

Further Reading: Michael Faraday

General reading

Geoffrey Cantor, *Michael Faraday: Sandemanian and Scientist. A Study of Science and Religion in the Nineteenth Century*, (London, 1991).

David Gooding, *Experiment and the Making of Meaning: Human Agency in Scientific Observation and Experiment*, (Dordrecht, 1991).

David Gooding and Frank A.J.L. James (eds.), *Faraday Rediscovered: Essays on the Life and Work of Michael Faraday, 1791-1867*, (London, 1985).

Frank A.J.L. James (ed.), *'The Common Purposes of Life': Science and society at the Royal Institution of Great Britain*, (Aldershot, 2002).

Frank A.J.L. James, *Michael Faraday: A very short Introduction*. (Oxford, 2010)

Alan E. Jeffreys, *Michael Faraday: A List of His Lectures and Published Writings*, (London, 1960).

Published books by Faraday, mainly collections of papers and lecture notes, some published after his death:

Chemical Manipulation, Being Instructions to Students in Chemistry. (1827).

Experimental Researches in Electricity, Vol I, II& III (1837, 1844, 1855)

Experimental Researches in Chemistry and Physics (1859).

W. Crookes. ed. *A Course of six lectures on the Various Forces of Matter* (1860)

W. Crookes. ed. *A Course of six lectures on the Chemical History of a Candle*, (1861)

W. Crookes. ed. *On the Various Forces in Nature*. (1873)

The liquefaction of gases (1896.)

Published texts by Faraday

The vast majority of Faraday's manuscripts, apart from letters, have been published on microfilm and cd. Frank A.J.L. James, *Guide to the Microfilm edition of the Manuscripts of Michael Faraday (1791-1867) from the Collections of the Royal Institution, The Institution of Electrical Engineers, The Guildhall Library [and] The Royal Society*, (2nd ed., Wakefield, 2001).

A typescript edition of Faraday's experimental notebooks has been published. Thomas Martin, *Faraday's Diary*, 7 volumes and index, London, 1932–36.

The complete correspondence of Michael Faraday is currently being compiled. Five volumes have been published with the sixth in progress. Frank A.J.L. James, *The Correspondence of Michael Faraday*, (London, 1991-2008).

In-depth reading:

Ronald Anderson, 'The Crafting of Scientific Meaning and Identity: Exploring the Performative Dimensions of Michael Faraday's Texts', *Perspectives on Science*, 2006, **14**: 7-39.

Ronald Anderson, 'The Referees' Assessment of Faraday's Electromagnetic Induction Paper of 1831', *Notes and Records of the Royal Society of London*, 1993, **47**: 243-56,

Henry Bence Jones, *Life and Letters of Faraday*, 1st and 2nd editions, 2 volumes, London, 1870

Giovanni Boato and Natalia Moro, 'Bancalari's role in Faraday's discovery of diamagnetism and the successive progress in the understanding of magnetic properties of matter', *Annals of Science*, 1994, **51**: 391-412.

Brian Bowers and Lenore Symons, *'Curiosity Perfectly Satisfied': Faraday's travels in Europe 1813-1815*, (London, 1991).

- Z. Buchwald, 'William Thomson and the mathematization of Faraday's electrostatics', *Historical Studies in the Physical Sciences*, 1977, **8**: 101-136
- Geoffrey Cantor, 'Michael Faraday Meets the "High-Priestess of God's Works": A Romance on the Theme of Science and Religion' in Matthew Eddy and David Knight (eds.), *Science and Beliefs: From Natural Philosophy to Natural Science, 1700-1900*, (Aldershot, 2005), pp.157-170.
- Geoffrey Cantor, 'The Scientist as Hero: Public Images of Michael Faraday', in M. Shortland and R. Yeo (eds.), *Telling Lives in Science: Essays on Scientific Biography*, (Cambridge, 1996), 171-93.
- Geoffrey Cantor, 'How Michael Faraday brought law and order to the West End of London', *Physis*, 1992, **29**: 187-203
- Geoffrey Cantor, 'Educating the Judgment: Faraday as a Lecturer', *Bulletin for the History of Chemistry*, 1991, **11**: 28-36,
- Geoffrey Cantor, 'Faraday's Search for the Gravitoelectric Effect', *Physics Education*, 1991, **26**: 289-93
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- B. C. Blake-Coleman and R. Yorke, 'Faraday and Electrical Conductors: an Examination of the Copper Wire Used by Michael Faraday between 1821 and 1831', *Proceedings of the Institution of Electrical Engineers*, 1981, **128A**: 463-71.
- Isobel Falconer and Frank A.J.L. James, 'Fame and Faraday', in Elaine Moohan (ed.), *Reputations*, (Milton Keynes, 2008), pp.85-122.
- June Z. Fullmer and Melvyn C. Usselman, 'Faraday's Election to the Royal Society: A Reputation in Jeopardy', *Bulletin for the History of Chemistry*, 1991, **11**: 17-28.
- Graeme Gooday, 'Faraday Reinvented: Moral Imagery and Institutional Icons in Victorian Electrical Engineering', *History of Technology*, 1993, **15**: 190-205.
- David Gooding, 'From Phenomenology to Field Theory: Faraday's Visual Reasoning', *Perspectives on Science*, 2006, **14**: 40-65.
- David Gooding, 'Mathematics and Method in Faraday's Experiments', *Physis*, 1992, **29**: 121-147
- David Gooding, 'Mapping Experiment as a Learning Process: How the First Electromagnetic Motor Was Invented', *Science Technology and Human Values*, 1990, **15**: 165-201.
- David Gooding, "'Magnetic curves' and the Magnetic Field: Experimentation and Representation in the History of a Theory' in David Gooding, Trevor Pinch and Simon Schaffer (eds.), *The uses of experiment: Studies in the natural sciences*, (Cambridge, 1989), pp.183-223,
- David Gooding, 'History in the laboratory: Can we tell what really went on?' in Frank A.J.L. James (ed.), *The Development of the Laboratory: Essays on the Place of Experiment in Industrial Civilisation*, (London, 1989), pp.63-82
- David Gooding, 'Experiment and concept formation in electromagnetic science and technology in England in the 1820s', *History and Technology*, 1985, **2**: 151-176,
- David Gooding, "'He Who Proves Discovers': John Herschel, William Pepys and the Faraday Effect', *Notes and Records of the Royal Society of London*, 1985, **39**: 229-44,
- David Gooding, 'Empiricism in practice: Teleology, economy, and observation in Faraday's physics', *ISIS*, 1982, **73**: 46-67
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- David Gooding, 'Final steps to the field theory: Faraday's study of magnetic phenomena, 1845-1850', *Historical Studies in the Physical Sciences*, 1981, **11**: 231-75
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- Robert A. Hadfield, *Faraday and his Metallurgical Researches, with special reference to their bearing on the development of alloy steels*, (London, 1931).
- L. Hannah, *Electricity before Nationalisation: A Study of the Development of the Electricity Supply Industry in Britain to 1948*, (London, 1979),
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- Frank A.J.L. James, 'Harriet Jane Moore, Michael Faraday, and Moore's mid-nineteenth century watercolours of the interior of the Royal Institution', in James Hamilton (ed.), *Fields of Influence: Conjunctions of Artists and Scientists, 1815-1860*, (Birmingham, 2001), pp.111-128.
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Herbert T. Pratt, 'Michael Faraday's Bible as Mirrors of his Faith', *Bulletin for the History of Chemistry*, 1991, **11**: 40-7.

James Frederic Riley, *The Hammer and the Anvil: A Background to Michael Faraday*, (Clapham, 1954) which also covers the Sandemanians, but contains inaccuracies.

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Sydney Ross, 'The Search for Electromagnetic Induction', *Notes and Records of the Royal Society of London*, 1965, **20**: 184-219.

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Oliver Stallybrass, 'How Faraday "Produced Living Animalculae": Andrew Crosse and the Story of a Myth', *Proceedings of the Royal Institution*, 1967, **41**: 597-619.

Friedrich Steinle, 'The Practice of Studying Practice: Analyzing Laboratory Records of Ampère and Faraday' in Frederic Lawrence Holmes, Jürgen Renn and Hans-Jörg Rheinberger (eds.), *Reworking the Bench: Research Notebooks in the History of Science*, (Dordrecht, 2003), pp.93-118, especially, 106-13

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Michael Faraday FRS (/ˈfɑːrɪˈdeɪ, -di/; 22 September 1791 – 25 August 1867) was an English scientist who contributed to the study of electromagnetism and electrochemistry. His main discoveries include the principles underlying electromagnetic induction, diamagnetism and electrolysis. Although Faraday received little formal education, he was one of the most influential scientists in history. It was by his research on the magnetic field around a conductor carrying a direct current that Faraday established Michael Faraday (1791-1867) is the famous British scientist who became famous in the field of experimental physics. It is known for the opening of electromagnetic induction which formed later the basis of industrial production of electricity. Faraday was a member of the numerous scientific organizations, including the London royal society and St. Petersburg academy of Sciences. He is considered by right the largest scientist-experimenter in the history of science. From poverty to science. Michael Faraday was born on September 22, 1791 in working family. His father and the elder brother were en Michael Faraday, English physicist and chemist whose many experiments contributed greatly to the understanding of electromagnetism. Among his achievements, he was the first to produce an electric current from a magnetic field and invented the first electric motor and dynamo. Learn about his life and career. John Stambaugh Professor of the History of Science; Director, Program in the History and Philosophy of Science and Technology, Cornell University, Ithaca, New York. Author of Michael Faraday. Last Updated: Jan 22, 2021 See Article History. Michael Faraday, (born September 22, 1791, Newington, Surrey, England—died August 25, 1867, Hampton Court, Surrey), English physicist and chemist whose many experiments contributed greatly to the understanding of electromagnetism.