

This Month in the not so distant past



Looking back at historical moments that happened in February, **John Davis** highlights a **Medical Pioneer**.

The Lakeland poet, William Wordsworth, was not the only one impressed by daffodils. The bright, golden coloured flower, so often the symbolic harbinger of springtime, has also caught the eye of other groups and concerns. Prominent among these is Marie Curie, an organisation which has its origins in the 1930s but was not officially established until 1948.

Taking its name from a pioneering scientist, Marie Curie provides hospice care and support for anyone with an illness they are likely to die from. It aims to fund-raise throughout the year but its 'big push' comes during the month of March with the annual Great Daffodil Appeal. The spring flower was first adopted as a logo by Marie Curie in 1986 to act as a symbol of renewal and hope and many will make a meaningful contribution locally by wearing the yellow daffodil pin.

Although Marie Curie studied, worked and lived in France for most of her life, she was born in Poland's capital city Warsaw in 1867 as Maria Sklodowska and was the daughter of a secondary school teacher. Well known for her prodigious memory, Marie did well at school. Polish universities were not allowed to offer places to women at that time and her parents did not have sufficient money to send her to study abroad. To raise the necessary funding Marie worked as a teacher and then as a governess, also finding time to study at secret meetings of women workers who had joined the so called 'free university'.

Marie then invested her earnings in a move to Paris where she enrolled to study science at the Sorbonne, already one of Europe's top higher education establishments. It was a period of great hardship. She devoted all her energy to studying, living in a tiny attic flat and subsisting on a diet of bread and butter and tea. She obtained a degree in mathematical sciences in 1894 and the following year married Pierre Curie, another scientist she had met at the Sorbonne.

The Curies first studied the powerful rays, similar to X-rays, given off by the element uranium. They called the process radioactivity. Then they began to experiment with a mineral called pitchblende whose

radioactivity appeared to be far greater than that of uranium. This resulted in the discovery of a new radioactive element which they named Polonium after the country of Marie's birth. Later, as a result of their research, another new element, this time radium, was found producing radioactive waves of far greater strength.

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Even the birth of the couple's two daughters, Irene in 1897 and Eva seven years later, did not interrupt their experiments. They used most of the money they earned through teaching on equipment and materials, did most of their work in a draughty damp shed and suffered burns and illness because of the toxic chemicals they handled each day. In recognition of their major discoveries, they were awarded one of science's top prizes, the Nobel Prize for Physics, in 1903. They shared the honour with French scientist, Henri Becquerel who had also been working on radioactivity at the same time.

Suddenly disaster struck. One evening the following year, as Pierre crossed a busy street in Paris, he was knocked down and killed by a heavily laden horse drawn cart. Marie was devastated to have lost both her husband and her work partner. She confided in her diary that she was finding it difficult to carry on. "How can I continue to work in a laboratory where I never thought I would have to live without you."

It was a major turning point in her life. From then on, she devoted even more of her time and



The Nobel prize winning scientist, Marie Skłodowska Curie (1867-1934) in her laboratory. Photo by Henri Manuel, 1908

energy to completing the scientific work they had started together. In 1906 she was appointed to the professorship that had been left vacant by her husband's death and became the first woman to take up a teaching post at the Sorbonne. She published her findings on radioactivity in 1910 and was awarded a second Nobel Prize, this time for chemistry, for achieving the isolation of pure radium. By 1914 Marie had supervised the completion of the research laboratories at the newly built Institute of Radium in Paris. During the First World War she worked with her daughter Irene, herself a famous scientist and a Nobel Prize winner, to develop the use of radioactivity in the field of medicine. This involved driving round field hospitals near the battlefields with prototype X-ray equipment to be used in the treatment of wounded soldiers.

In later life, Marie Curie continued to extend the medical applications of the radio active substances she had discovered. The word 'curie' came into the language as a unit for measuring radioactivity. She travelled the world lecturing and receiving awards. Wherever she went she used her influence to raise money for scientific research.

Marie died in 1934 at the age of sixty-seven-killed by poison from the very substances she had struggled for so long to understand and which now can do so much good in the treatment of diseases like cancer.

With springtime hopefully just around the corner, it would be only fitting that Wordsworth has the last words:

*"For oft, when on my couch I lie
In vacant or in pensive mood,
They flash upon that inward eye
Which is the bliss of solitude;
And then my heart with pleasure fills,
And dances with the daffodils."*

Semi-retired and living in Lyme Regis, John Davis started working life as a newspaper journalist before moving on to teach in schools, colleges and as a private tutor. He is a history graduate with Bachelors and Masters degrees from Bristol University with a particular interest in the History of Education and Twentieth Century European History.