

# Contributions of France to Japan's Industrial Modernization from the End of the Edo Period to the Meiji & Taisho Eras



Author  
Christian Philippe Polak

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Relations between Japan and France officially began in 1858, and so have spanned 162 years. Considering the two countries' long histories, this is a relatively short period. This can be explained by the distance between them.

## First Encounters

French interest in Japan began during the 14th century when Marco Polo presented Japan for the first time to Europe under the name of *Zipangu*, later *Cipango*, *Kingdom of Gold*, to the east of China. Japan heard for the first time about France through the Spanish missionary François Xavier who spoke about France and Paris during his lectures in Japan from 1549 to 1551, especially in Kyoto and Yamaguchi.

The first official and direct contact between France and Japan occurred in a third country in 1585 during the stay in Rome of the first Japanese Catholic delegation to Europe (*Tensho ken-O shonen shisetsu*, the Tensho Embassy). Sent by a Christian daimyo of Kyushu to visit Pope Gregory XIII, the four young Japanese envoys met the papal nuncio of French King Henri III who extended to them a formal invitation to France. To their deep regret, this invitation could not be honored due to a tight schedule. In accordance with the new Pope Sixtus V, the French nuncio had the honor to give to the head of the delegation, Ito Mancio, the order of Knight of the Golden Spur.

## Edo Period

### First Japanese in France

Thirty years later in 1615, another Christian daimyo of Sendai, Date Masamune, dispatched his own Catholic delegation to the Vatican, headed by Hasekura Rokuemon Tsunenaga (*Keicho ken-O shisetsu*, the Keicho Embassy). After visiting Madrid, the delegation departed for Rome from Barcelona with three vessels in October the same year. Along the southern coast of France, a strong storm compelled the vessels to secure refuge in the small harbor of Saint-Tropez where the delegation stayed one week. Hasekura with his party was the first Japanese to set foot upon French soil.

### First French in Japan

In 1619, François Caron (1600-1673) arrived in Japan, the son of French protestant Huguenot refugees in the Netherlands. He worked for the Dutch East India Company in Hirado where he stayed 20 years, becoming director of the company, and married a Japanese wife who gave him five children. He was considered a Hollander by the Japanese but can be considered the first person of French origin to set foot in Japan. After returning to the Netherlands he submitted a report about Japan to Jean-Baptiste Colbert, the famous finance minister of the French King Louis XIV.

Colbert asked Caron to come back to France as a French citizen in order to establish the French East India Company in 1664 to compete with the Dutch, who had succeeded in maintaining the only European relations with Japan within the closely watched trading enclave of Dejima in Nagasaki harbor. Caron accepted Colbert's request to develop trade relations with Japan. Knowing Japanese customs very well, Caron drew up a list of gifts for the "King of Japan" to ensure the success of his mission. But he would never reach Japan again, dying on 5 April 1673 when, returning from a trip to India, his ship *Le Jules* sank just off Lisbon.

The first French citizen to reach Japan arrived from Manila in 1636 at the Ryukyu Islands with Spanish missionaries. He was the Dominican friar Guillaume Courtet, under the Spanish name Tomaso de Santo Domingo. Born around 1590 in the village of Sérignan near Béziers in the south of France, he completed his religious studies in Toulouse. He met in Marseilles Father Diego Collado who convinced Courtet to join him in continuing missionary work in Japan despite the repression directed against Christianity. Several days after landing in the Ryukyu Islands in 1636, Courtet was captured and then taken to Nagasaki, where he was imprisoned, tortured and finally executed on Sept. 29, 1637, a sad end for the first French citizen in Japan. Courtet was canonized in 1987.

### First Japonisme

During the second half of the 17th century till the end of the 18th century, Europe and especially France saw a surge of interest in Japanese artifacts like lacquered items, silk products and *imari* porcelain ware imported through Dejima by the Dutch (*Photo 1*). King Louis XIV and many nobles displayed their collections in their castles. The Japanese goods were adapted to French taste, gaining

great popularity. It was the first *japonisme* epoch which expanded throughout mainland Europe and to the United Kingdom. French Philosophers like Diderot, Montesquieu and Voltaire referred to Japan in their essays on French society.

### La Pérouse Near Japan

Despite the failure of the first trial by Caron to inaugurate trade relations with Japan, this dream retained the continuous attention of kings Louis XV and Louis XVI. The exploratory voyage undertaken by royal order in 1785 by Jean François de Galaup, count of La Pérouse, during which he discovered in October 1787 the strait which bears his name (also known as Soya Strait between what is now Hokkaido and Sakhalin) was the expression of an active resumption of projects concerning Japan on the diplomatic and commercial fronts. From Siberia, Jean Baptiste de Lesseps brought to France the manuscripts of records written up until this period of the great voyage, which were later published in France, providing a new occasion to introduce Japan to the French public.

### French Sciences in Japan

During the National Seclusion Policy (*Sakoku*) of the Edo Period from 1640 to 1854, the Dutch through Dejima introduced to the Japanese elite through the *rangaku-sha*, Japanese translators in Nagasaki, some French works well known in the Netherlands. For example, *Chirurgie* of Ambroise Paré, the *Dictionnaire Universel* of Abbé Noël Chomel, the dictionary of François Halma, some of the works of the astronomer Jérôme François Lalande or the researches of Antoine Lavoisier in chemistry, which were translated from the Dutch language into Japanese, providing a valuable source of knowledge.

### First French Language Teaching in Japan

In 1807, a Russian, attempting to open relations with Japan, addressed a letter written in French to the daimyo of Matsumae, south of Ezo (Hokkaido). Realizing that the diplomatic documents were written in French, the shogunate decided the following year to organize in Nagasaki for the interpreters the first instruction in the French language under the direction of Hendrik Doeff, a French-speaking director of the Dutch trade center at Dejima. As the interest

Photo 1: Collection Christian POLAK



The French Kings collection of imari in Chateau de Versailles

in France increased, the personality of Napoleon began to win the admiration of many linguists and intellectuals, particularly those of the *Bansho shirabesho*, the shogunal Institute for the Investigation of Barbarians Books which published the first Japanese French dictionary *Futsugo Meiyō* in 1864 compiled by Murakami Eishun.

### First Contact in 1844 in Ryukyu Islands

The shogunate asked the Dutch ambassador in Paris in 1843 to transmit to the French minister of foreign affairs a translation of the decree *Shinsui Kyōyō Rei* which indicated the shogunate's intention to persist in excluding foreigners from Japan except for the Dutch and Chinese. This document, on the contrary, served in France to raise once again the issue of establishing relations with Japan.

The following year, initial contact occurred on April 28, 1844 when the cruiser *Alcmène*, commanded by Commodore Fornier-Duplan, entered the harbor of Naha in the Ryukyu Islands (*Photo 2*). One of his passengers was Father Théodore Forcade of the *Société des Missions Étrangères* of Paris, who spent nearly two years in Tomari learning the Japanese language, but who was not authorized to do missionary work.

### First French Envoy to Japan in 1855

After the formal opening of Japan (*Kaikoku*) in March 1854 through the signing of the Kanagawa Treaty between the United States and Japan by American Commodore Matthew Perry, the first official envoy of the French government, Captain Nicholas Guérin de Frémicourt, arrived in November 1855 in Naha to sign a convention between France and the Kingdom of Ryukyu and went to Nagasaki to try to open negotiations with Japan, but he was denied permission to land.

Photo 2: Collection Christian POLAK



French warships in Nagasaki in 1846

### Start of Diplomatic Relations in 1858

In 1858, Napoleon III appointed Baron Jean-Baptiste Louis Gros and two attachés Charles de Chassiron and Alfred de Mages to negotiate a treaty with Japan. The first Treaty of Amity, Peace and Commerce between France and Japan was signed in Edo (Tokyo) on Oct. 9 1858, establishing diplomatic relations between the two countries and permitting trade and residence in the international concessions of Kanagawa, after Yokohama, Nagasaki and Hakodate.

### Duchesne de Bellecourt & the Start of Raw Silk Trade

The first French consul-general in Japan, Gustave Duchesne de Bellecourt, arrived in Edo on Sept. 4 1859, with Abbé Girard as interpreter, who had mastered Japanese during two years in Tomari and who has been appointed as the papal prefect of Japan. For diplomatic procedures, through the *Entente Cordiale* signed with the United Kingdom, France was following British policies.

In 1860 the French silk industry was on the brink of collapse with the appearance from 1855 of two main silkworm pandemics, the *flacherie* and the *pébrine*. The French strategic silk industry was centered on the city of Lyon, the world center for silk processing. The high-quality pure silk fabric products, of which two-thirds were exported mainly to the US, represented the first major French exports before military items. In 1860 France had to import more than 80% of its raw silk from India and China.

From the commercial perspective, Bellecourt's main task was indeed to secure regular supplies of Japanese raw silk, which proved to be the best quality on the world market. The Japanese silkworm eggs proved also to be the only ones capable of resisting the two diseases, creating great hopes of the regeneration of French sericulture. Bellecourt sent to the Société d'Acclimatation in Paris a quantity of *bombyx yamamai* silkworm eggs with the help of a French merchant in Yokohama, Louis Bourret, representing the Lyon firm Rémi Schmidt and Cie. The experiments proved highly successful, and the Japanese eggs would regenerate the French silk industry. In one day Japan became a vital strategic country for France.

### The Start of Interdependence

As the export of silkworm eggs and cocoons was prohibited by the shogunate, Bellecourt first deployed every effort to ensure a steady supply of raw silk to meet the needs of the French silk industry. From 1862 the majority of Japanese raw silk exported went to France, which imported around 70% of the whole Japanese raw silk production, and this continued until 1880. France and Japan became strategic partners, one the supplier and the other the buyer. It was the emergence of a period of Franco-Japanese interdependence which lasted for 50 years until 1914.

Between 1862 and 1863, Japan underwent a political crisis due to terrorist attacks by the Satsuma and Choshu samurai against

Photo 3: Collection Christian POLAK



Reception of the Japanese ambassadors by Napoléon III at the Tuileries Palace in Paris on April 13, 1862

foreigners. French Lieutenant Camus was murdered in October 1863 near Yokohama. All the legations were transferred from Edo to Yokohama in order to escape the insecurity of the capital. To ensure the smooth silk trade and the security of foreigners in Yokohama, the French and British governments sent warships to Japan and stationed soldiers there, 600 British and 300 French, from 1863 to 1873.

Bellecourt was praised for settling the Shimonoseki Affair in 1863 in which the Choshu domain attacked the French ship *Kien-chan* passing the Strait of Shimonoseki during the summer of that year. France participated the following year in allied naval interventions such as the Bombardment of Shimonoseki or the Shimonoseki War.

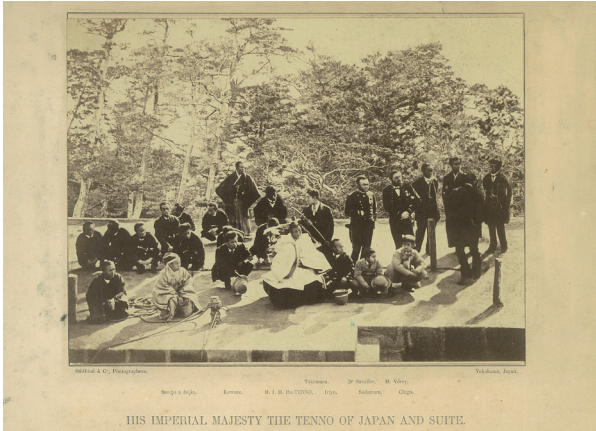
### 1st Japanese Mission to France

In April 1862, Napoleon III welcomed with great ceremony the first official Japanese embassy to France led by Takenouchi Yasunari (Photo 3). Fukuzawa Yukichi, who was a member as interpreter, met the first French Japanologist Léon de Rosny and maintained with him a correspondence for some years. Léon de Rosny established in 1863 the first Japanese course at École Spéciale des Langues Orientales in Paris. A second Japanese embassy arrived in France in 1864 led by Ikeda Nagaoki with the impossible task of negotiating the closing of Yokohama.

### Léon Roches & the Special Relations with the Shogunate (1864-1868)

On April 27, 1864 Bellecourt was replaced by the second French representative in Japan, Léon Roches (1808-1901), an experienced diplomat from the region of Lyon who was well aware of the silk situation in France. Immediately Roches with his interpreter Mermet-Cachon (1828-1889), a friend of the foreign affairs officer of the shogunate, Kurimoto Joun, went to negotiate the lifting of restrictions on the export of cocoons and silkworm eggs. During the

Photo 4: Collection Christian POLAK



Emperor Meiji inaugurating Yokosuka arsenal on Jan. 1, 1872

meetings, the Japanese side explained their desire to engage in a program of modernization in various areas, such as a naval arsenal and iron foundry, military industry, science and medicine, and asked for French assistance with the latest technologies.

The negotiations proved successful: in September 1864 Roches obtained the lifting of restrictions on the export of silkworm eggs and could buy 12,500 boxes of silkworms. As France also accepted very quickly selling to the shogunate 16 grooved cannons, the shogun Tokugawa Iemochi decided to present Napoleon III with a gift of 15,000 boxes of silkworms of the highest quality, about four-fifths of the total amount of ova needed annually for the production in France. As a return gift from Napoleon III, Roches promised to send to Japan 26 Arab horses from Algeria. In the fall of 1864, the shogunate agreed to offer a constant supply of raw silk and to sell silkworm eggs that regenerated the French silk industry.

This early silk trade between the two countries relied on British shipping as French vessels did not come to Yokohama during that period, so shipments transited through London to reach Lyon eventually. In order to avoid the lucrative profits taken by the British merchants, France established with the Messageries Impériales (from 1870, Messageries Maritimes) in September 1865 a new maritime silk road from Yokohama to Marseilles. The first direct imports of Japanese raw silk appeared in French customs records in 1866.

### 1st French Contribution: Yokosuka Arsenal

In response to the shogunate's desire to engage in a vast program of industrial development projects, France played the role of an important contributor to this modernization of Japan. In order to finance these projects, the shogunate relied on the export of raw silk which went essentially to France.

The first contribution was the transfer of shipbuilding and iron technology for the first ever national project in Japan: the Yokosuka

Naval Arsenal, a major infrastructure development project (*Photo 4*). Fifty-five French engineers under the direction of François-Léonce Vernet built the military shipyard at Yokosuka from 1865 to 1876 and the Yokohama iron foundry. France brought all the materials needed in building the shipyard and provided some financial and all the technological assistance needed. Shibata Takenaka visited France in 1865 to prepare the construction of the Yokosuka arsenal, ordering the machinery and materials. French engineers built industrial plants, iron works, rigging works, brick factories for the buildings, water transportation systems with an aqueduct, and hydraulic power facilities, as well as modern lighthouses; the first one was the Kannonzaki lighthouse inaugurated in 1869 near Yokosuka at the entrance of Edo Bay.

For education, two technical schools were established at the Yokosuka arsenal to train engineers and specialists (*École des ingénieurs* and *École de maistrance*). The metric system was introduced by Vernet as the accounting system. A Franco-Japanese college was also established in Yokohama for French language training and general studies. The Jaurès Hospital in Yokohama from 1864 to 1873 organized a medical school where Japanese students had the chance to learn under the direction of doctors from the French Navy. Also in Nagasaki, the French Navy doctor Léon Dury created a school for Japanese students, among whom were Inoue Kowashi and Saionji Kinmochi.

### 2nd Contribution: French Military Mission

The second contribution was the arrival in January 1867 of the first French Military Mission headed by Captain Charles Chanoine in order to create a modern army with three branches (infantry, cavalry and artillery) and to install an armament industry (*Photo 5*). Eighteen French officers started the training program in Otamura near Yokohama, and prepared the construction of a cannon factory in Koishikawa in Edo and a gunpowder factory in Itabashi north of Edo.

Photo 5: Collection Christian POLAK



1st French Military Mission 1867

Photo 6: Collection Christian POLAK



*Tokugawa Akitake (seated center), Shibusawa Eiichi (back row, far left), and Léon Dury (front row, far right), in Marseilles, April 1867*

### Tokugawa Akitake at the Paris Universal Exposition in 1867

At the suggestion of Roches, Japan sent to the Paris 1867 Universal Exposition a delegation headed by Tokugawa Akitake, younger brother of the shogun Tokugawa Yoshinobu, the first time Japan had participated as a nation in this event which helped to enhance the prestige of Japan as an independent country with a long historic tradition and artistic achievements (*Photo 6*). Shibusawa Eiichi who accompanied Akitake studied the French banking system and numbers of industries, such as the spinning factories in Lyon. The Japanese pavilions were the most visited, and the French public admired the artifacts displayed, creating a strong interest in Japanese arts that brought on the *japonisme* movement in France. French painters were influenced by the woodblock prints of Hokusai, Hiroshige and Utamaro, influencing the movement of Impressionism. After inspecting the military harbor of Toulon, Akitake and his entourage arrived in Paris where Napoleon III granted the prince an audience. Akitake was scheduled to remain in France for five years to study, but the Meiji Restoration obliged him to return to Japan in December 1868.

## Meiji Era

### Jules Brunet in Hakodate (1869)

With the new government of the Emperor Meiji in place, Roches was replaced in June 1868 by Maxime Outrey and the French Military Mission went back to France without finishing its work, but the French engineers at the Yokosuka arsenal were authorized to continue their work.

In 1869, five former French officers of the Military Mission including Jules Brunet fought for the Ezo Republic with the last shogunate loyalists of Enomoto Takeaki against imperial troops which won the Battle of Hakodate in June the same year, ending the Boshin War.

Photo 7: Collection Christian POLAK



*Tomioka filature*

### Continuous French Contribution to Japan Industrial Modernization

Some 10 years of diplomatic and commercial relations at the end of the Edo Period were enough to make France a real architect of the modernization of the new Japan. After the 1868 Meiji Restoration the relations of interdependence between the two nations continued through the raw silk trade, and France continued to introduce the latest modern technologies and knowledge.

### Tomioka Filature: the Meiji Government National Project

With the advice of Shibusawa Eiichi, the Meiji government decided to have its own national project by creating a new strategic industry, the spinning industry, using mechanization in the production of raw silk in order to become the leading world producer in 10 years. Japan succeeded with the help of France: in 1872 the French engineer Paul Brunat opened the first modern silk spinning mill, government-controlled and the biggest in the world at that time, in Tomioka in Gunma Prefecture, now a National Historic Site and added to the World Heritage list, which became a model for 20 others factories (*Photo 7*). All the material and machines were imported from France. Raw silk exports allowed Japan to purchase foreign goods and technologies for other industries. The importation from Lyon of the Jacquard loom in 1873 created a revolution first in the Nishijin weaving district in Kyoto.

### 2nd French Military Mission (1872-1880)

For the modernization and the development of its Imperial Army, the Meiji government turned to France again. The second French Military Mission arrived in 1872 and stayed till 1880 with in total 50 officers, continuing the work of the first mission by organizing the army and the armament industry and establishing a military education system with the foundation of the Military Academy on the model of Saint-Cyr which opened in 1875 in Ichigaya, today a Ministry of Defense site. Many schools were inaugurated, like the first Veterinary School, the Shooting School, and the Ueno Military

School. A third French Military Mission composed of five officers arrived in 1884 for five years, only for education purposes.

### Émile Bertin & Imperial Navy Modernization (1886-1889)

For the formation of the Imperial Navy, in 1886 Japan invited the most famous engineer of that time, Louis Émile Bertin, for four years as a *chokunin* in order to modernize the Yokosuka arsenal and to reinforce the Imperial Navy. Bertin designed the new cruisers (*Matsushima*, *Itsukushima*, *Hashidate*, *Chiyoda*, *Yaeyama*, *Chishima* and a frigate *Takao*), light but speedy and equipped with the very powerful Canet guns, and numerous others ships such as 16 torpedo-boats. This new fleet was victorious during the first Sino-Japanese war in 1894. Bertin also chose Kure and Sasebo as the sites for two new arsenals.

### Others French Contributions: Lighting, Mines, Tramways, Gases

Others French contributions to Japanese industry during the Meiji Era can be summarized as follows:

- the construction in 1872 by Henri Pégélin of the first gas-lightning system in the streets of Yokohama, then in Ginza and Nihombashi

- the modernization of the silver mines of Ikuno in Hyogo Prefecture by the French mining engineer Jean Francisque Coignet from 1868 to 1878

- the introduction from France of the first horse-tramways establishing the line from Asakusa Ueno to Shimbashi in 1882

- the first automobile in Japan, a French Panhard-Levassor, was introduced in Tokyo in 1898.

- the French company Air Liquide introduced industrial gases in 1907 and built its first factory of oxygen gas in Kobe supplying the Imperial Navy.

- French military attaché Le Prieur and Aihara Shiro organized the first mechanical flight in Ueno with a glider in 1909.

- Captain Yoshitoshi Tokugawa, the first Japanese pilot also trained in France, made the first flight on board the French Henri Farman plane in Yoyogi, Tokyo.

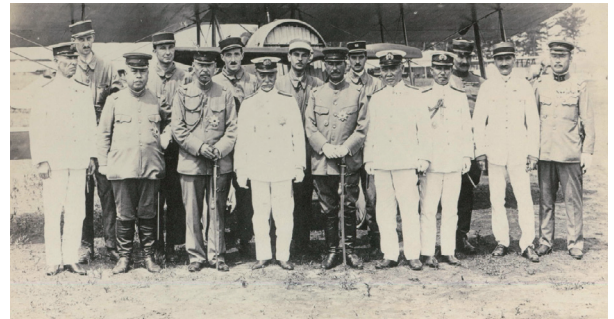
- the founder of Toyota Motors, Sakichi Toyoda, visited Lyon in 1910 to study the spinning techniques and brought back to Japan French spinning machines.

## Taisho Era

### French Technologies in Japan Aviation Industry

In the Taisho Era, the main transfer of technologies occurred with the arrival of the fourth French Military Mission from 1919 to 1921 specialized in aviation, composed of 63 officers, pilots and engineers headed by colonel Jacques Faure with the task of teaching the Imperial Army and Navy the latest technologies in aviation, piloting,

Photo 8: Collection Christian POLAK



Admiral Togo (front row, 4th from left) at Kakamigahara Air Base near Gifu with French head of mission Jacques Faure (front row, 2nd from right) and other officers in 1919.

air combat, and maintenance, and installing the production of aircraft and engines (Photo 8). This mission brought the latest aircraft such as the Salsom 2A2, Nieuport, Spad XII, Breguet XIV, Sopwith, Caudron and Caquot dirigibles. Four examples of production in Japan under the auspices of French technology can be presented:

- Kawasaki Heavy Industries produced under licence 300 Salsom 2A2 reconnaissance aircraft from 1922, and the Salsom Z9 water-cooled radial engine.

- Mitsubishi Heavy Industries produced from 1922 the Nieuport 81E2 (Type Ko 1) and the Hispano-Suiza water-cooled V-type engine.

- Nakajima Aircraft Industries (today Subaru) produced the Nieuport 24 fighter (Type Ko 3) and trainer from July 1921 and the Nieuport 29 fighter (Type Ko 4) from December 1923.

- Ishikawajima-Harima Heavy Industries produced the Lorraine water-cooled 12 cyl, V-type and W-type engines.

## Today

From the Edo Period until the Taisho Era, France and Japan established a special partnership based on economic interdependence and developed a longstanding affinity in many fields as described above – industrial, commercial and educational, but also scientific, technical, social (especially law) and cultural. The French contribution to the modernization of Japan explains the “special partnership” (*partenaire d'exception*) of today's relations between the two countries, which can be seen as a long “natural partnership” between the two countries, as former Japanese ambassador to France Masato Kitera suggested.

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Christian Philippe Polak is a researcher at l'École des Hautes Études en Sciences Sociales (EHESS) and a professor at Meiji University Political Sciences School.