Henry Dyer - A Man with a Mission

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Abstract

Henry Dyer, as first principal of the Imperial College of Engineering in Tokyo, had a considerable influence on the industrialisation of Japan in the second half of the Nineteenth Century. This paper examines Dyer's background and the factors that influenced him before, during and after his work in Japan. In particular, his family background and education are described, as is the educational and other work he pursued on his return to Glasgow. The influence that Japan had on the rest of Henry Dyer's life is assessed on new evidence from his publications and other sources. It shows that, although he was highly respected and regarded throughout his life, his high principles, together with his clear and forthright views on a wide range of subjects, may have prevented him from achieving the recognition in his native land that he enjoyed in Japan.
INTRODUCTION

The Family Link with Henry Dyer (1848 - 1918)

We were born and brought up in Glasgow and during our childhood heard many stories from our mother about our famous relative Henry Dyer. These were supplemented each summer when our great aunt Marguerite, Henry’s niece, came to stay with us. Both Marguerite and our mother remembered Henry Dyer well and told us many anecdotes about him. Although listening with interest to what we were told we also wondered why, if he was so famous, did more people in Glasgow not know about him? There were no statues of him, no buildings or streets named after him, no mentions of him in history books. Could the family stories be exaggerated? Was he really the educational pioneer that they claimed? For many years Henry Dyer remained to us an enigma.

Our questions might have remained unanswered if we had not both come to work at the University of Strathclyde. At graduations in the 1980’s it was traditional that famous university alumni would be referred to and, slightly to our surprise, but certainly with great interest, we heard Henry Dyer’s name mentioned. We made our family connection known to the Principal, and when in 1987 Professor Shoji Kato from the School of Education in the University of Nagoya came to visit the University of Strathclyde to research the life of Henry Dyer, we were introduced and given the opportunity to exchange information. We have kept up this link ever since and are delighted that Professor Kato is at present undertaking a bibliography of Henry Dyer’s writings. Through the research which we have undertaken we have found out much more about Henry Dyer and his life, although there are still some questions about him that remain unanswered.

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1 FAMILY BACKGROUND AND EARLY LIFE

Henry Dyer’s family origins were humble and his background was not one of wealth or privilege.

1.1 Early Years

Henry’s father John was born in Ireland and moved to the West of Scotland, it is presumed, looking for work and a better standard of living. He found employment in Lanarkshire as a foundry labourer, an unskilled and relatively low paid job, and married a local girl in 1848. They had three children Henry, Janet and Robert. The authors are descended from Henry’s sister Janet.

Around 1857, Henry Dyer’s family moved to a small industrial town called Shotts, midway between Glasgow and Edinburgh, where his father worked in the large and successful Shotts Iron Works. It is not known exactly what type of job he had, although descendants claimed that he was the manager of the Works. The authors have found no proof of this and it seems unlikely, for, in the 1861 government population census he is described as an ‘engineer.’ It would appear that a little bit of upward social mobility crept into the family story at some point!

Henry Dyer’s early education at Shotts Primary School reflected what was possible for able boys from all social backgrounds in Scotland to achieve.
The Scottish Education system has for many centuries prided itself on its egalitarianism. As a result of the Reformation in the Sixteenth Century a primary schooling system was developed, linked to church parishes; this in time became one of the first national school systems in Europe. Able boys could progress through the resulting educational system and Henry was one of many who took advantage of these learning opportunities.

His teacher Robert McNab was certainly impressed by his pupil. In a testimonial to Henry Dyer he refers to his "uncommon perseverance and industry, which, combined with an excellent memory and natural talents of the highest order, enabled him to take foremost place in his respective classes and at the annual examinations carry off all the first prizes." (Mc Nab, 1872). Henry’s successes at Shotts Primary School were really only the beginning of what became a most impressive record of academic achievement.

1.2 The Family Move to Glasgow - Approximately 1865

When Henry was a teenager, his family - mother, father, brother, and sister, moved to Glasgow and he gained, no doubt on the strength of his already evident educational ability, a student engineering apprenticeship at James Aitken and Company’s foundry. His work involved further study and this he undertook in the evening at Anderson’s University (now the University of Strathclyde). He studied part time for five years from 1863 - 1868, winning in 1868 a Whitworth Exhibition in the Workman category.

1.3 The Beginning of Links Between Japan and Scotland

In 1863 Yamao Yozo from Japan was one of five young Samurai smuggled out of the country with help from British businessmen. (Checkland, 1981/2 and Butt, 1996). They were part of an elite intent on restoring the Meiji dynasty and were anxious to seek knowledge and experience which would lead to the industrialisation of Japan. As well as studying in London, Yamao came to Glasgow where he worked in the great Clyde shipyard of Robert Napier, and attended evening classes at Anderson’s University. In his book Dai Nippon (1905) Henry Dyer refers to remembering Yamao at classes although he does not seem to have known him personally. Yamao was, however, to prove of significance in Henry’s future career. Yamao returned to Japan in 1870, after the Meiji dynasty was restored. He joined the Ministry of Public Works and became involved in the drawing up of plans for the vocational training of engineers and technicians.

2 ACADEMIC SUCCESSES AT THE UNIVERSITY OF GLASGOW, 1868 - 1873

Based on his previous educational achievements, Henry Dyer in 1868 gained admission as a full time student to the University of Glasgow where he pursued a glittering academic career. During his study at Glasgow University he gained a total of twelve class prizes as well as being the only Scotsman of his time to hold a prestigious Whitworth scholarship. He studied for a Certificate in Engineering, a BSc degree, an MA degree and a Diploma in Naval Architecture. It was just as he was completing his studies in 1873 that Henry Dyer was approached about work in a new College in Japan.

As mentioned previously the training of engineers was being seen as of utmost importance in Japan and plans for a new institution called the Imperial College of Engineering (ICE) were being developed. It was envisaged that this college would train the first generation of modern engineers and the quality of staffing of the college would therefore be of the utmost importance. Enquiries were made through Hugh Mathieson, agent for the Japanese Ministry of Public Works in London and Professor McQuorn Rankine of Glasgow University and, as a result of these and Yamao’s experience, the Japanese government offered Henry Dyer the posts of Professor of Civil Engineering and the Principal of the College.
For a young man of 25, who, despite being extremely well educated, was decidedly short on work experience, it must have seemed a golden opportunity. Henry appears to have accepted the post with alacrity and Glasgow University agreed to set a special diet of examinations which allowed him to graduate early with all but the Diploma in Naval Architecture. (Dyer 1886).

3 LIFE AND WORK IN JAPAN

Henry Dyer set sail for Japan in 1873 and his enthusiasm for his new post was obvious. He did not even wait to sort out his personal life and travelled without his intended bride Marie.

Rather than marrying before leaving Scotland and enjoying a leisurely honeymoon on the boat trip to Japan, he set out alone and used the time on board ship to prepare the calendar of regulations for the new college. Family rumour has it that Marie’s parents’ slightly panicked at his quick departure, and hurriedly put her on the next boat to ensure he would not slip out her hands. Henry and Marie did in fact marry in Tokyo and had five children the eldest of whom died as a baby. The other sons - Charles Henry, who became a Church Minister; Robert Morton, who worked in shipbuilding in Glasgow and Hong Kong; and James Ferguson, who was employed in the Indian Civil Service - all married but had no children. The daughter Marie Ferguson remained unmarried and childless. Henry and Marie Dyer therefore had no grandchildren.

3.1 Henry Dyer’s Achievements in Japan

It must have been a fairly daunting task for the young Henry Dyer when he reached Japan. Certainly he was given a great deal of support and freedom of action to develop the ICE as he wanted. He had strong views about the best type of engineering education and firmly believed in mixing the practical and the theoretical. Academic lectures were held in the college and practical experience was gained through student attendance at workshops in Akabane. Henry Dyer, within a short space of time, put into practice much of what he had learned whilst studying at Anderson’s University and pioneered the introduction of what would now be described as sandwich courses.

Dyer’s College - as ICE was sometimes called in Tokyo - became a most successful institution, well-resourced in terms of staff and equipment. Henry Dyer and his colleagues devised a six year course (taught exclusively in English) which aimed to give the students a comprehensive engineering education. Dyer’s views on education were forward looking - some indeed radical - and were initially at odds with the educational traditions in Japan. Most of his students were from the Samurai class, and although impressed by their enthusiasm and commitment to hard work, Henry Dyer found in many of them an over reliance on rote learning and an under-developed inclination to reason.

Dyer was strongly opposed to the mere accumulation of facts and in a paper published in Tokyo (1879) draws the distinction between information, knowledge and education:

“information is the process of shaping what was previously shapeless, knowledge is information made complete, education is the training of the mind”.

Under Dyer’s leadership the college expanded and prospered, with many of the future Japanese industrial leaders receiving their initial education at ICE.

After almost ten years in Japan, Henry Dyer resigned his position for personal and family reasons. No further details are known for what may have seemed to many a strange decision.
His book *Dai Nippon* shows his substantial admiration for Japan and its people and, from the accolades he received on his departure, it would appear that the Japanese thought equally highly of him. Ross (1987) suggests that there may have been some disagreement about the future of the industrial workshops. He and his wife may on the other hand have decided that for the educating of their family it was time to return to Scotland. The Japanese government was generous in its praise of Henry Dyer and on his departure conferred on him the Order of the Rising Sun (Third Class) and the title Honorary Principal of the College.

Thus ended in 1882 the first part of Dyer's career. He returned to Scotland with his wife and four young children. Now armed with a most impressive work record to match his excellent academic achievements, he might well have imagined himself as ready to take on another prestigious academic or professional post. Why this did not happen is indeed a puzzle which all our research to date fails to solve conclusively.

4 RETURN TO SCOTLAND - 1882

Back in Glasgow, Henry Dyer certainly led a very different life from the one he had in Tokyo. It is known that he made three unsuccessful applications for academic posts. In the case of the post of Principal of the new Herriot Watt College in Edinburgh the reasons may have been political - his views were radical and, as was to become more and more apparent, he tended to be outspoken!

From 1886 onwards he seems to have turned his back on the option of paid employment and turned his attention more to involvement in areas of educational, social, and religious matters. He became a prolific writer of newspaper and journal articles, technical papers, reports and books, on a wide range of topics. He also accumulated a large book collection which his family donated to the Mitchell Library in Glasgow. Much of this collection has never been catalogued and the family felt the Mitchell should have taken greater care with it, so much so that they later donated his large collection of Japanese prints to the Edinburgh City Library. His book collection is rich in scientific and religious works and also contains multiple copies of many of his own publications.

Henry Dyer was also much in demand as a speaker at meetings of various Glasgow based institutions and organisations. The authors imagine he would have been a colourful and controversial speaker as he had strong views on most subjects which would certainly have demanded attention, if not universal agreement, from his audience.

4.1 Educational Activities in Glasgow, 1883 - 1918

It is perhaps in the field of education that Henry Dyer is best remembered in Glasgow and certainly the area where he had the most influence. He was appointed a Governor of the Glasgow School of Art, the West of Scotland Agricultural College and the West of Scotland College for Domestic Science. In 1891 he became a member of the Glasgow School Board, later Vice Chairman and eventually Chairman.

Henry Dyer was a particularly active trustee of Anderson's University, a position he took up shortly after he returned to Glasgow. He was involved and influential in steering through the various institutional mergers which took place from the late 1880s and resulted first, the establishment of the Glasgow and West of Scotland Technical College (1887) and next the Royal Technical College (1912). In his role as Life Governor of the Technical College he was particularly concerned with standards of teaching, class numbers and the award of qualifications. Dyer also led the way in developing a certificate and diploma system of awards in the college which was largely based on the system he introduced at the ICE.
He urged the Governors to seek recognition of these courses from the University of Glasgow and in 1889 the University recognised the Diploma in Engineering as exempting Technical College students from the first two years of the BSc. In 1889 all Diploma holders were conferred with the title Associate and records show the beginning of college associates going on to study for degrees at Glasgow University. (Butt, 1996).

4.2 Dyer's Other Interests

Although Dyer was most active in the educational field he was also interested in many other matters. He was very concerned on his return to Scotland with what he perceived to be a breakdown in social conditions. The growth of capitalism worried him and he was particularly critical of employers who exploited their workers. Dyer was not, however, completely supportive of employees, in whom he identified many shortcomings. He also expressed strongly held views opposing charitable works which, if they failed to help people help themselves, did nothing, he believed, but perpetuate the evils with which they dealt. (Dyer, 1889 and 1890).

It would appear from his writings that in the late 1880s Henry Dyer believed the way ahead for social and economic improvements lay in the Co-operative Movement which had been founded in England in the middle of the Nineteenth Century. It had begun with a group of working men who had opened a small shop to ensure that they and others could buy goods at fair prices and the success of this venture led to a huge expansion of similar projects throughout Britain and the world. The Co-operative Movement - based on the social needs and self-help values of the Victorian age - soon expanded its activities into buying and distribution, banking and insurance, farming and education. Henry Dyer was an admirer and supporter of the co-operative principles and practices and described himself as a co-operative educationist.

He wrote a number of tracts for the movement and was, for a time, the editor of the Scottish Co-operator Newspaper. But even with this movement he eventually found fault and publicly commented on the inefficient and amateurish way he thought it was run. (Scots Commercial Record, 1899)

Henry Dyer was also clearly a religious man and wrote and talked frequently on the subject. Having lived in the Far East he had learned about Buddhism, Shintoism and Confucianism and the subject of religion comes up a number of times in his book Dai Nippon. In his writings about the Christian Church he is critical of what he observed in Scotland. Many church members, he argued, were hypocritical for limiting their religious activity to attending church on a Sunday. Dyer believed that the teachings of Christianity should be followed on a daily basis and wrote that, for many in Scotland, Christianity had largely deteriorated to the level of superstition. (Dyer, 1890).

It is likely that, given his outspoken views, Henry Dyer must have made on his return to Glasgow as many enemies as friends and this may well have affected his chances of career progression. He was certainly not an establishment man who was willing to play the system for his own personal and career development. That he was respected is without doubt. As an industrial mediator - a role which he took almost as soon as he returned from Japan - he was a great success. Because of his strict impartiality and industrial knowledge he enjoyed an exceptional degree of confidence with both the employer and the employee and became deputy chairman of the Board of Conciliation and Arbitration of Manufactured Steel Trades of the West of Scotland. (Glasgow Herald, 1918).

5 CONTINUING LINKS WITH JAPAN

Although Henry Dyer never returned to Japan his interest in the country and in all things Japanese continued throughout his life.
One of his most substantial writings is that of Dai Nippon which covers aspects of Japanese life from art to industrial developments, from education to means of communication. His pro-Japanese stance is particularly evident in the chapter in which he describes the outbreak of war with Russia.

In Dai Nippon Henry Dyer also shows himself to be a forward looking and critical thinker. Although the word globalisation had not been invented he describes the many and varied repercussions in the world stemming from such developments as the opening up of the Suez Canal, the invention of the telegraph, and the building of the Trans-Siberian Railway. With prescience, Dyer identified that as the century progressed 'shrinkage' of the world would significantly effect people's lives. It is also interesting to note that he strongly believed in the potential power and influence of the engineer who he saw as having the key role in promoting the advancement of technological, economic and social change.

In Glasgow, he befriended many Japanese students who continued to come to study at Glasgow University in the late Nineteenth and early Twentieth Centuries. Dyer was indeed instrumental in persuading the University to accept Japanese as a foreign language for entrance purposes. On his return to Glasgow, he acted as an agent for the Japanese Government and he could definitely be described as an ambassador for Japan. Through his writings can be seen his continuing admiration for Japan and the Japanese way of life and there is no doubt that he increased the profile of Japan in Scotland.

5.1 Awards

Henry Dyer's educational and other life achievements were recognised at various stages later in his life. In 1890 he became the first person in Scotland to be awarded a DSc in Engineering from the University of Glasgow. He also received an Honorary LLD degree from the University of Glasgow in 1910 and a DEng degree from the University of Tokyo in 1915. In 1908 he received The Order of the Sacred Treasure (2nd class) for the work he did for Japan after he returned to Glasgow.

6 CONCLUSIONS

In the first half of his life Henry Dyer achieved much, both academically and professionally. In the second half he seems to have swapped power for influence, but what is not known, is to whether this was due to choice or necessity. Did he decide that, as he was reasonably well off financially, he would rather have the freedom to develop and expand his life experiences without the constraints of paid employment or did his strongly held and often outspoken opinions limit his job prospects? Scots, even today, can be suspicious and critical of fellow countrymen who leave to make their fortune and then return with new and innovative ideas. Perhaps the Glaswegians of the time were too narrow minded and parochial to appreciate Henry Dyer's broad, sweeping, and global views.

Henry Dyer therefore remains to us an interesting, but not fully understood, character. Although influential in many areas of Glasgow life, it seems to the authors a missed opportunity that in the latter part of his life neither he, nor Scotland, could find a way to harness more fully his undoubted intellect and vast professional experience.
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