

Samurai, Shoguns & the Age of Steam

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Ron Clough shows how the arrival of the railway in Japan helped break down suspicion of foreigners and ushered in the country's modern industrial expertise.

In 1853 Commodore Matthew C. Perry of the U.S. Navy arrived with a small fleet in Tokyo Bay and coerced the Japanese into bringing to an end a period of 250 years of self-imposed seclusion. This seclusion had not been total, and knowledge of developments in other parts of the world had been brought to Japan via Dutch and Chinese traders who had been granted licenses to trade at Nagasaki, Japan's only official gateway to the outside world, and also from a few Japanese castaway sailors lucky enough to have avoided execution on their return - the almost invariable fate reserved for those feared to have been contaminated by contact with foreign lands.

The government of the Tokugawa shoguns, the military caste who controlled the Emperor, was therefore well aware of the ominous advance of Western power towards the East, and of the defeat of China, from which much of its culture derived, by superior European technology in the Opium War of 1841. In this way, even before Perry's arrival, the Japanese knew of the existence of railways. The first confirmed mention of railways appeared in 1846 in the *Fusetsu-sho* (regular reports of activities outside Japan presented by the Dutch to the shogunate), which referred to a French plan to build a railway across the Isthmus of Panama, and they were mentioned fairly regularly after that.

In 1851 Nakahima Manjiro, a returned shipwrecked sailor fortunate enough to have escaped the usual execution, gave an account of a railway journey he had made in America in his *Narratives of a Castaway*:

Usually when people go on trips they go by a fire burning vehicle known as a 'reirate' [railroad]. This device is shaped like a ship, water is boiled in a cauldron, and with the force of the hot water the device can run about 300 ri [1,200 kms] in a day. When you look outside the house-shaped object, it's as though you were a bird in [flight](#), and there's no time to get a good look at things. They have iron laid along the vehicle's path.

On April 26th, 1860, the first samurai had cause to ride on a train. This was Muragaki Norimasa, who travelled by train between Panama and Colon while on a mission to exchange instruments of ratification of the Japan-U.S. Treaty of Friendship and Commerce. He was surprised that several people could ride together, his previous experience of passenger [travel](#) having presumably been limited to the palanquin:

It's as though a flock of birds was perched on one branch in such a way that the birds are jostling one another

An attendant on the same mission, Tamamushi Yasushige, made detailed technical notes of everything he saw: rolling stock, signals and track.

Once Japan had opened up there was an immediate influx of foreign officials and merchants who manoeuvred to further their interests with the shogunate, the stability of which became increasingly threatened by the shock of events. The government did not have the strength to resist the 'barbarians', as many reactionary samurai wanted, and was therefore seen as vacillating and ineffective. The slogan 'expel the barbarians' gradually gave way, in the cold light of experience, to the more practical 'enrich the country and strengthen the military', with the long-term aim of being able to stand up to the West after taking in its technology. This technology was seen as an important factor in bringing about a new era of 'civilisation and enlightenment'. The shogunate eventually collapsed after a brief civil war in 1867-68 in the face of opposition from the samurai of the western clans, who attached themselves to the cause of the Imperial family which had been cloistered in the old capital of Kyoto during the period of seclusion. A young British diplomat, Ernest Satow, had earlier predicted the likelihood of an Imperial victory over the shoguns and had advised his senior, Sir Harry Parkes, to favour the Imperial forces, whereas the French, also struggling to gain influence, had tended to side with the shogunate. Parkes' tireless lobbying of the new government paid off in the favouritism shown towards the British when it came to awarding contracts for technical advice. The first railways in Japan thus came to have a distinctly British flavour about them.

Notwithstanding the machinations of foreign diplomats, the first proposal for a railway had come from a samurai, Godai Tomoatsu of Satsuma, in 1865, for a line from Kyoto to Osaka, which was rejected. Given the upheavals of the period, it is not surprising that several proposed schemes came to nothing before work finally commenced. One application was accepted by the shogunate on January 17th, 1868, for a railway from Edo (now Tokyo) to Yokohama from the American A.L.C. Portman, but this was thwarted when the shogunate collapsed. In commercial terms the demise of this project was fortunate for Japan, as Portman had been guaranteed a full concession to build the railway, whereas the new Meiji government, rejecting the policy of allowing concessions to non-Japanese, ensured that Japan avoided China's fate of having its railways in hock to foreign interests.

In principle the new government was in favour of a railway and accepted the logic that the first route should link Tokyo with other important towns along the populous southern seaboard such as Yokohama, Nagoya, Kyoto, Osaka, and Kobe. This route, the section of which connecting Tokyo and Kyoto was known as the Tokaido, or Eastern Sea Route, was a logical first choice, and it followed that the first sections to be built should be those linking the treaty ports of Yokohama and Kobe to Tokyo and Osaka respectively. Raising capital for such expensive projects as railway construction was not an easy matter, however, particularly as the government wanted to keep foreign investment to a minimum. In the long run the Japanese managed to fund much of the construction themselves, but recourse to foreign loans was occasionally made. Such was the case for the Tokaido line, for which the decision to start building was finally taken in December 1869.

Before this government-sponsored scheme, Thomas Glover, a British merchant living in Nagasaki, laid down a short line along the dockside of that city. A locomotive named the 'Iron Duku' was imported to provide the power. This name was presumably a Japanicised form of the 'Iron Duke' of the Great Western Railway in England, of which it seems to have been a replica.

The Tokaido line project was to be carried out under the auspices of the newly-created Ministry of Works (Kobusho). Horatio Nelson Lay, an Englishman who had run the Chinese

Customs service, was approached to negotiate a £1 million loan in London, with customs revenues as security. The Japanese, with a sketchy knowledge of British history, may have assumed a connection— wrongly – between Lay and his famous naval near-namesake, and thus considered him trustworthy. They were wrong on this point also. An American business rival, peeved at losing the contract, informed the Japanese government that Lay was fleecing them by charging twelve- and-a-half per cent interest on money which he had raised at nine- and-a-half per cent in London. His services were dispensed with and responsibility for the loan was passed to the Oriental Bank.

Not surprisingly, there was opposition to the project from traditionalists, and those who feared a heavier tax burden, from traders such as innkeepers along the route, and from hauliers who might feel the pinch of competition, as well as from nationalists who felt the country was being ‘sold out’ to foreign interests.

Nevertheless in 1870 Edmund Morell, an Englishman who had worked on railways in New Zealand, a country with similar terrain to that of Japan, arrived to take charge of construction. He decided on a 3’ 6” gauge. The narrow gauge was chosen in the expectation that there would not be a high demand for capacity. This mistaken decision was to bedevil the Japanese railways for years, and remains a problem to this day.

Cultural differences between the British advisers and the Japanese were not easily overcome. The British engineers constantly complained of obstruction by the officials and the inefficient methods of the workmen. E.G. Holtham, who supervised reconstruction of the Tokyo-Yokohama section in 1877, wrote:

My native assistants were some of them of a very dreamy temperament, and considered the first thing necessary in all calculations involving inches was to reduce every dimension into decimals of a foot, to six places of decimals at least, and then resorted to books of logarithms to throw some light upon their subject. In this way about a week was required to ascertain how many bricks went to a given-size wall.

Another bone of contention was the insistence of the samurai on wearing their swords, a jealously-guarded status symbol, while being instructed in the use of the surveying instruments. The steel in the swords affected the readings, and it was only after much argument that they were persuaded to discard them temporarily. Also, they found it demeaning to engage in manual labour, whereas the British engineers had no qualms in rolling up their sleeves to help out. For their part, the Japanese complained of the arrogance and overbearing attitude of the British. Evidence of this is found in a phrasebook of the Japanese language published shortly after the opening of the railway, which presumed that the following expressions would be necessary for [travel](#) in that country:

‘You must put on another carriage’.

‘I insist on another carriage being put on.’

‘I will complain to the Chief of the Railroad Department if you don’t put one on.’

Morell died in November 1871 of either pneumonia or tuberculosis, with work on the section only half-completed. Despite their differences, Morell’s work was greatly valued by the Japanese, and a statue of him can now be seen at Sakuragicho Station in Yokohama.

The line was opened to passenger traffic on a single track from Shinagawa, in the southern suburbs of Tokyo, to Yokohama in July 1872. Goods traffic followed on September 15th, 1873. The official opening ceremony at Shinbashi, nearer to Tokyo's centre, took place on October 12th, 1872, with the Emperor himself presiding and many foreign and local dignitaries in attendance. The Emperor took a return trip to Yokohama. Thomas Hart, the British engine driver, was taken to task because, in his anxiety not to be late into Yokohama, he actually arrived early and caused embarrassment among waiting officials who were not ready to receive the Emperor. As an example of nineteenth-century culture shock, it is said that many Japanese stepped out of their shoes when boarding the train as if they were entering a house, and were mortified when the train drew out and the shoes were left behind on the platform.

The railway was largely British-staffed, from engineers and foremen-platelayers to drivers and ticket-collectors. The firemen were Japanese from the outset, however. One European was both ignorant and patronising when he said of the employment of Japanese drivers:

It would be all very well so long as the train was on a straight line, but I doubt if any Japs could be trusted to steer the engine round those curves!

The first Japanese, in fact, drove a train on the Tokyo-Yokohama section in April 1879.

In the peak years of employment of foreign labour in 1875-6, of foreign employees on the railways ninety-four were British, two American, two German and two Danish. The British were engaged not only as engineering advisers, but also as artisans such as stonemasons and blacksmiths. William Cargill, the Superintendent of Communications, received the highest regular salary: £2,000 a month, of any foreign worker in Japan in the Meiji era.

There were three classes of [travel](#), referred to initially as upper, middle and lower, which were renamed first, second and third in 1897. Upper class passengers mainly comprised civil and military officials and foreigners. The middle class fare from Shinbashi to Yokohama was twice that of the lower, and the upper class three times. Despite the expense, the new form of transport proved popular with the paying public. Rates for carrying freight were very competitive. One estimate claims that freight costs between Tokyo and Yokohama were slashed to one-seventieth of the cost of previous methods of transport. In the first full year of freight operations 46,000 tons were carried by rail. By 1887 this had risen to 578,000 and by 1897 to 1,583,000.

In 1872 ten daily trains ran in each direction between Shinbashi and Yokohama, all scheduled to leave on the hour and to take forty-five minutes for the 29 km journey. Locomotive power was provided by ten tank engines made by the Vulcan foundry of Newton-le-Willows in England, which ran until 1930. One is now preserved in Tokyo's Transport Museum. Britain also provided all the passenger cars and goods wagons. These consisted of fifty-eight double-axle wooden passenger coaches divided into three classes, with eighteen seats for the upper, twenty-two for the middle and thirty for the lower class.

Opinions on the new railway were divided. The traveller Isabella Bird wrote in 1878:

The Yokohama station is a handsome and suitable stone building with a spacious approach, ticket offices on our plan, roomy waiting rooms for different classes – uncarpeted, however, in consideration of Japanese clogs - and supplied with daily papers.

Henry Faulds wrote in 1874:

The line, constructed by British engineers, is, on the testimony of a distinguished American railway constructor, 'as firm as a rock', the gauge is somewhat narrower than the usual British gauge; the engines are of British build, somewhat too light, perhaps, but effective and extremely elegant in appearance, while the carriages, with the exception of those in third class, have the seats arranged lengthwise, like our tramway cars.

More professional critics were not so effusive. The engineer E.G. Holtham, writing in 1877, said the railway was 'a model of how things should not be, from the rotting wooden drains to the ambitious terminal stations'. R.H. Brunton, another British engineer, was more caustic still:

The construction of this line...was, perhaps not unnaturally, attended by a series of the most unfortunate mischances and mistakes - buildings were erected, pulled down, and re-erected in other places; numerous diversions were made; bridges were strengthened after completion; rails were twisted in every conceivable form and laid in such a way that it seemed impossible for a train to run over them...the main cause of this somewhat deplorable condition of affairs was that the European staff engaged to direct operations...supinely permitted interference of the native officials with their operations.

The Tokaido line was finally completed from Tokyo to Kobe in July 1889. British advisers and workers helped with construction at the western end throughout the 1870s, but it had always been envisaged that the employment of foreign labour would be a temporary expediency. After the peak year for foreign employment, 1876, the number of Britons working on the railways declined rapidly to just a handful by the early 1890s. One of these was Richard Trevithick, grandson of the man who designed the world's first steam locomotive. The younger Trevithick, in turn, designed the first steam locomotive to be built in Japan.

The opening of the Tokaido line made it possible to [travel](#) from Tokyo to Kobe in just over twenty hours. The speed, low cost and high capacity offered by the freight service was a major factor in the development of the industrial belt along the south coast of Japan, which today forms an almost continuous conurbation between Tokyo and Kobe.

Japan's railway network matured during the 1920s, by which time all major towns had been connected. After a speedy recovery from the chaos of the Second World War, Japan's railways were rapidly modernised and transformed into the highly efficient system much admired and studied by foreigners today. The student has become the teacher.

Further Reading:

T.Richards and C.Rudd, *Japanese Railways in the Meiji Period 1868-1912* (Brunel University, 1991); Sir Hugh Cortazzi, *Victorians in Japan* (London, 1987); Olive Checkland, *Britain's Encounter with Meiji Japan* (Macmillan,1989); Neil Pedlar, *The Imported Pioneers: Westerners who helped build modern Japan* (Japan Library, 1990).

- **Ron Clough has lectured in Japanese at the University of Hertfordshire. He is the author of *Japanese Business Information: An Introduction* (British Library, 1995).**

