DISCOVERY OF THE MONTH

11(25), March 1, 2014

ISSN 2278–5469 EISSN 2278–5450

Discovery

In March 6, 1665 – Earth's very first scientific journal starts the journey: The *Philosophical Transactions of the Royal Society* (*Phil. Trans.*)

Brindha V☼

☼Correspondence to: E-mail: brindbiotech@gmail.com

Publication History

Received: 10 January 2014

Accepted: 03 February 2014

Published: 1 March 2014

Citation

Brindha V. In March 6, 1665 – Earth's very first scientific journal starts the journey: The *Philosophical Transactions of the Royal Society* (*Phil. Trans.*). *Discovery*, 2014, 11(25), 6-8

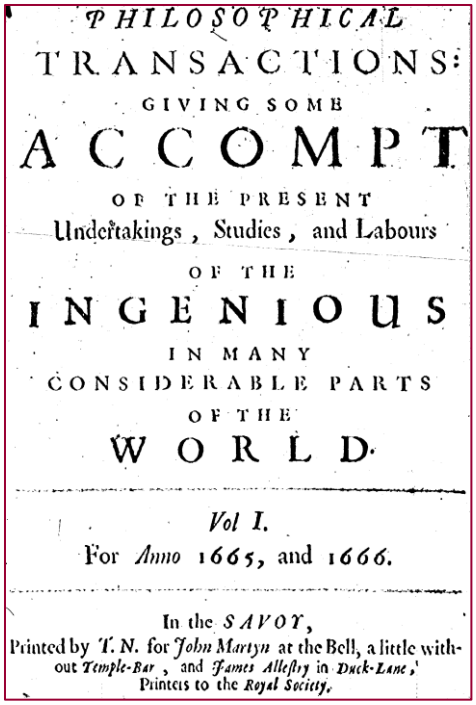
General Note

Article is recommended to print as color digital version in recycled paper.

1. PHILOSOPHICAL TRANSACTIONS – THE WORLD'S FIRST SCIENCE JOURNAL

Philosophical Transactions, the world's first and longest-running scientific periodical, began its life in 1665. It is associated with the Royal Society of London. Henry Oldenburg, a native of Bremen, worked as Secretary in the office. His own prodigious network of natural-philosophical contacts, and his considerable skills as a linguist to produce the material that became the Transactions. The early journal consisted of letter-excerpts, reviews and summaries of recently-published books, and accounts of observations and experiments from European natural philosophers. The principal language of the journal was English. Astronomical and mathematical nature – were printed in Latin. After the death of Henry Oldenburg, Phil Trans passed through the hands of a series of subsequent editors. After the Society's takeover, the processes of publishing an article in the Phil Trans were gradually formalized. These included norms for submission and evaluation, including systematic peer review by the middle of the 19th Century. The editorial responsibility was transferred to a Committee of Papers. In 1886, the breadth and scope of scientific discovery had increased to such an extent that it became necessary to divide the journal into two, Philosophical Transactions A and B, covering the physical sciences and the life sciences respectively.

Each issue of Philosophical Transactions A is devoted to a specific area of the mathematical, physical and engineering sciences. This area will define a research frontier that is advancing rapidly, often bridging traditional disciplines. The journal is essential reading for mathematicians, physicists, engineers and other physical scientists. Philosophical Transactions A employs a strict


PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.
Vol I.
For Anno 1665, and 1666.
In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane,
Printers to the Royal Society.

embargo policy where the reporting of a scientific article by the media is embargoed until a specific time. The Editor has final authority in all matters relating to publication. Philosophical Transactions A is indexed in EBSCO, GEOREF, Infotrieve, ISI, MathSciNet, Ovid, PubMed, scirus, Scopus, SWETS, TDNet, TicToCs and Zentralblatt MATH.

The 20th Century saw further changes to the content of the journal, although the link with the Royal Society's own scientific activity was maintained. The Society's Committee of Papers was finally abolished in 1990 and responsibility restored to individual editors; a model that prevails to the present. The journal first went online in 1997, and the entire back issue archive to 1887 has been freely available since 2010. During its long life the journal has published papers by many of the great names in the history of science, including Robert Boyle, Robert Hooke, Christiaan Huygens, Isaac Newton, Antoni van Leeuwenhoeck, Gottfried Leibnitz, Edmond Halley, Hans Sloane, Benjamin Franklin, William and Caroline Herschel, Humphry Davy, Michael Faraday, Joseph Priestley, Charles Darwin, Gideon Mantell, JJ Thomson, Lord Kelvin, Ernest Rutherford, Dorothy Hodgkin, and Stephen Hawking.

In 2010, a subscription (print and electronic) to Phil Trans A cost £1801, and for series B in 2010, £2,145. The following year, in 2011, readers were given the option of receiving the journal (A and B) in an online-only version for a reduced price. Both Phil Trans A and Phil Trans B has been (since 1990) managed in-house by Publishing Editors: in 2010, they were Suzanne Abbott (series A) and Claire Rawlinson (series B). The Publishing Editors, essentially, co-ordinate the editing of the journal's content by the two Editors (in 2010, Pepper and Mace) and the Editorial Board, whilst being supervised by Phil Hurst and Stuart Taylor and subject to direction from the Publishing Board. The compilation of the journal, its physical formatting, is also managed by specialist individuals (in 2010, the Manager of Journals Production, the Senior Production Editor and the Production Editors), illustrating the substantial size of the professional editorial and publishing team now employed on Phil. Trans. By 2010, for authors conscious of the open access issue, the options available in Phil Trans include the 'Gold Open Access' scheme, which requires the author to pay 'an article processing charge' so that their article is freely available to readers. An alternative is 'Green Open Access', providing the choice for authors to 'deposit' a pre-print or a final manuscript version (post-print) of their article in a repository at any time. The Royal Society also follows the 'delayed open access' strategy, which means papers in series A are available freely twelve months after publication, and papers in series B can be accessed without charge after twenty four months. How this issue of access plays out in science publishing, and publishing generally, will become clearer in the coming months and years. It is worth noting, however, that questions of reaching a broad audience had been on the minds of those coordinating the publication of the Royal Society's journals long before this most contemporary and rather more public discussion.

2. FEATURED ARTICLES

In the past 350 years the Society have published some of the most important and inspirational research in science. The following are just a few of the many significant contributions… there are many more…

A Letter of Mr. Isaac Newton, Professor of the Mathematicks in the University of Cambridge; Containing His New Theory about Light and Colors: Sent by the Author to the Publisher from Cambridge, Febr. 6. 1671/72; In Order to be Communicated to the R. Society

Isaac Newton

Phil. Trans. R. Soc. Lond. 1671 6, 3075–3087

The famous paper by Newton describing his observations of light using prisms, where he shows that white light is composed of rays of different colours, which can be separated with a prism. The paper is the foundation for most of the subsequent work in optics.

Observations of the Late Total Eclipse of the Sun on the 22d of April Last Past, Made before the Royal Society at Their House in Crane-Court in Fleet-Street, London. by Dr. Edmund Halley, Reg. Soc. Secr. with an Account of What Has Been Communicated from Abroad concerning the Same

Edmund Halley

Phil. Trans. R. Soc. Lond. 1714 29, 245–262

Perhaps one of the first examples of large-scale public participation in an experiments.

Observations on the Natural History of the Cuckoo. By Mr. Edward Jenner. In a Letter to John Hunter, Esq. F. R. S.

Edward Jenner

Phil. Trans. R. Soc. Lond. 1788 78, 219–237

Jenner reports on the behaviour of the cuckoo.

On the Electricity Excited by the Mere Contact of Conducting Substances of Different Kinds. In a Letter from Mr. Alexander Volta, F. R. S. Professor of Natural Philosophy in the University of Pavia, to the Rt. Hon. Sir Joseph Banks, Bart. K. B. P. R. S.

Alexander Volta

Phil. Trans. R. Soc. Lond. 1800 90, 403–431

Volta describes the invention of the voltaic pile – the first electric battery. It draws attention to the striking analogy with the electric organs of the electric eel.

A Dynamical Theory of the Electromagnetic Field

James Clerk Maxwell

Phil. Trans. R. Soc. Lond. 1865 155, 459–512

This is one of the most important scientific papers ever published. It details Maxwell's work which unified the areas of electricity and magnetism into one single theory.

3. HISTORICAL TIMELINE

Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences
ISSN: 1364–503X
Volumes 354–367

Philosophical Transactions of the Royal Society B: Biological Sciences
ISSN: 0962–8436
Volumes 329–364
1996 Renamed

Philosophical Transactions of the Royal Society: Physical and Engineering Sciences (1990–1995)
ISSN: 0962–8428
Volumes 332–353
1990 Renamed

Philosophical Transactions of the Royal Society of London. Series A, Mathematical and Physical Sciences (1934–1990)
ISSN: 0080–4614
Volumes 234–331

Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences (1934–1990)
ISSN: 0080–4622
Volumes 224–328
1934 Renamed

Philosophical Transactions of the Royal Society of London. Series A, Containing Papers of a Math. or Phys. Character (1896–1934)
ISSN: 0264–3952
Volumes 187–233

Philosophical Transactions of the Royal Society of London. Series B, Containing Papers of a Biological Character (1896–1934)
ISSN: 0264–3960
Volumes 187–223
1896 Renamed

Philosophical Transactions of the Royal Society of London. A (1887–1895)
ISSN: 0264–3820
Volumes 178–186

Philosophical Transactions of the Royal Society of London. B (1887–1895)
ISSN: 0264–3839
Volumes 178–186
1887 Split

Philosophical Transactions of the Royal Society of London (1776–1886)
ISSN: 0261–0523
Volumes 66–177
1776 Renamed

Philosophical Transactions (1683–1775)
ISSN: 0260–7085
Volumes 13–65
1683 Renamed

Philosophical Transactions (1665–1678)
ISSN: 0370–2316
Volumes 1–12