

A man of Resolve; Richard Henry Brunton: A Civil Engineer at work in 19th Century Great Britain, Japan and Ireland

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I. Introduction:

Henry Brunton's great grandfather was a famous actor and prominent theatre manager of his day. His grandson, Henry's father, however chose to join the British Royal Navy. He transferred to the Customs service, first at sea but then on shore. He must have been competent as he soon became in charge of the busy station of Muchalls (close to the city of Aberdeen, in the North-East of Scotland), he was thus in a position to marry and start a family. The first born was Richard Henry Brunton on 26th December 1841.

His father was keen for him to qualify as a civil engineer which would ensure middle social class status. Henry was eventually apprenticed to a Mr. John Willet of Aberdeen who in his practice was also the Chief Engineer to the Scottish North-Eastern Railway Company. Willet was a kindly, honest man and became a long-term friend of Henry's. He was very well suited to giving young Brunton support in acquiring the skills of his profession, providing a wise example of how a civil engineer should complete his work and how he should relate to others. He stayed with Willet for 4 years eventually becoming an Assistant Engineer. He then moved south to London, again working on various railway related tasks for others, got married at this time and started a family.



Photograph 1 :Richard Henry Brunton

2. Appointed Chief Engineer to the Japanese government

The railway building boom in the United Kingdom was however starting to come to an end and Henry turned his attention to seeking a post overseas where there was still a larger market for British trained civil engineers. He soon became aware that the firm of George Stevenson and Sons of Edinburgh in Scotland had been asked by the British Government (on behalf of the then Japanese government) to

appoint and manage a team to build a series of lighthouses to assist international trade. Japan had really been forced under special pressure from British diplomat Sir Harry Parkes to enter into certain arrangements with Western powers around international trade and the setting-up of safe sea routes.

The firm of George Stevenson and Sons had for many years been officially responsible for the design and construction of lighthouses around the treacherous coast of Scotland and seen therefore as the best placed organisation in the UK for tackling the same kind of work in Japan. As few engineers possessed direct experience of such work, Brunton felt that it was a more realistic vacancy to apply for, offering promotion into a relatively well-paid management post. When he in fact eventually got the job of Chief Engineer, two Assistant Engineers were then sought and subsequently appointed to this team. He and his two colleagues eventually arrived in Yokohama, Japan, in year one (1868) of the Meiji regime.

3. Town planning

Coupled with work on lighthouses, Brunton and his two assistants were expected in the absence of other qualified civil engineers to undertake official town planning projects, particularly in the settlement of Yokohama where they were based. Around three years before, a great fire had caused a significant amount of devastation – and still little had been done to rectify this. Henry Brunton was therefore invited by the local Governor to prepare proposals to stop it happening again with modern day improvements to the settlement's infrastructure. He had been struck generally by the poor living conditions that were common across the whole of the built-



Figure 1 : Ukiyo-e print showing in use the iron bridge constructed from Brunton's design

up area and this involved him in schemes covering tasks of considerable magnitude, embracing as they did the formation of many miles of macadamised streets, side paths, surface drains, and an underground system of pipes. He was also separately asked to come up with detailed realistic proposals for a fresh water supply which was lacking and preparing cost-effective street lighting.

The *Horikawa* canal marked the southern inland limit of Yokohama at that time. The authorities had originally dug it out hoping to contain the foreigners on an “island” similar to and on a larger scale to the Dutch on *Dejima* further south in the city of Nagasaki. Some ten years on from its original construction, a good number of businesses had however crammed along its banks, and mud had naturally spread across the floor of the waterway in various places restricting its navigation by larger craft. Brunton was accordingly requested to draw up plans to widen and deepen the canal although the work was in the end was poorly carried out by others.

Within other proposals that Brunton took on officially was also one for the creation of a western style public park (or *kōen*) towards the then southern edge of Yokohama. It would also serve as a fire evacuation zone,

directly below the wide *Nihon Odori Street* (that was further designed by Brunton to act in the same way). The new park would also be novel in so far as it would be open to and benefit all Japanese and foreigners. It took some four years and four differing designs before agreement was reached by government and diplomatic authorities.

One of Brunton's early if more limited civil engineering projects in Yokohama was to do with the construction of Japan's first strengthened iron bridge, the *Yoshidabashi bridge*. Up until most bridges were wooden of sort life. It was not in fact the first iron bridge in the country. It was very much a symbol for the modern era, prominently located on one of the main portals of the settlement. (N. B. It has, after long service, since been replaced).

4. Harbour plans in various cities

When Yokohama was first prepared for foreign settlement and becoming a trading port in 1859, only two granite breakwaters were constructed and they offered limited capacity. Nothing in the shape of a proper quayside that enabled direct bulk loading and unloading of goods and transit of passengers from ocean-going vessels were seen as necessary at that time. Traffic volumes however increased so much that Henry Brunton was asked by the Japanese Government to prepare plans for a much larger jetty.

It is not clear but perhaps the estimated cost was now considered too high and its scale was enormous. In fact, an involvement with such a really major project would have most certainly seen the extension of Brunton's existing contract if he stayed working in Japan. While the prospects at first

nevertheless looked bright, the government ultimately decided to put off a final decision.

Elsewhere in Japan, Brunton was also involved with proposed harbour schemes in two other supposedly international trading ports, those of Osaka and Niigata. In both cases, shoals of alluvial deposits next to their respective harbours were causing problems for direct access by larger vessels. Osaka was the leading trading city of the country but was serviced outside of the port when larger draught ships arrived. Brunton's solutions may have worked if they had each been correctly pursued. The further growth of both settlements suffered during the second half of the nineteenth century as a result.

5. Telegraphical developments

On the technological front, Brunton also had a role in initially promoting the emergence of a telegraphic service in the country. The local Governor of the Yokohama area again saw such an initiative as an obvious way of establishing fast and reliable means of communication between the two growing hubs of the capital city of *Tokyo* and of *Yokohama*, its main commercial centre nearby. Brunton, as Chief Government Engineer, was again the obvious choice to get this initiative going. Within a short time, the two population centres were linked, with the service proving very popular. It was extended further by others.

6. Transport developments

The government also favoured investment in railways, initially as it meant troops could be deployed more swiftly if invasion or civil unrest threatened. Brunton also viewed that it would also allow for a

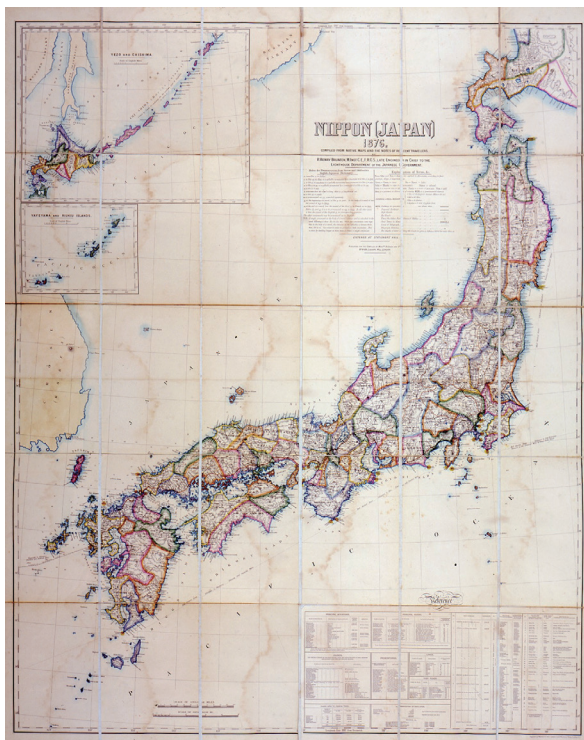


Figure 2 : Brunton's Nippon Map, 1876

better public investment and a quickening of the country's further economic development, especially if linked to a good roads network. The government was however decidedly not keen on the latter (and he was not directly involved) and with a modern roads network only developed very many years later.

7. Town planning in Tokyo

Elsewhere, in 1872, a significant fire had broken out in Tokyo that flattened what was the Ginza district, and it was decided by the government to rebuild it as a showcase for modern Japan, one that could be resilient against threats posed by any future fires or earthquakes. Brunton was engaged as one of the foreign consultants on this project, nicknamed "Brick town". It however turned out to be a westernisation architectural project that was a mixed blessing.



Figure 3 : Mikomotoshima(or "Rock Island" Lighthouse

8. Start on lighting the coast

We turn last but not least to his very significant involvement in lighthouse developments. With respect to actual locations of the facilities, these were initially agreed on the basis of expert advice from naval officers along with a tour of inspection by Brunton. He also established a structure to manage the evolving chain of lighthouses, their regulation and inspection along with a central facility for training and development.

The first lighthouse to be commenced by the Department was that intended for the windswept Mikomotoshima (or "Rock Island") near the entrance to the Gulf of Yedo (Tokyo). The first challenge was that it had to be supplied during building from the nearest port which was unfortunately some 6 miles away. Both the Westerners and recruited native workmen were also faced with some fundamental problems with regard to their operations. Handling skills were lacking (apart from woodworking). The natives also had to learn via interpreters and be watched over by somewhat belligerent native foremen amidst often awful weather conditions.

These tensions of work increased

when the two Assistant Engineers who had originally come out with Brunton but were appointed by the Stevenson directors (rather than on his advice) now suddenly both resigned because they were uneasy about the handling of the whole project and their more general treatment. Brunton was saddened of course that they would feel like that. Following the men's eventual departures, it was agreed that he now be given the opportunity to personally select successors to the two posts so as to gauge their likely ability to meet the challenges.

9. Work as a successful change agent

By the end of 1871, there were 32 Europeans in the Lighthouse department. As numbers grew, however, tensions and strains between Japanese middle management here and Westerners were often difficult as a change agent and tense. Brunton became convinced that the Japanese did not actually want the foreign experts to make any executive decisions but merely act as advisors or trainers. Whether they liked it or not the Westerners were seen at the time by the Japanese as some-what inevitably looking on at the country with an “imperial gaze”- as if they were interacting with a colony rather than with an independent nation. Adoption of such an attitude of course was encouraged by the foreign insistence on 'extra-territoriality' (or the right of foreigners not to be exposed to Japanese laws). It meant that any moves to co-operation required sensitive handling from the start.

At this time, he was honoured by being formally presented by senior minister Hirobumi to the Emperor Meiji. While it was a time when honours were not yet awarded

to foreigners, the former was determined to make a show of official appreciation to Henry.

10. Assistance given to the Great Embassy

In the next month, a great “embassy” (or delegation) led by the distinguished statesman Iwakura Tomomi departed from Japan to tour the United States, the United Kingdom and Europe so as to legitimise the new regime on the international stage. It would by doing so hopefully also allow re-negotiation of the ‘unequal’ commercial treaties which they, as a relatively poor country, had been forced to sign and in particular permitted the levying of low import rates. (Here, they were, however to be disappointed for a very long time to come).

Already in the UK on home leave, Brunton was asked by the Japanese government to offer informed advice when the Embassy visited leading centres associated with engineering. In addition, he was requested at other times during their stay to generally promote a favourable image of the Japanese externally.

11. Achievements of coastal illumination programme

By the start of 1874, despite the earlier mention 26 magnificent western style lighthouses, 2 lightships, 5 harbour lights, 22 buoys and 3 beacons had been either started on or were completed. He had also and (as mentioned in passing) established a versatile headquarters complex, honoured by an Imperial visit in 1874 and introduced comprehensive regulations for the service, implemented a regular system of on-site



Figure 4 : The Illustrated London News, 12th. October 1872

inspections and tried to ensure that the lights were unceasingly and efficiently staffed by well-trained Japanese personnel.

He made a final effort to secure a renewed engineering contract when he reviewed a volume on “Indian Public Works” in the leading English language newspaper, the 'Japan Weekly Mail' and also separately circulated copies of this directly to members of the *Daijokuan* (State Council), the highest state body in Japan below the Emperor. Within the review, he made a sweeping and damning commentary on the failure of the present government to encourage real economic growth, blaming them for an overall lack of willpower and backbone. It was an uncharacteristically undiplomatic accusation on his part, driven ultimately I suspect by his own desperation.

On the 9th March 1876, the day before Brunton finally left Japan, "The Japan Herald" newspaper was full in its praise of him, concluding that “in parting with Mr. Brunton,

the Government lost the services of a most useful and painstaking individual.

He was supported too by many testimonials from many western and Japanese sources. Brunton’s achievement in his role was remarkable. “[Henry Brunton] is accepted”, advocated author Alexander McKay, “as a pioneer of Japan’s early moves towards becoming an advanced nation, in so doing ‘demonstrating unparalleled leadership’”.

12. Back in the United Kingdom – Japan related matters

12.1 The ‘Japan Lights’ awarded paper

Once back in the UK, his proposal for a paper on the lighthouse construction programme and the engineering principles behind it – called The ‘Japan Lights’ - was accepted for presentation before the distinguished Institution of Civil Engineering in London and, after delivery and discussion, judged worthy by its Council to receive an official financial 'Telford Premium' award.

12.2 Journalistic writings on contemporary Japan

With no job however immediately in prospect he set about building further on his recent experiences, undertaking some limited writing on contemporary Japan for the Royal Geographical Society, of which he was also a member.

12.3 Map of Nippon

He prepared and published a well researched large scale map of Japan. The problems with the latter was that although a breakthrough as it wasn’t either pocketable or, at its price, in excess of £100 at today’s value, an easily affordable travel accessory.

As international interest in Japan grew, more suitable, cheaper maps were as well starting to appear.

12.4 Book “Building Japan 1868-1876”

Later on in his life and careers, he again took up writing more seriously, returning yesteryear. He felt that as a person who had lived and worked at a critical time in Japan and had taken a keen interest here and that he had something to offer to would-be readers in terms of a more balanced impression of the scenario before then. The content was split across two ‘books’ with the intention of publishing them as one overall. The first part of these was a historical scene setter to the second part. With Brunton at this earlier period not yet being in the country, he had to rely on previously published documents, papers and books to write this. So overall, no new insights emerged and it probably remains justifiably unpublished.

The second book, since entitled ‘Building Japan 1868-76’, was however directly related to his own experiences, observations on incidents, background developments and trends. This finally published work is invaluable as it offers a leading insight into the workings of what has been described as “developmental states”. Readers can directly experience the features of the times and react to what occurs in such times or is allowed to unfold. At the time of his writing, around the year 1900, he wanted to tell his own story of those earlier years; to express an uneasy feeling certainly in the final chapter as to the Japanese now starting to flex their newfound military might to get their way even then and what lay in store as a consequence; and how contemporary commentators to their shame hadn’t in his experience even bothered to acquire other than a superficial interest

about the place, its people and its story. He concluded in the book that “the ways of the past ought to be considered, if one has any desire to draw a horoscope of the future”.

Conclusion

In his life and time as a civil engineer, particularly in his relatively sort period working in Japan, Richard Henry Brunton in sum created long lasting personal friendships and the professional respect of those he came into contact with. These were role models as civil engineers and positive people in general that he genuinely attempted to live up to.

In his relationships, he was quite willing to engage and show respect for others’ trusted views and approaches, to explain his deeper attitude to the points raised and, through honest debate and investigation to illustrate the more obvious weaknesses of any counter-argument. In whatever position he occupied throughout his varied careers outside of Japan or commenting on the country, with supervisory tasks or not, he fundamentally remained a person that attempted, if and when possible, to enter into a meaningful dialogue with others. His frustrations reasonably emerged to the fore when he confronted those who settled for more immediate solutions because they just offered what they wanted.

He did though have more obvious human faults as he navigated his role as a change agent, but they were however very much outweighed by the accomplishments that were more characteristic of him. I would suggest in closing that Brunton’s life and work, particularly in Japan, were notable and worthy of your consideration because it was one of resolve or drive, with him remaining

fundamentally a proud but well respected, practical, socially conscious civil engineer doing his utmost to undertake critical tasks at a rapidly changing time.

He died suddenly in London in his 59th. year from a stroke on the 24th April 1901.

Overall reference source used in this review:
You can order this volume through Amazon Japan as an e-book or as a paperback. A complimentary sample text from this publication is available there.

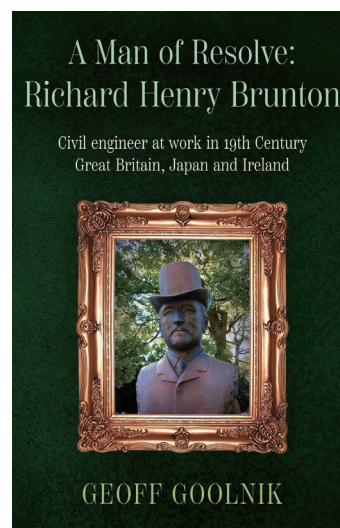


Figure 5 : Cover of A Man of Resolve by Geoff Goolnik