



Lord Kelvin

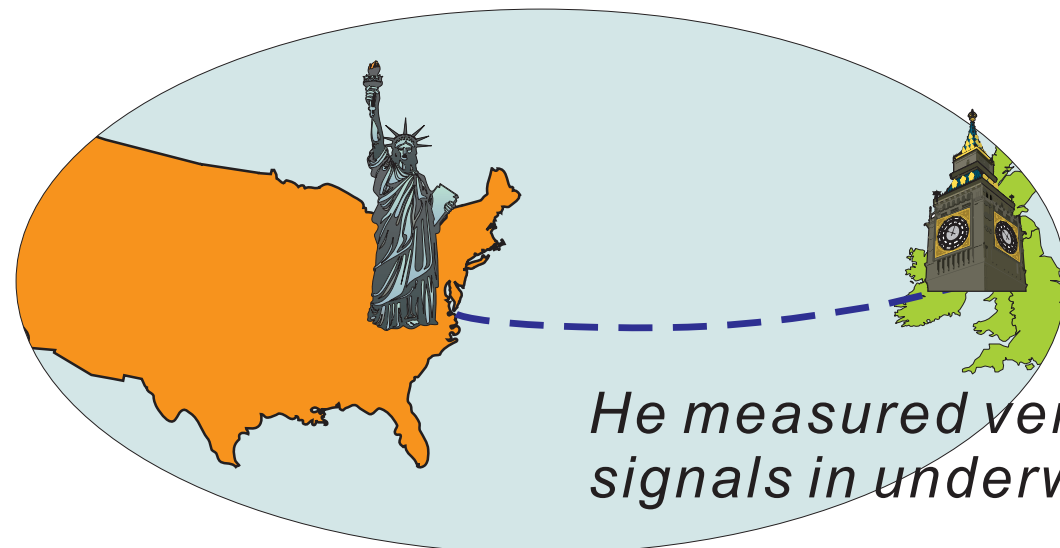
1824 - 1907

Lord Kelvin (or Sir William Thomson) combined superlative talents as a physicist and engineer. His fame is commemorated in the absolute (*Kelvin*) scale of temperature. His early work included the engineering of the first Transatlantic telegraph cable. For his contribution to this amazing feat of Victorian engineering, he was knighted. In later life he became the very first scientist to be raised to the British peerage when he became Baron Kelvin of Largs .

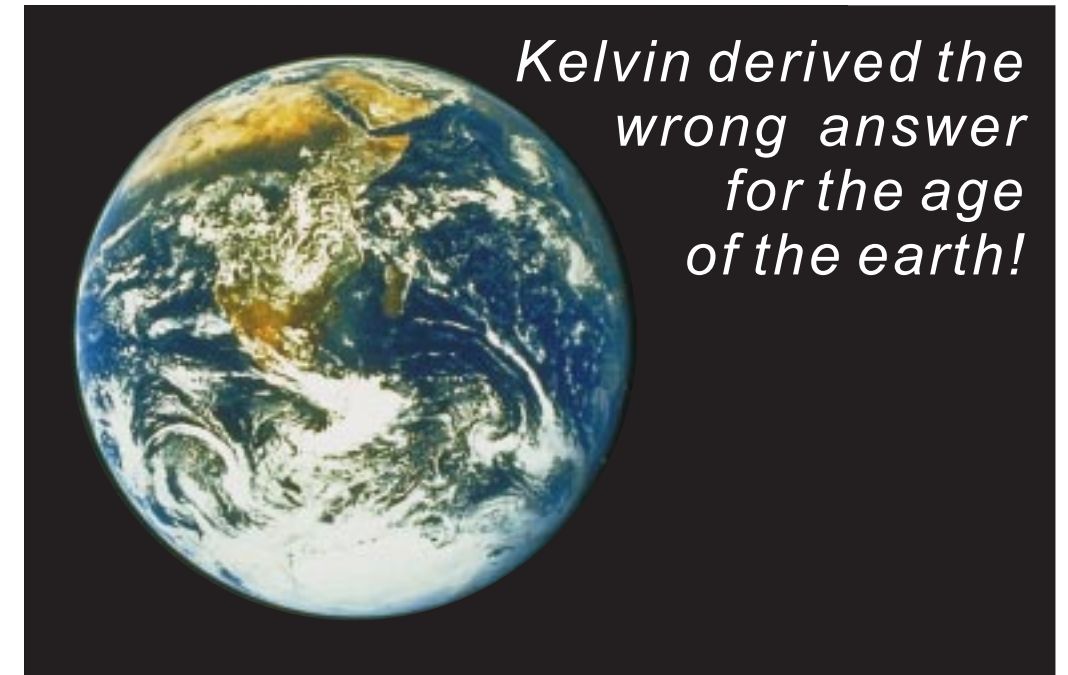
Born William Thomson in Belfast, then Ireland's leading commercial and industrial centre, he was the son of a professor of mathematics who tutored both William and his brother in their early years. In 1832 the family moved to Glasgow when his father was appointed to the University's chair of mathematics. At the age of ten William attended his first classes at the University. At 17 he entered St. Peter's College, Cambridge and four years later graduated from Cambridge University with the second highest place in mathematics. **Very soon afterwards, aged 22, he was elected to the chair of natural philosophy** (physics) at the University of Glasgow, a professorship which he held for 53 years.

In 1852 William married Margaret Crum, daughter of a famous Scottish cotton manufacturer. Their married life was troubled by Margaret's extremely poor state of health. She died in 1870.

William Thomson reformed the teaching of physics at Glasgow and introduced a new system of laboratory research in which he employed students to assist in making accurate measurements of the physical properties of materials. His laboratory was soon famous as the first physics laboratory in Britain. The work there included the construction of precise measuring instruments such as the '*marine mirror galvanometer*', designed to detect faint electrical signals transmitted through very long underwater cables such as that between the British Isles and North America. Like most inventors, he patented his designs, and royalties made him rich.



He measured very faint electrical signals in underwater cables



Closely related research involved the creation of a new kind of mathematical and experimental physics based on the concept of energy. With the law of conservation of energy, Thomson introduced the scientific community to the term '**energy**' ('*kinetic*' and '*potential*'). He also formulated a law of '**dissipation**' or '**degradation**' of energy which led to the famous First and Second Laws of Thermodynamics. On the basis of these laws, he also calculated an approximate age for the earth and sun which contradicted the very long geological time scales demanded by Charles Darwin's theory of evolution by natural selection. **In the event, Kelvin was wrong**, (he did not know about radioactivity).

Thomson had a strong passion for the sea. His royalties from telegraph instruments enabled him to purchase a yacht, 'Lalla Rookh', which he used as a floating laboratory to test a number of navigational instruments, including improvements to the mariner's compass and a device for measuring the depth of the sea. It was while on one of his telegraphic voyages to Madeira that he met his second wife, Frances Blandy, then resident on the island. The following year, 1874, he returned aboard 'Lalla Rookh' to bring her home to Glasgow. She remained his partner through his years of fame and fortune as Britain's leading statesman of science and outlived him by nine years.

Lord Kelvin was buried in Westminster Abbey, not far from the grave of his hero, Sir Isaac Newton.

C.S.