

## **William Henderson 1827-1881**

William Henderson, born in Glasgow in 1827, is described as a 'most remarkable man' by John Strawhorn in his 'History of Irvine' (1985; p.152). A contemporary referred to his 'ability, determination, and dogged perseverance'. His important role in the development of the chemical industry was explained in S G Checkland, 'The Mines of Tharsis' (1967). 'The Rio Tinto Company' (by Charles Harvey, 1981, p.22) describes the sharp rise in UK sulphuric acid consumption in the 1860s, forcing manufacturers to turn to pyrites as their sulphur source, in particular those from Iberian ores - these ores, being comparatively rich in copper, were eminently suitable for treatment by the newly-developed Henderson 'wet process', the process which formed the "most important foundation for the nascent European pyrites industry". Patented in 1858 (Harvey; Strawhorn states 1848), this three-stage process involved the burning off of the sulphur content by acid manufacturers, the wet process, involving the addition of salt, to make the copper soluble, and the leaching out of the copper solution. By 1870, there were 20 wet process works in Britain.

From Strawhorn's 'History of Irvine', we see that in 1863 he helped form a British Metal Extracting Company which obtained from Spanish pyrites the sulphur and copper for which there was great industrial demand. In 1866 Sir Charles Tennant set up the Tharsis Sulphur and Copper Company which mined the ores and utilised the patents of Henderson, who amalgamated and became a director in 1868. After two years Henderson quarrelled with Tennant and set up his own Seville Sulphur and Copper Company. He chose Irvine as the site for his new works, almost simultaneously with Alfred Nobel's choice of the other side of the estuary at Ardeer for his other type of chemical enterprise. At Henderson's wharf in Irvine harbour were unloaded pyrites from Spain, salt from Cheshire, and limestone from Ireland. Beside Henderson's works grew up a waste heap of 'blue billie' - the iron oxide residue. Henderson had devised a process for the extraction of iron from this, though it could not be used locally. "He never ceased to invent." He planned to use that waste and local sand to manufacture glass and cement, and experimented in making concrete railway sleepers. Henderson's Works, set up (next to where Magnum is today?) in 1871 with copper as its principal product, was joined a year later by a second undertaking in which he had an interest - on a 16-acre adjacent site (where Ardagh Glass is today) the Eglinton Chemical Company manufactured bichrome for use in paints and tanning. Beside it was also set up the Irvine Chemical Works on ten acres, with 140 workers producing sulphuric acid, caustic soda, and bleaching powder.

Henderson won wide respect in Irvine, involving himself in various organisations as far as his frequent foreign visits allowed. The 'Irvine Herald' saw him as a future provost when the 1881 extension of the burgh would make him eligible. He was elected as President of Irvine Burns Club for 1881, but died (during his term of office) early that year, aged 53 (not 54 as stated in Strawhorn), in London on his way home from Spain. In less than ten years he had laid the foundation for Irvine's industrial

future. In the following decades the harbour area became home to the production of naphtha from gas, of a new chemical works, of renewed shipbuilding, of foundries and engineering works, of spelter works making zinc, and of sawmills. In 1890, the United Alkali Company Co Ltd was formed through the amalgamation of 48 businesses throughout the UK, including Tennant's St Rollox Works, the Eglinton Chemical Co Ltd and the Irvine Chemical Co Ltd; it acquired W Henderson & Co Ltd in 1906. The Irvine Works closed in 1906, the Eglinton Works in 1914, and the Henderson Works in 1920.

His widow Esther donated two stained glass windows in the Old Parish Church - one, in his memory, showing Boaz and Ruth, the other ('Suffer little children') in poignant memory of four children who had predeceased her, at the ages of 23, 1, 2 and 1 years old. His home was at Williamfield, later a convent, now demolished, on Kilwinning Road - a residence described in the Glasgow magazine 'The Bailie' (1877) as 'a princely mansion'.

For more detail of the "wet process", see an Encyclopedia Britannica article.