Faraday's London

Michael Faraday is one of the most famous scientific figures of the nineteenth century. His inventions of the electric motor, transformer and generator completely altered the way we live. Among many other breakthroughs he also developed the field theory of electro-magnetism, a fundamental concept of modern physics and the basis of modern communications.

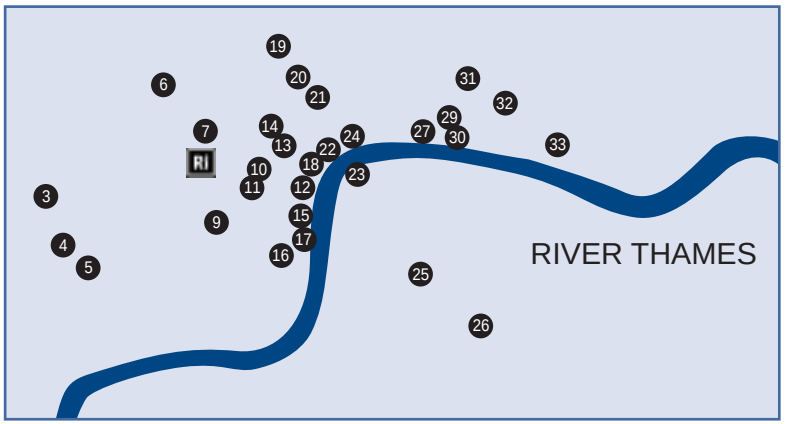
Newington Butts in 1820. Contemporary print

Faraday was born on 22 September 1791 in *Newington Butts*(25), Elephant and Castle (where there is a plaque). The nearby *Cuming Museum*(26) in the Walworth Road has a small display of Faraday material including the family Bible in which his birth was recorded. His family were Sandemanians, a small literalist sect of Christianity. Faraday was fully committed to this church located originally in *Paul's Alley*(31) and later in *Barnsbury Grove*(28). He became a Deacon and an Elder, but had, as a dissenter, to marry in the Anglican church of *St Augustine, Watling Street*(29) and his banns were read in *St George's Hanover Square*(7). In many ways Faraday's science can be viewed as his seeking after the laws of nature that he believed God had written into the universe at the Creation.

This leaflet, which is produced by the **Royal Institution**(Ri) as part of its contribution towards the Golden Jubilee celebrations, is intended to guide visitors around London using Faraday as a theme. Institutions in **bold** are part of the String of Pearls group, while those in *italics* indicate other places with connections to Faraday.

Royal Institution façade. Late 1830s watercolour by T.H. Shepherd

He served an apprenticeship as a bookbinder in *48 Blandford Street*(6) (where there is a brown plaque) and also attended scientific lectures in *Dorset Street* (now *Dorset Rise*(27)). In 1813, however, Faraday changed career by becoming chemical assistant at the **Royal Institution**(Ri), working with Humphry Davy. By 1833 he had risen to become Director of the Laboratory and Fullerian Professor of Chemistry. Then, as now, the **Royal Institution**(Ri), located in the **City of Westminster**, carries out world class scientific research and promotes science to a wide audience including the televised Christmas lectures. It seeks, in the words of the present Director, Baroness Greenfield, 'to mesh science with society'.

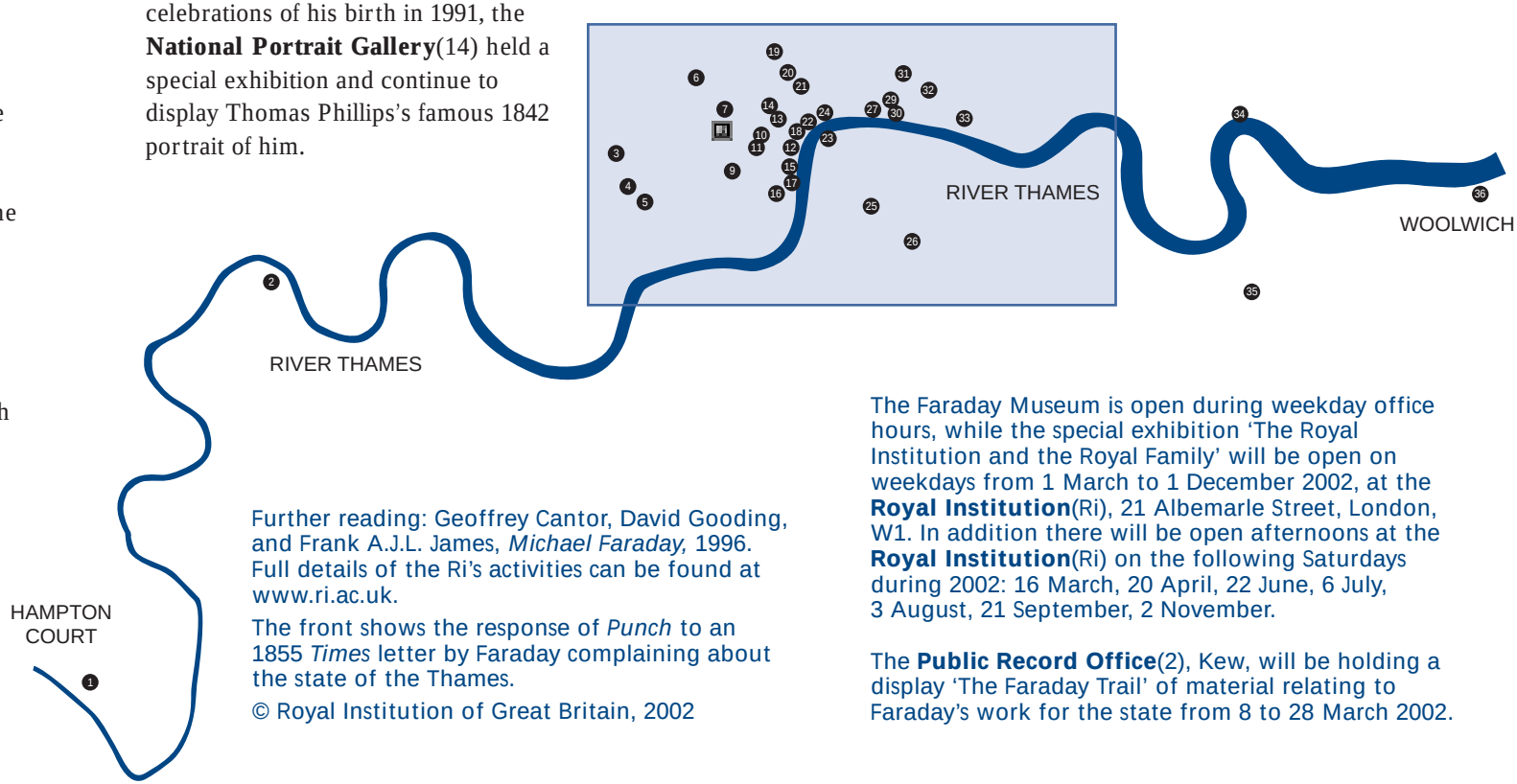


Faraday is most closely connected with the **Royal Institution**(Ri), but because of his crucial role in science and society he also became associated with a wide range of other institutions in London. For example, many of his discoveries were announced to the *Royal Society*(11), then in **Somerset House**(24), although he also read the occasional paper to the **Institution of Civil Engineers**(15). He was also an active member of both the *[Royal] Society of Arts*(18), chairing its chemistry committee for many years, and the Senate of the *University of London*(19), where he helped establish science degrees. Although most of his research was done at the **Royal Institution**(Ri) (where a reconstruction of his laboratory is open to the public), in 1832 he attempted, inconclusively, to obtain an electric current from water. The experiments for this were carried out at the round pond in the **Royal Park** by **Kensington Palace**(3) and then at *Waterloo Bridge*(23). At the north end of the bridge now stands a bronze statue of Faraday outside the *Institution of Electrical Engineers*(22) which holds a large quantity of Faraday's papers. Later, in 1854, he undertook pioneering long distance telegraph experiments at *Lothbury(32)*.

Faraday was one of the main providers of scientific advice to the state, especially the *Admiralty*(12), Home Office, **Post Office (Consignia)**, *Royal Greenwich Observatory*(35) and Ordnance Office. His papers relating to this work are in the **Public Record Office**(2). He taught chemistry to the cadets at the **Royal Military Academy Woolwich**(36) and was scientific adviser to *Trinity House*(33), spending much time improving lighthouse technology at the experimental lighthouse provided for him at *Blackwall*(34). In the course of this work he invented a new kind of lamp which was used in **Buckingham Palace**(9) and the *Athenaeum Club*(10); he served as first secretary of the latter. Various institutions turned to him for advice on conserving works of art. Thus he advised the *British Museum*(20) (regarding the Elgin Marbles and the Lewis chess pieces), the *National Gallery*(13), **Houses of Parliament**(17) and the Home Office (on the Raphael Cartoons before they were moved into the **Victoria and Albert Museum**(5)).

As one of the most famous men of the day, Faraday was widely fêted. Prince Albert secured for him a Grace and Favour House at **Hampton Court**(1). He died there on 25 August 1867 and was buried in the Sandemanian plot in *Highgate Cemetery*(8). *Faraday House*(21) (plaque at 70 Southampton Row) housed the first training college for electrical engineers between 1882 and 1967. In 1931 the centenary of his discovery of electro-magnetic induction was widely celebrated including an exhibition in the *Albert Hall*(4) and the laying of a commemorative plaque in **Westminster Abbey**(16), while the following year British Telecom's *Faraday Building*(30) in Queen Victoria Street was opened. As part of the bicentenary celebrations of his birth in 1991, the **National Portrait Gallery**(14) held a special exhibition and continue to display Thomas Phillips's famous 1842 portrait of him.

Faraday's House (right) at Hampton Court. Undated watercolour by E.H. Fitchew



Further reading: Geoffrey Cantor, David Gooding, and Frank A.J.L. James, *Michael Faraday,* 1996. Full details of the Ri's activities can be found at www.ri.ac.uk.

The front shows the response of *Punch* to an 1855 *Times* letter by Faraday complaining about the state of the Thames.

The Faraday Museum is open during weekday office hours, while the special exhibition 'The Royal Institution and the Royal Family' will be open on weekdays from 1 March to 1 December 2002, at the **Royal Institution**(Ri), 21 Albemarle Street, London, W1. In addition there will be open afternoons at the **Royal Institution**(Ri) on the following Saturdays during 2002: 16 March, 20 April, 22 June, 6 July, 3 August, 21 September, 2 November.

The **Public Record Office**(2), Kew, will be holding a display 'The Faraday Trail' of material relating to Faraday's work for the state from 8 to 28 March 2002.