stronger.

The marketing organization of both articles is shown in Fig. 4. There are the yarn dealers, the weavers and the commission merchants of fabric in Hachioji. Now, a yarn dealer sells twisted or non-twisted yarn to a weaver. The weaver

4) The author wants to call them the side-jobbers in this paper.



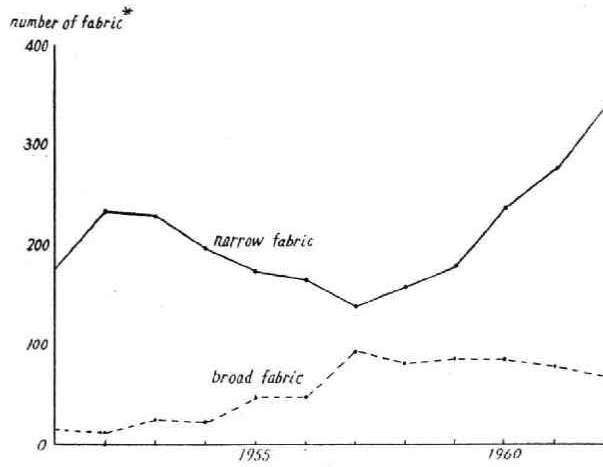


Fig. 3. Production of narrow fabric and broad one\*\*  
 \* one narrow fabric 36cm×12m.,one broad fabric 18in×12yd  
 \*\* fabric for export is excluded

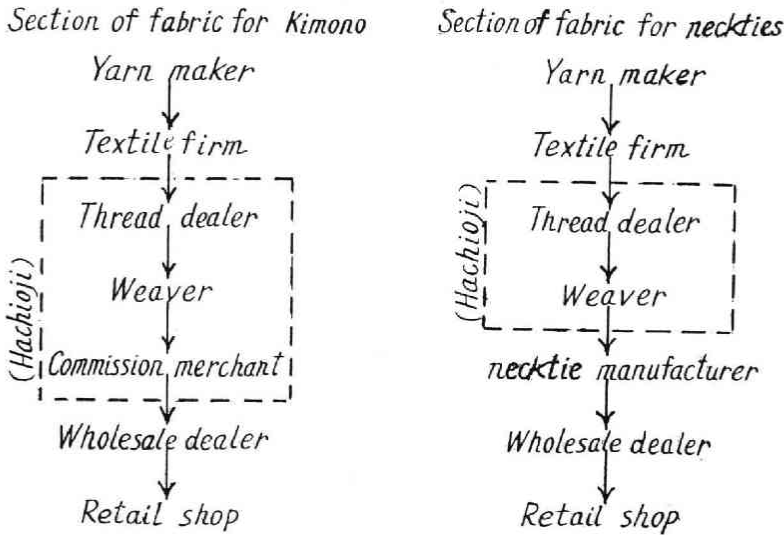


Fig. 4 Marketing organization of fabric for kimono and neckties

orders a dyer and other yarn-processing manufacturers to process it and then weaved the processed yarn in his factory. He orders again the woven goods to a fabric-processing manufacturers to process them and sells the finished goods to a wholesale dealer in the trading center as Tokyo or Osaka through the intermedia-

tion of a commission merchant whose existence is peculiar to the places producing narrow fabric. In case of fabric for neckties, a weaver sells it directly to a necktie manufacturer in Tokyo without the intermediation of the commission merchants.

The commission merchants take a commission of 3 or 4% from the weavers on the sale of fabric to the wholesale dealers. As it is, however, they perform the same role as the wholesale dealers in the producing place because they pay the weavers the price from which the commission is deducted. And they issued bills payable under their name. But when articles return unsold from consuming places to Hachioji,<sup>5)</sup> it is not they but the weavers who bear the loss. Consequently it is correct theoretically that they are not wholesale dealers but the commission merchants.

The production of neckties is done by the manufacturers in Tokyo. The weavers in Hachioji are engaged in weaving fabric for neckties to the order of the manufacturers. On the other hand, this is not true to the weavers of other kinds. Neckties are sold by the necktie-manufacturers to the wholesale dealers of fancy goods who have originally no relation to the commission merchants in the fabric-producing place.

#### *Manufacturing process and division of work*

An outline of manufacturing process is shown in Fig. 5.

Twisting process is done by the twisting-subcontractors to the order of

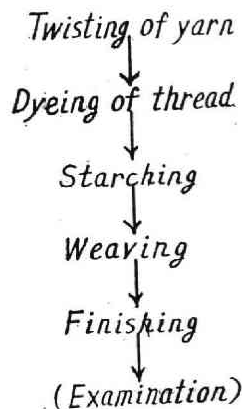


Fig. 5. Manufacturing process of the textile industry in Hachioji

5) It is a general commercial custom to return unsold articles to the producers. This is a hard problem to the fabric-producers.

the yarn-dealers, but when special techniques are needed in this process, some weavers themselves order the twisters on behalf of the dealers from whom the weavers buy the raw materials. Capacity of twisting process in Hachioji is about 125,000 spindles. The scale of some subcontractors are so small that they have only 200 spindles or less. The processing is mainly done by the family members.

Woolen yarn is not twisted in Hachioji, because the process is done at the spinning mills in other places. Therefore, when the woolen boom began, demand for twisting process decreased suddenly. Some twisters were compelled to give up their factories in those days.

Yarn is dyed before weaving as Fig. 5 shows. This is characteristic in producing places of narrow fabric.

Raw silk, rayon and others are starched but woolen yarn is not. This process is sometimes done in the weaving factory.

After twisting, dyeing and starching, yarn goes to the weaving factory and is woven through two routes where warp and woof are prepared.

A weaver leads production of fabric. He orders the processing manufacturers to process yarn and fabric, and pays wages. He is at the hub of the division of work. But even the weaving factories are run on a very small scale. There only three who own more than 100 power looms.<sup>6)</sup> The majority of the weavers own only less than 4 looms (Table 3).

Finishing process is mainly done in the cooperative factory managed by the association of the weavers. This process has become more important with the appearance of woolen yarn and synthetic one.

Generally speaking, areal agglomeration of the manufacturers concerning the textile industry is formed in the fabric-producing place and each manufacturer takes one part of production in his charge.

Table 6. Workers and Powerlooms (1962)

Weavers in the association	Workers			Power looms
	Total	Male	Female	
622	7,890	1,576	6,314	9,222

### *Formation of the chain organization*

The article produced by the chain organization of a special enterprise<sup>7)</sup> is called

6) The number of workers is almost similar to that of the looms.

7) The chemical fiber maker in this paper.

*chop*, because the *chop* (trade mark) of the article belongs to the enterprise, though it is not the real producer. As the credit of the chemical fiber maker is given to the *chop* and processing of synthetic yarn needs special techniques, he comes to lead the processing manufacturers. For the same reason, examination of the *chop* is done more strictly than others.

Production system by the chain organization is also called *chop*. The chop in this sense is divided into two types, genuine *chop* and semi *chop*.

In the case of the former, a weaver is included in the organization as a subcontractor of the maker. In the case of the latter, though it is the same so far as the weaver is included in the organization, he is permitted to buy yarn, to order to process yarn and fabric and to sell the article more freely than the former. But the weaver is in fact a subcontractor, since the kind and the quantity of yarn supplied to him are controlled by the maker. Why has the difference between the two arisen?

When the article return unsold, the chemical fiber maker in semi chop can miss the loss by transferring it to the weavers. On the contrary, in genuine *chop* not the weavers but the maker himself had to take the responsibility, because the maker is regarded as both a producer and an owner of the article. Therefore most of the chain organization in Hachioji have been semi *chop*. Only one weaver joins in genuine chop at present.

The fabric of synthetic yarn started to be produced in Hachioji probably in 1956. The number of the chain organization increased in proportion to the increase of fabric of synthetic fiber. But at present only two organizations remain, in the section of fabric for *kimono*, the one is genuine *chop* and the other is semi *chop* in which three weavers join. Processing cost of synthetic fiber was more expensive than natural fiber. So it became a burden for the weavers in semi chop. Furthermore, as fabric of synthetic fiber had not a good demand driven by woolen fabric in the market, it returned unsold to Hachioji and the loss was transferred to the weavers. Such disadvantages made him fall away from semi *chop*. The new organization, however, are being organized as previously written in the section for neckties.

#### ***Relation with Gunnai region***

The textile industry in Gunnai has developed since old in a valley in the mountain area. It consisted of four producing places, Tsuru, Otsuki, Uenohara and Fujiyoshida.

Comparing Table 7 with Table 3, it is clear that Gunnai is much smaller than Hachioji in scale of the weaving factories. There is pyramidal structure among the

Table 7. The number of weavers in Gunni by that of power looms per weaver (1961)

Number of power looms	less than 4	5~10	11~30	more than 31	total
Number of weavers	4,143	526	72	1	4,742
Ratio (%)	87.4	11.0	0.6	0.0	100.0

Table 8. Workers and power-looms per weaver (specialist) in Tsuru City

	Specialist	Woolen-weaver
Weavers	316	34
Workers	0.4	0.9
Family workers	2.0	2.1
Total	2.4	3.0
Iron power-looms	1.1	3.1
Wooden power-looms	1.8	0.8
Total	2.9	4.0

Source: Census of manufacturing (1962)

Table 9. Land area under agricultural management, workers and power-looms per weaver (side-jobber) in Tsuru City

	Side-jobber	Woolen-weaver
Weavers	488	51
Paddy field	2.1tan*	2.6tan
Upland field	2.3	2.0
Total	4.4	4.5
Forest land	9.8	11.7
Workers	0.3	0.3
Family members	2.0	2.1
Total	2.3	2.5
Iron power-looms	0.9	2.3
Wooden power-looms	1.9	0.7
Total	2.8	3.0

Source: Census of agriculture and forestry of the world (1960).  
Census of manufacturing (1962).

\* about 10 a

weavers. The proportion of the subcontractors to all weavers reaches 68%. Most of these subcontractors are part-time farmers. It is impossible for them to find extensive arable land enough to live in such a mountain area.

Table 8 shows actual conditions of the weavers specialized in the textile industry<sup>8)</sup> and Table 9 those of the weavers who are part-time farmers.

The number of the weavers in Tsuru is 804 in total. The 85 of the 804 produce woolen fabric, and they are the subcontractors of Hachioji with few exceptions.

Compared all specialists to the weavers among them, who produce woolen fabric<sup>9)</sup>, the woolen weavers are superior to the all specialists in number of workers and of the power looms (Table 8). So with the relation between all sub-jobbers and the woolen weavers (Table 9).

Indexes of agricultural management show that the woolen-weavers are superior to the side-jobbers in the scale of cultivated land area and forest land area (Table 9). It is also noticeable that the woolen-weavers own more looms made of iron than the side-jobbers. From these facts it is clear that the weavers in Hachioji order the better subcontractors in Gunnai to produce woolen fabric.

We can not say with confidence whether such a form of subcontract will continue or not, because it may be nothing but a passing phase which happened following the woolen-boom. But the production of fabric for *kimono* or neckties by the chain organization will continue for a long time, even if there are fluctuations, because such a way of production is rooted in the structure of national economy of Japan.

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8) The author calls these weavers the specialists.

9) The author calls these weavers the woolen-weavers.

