

Prologue

Pre-establishment: Before 1926

Creation and Industrialization of Rayon

While fibers and textiles support our livelihoods and clothes have been used to pass down ethnic cultures, fibers and textiles materials have always transcended national boundaries as an item of trade. Regions that produce natural fibers like silk, cotton and wool are limited and producing nations have achieved growth by exporting them. Other nations' economies have developed, too, as textile industries import and process those raw materials to make products for export.

One prized textile traded in this way was silk, exported from China to Europe via inland and maritime Silk Road routes. Plans were hatched to industrialize silk from early on, but it was not until the second half of the 19th century that chemical technologies were used to create artificial fiber. Rayon was the world's first man-made fiber and, as the term for it, *artificial silk*, shows, it was created as a substitute for silk, which was an expensive yet essential raw material for clothes. Rayon was industrialized at the beginning of the 20th

century and would develop as an industry through to the middle of the century.

Joseph Wilson Swan of the United Kingdom, in 1883, and Hilaire Bernigaud de Chardonnet of France, the following year, both succeeded in the industrial manufacture of a uniform yarn by dissolving cellulose in acid and pressing it through fine holes. This marked the start of rayon production. One after the other, companies were formed for the purpose of producing rayon by one of three methods. But for reasons including cost, it was the viscose method that would dominate. Courtaulds Ltd. of the U.K. became the company with the most successful viscose rayon business.

With the outbreak of World War I in July 1914 and Europe transforming into a battlefield, rayon production across the continent decreased, causing the price in Japan to escalate as imports plummeted. This was the catalyst for the start of domestic production of rayon yarn. Japan's first rayon manufacturer was formed in 1918.

Mitsui & Co.'s Plans for a Rayon Business

Anticipating a jump in domestic demand for rayon yarn, Japan-based general trading house Mitsui & Co. entered an exclusive import and distribution agreement with Courtaulds in 1919, following the conclusion of World War I. Even after that, demand for rayon yarn steadily increased. In 1923, imports came to more than one million pounds (roughly 500 tons), nearly five times more than the previous year. Around 80 percent of those imports were Courtaulds-made rayon procured by Mitsui & Co. Afterward, the price of imports plunged as European manufacturers

dramatically increased production in response to a strong American economy, and so the Japanese government started looking at hiking import duties to protect domestic manufacturers. For Mitsui & Co., the rayon import and distribution business was a vital source of revenue and its sales would take a big hit if import duties were to increase. Internally, they began debating whether to produce in Japan.

The company started forming concrete ideas for domestic rayon production immediately after the Great Kanto Earthquake of September 1923. The central figure among the proponents was leading managing director Yunosuke Yasukawa. Yasukawa believed that if they could arrange a transfer of technology through an alliance with Courtaulds, it would give them a good chance of producing superior rayon yarn. In November 1923, he instructed Mitsui & Co.'s London branch to approach Courtaulds about a technical alliance. Courtaulds, however, was extremely slow to respond.

Meanwhile, ahead of moves to produce rayon domestically, Mitsui & Co. had explored the possibility of entering exclusive distributorship agreements with existing rayon manufacturers in Japan. But coming to



Yunosuke Yasukawa

the conclusion it would be hard to make inroads with those companies, Mitsui & Co. reached a decision to establish a new company to manufacture rayon yarn. Yasukawa resolved that (1) a commercial-scale rayon manufacturing company would be established with Mitsui taking a majority stake; (2) the new company would operate a plant on its own under the guidance of foreign

engineers; (3) the company would enter an exclusive distributorship agreement with Mitsui & Co.; and (4) the company would ask Oscar Kohorn & Co. of Germany to carry out all tasks related to purchasing the necessary machinery and finding foreign engineers.

Toward Establishment of a Rayon Manufacturer

Governance of the Mitsui family (*zaibatsu*; industrial conglomerate) entailed exclusive equity ownership of holding company Mitsui Gomei Kaisha (company), and thereby control over affiliated operating companies, by the Mitsui family. Mitsui Gomei therefore obligated affiliated companies to (1) submit reports on board of directors meetings; (2) hold business briefings prior to general meetings of shareholders; (3) report on financial matters; and (4) seek prior approval of appointments to the board and senior management positions. An even tighter grip was held over the core group companies, which included Mitsui & Co. and Mitsui Mining Co., Ltd. Resolutions on important matters approved by the companies' respective boards of directors were submitted to the board of directors of Mitsui Gomei as matters pending and were not finalized until the Mitsui Gomei board had deliberated on and approved them.

On September 22, 1925, Mitsui & Co.'s board of directors discussed and approved a resolution item proposing the establishment of a rayon yarn manufacturing company. In accordance with Mitsui family rules, the proposal was then submitted as a pending item to the Mitsui Gomei board, which convened four days later on September 26. But despite Yasukawa's efforts behind the scenes to convince chairman of the Mitsui Gomei board, Takuma Dan, and the others, approval was not given at

this time and was put off for the rest of 1925, with there being no record of the topic having been discussed in any subsequent board meeting that year. The proposal eventually received official approval from Mitsui Gomei in the board of directors meeting held on January 13, 1926. The inaugural general meeting of the rayon manufacturing company, which was to be named Toyo Rayon Co., Ltd., was actually held the previous day, meaning Mitsui Gomei's approval came after the fact, following the company's establishment.

The site chosen for the plant had to meet certain criteria, such as having an area of at least 330,000 square meters and being close to a river that could provide a plentiful and stable supply of water of good quality. Sufficient time was therefore set aside to conduct on-site surveys. The surveying trip got underway in June 1925. Sites were surveyed and water quality tests conducted in a total 22 locations over the following three months. After examining a number of potential sites and overcoming various obstacles, the eventual site selected was in Ishiyama district, at the southwest end of Lake Biwa, an area occupied by the village of Ishiyama in Shiga Prefecture. It was land used for both wet and dry rice



Shiga Plant would be built on this site

cultivation and there were no houses in the vicinity at the time. The site was a convenient location for transport of both people and freight to weaving centers in Kyoto and Fukui and there were no problems with the water quantity and quality that could be obtained from the lake. It was considered a prime location for a plant. The purchase of the entire piece of land, with an area of around 480,000 square meters, was completed in April 1926.

In autumn 1925, negotiations for the procurement of machinery and engineers were underway at the London branch. Enlisted to help, Oscar Kohorn picked an Italian, Antonio Minelli, to be chief engineer, while James Reginald Starley of the U.K. and Ernst Koehler of Germany were recommended as heads of manufacturing and engineering, respectively. In order to satisfy the requirements set down by Mitsui & Co., Oscar Kohorn headhunted former Courtaulds employees and gathered more than 20 chemists, engineers and factory hands to make the journey to Japan. Hiring took place in Japan at around this time. One policy of the new company was to rely on foreign engineers for technology and employ new graduates as internal engineers who would be trained.



Antonio Minelli



James R. Starley