CATALOGUE 308

KING'S CHOICE

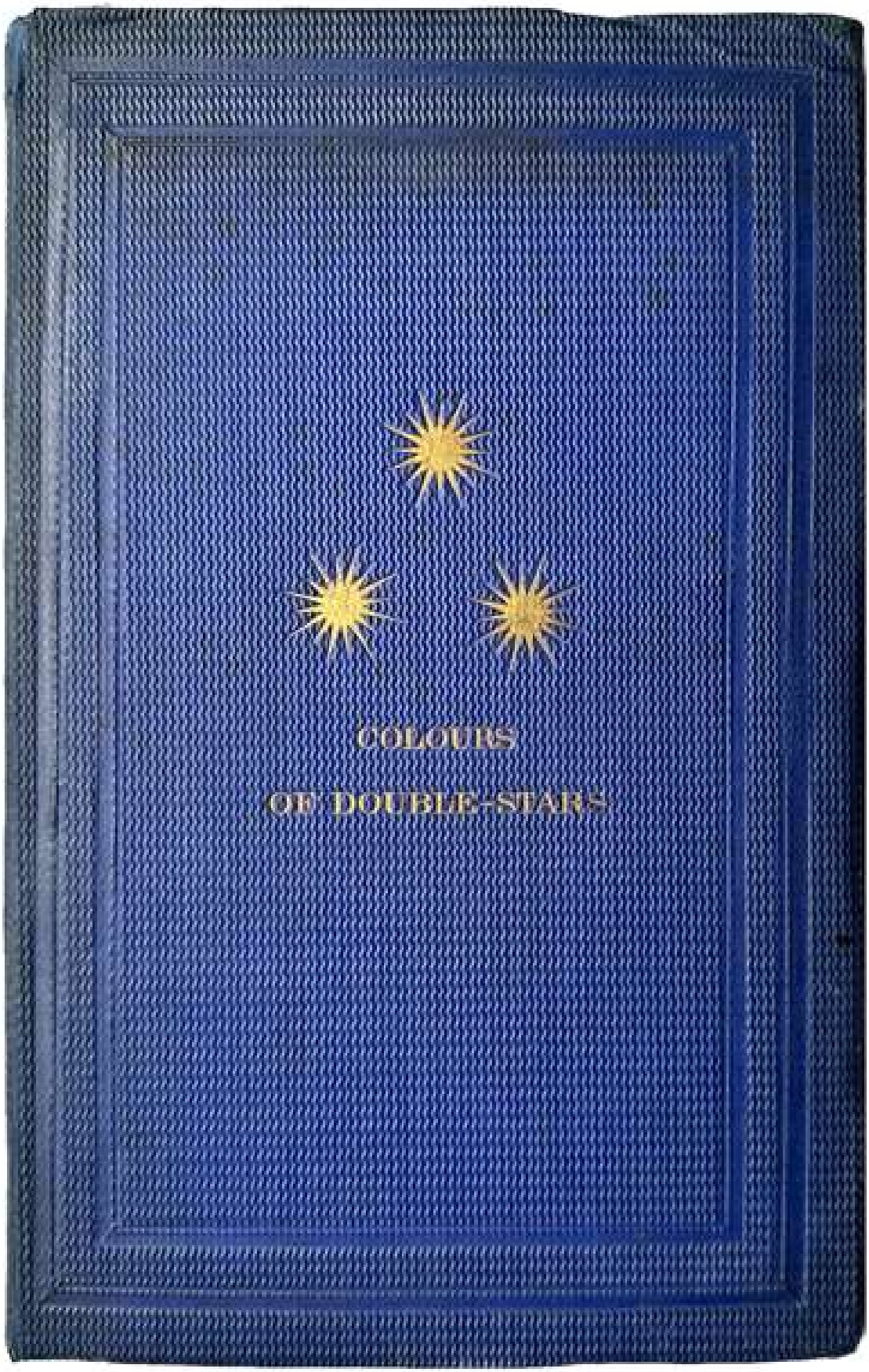
Books on Scientific Instruments
Especially relating to Astronomy

From the Library of Henry C. King

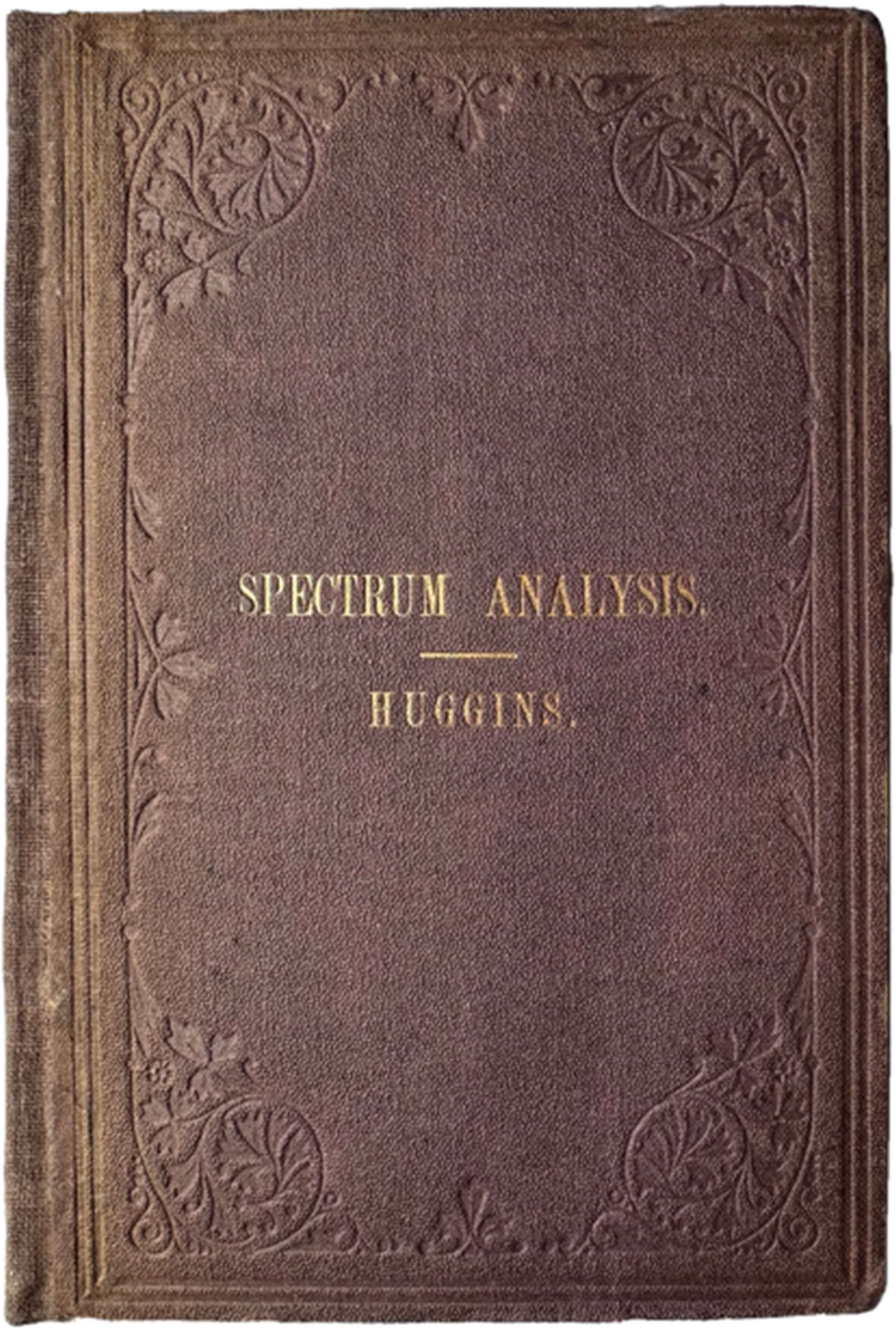
WITH ADDITIONS

JEFF WEBER RARE BOOKS

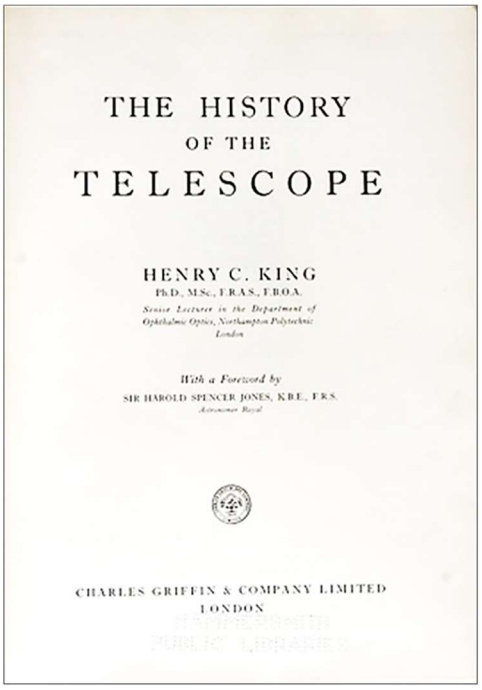
MONTREUX & NEUCHÂTEL – SWITZERLAND

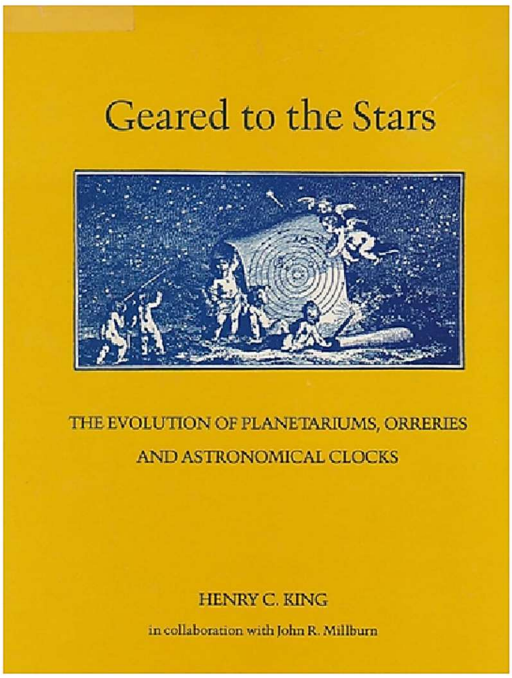


[55] SMYTH



[32] HUGGINS

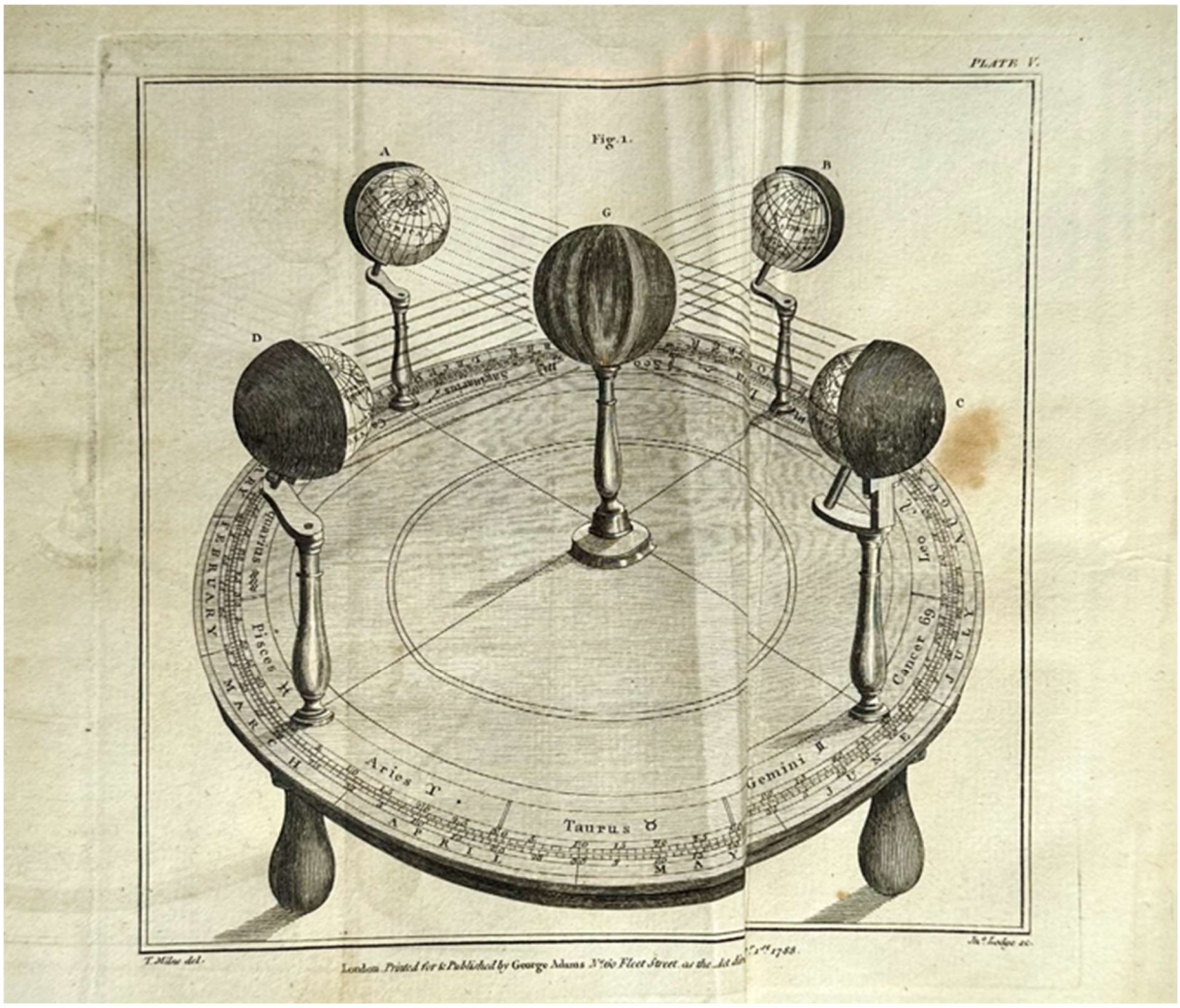




Henry C. King (1915-2005). In the late 1930s King lived and studied at Slough, Berks., near the Herschel family home. Here Henry contacted Lady Constance Lubbock, William Herschel's granddaughter, and was able to access the Herschel Library. He obtained a B.Sc. in astronomy and mathematics by correspondence, from the University of London, and subsequently, an MSc and Ph.D. on the history and philosophy of science. In the 1950s he was Senior Lecturer in Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope.

He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).

1 [ADAMS]

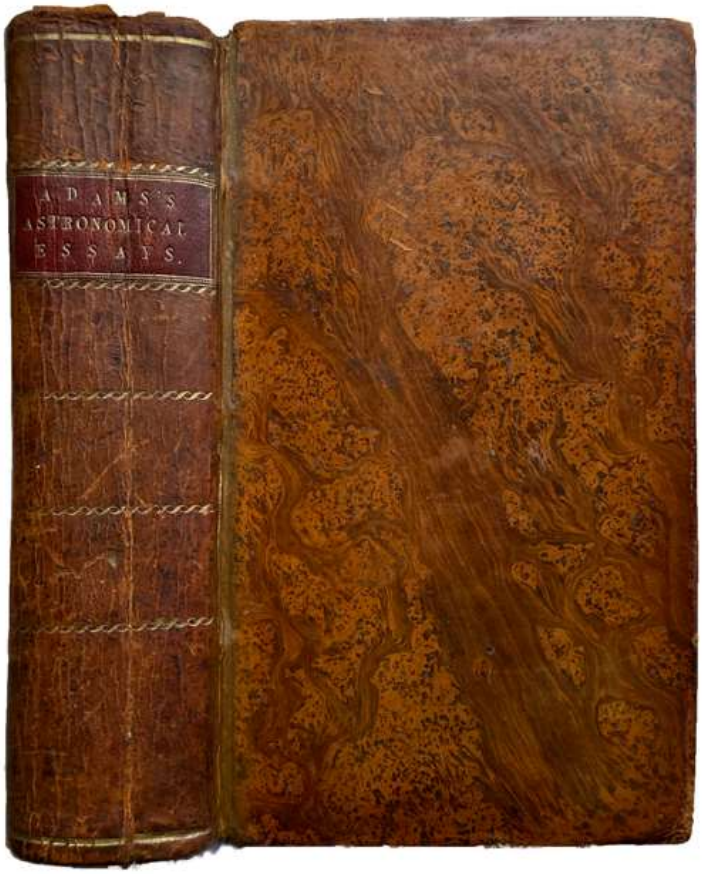


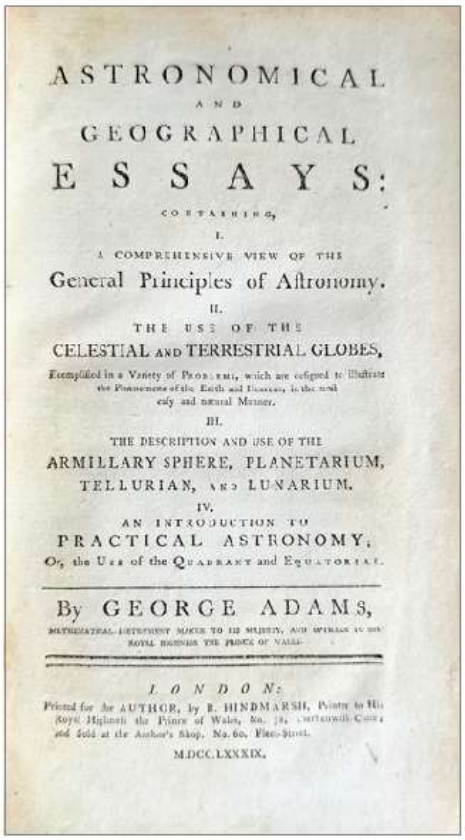
1. **ADAMS, George, Sr.** (1709-1772); **ADAMS, George, Jr.** (1750-1795). *Astronomical and Geographical Essays: Containing I. A comprehensive view of the general principles of astronomy. II. The use of celestial and terrestrial globes . . . III. The description and use of the Armillary Sphere, Planetarium, Tellurian, and Lunarium. IV. An introduction to Practical Astronomy: or, The Use of the Quadrant and Equatorial.*

[to which is appended:] *A Catalogue of Mathematical and Philosophical Instruments made and sold by George Adams . . .* London: Printed for the Author, by R. Hindmarsh, 1789. ¶ 4 parts in 1 volume, with the Adams instrument catalogue. 8vo. xix, [1], 665, [1], [xvi] pp. Engraved frontispiece, 21 folding engraved plates; occasional staining, pencil marginalia. Original full tree-calf, rounded-back, simple gilt tooling, gilt-stamped red leather spine label; upper joint reinforced with kozo. Armorial bookplate of Pryce (with Rampant Lion). Very good.

$ 450

Richly presented account with 22 engraved plates. George Adams was a family of instrument makers (see below) and this broadly based treatise on astronomy and related instrumentation, offers popularized and authoritative account of the heavens.




ASTRONOMICAL
AND
GEOGRAPHICAL
ESSAYS:
CONTAINING,
I.
A COMPREHENSIVE VIEW OF THE
General Principles of Aſtronomy.
II.
THE USE OF THE
CELESTIAL AND TERRESTRIAL GLOBES,
Exemplified in a Variety of Problems, which are deſigned to Illuſtrate the Phænomena of the Earth and Heavens, in the moſt eaſy and natural Manner.
III.
THE DESCRIPTION AND USE OF THE
ARMILLARY SPHERE, PLANETARIUM,
TELLURIAN, AND LUNARIUM.
IV.
AN INTRODUCTION TO
PRACTICAL ASTRONOMY,
Or, the Uſe of the QUADRANT and EQUATORIAL.
By GEORGE ADAMS,
LONDON:
M.DCC.LXXXIX.

Stated on the title: George Adams, mathematical instrument maker to His Majesty, and Optician to His Royal Highness, the Prince of Wales. This edition is prepared for the press by George Adams Jr., with his preface and his father's treatise on Globes, reprinted.

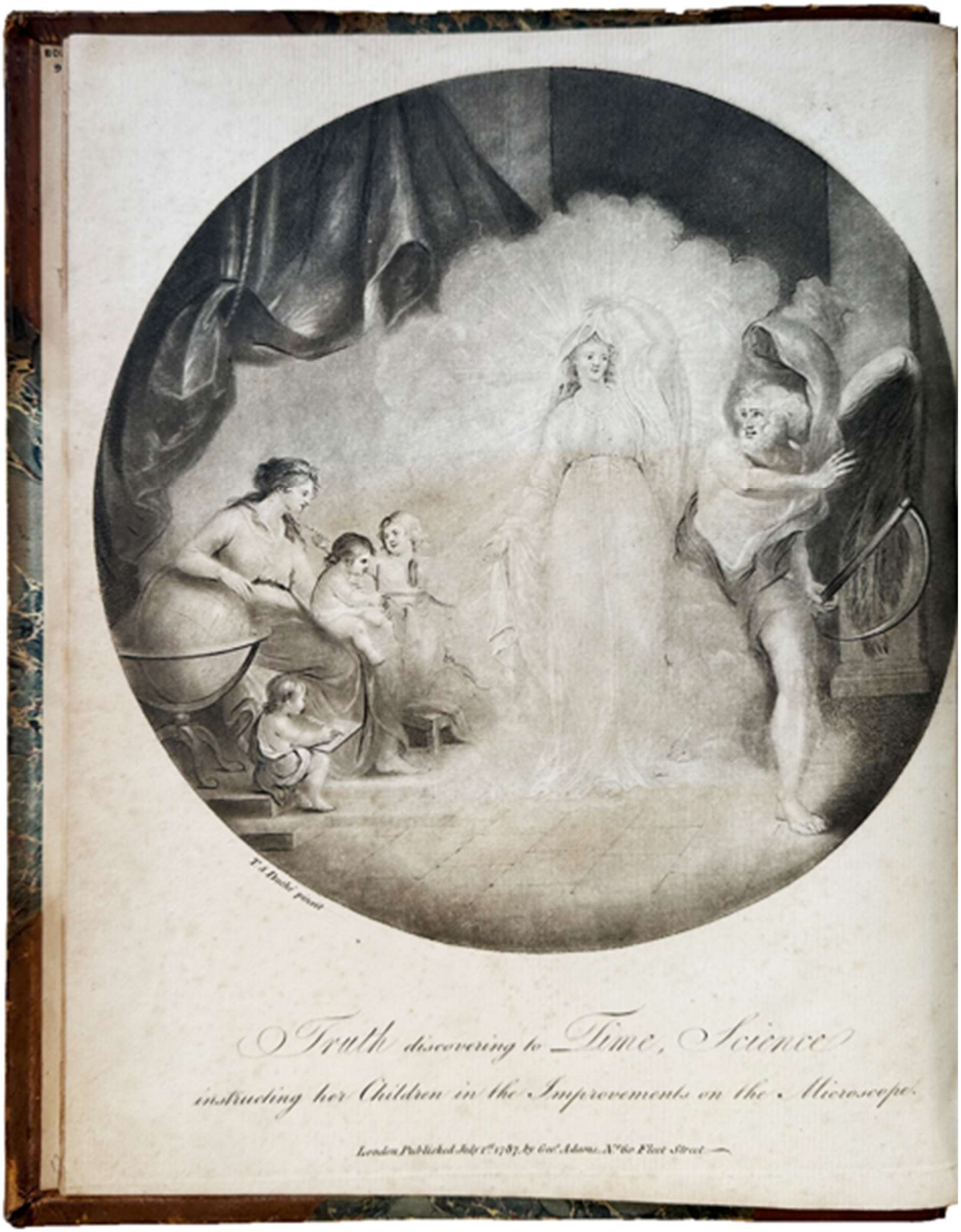
In addition, there is a review of basic astronomy, the planets, eclipses, comets, stars, longitude and latitude, etc. He treats dialing, issues of time, measuring moving bodies in the heavens, problems relating to the Moon, tides, planetariums, the quadrant. Adams Jr.'s instrument catalogue is brief, listing only a title and price for each piece. He makes optical instruments, geographical and astronomical instruments, mathematical instruments for geometry, drawing, surveying, military instruments, instruments for navigation, electricity, magnets or instruments for magnetism, pneumatics, air pumps, meteorological instruments, mechanical devices, hydraulics, etc.

". . . in 1734 he started his own business as a maker of mathematical instruments in Fleet Street, 'near the Castle Tavern', a few doors from Shoe Lane, adopting the sign of Tycho Brahe's Head. The business continued at various addresses in Fleet Street for eighty-three years.

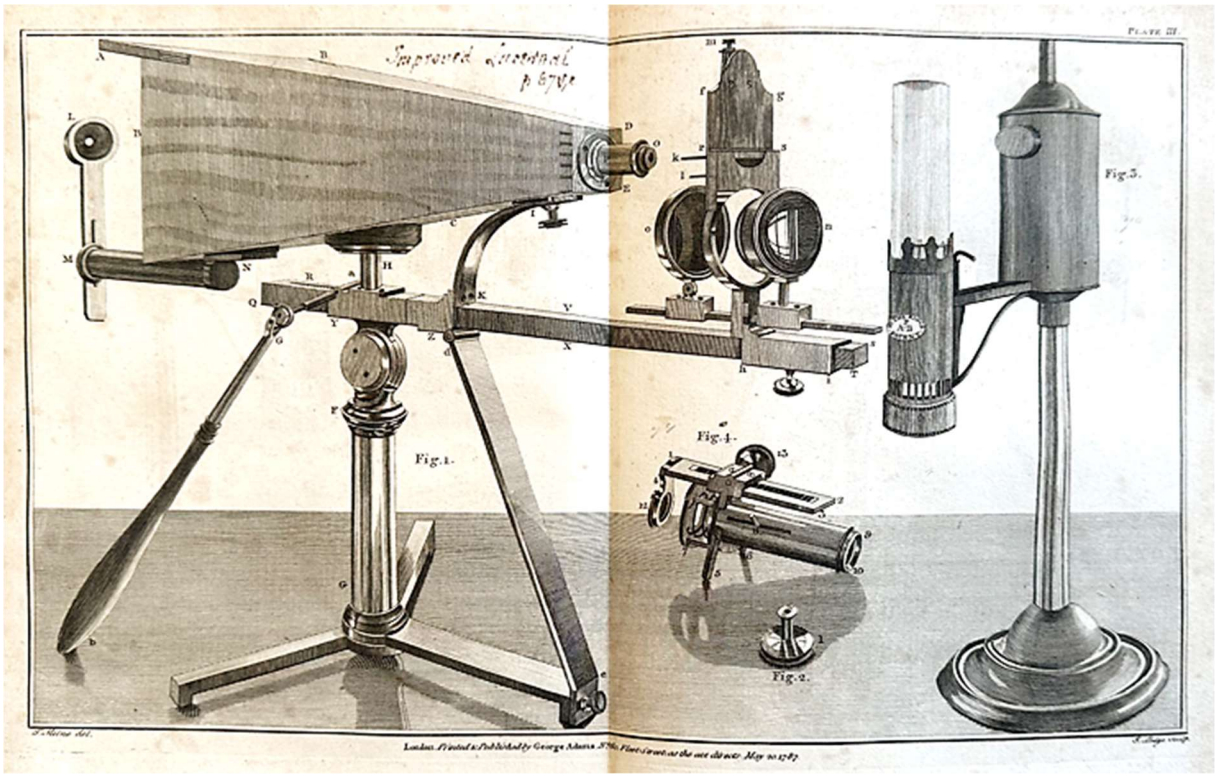
Adams [Sr.] became mathematical-instrument maker to His Majesty's Office of Ordnance, an appointment that provided an important source of income and resulted in hundreds if not thousands of commissions. In 1761, George III commissioned a large group of philosophical instruments from the London instrument-maker George Adams. The purchase sprang from a complex plan of moral education devised for Prince George in the late 1750s by the third Earl of Bute.

In 1772, George senior died of an 'apoplectic fit' at the age of 63. The family business was taken over by his widow, Ann, and shortly after by his eldest son, George junior . . ." – The Science Museum Group.

PROVENANCE: Pryce family [UK, 18th or 19th centuries].


Truth discovering to Time, Science
instructing her Children in the Improvements on the Microscope.
London Published July 1st 1787 by Geo. Adams N.o 60 Fleet Street

2 [ADAMS]



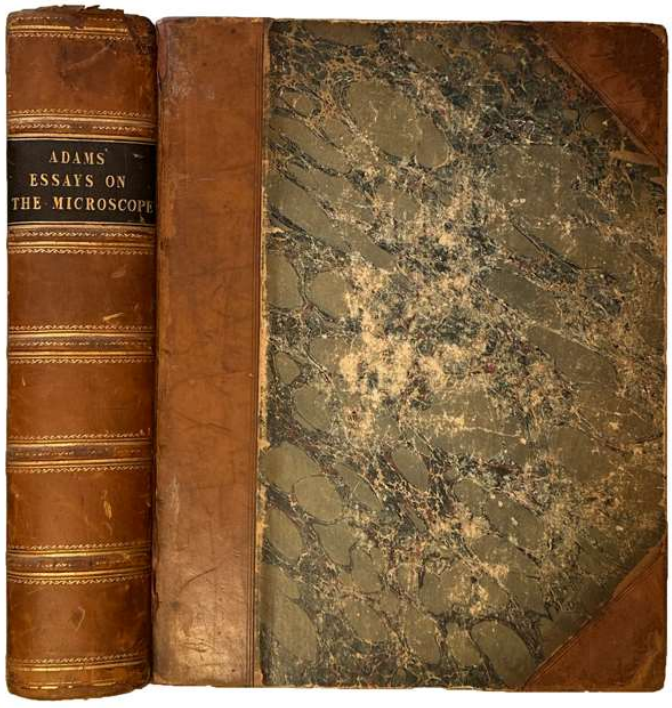
2. **ADAMS, George, Jr.** (1750-1795). *Essays on the Microscope; Containing a Practical Description of the Most Improved Microscopes. . . The second edition, with considerable additions and improvements*. London: Printed by Dillon and Keating, for the Editor, 1798. ¶ 2 volumes. bound in one (i.e. with Atlas dated 1787). 4to. xvii, [vii], 724, 14, 2 pp. 32 engraved double-page plates, with the allegorical frontispiece mezzotint (dated 1787), "Truth discovering to Time, Science, instructing her children in the improvements of the microscope," after T.S. Duche, with the folded title-page for the Atlas of plates, errata, list of plates (numbered 1-31; with 26A and 26B, making 32), index; occasional foxing. Original half calf by Hering (with his stamp: "Bound by Hering 9 Newman St"); worn, inner joints neatly reinforced with kozo. Bookplates of Max Erb and armorial bookplate William Seymour [with Arms of Seymour: Gules, two wings conjoined in lure or, descended from William Seymour, Duke of Somerset (1588-1660)], with motto " mens invicta manet" or, "the mind remains unconquered". Very good. S13101

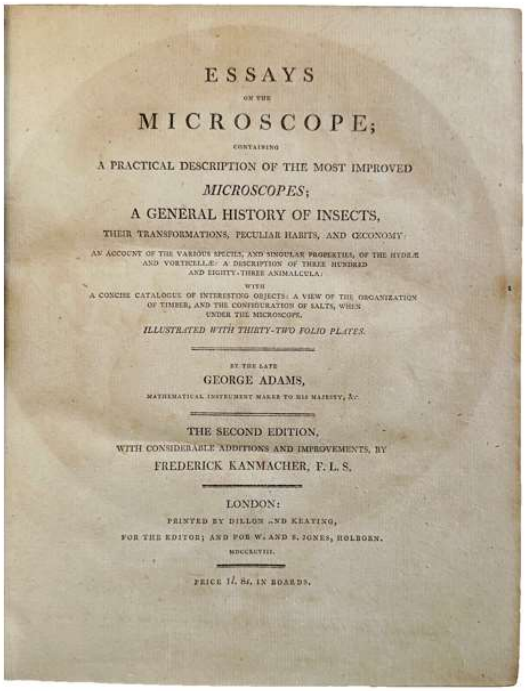
$ 1,750

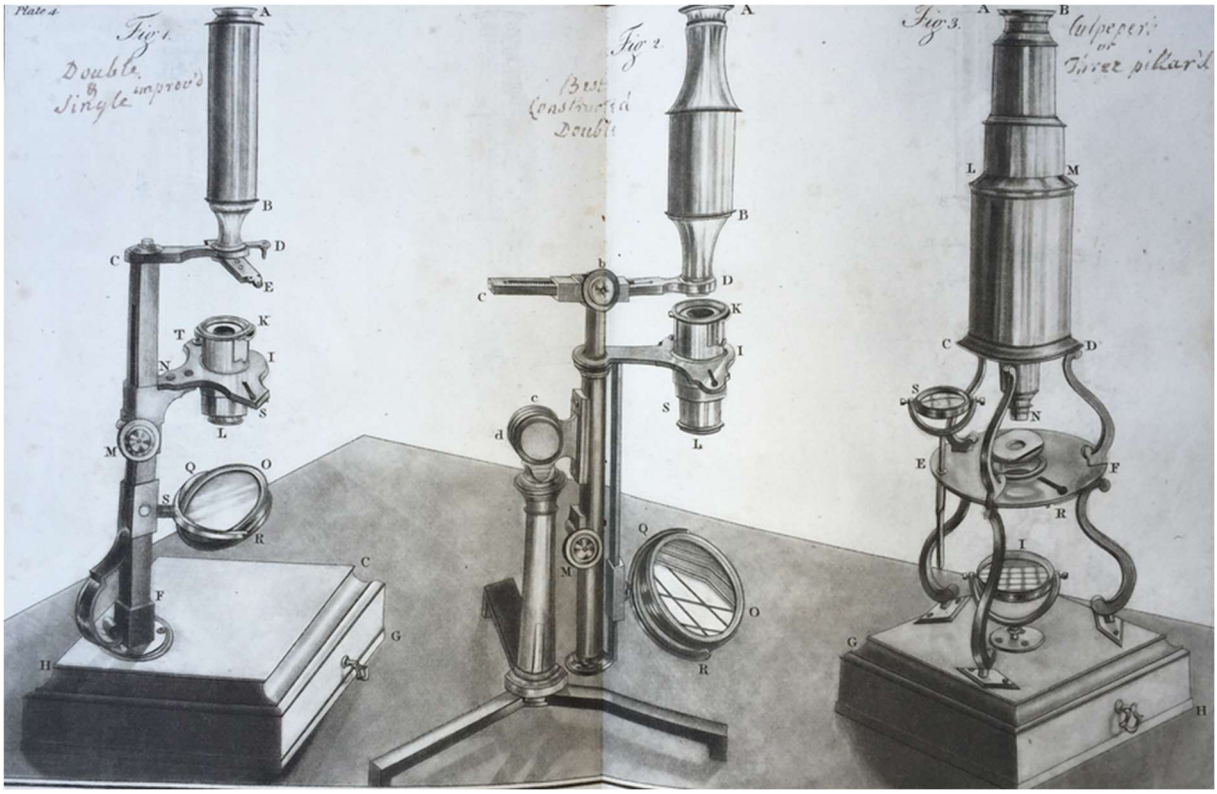
SECOND EDITION, enlarged, with the first issue of the frontispiece plate and first of the Atlas title. This copy includes the "Catalogue of Mathematical and Philosophical Instruments made and sold by George Adams".

This work is a most thorough treatment on microscopy, reviewing the history of the topic, of optics, a description of microscope instruments, before entering into describing various items from nature.

Adams states "When I first undertook the present essays, I had confined myself to a re-publication of my father's work, entitled, MICROGRAPHIA ILLUSTRATA; but I soon found that both his and Mr. Baker's tracts on the microscope were very imperfect. Natural history had not been so much cultivated at the period when they wrote, as it is in the present day. . . I have in the fifth chapter, after some general observations on the utility of natural history, endeavoured to remedy their defects, by arranging the subject in systematic order, and by introducing the microscope reader to the system of Linnaeus, as far as relates to insects: by this he [the reader] will learn to discriminate one insect from another, to characterize their different parts, and thus be better enabled to avoid error himself. And to convey instruction to others." (pp. x-xi). Adams, being "seduced" by these "little creatures" expanded his descriptions of them. With chapter six he bases his discussion of insects on the work of Lyonet (1742), focused on the caterpillar of the Phalaena Cassus.




ESSAYS
ON THE
MICROSCOPE;
CONTAINING
A PRACTICAL DESCRIPTION OF THE MOST IMPROVED
MICROSCOPES;
A GENERAL HISTORY OF INSECTS,
THEIR TRANSFORMATIONS, PECULIAR HABITS, AND ŒCONOMY:
AN ACCOUNT OF THE VARIOUS SPECIES, AND SINGULAR PROPERTIES, OF THE HYDRÆ AND VORTICELLÆ: A DESCRIPTION OF THREE HUNDRED AND EIGHTY-THREE ANIMALCULA;
WITH
A CONCISE CATALOGUE OF INTERESTING OBJECTS: A VIEW OF THE ORGANIZATION OF TIMBER, AND THE CONFIGURATION OF SALTS, WHEN UNDER THE MICROSCOPE.
ILLUSTRATED WITH THIRTY-TWO FOLIO PLATES.
BY THE LATE
GEORGE ADAMS,
MATHEMATICAL INSTRUMENT MAKER TO HIS MAJESTY, &c.
THE SECOND EDITION,
WITH CONSIDERABLE ADDITIONS AND IMPROVEMENTS, BY
FREDERICK KANMACHER, F. L. S.
LONDON:
PRINTED BY DILLON AND KEATING,
FOR THE EDITOR; AND FOR W. AND S. JONES, HOLBORN.
MDCCXCVIII.
PRICE 1*l.* 8*s.* IN BOARDS.

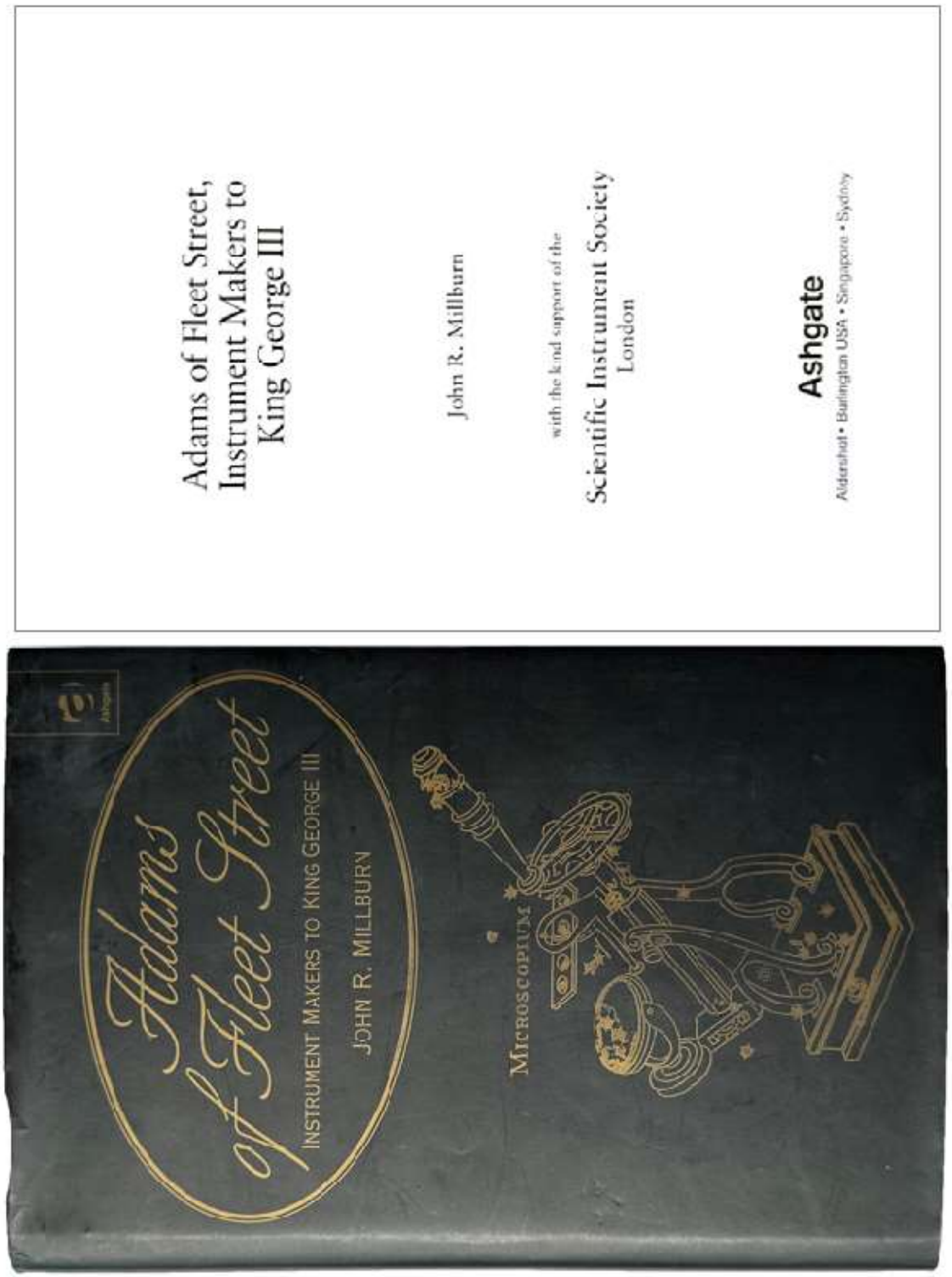


Adams, Jr. (1750-1795), son of well-known instrument-maker George Adams (1709-1772), both instrument makers to the king. He was an optician, instrument maker (to George III) and prolific writer on instruments and scientific issues. Gee notes that Adams had studied Louis Joblot on the microscope and animalculae and Abraham Trembley on the polyp.

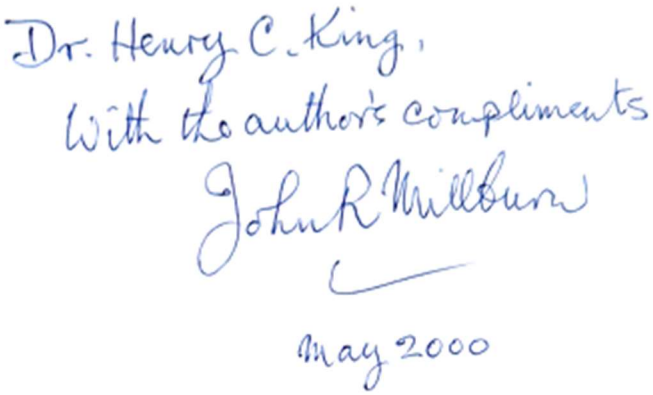
PROVENANCE: Max Erb, of Max Erb Instruments, Santa Ynez, California. This company started in 1954 and specializes in microscopes. [FULL TITLE: Essays on the Microscope; Containing a Practical Description of the Most Improved Microscopes; A General History of Insects. . ., An account of the various species . . . A Description of Three Hundred and Eighty-Three Animalcula, with a Concise Catalogue of Interesting Objects: A view of the organization of timber, and the Configuration of Salts when Under the Microscope. By the late George Adams . . . The second edition, with considerable additions and improvements by Frederick Kanmacher, F.L.S.]

□ See: *DNB*; Brian Gee, *Francis Watkins and the Dollond Telescope Patent Controversy*, Ashgate, 2014, p. 67; John R. Millburn, *Adams of Fleet Street: instrument makers to King George III*, Aldershot: Ashgate, 2000.

Maker of 'some of the finest scientific instruments of the eighteenth century'



[3] MILLBURN, On George Adams



Presentation Copy, Inscribed by the Author
to his Friend & Writing Partner, Henry C. King

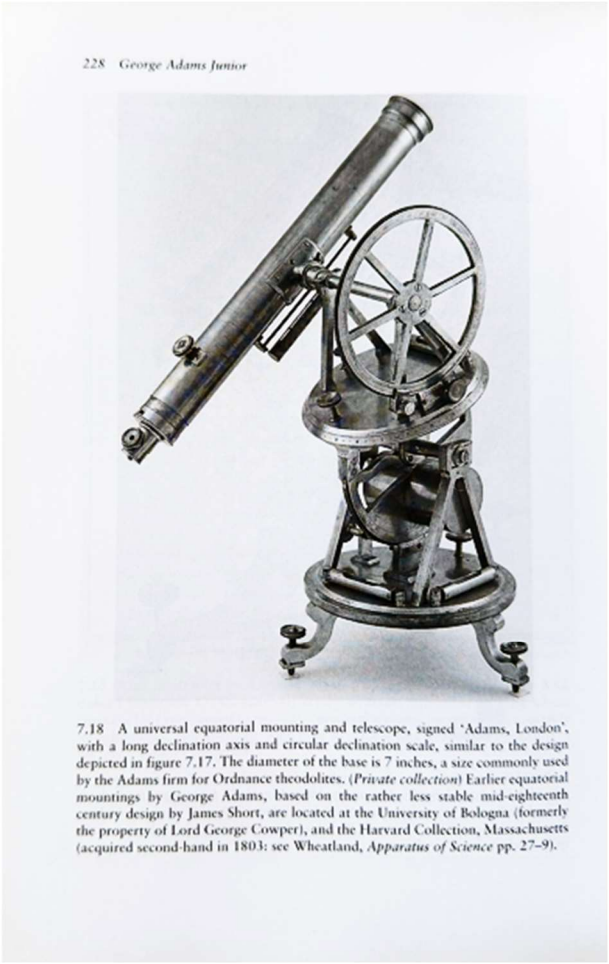
3. **ADAMS, George** [et.al.]; **John R. MILLBURN**. *Adams of Fleets Street, Instrument Makers to King George III*. Aldershot: Ashgate, 2000. ¶ 8vo. xix, [3], 420 pp. Numerous illustrations, index. WITH ADDED LARGE FOLDING (printer's galley, or author's graphic) GENEALOGICAL TABLE (much larger than the one published in the book, same text, but with a couple of annotations added by the author). Original gilt-stamped black cloth, dust-jacket; jacket rubbed. INSCRIBED BY THE AUTHOR, JOHN R. MILLBURN, TO HIS CLOSE FRIEND, COLLEAGUE AND CO-WRITER, "Dr. Henry C. King, With the author's compliments . . . May 2000." Very good.

$ 125

"'*G. Adams in Fleet Street London'* is the signature on some of the finest scientific instruments of the eighteenth century. This book is the first comprehensive study of the instrument-making business run by the Adams family, from its foundation in 1734 to bankruptcy in 1817. It is based on detailed research in the archival sources as well as examination of extant instruments and publications by George Adams senior and his two sons, George junior and Dudley. Separate chapters are devoted to George senior's family background, his royal connections, and his new globes; George junior's numerous publications, and his dealings with van Marum; and to Dudley's dabbling with 'medico-electrical therapeutics'. The book is richly illustrated with plates from the Adams's own publications and with examples of instruments ranging from unique museum pieces - such as the 'Prince of Wales' microscope - and globes to the more common, even mundane, items of the kind seen in salesrooms and dealers - the surveying, navigational and military instruments that formed the backbone of the business. The appendices include facsimiles of trade catalogues and an annotated short-title listing of the Adams

family's publications, which also covers American and Continental editions, as well as the posthumous ones by W. & S. Jones." – jacket.

Frontispiece This elaborate and unusually large (16 × 10½ inches) trade card was used around 1800 by the youngest member of the Adams family, Dudley Adams, apparently in an attempt to draw attention to the antiquity of the business as well as its wide scope and royal appointments. The instruments depicted were current when the business was commenced by his father, George Adams senior, in 1734. Most of them were obsolete by the end of the eighteenth century, when Dudley Adams was trading at 60 Fleet Street. (*British Museum, London, Department of Prints and Drawings, Heal Collection 105.1*)



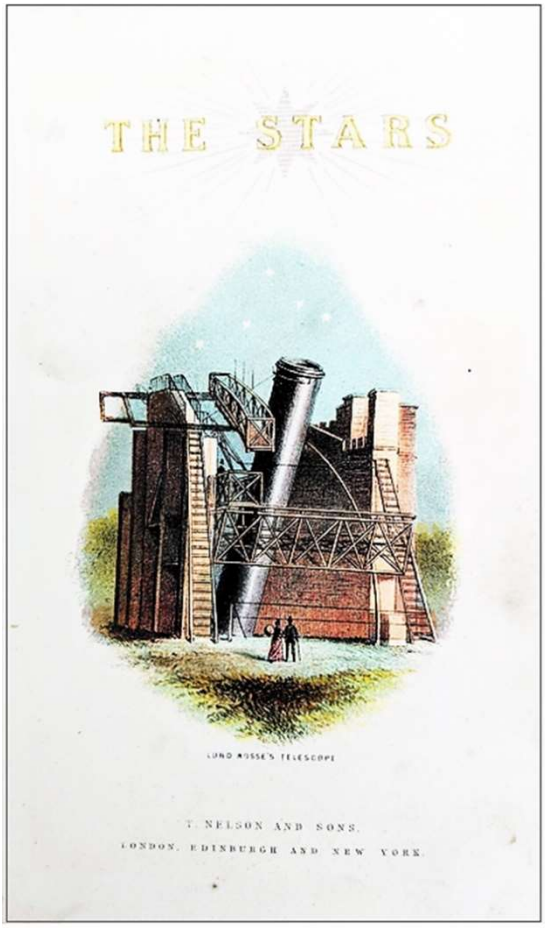
7.18 A universal equatorial mounting and telescope, signed 'Adams, London', with a long declination axis and circular declination scale, similar to the design depicted in figure 7.17. The diameter of the base is 7 inches, a size commonly used by the Adams firm for Ordnance theodolites. (*Private collection*) Earlier equatorial mountings by George Adams, based on the rather less stable mid-eighteenth century design by James Short, are located at the University of Bologna (formerly the property of Lord George Cowper), and the Harvard Collection, Massachusetts (acquired second-hand in 1803: see Wheatland, *Apparatus of Science* pp. 27–9).

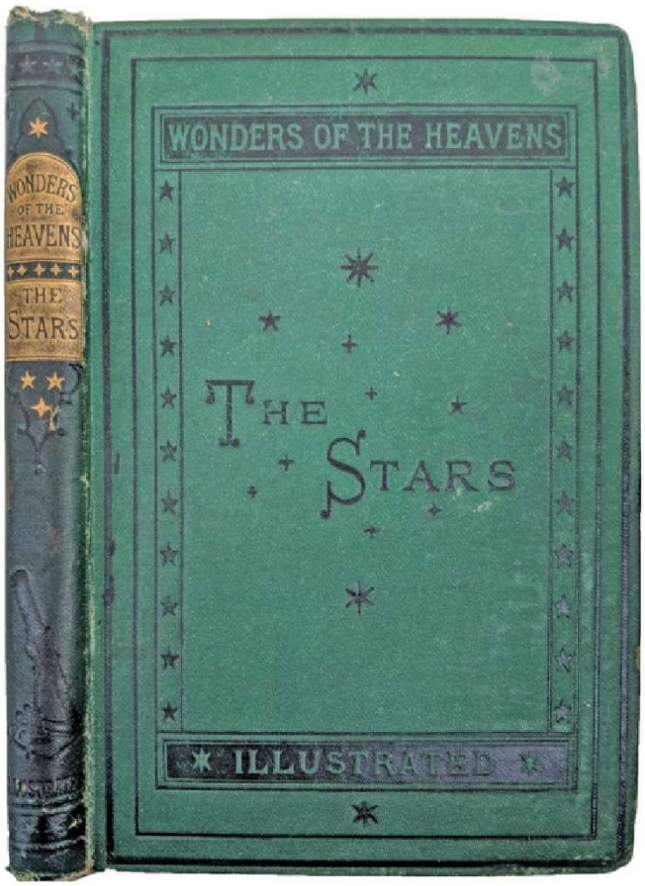
'Millburn has delved profitably into a wide range of sources. Copious illustrations, many of the instruments passing through the Saleroom or in private hands, expand on those usually shown . . . a book well worth waiting for.' Albion 'In a meticulous piece of research sustained over many years, a remarkably coherent picture of the firm's history and the lives of the men behind it has been constructed by John Millburn.' Journal of the American Scientific Instrument Enterprise '. . . the impact of Millburn's work on historiography could go far beyond that of a well contextualized biography . . . this book marks a turning point in the standards necessary to produce a serious historical work on instrument makers...his pleasant narrative, and the use of rich and good iconographical resources, make Millburn's book a model for the genre.' Medical History '(Millburn) describes the instruments from the Adams family and their chief competitors, and he uses those instruments as evidence. He does so thoroughly and with discrimination. In order to present this evidence, he has produced a splendidly-illustrated book . . .' Canadian Journal of History 'His book contains several appendixes, one of them especially useful for

instrument historians as an aid to dating Adams instruments and publications . . . very detailed . . . an excellent source of information on eighteenth-century life . . . an excellent work . . . the definitive work on the Adams workshop.' Technology and Culture '. . . this book marks a turning point in the standards necessary to produce a serious historical work on instrument makers . . . a model for the genre.' Medical History 46/3 'Millburn is already renowned among eighteenth-century historians of science . . . With this book, he has extended our knowledge in two directions, simultaneously enriching our awareness of the mid-century instrument trade, and providing a longitudinal study of how one family adapted to changing circumstances . . . The thoroughness of Millburn's research is stunning. He has drawn on an impressively wide range of sources . . . This history of the Adams family is an indispensable mine of information and research aide for anyone interested in the eighteenth-century instrument trade.' Metascience '. . . a fascinating book. Its eighty pages of notes, critical apparatus, and bibliography provide a fund of primary archival data that will be of as much use to historians of London, of business practices, and even of advertising, as it will to historians of scientific instruments. The volume is superbly produced on glossy art paper, and its 126 high-definition plates of engravings and instrument photographs render visually explicit the items discussed in the text. Dr Millburn must be congratulated on his achievement, for his book opens up a fascinating dimension of eighteenth-century intellectual and commercial life.' [review] *Annals of Science*.

CONTENTS: Part I: George Adams senior: Family background; Foundation and development of the Fleet Street business; Royal connections; Adams's globes; George Adams senior's last few years, 1767-1772; Part II: George Adams junior: Continuation of the business; Essays and lectures; Instruments for van Marum; Hannah Adams and the succession; Part III: Dudley Adams: Globe maker and instrument maker; Bankrupt: the end of the Adams instrument business; Electrician and political reformer; Appendices: George Adams senior's catalogue 1766; George Adams junior's last catalogue, 1795; Aids to dating Adams instruments and publications; Short-title list of publications by the Adams family; Bibliography; General index.

Other books written by John R. Millburn: 1) *Benjamin Martin: Author, Instrument-maker, and 'Country Showman'*; 2) *The London Evening Courses of Benjamin Martin and James Ferguson, Eighteenth-Century Lecturers on Experimental Philosophy*; 3) *Benjamin Martin: Supplement*; 4) B*enjamin Martin: Author, Instrument-maker, and "Country Showman"*; 5) With: Henry C. King, *Geared to the stars*; [and] 6) *Wheelwright of the Heavens: The Life and Works of James Ferguson, FRS,* (1988); 7) *Retailer of the Sciences: Benjamin Martin's Scientific Instrument Catalogues, 1756-82*.

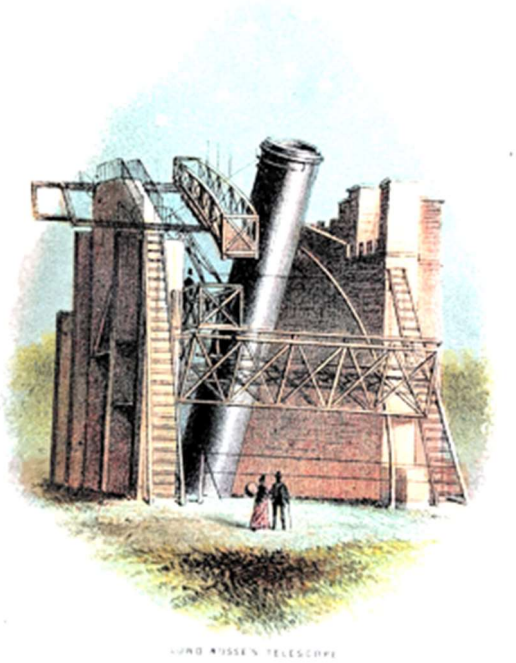




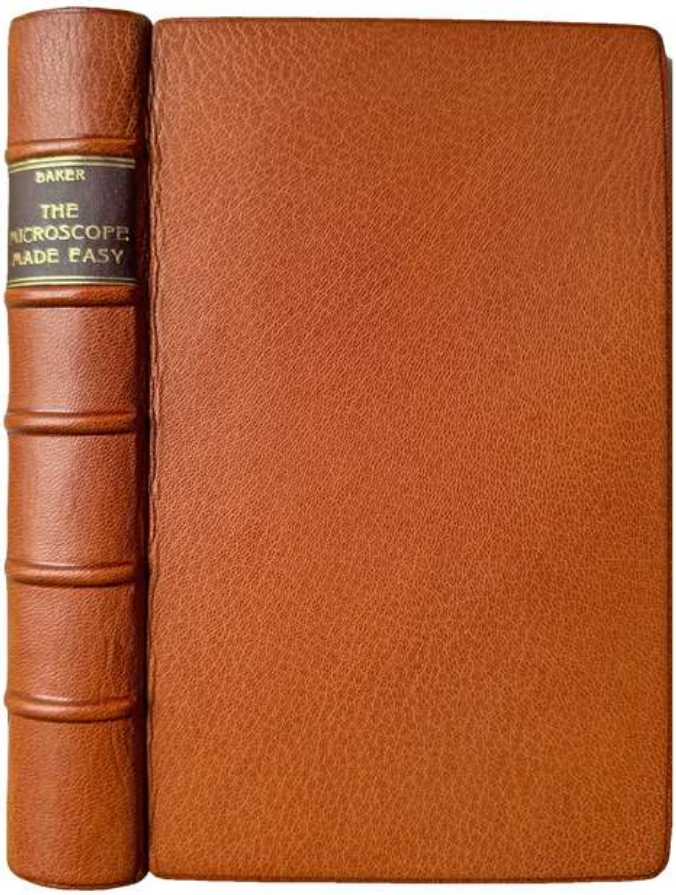
4. [**Anonymous**]. *Wonders of the Heavens: The Stars*. London: T. Nelson & Sons, [c. 1880-90]. ¶ Series: *Wonders of the Heavens*.

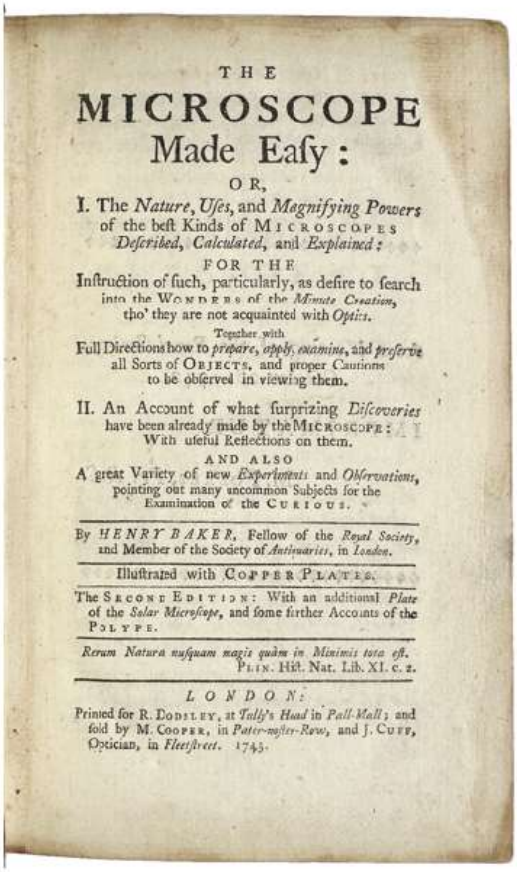
Sm. 8vo. vi, [2], [9]-120 pp. Color frontis., chromo-lithographic title vignette, figs. Original green black- and gilt-stamped cloth; rubbed. Ownership rubberstamp of Chas. R. Fleming. Very good. Rare. RW1295

$ 45



Contents include: "General View of the Sidereal World," "The Northern Constellations," "The Zodiac," "Variable and Temporary Stars: Stellar Phenomena," "The Distant Universe: Double, Multiple, and Coloured Stars".





THE
MICROSCOPE
Made Easy:
OR,
I. The *Nature, Uses*, and *Magnifying Powers* of the best Kinds of MICROSCOPES *Described, Calculated*, and *Explained*:
FOR THE
Inſtruction of ſuch, particularly, as deſire to ſearch into the WONDERS of the *Minute Creation*, tho' they are not acquainted with *Optics*.
Together with
Full Directions how to *prepare, apply, examine*, and *preſerve* all Sorts of OBJECTS, and proper Cautions to be obſerved in viewing them.
II. An Account of what ſurprizing *Diſcoveries* have been already made by the MICROSCOPE: With uſeful Reflections on them.
AND ALSO
A great Variety of new *Experiments* and *Obſervations*, pointing out many uncommon Subjects for the Examination of the CURIOUS.
By *HENRY BAKER*, Fellow of the *Royal Society*, and Member of the Society of *Antiquaries*, in *London*.
Illuſtrated with COPPER PLATES.
The SECOND EDITION: With an additional *Plate* of the *Solar Microſcope*, and ſome farther Accounts of the POLYPE.
Rerum Natura nuſquam magis quàm in Minimis tota eſt.
PLIN. Hiſt. Nat. Lib. XI. c. 2.
LONDON:
Printed for R. DODSLEY, at *Tully's Head* in *Pall-Mall*; and ſold by M. COOPER, in *Pater-noſter-Row*, and J. CUFF, Optician, in *Fleetſtreet*. 1743.

5. **BAKER, Henry** (1698-1774). *The Microscope Made Easy: or, I. The nature, uses, and magnifying powers of the best kind of microscopes . . . II. An account of what surprising discoveries have already been made by the microscope* . . ., London: for R. Dodsley, 1743. ¶ Two parts in 1 volume. 8vo. xvi, 311, [13] pp. Large folding plate, 14 numbered engraved plates (incl. 9 folding), folding table (p. 36), index. Modern full dark-tan morocco, with blind- and gilt-stamping, dark brown cloth spine label, new endsheets. Fine.

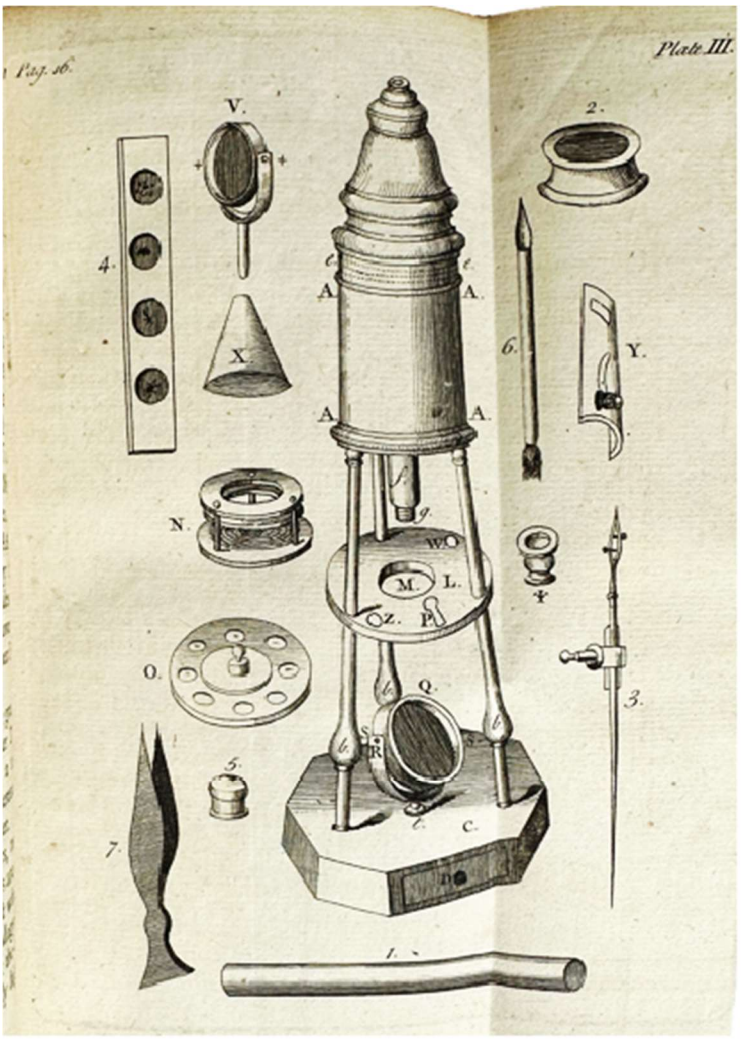
$ 450

Second edition (as stated on the title: With an additional Plate of the Solar Microscope, and some farther accounts of the Polype).

This book popularized the microscope in the 18th century. The first section describes simple and compound microscopes along with how to prepare specimens and calculate their size. The second section introduces the reader to microscopy and the laboratory manual. Also includes "Animalcules," or microscopic animals, and anatomical discoveries made with the microscope. – Science Museum Library.

The Microscope made Easy was first published in 1742 as a beginner's guide to the use of the microscope. Its author, Henry Baker, was keen to popularise science and this book was one of several he wrote concerning the microscope. The book is divided

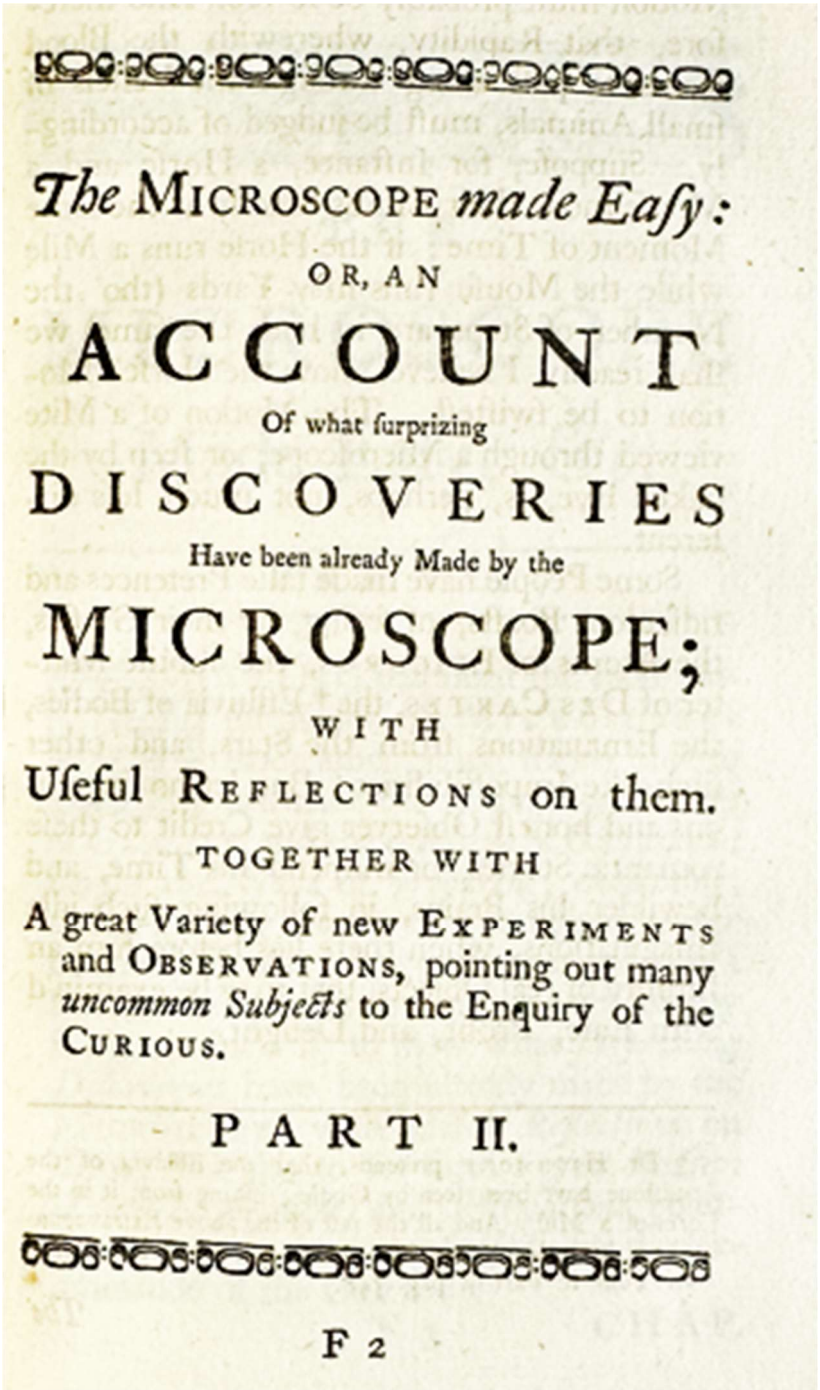
into two parts, the first describing the different types of microscope, how they were used and how to prepare specimens for observation, while the second formed a practical examination of different natural objects. The book was a great success and went through five editions before Baker's death in 1774. – Royal Collection Trust.



Findings include salts found in urine, seeds of the vanilla bean, understanding the metals in vegetation, examining warts, the exposure and effects of sulfuric acid, observations of spider eyes and fangs, effects of light on oysters, formation of gems and their coloration, and in depth look into various salt crystals.

Henry Baker, an English naturalist, Fellow of the Royal Society, best known for his two chief works using the microscope. These two treatises are 'Employment for the Microscope' and 'The Microscope Made Easy'. Both works are illustrated with engraved plates showing the various types of microscopes and their parts, uses, including objects seen through the microscope, and in particular, the Polyp. Baker

details many uses, including salts found in urine, viewing blood with the microscope, "Of the itch", dealing with insect bites and effects on the skin, Of a bee's sting, vanilla bean seeds, vegetation, "Of the wolf" (a white worn or maggot), warts, the exposure and effects of sulfuric acid, observations of spider anatomy, how light effects oysters, the formation of gems and their colors, seeing salt crystals through the lens. This edition features the Solar Microscope, or Camera Obscura microscope (p. 22).



The MICROSCOPE *made Eaſy:*

OR, AN

ACCOUNT

Of what ſurprizing

DISCOVERIES

Have been already Made by the

MICROSCOPE;

WITH

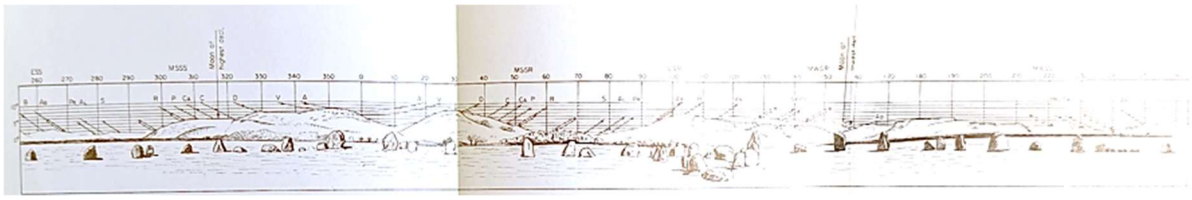
Uſeful REFLECTIONS on them.

TOGETHER WITH

A great Variety of new EXPERIMENTS and OBSERVATIONS, pointing out many *uncommon Subjects* to the Enquiry of the CURIOUS.

PART II.

F 2



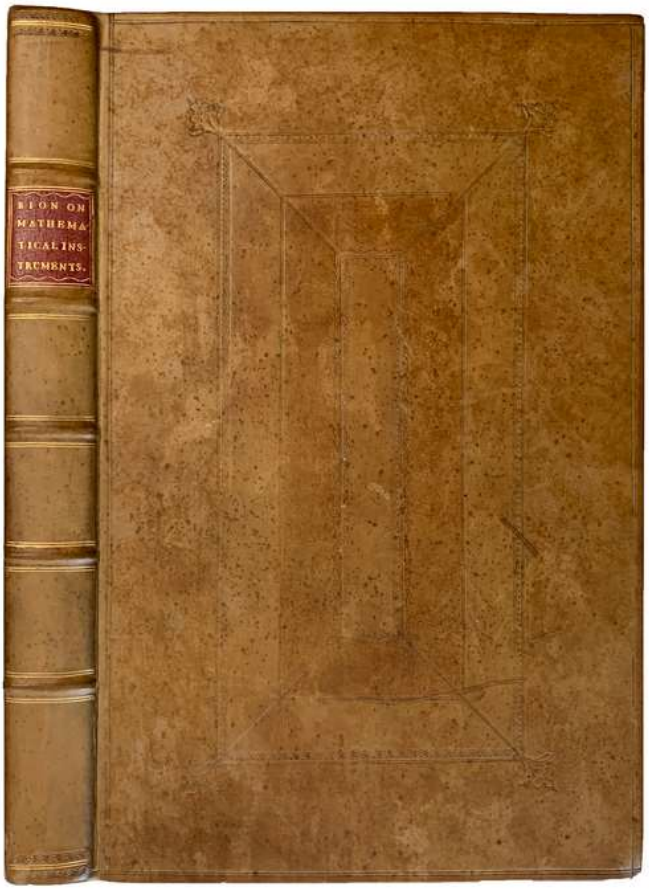
6. **BEER, Arthur** (1900-1980); **International Astronomical Union**; **International Union of the History and Philosophy of Science**. *Vistas in Astronomy. Edited by Arthur Beer. Volume 7, Prehistory, Spectroscopy, Statistics, Evolution*. Oxford: Pergamon Press, 1966. ¶ Series: *Journal of atmospheric and terrestrial physics* (special supplement no. 3). 8vo. vii, [1], 208 pp. Figs. (1 folding), tables. Original navy gilt-stamped cloth. Very good.

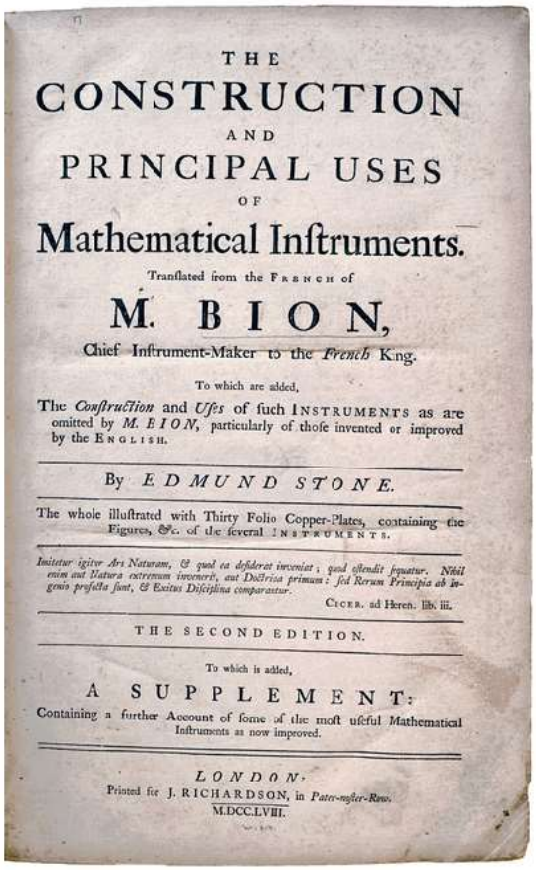
$ 15

CONTENTS OF VOLUME 7. Introduction by A. BEER – Megalithic Astronomy: Indications in Standing Stones by Alexander THOM [1894-1985] (Formerly University of Oxford; The Hill, Dunlop. Ayrshire) – Astrophysical Investigations utilizing Objective Prisms by Charles Bruce STEPHENSON [1929-2001] (Warner and Swasey Observatory, Case Institute of Technology, Cleveland, Ohio) – Spectroscopic Studies of Late-Type Stars by Yoshio FUJITA [1908-2013] (Department of Astronomy, Faculty of Science, University of Tokyo, Japan) – Magnetic Stars and Metallic-Line Stars by MARGHERITA HACK [1922-2013] (University Observatory, Trieste, Italy) – Statistical Population Indices by Wilhemina IWANOWSKA [1905-1999] (Astronomical Observatory, N. Copernicus University, Torun, Poland) – The Stellar Luminosity-Function by S. W. McCUSKEY (Warner and Swasey Observatory, Case Institute of Technology, Cleveland, Ohio) – Some Problems of Star Formation by Vincent Cartledge REDDISH [1926-2015] (Royal Observatory, Edinburgh) – INDEX.

Arthur Beer was a German astronomer who worked at Cambridge University.

"In the early 1950s Arthur committed himself to a voluminous and thorough survey of current astronomy. Ultimately, 215 scientists, mathematicians and historians contributed to what was to become the multi-volume *Vistas of Astronomy*, covering both historical and current topics, for which he was a writer and editor-in-chief (1955–1956) for the first two volumes. The series outlived Beer, Volume 42 appearing in 1998, before its functions were taken over by the New Astronomy Reviews and the Journal of Astronomical History and Heritage."





THE
CONSTRUCTION
AND
PRINCIPAL USES
OF
Mathematical Inſtruments.

Tranſlated from the FRENCH of

M. BION,

Chief Inſtrument-Maker to the *French* King.

To which are added,

The *Conſtruction* and *Uſes* of ſuch INSTRUMENTS as are omitted by *M. BION*, particularly of thoſe invented or improved by the ENGLISH.

By *EDMUND STONE*.

The whole illuſtrated with Thirty Folio Copper-Plates, containing the Figures, &c. of the ſeveral INSTRUMENTS.

Imitetur igitur Ars Naturam, & quod ea deſideret inveniat; quod oſtendit ſequatur. Nihil enim aut Natura extremum invenerit, aut Doctrina primum: ſed Rerum Principia ab ingenio profecta ſunt, & Exitus Diſciplina comparantur.

CICER. ad Heren. lib. iii.

THE SECOND EDITION.

To which is added,

A SUPPLEMENT:

Containing a further Account of ſome of the moſt uſeful Mathematical Inſtruments as now improved.

LONDON,

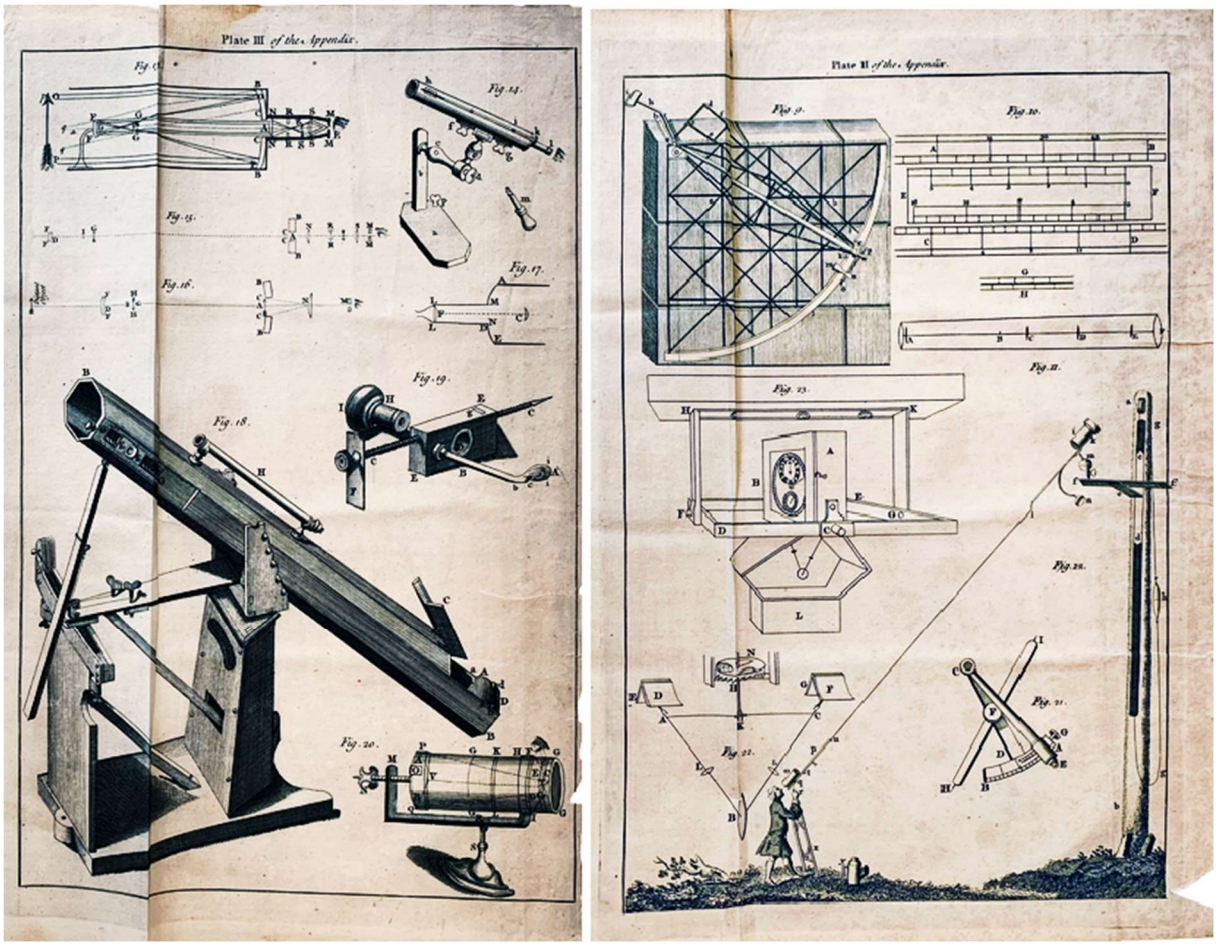
Printed for J. RICHARDSON, in *Pater-noſter-Row*.

M.DCC.LVIII.

7. **BION, Nicolas** (circa 1652-1733). *The Construction and Principal Uses of Mathematical Instruments. Translated from the French of M. Bion, chief instrument-maker to the French king. To which are added, the construction and uses of such instruments as are omitted by M. Bion; particularly of those invented or improved by the English. By Edmund Stone. The whole illustrated with thirty folio copper-pates, containing the figures, &c. of the several instruments*. London: Printed for J. Richardson, 1758. ¶ Folio. vii, [1], 264; [iv], 265-325, [1] pp. Title printed in black, headpieces, decorative initials, tailpieces, tables, 30 engraved plates, errata (p. 325); plate IX mended. Elegant period-style full modern blind-ruled speckled calf, raised bands, red leather spine label, gilt ruled spine. Ownership rubber-stamp of G. E. Boom (p. 25 [H1]). Very good copy in a handsome binding. AB1011

$ 1,400

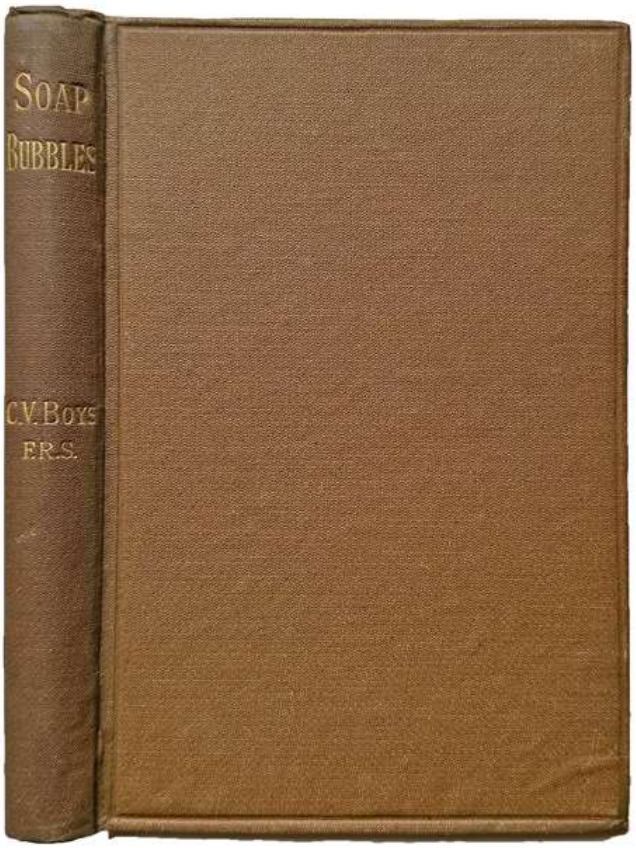
Second and best English edition, translated from the French by Edmund Stone. The superb plates illustrate many fine instruments, including the telescope, quadrant, sun dial, pendulum clock, various astronomical instruments, and much more. The whole of Book VII is devoted to instruments of navigation, the compass and astrolabe in particular.

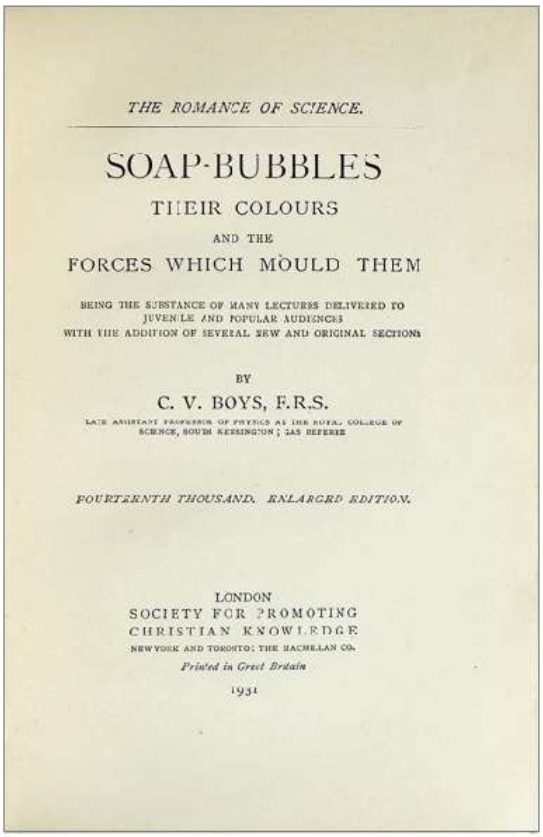


Historian of science, David M. Knight, Durham University, described this work as "the most famous book devoted to instruments."

Little is known of the life and work of Nicolas Bion; the *Biographie universelles* describes Bion as a cosmographer and maker of globes and spheres, who published many estimable works. He wrote a work on astrolabes. Bion and sold mathematical instruments in Paris in his own shop and as royal instrument maker for Louis XIV.

□ *DSB*, II, pp. 132-133; Mottelay, Paul Fleury, *Bibliographical History of Electricity and Magnetism*, p. 148.




THE ROMANCE OF SCIENCE.

SOAP-BUBBLES

THEIR COLOURS

AND THE

FORCES WHICH MOULD THEM

BEING THE SUBSTANCE OF MANY LECTURES DELIVERED TO JUVENILE AND POPULAR AUDIENCES WITH THE ADDITION OF SEVERAL NEW AND ORIGINAL SECTIONS

BY

C. V. BOYS, F.R.S.

LATE ASSISTANT PROFESSOR OF PHYSICS AT THE ROYAL COLLEGE OF SCIENCE, SOUTH KENSINGTON; NOW REFEREE

FOURTEENTH THOUSAND. ENLARGED EDITION.

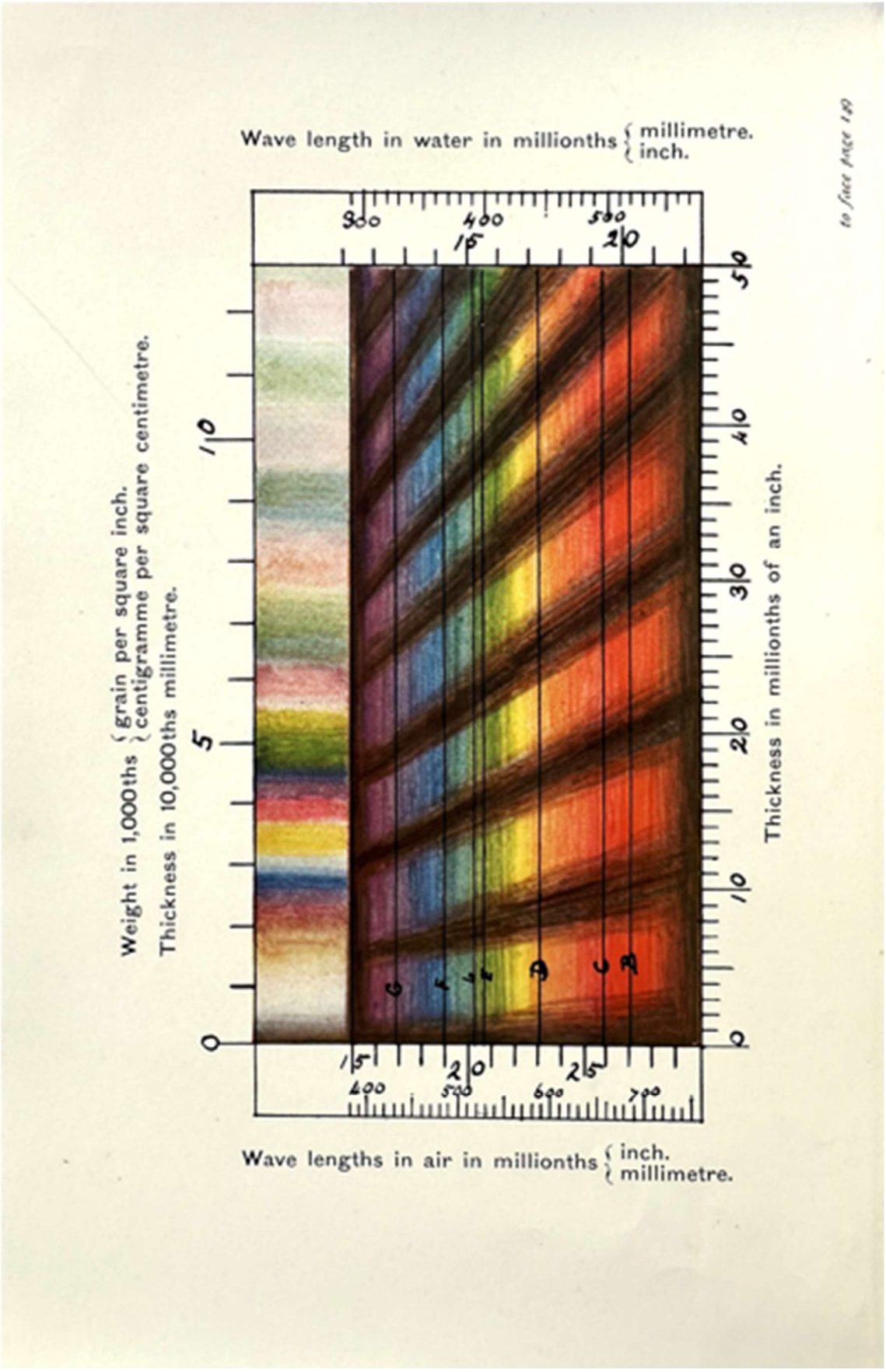
LONDON
SOCIETY FOR PROMOTING
CHRISTIAN KNOWLEDGE
NEW YORK AND TORONTO: THE MACMILLAN CO.
Printed in Great Britain
1931

8. **BOYS, Sir Charles Vernon,** FRS (1855-1944). *Soap-Bubbles, their colours and the forces which mould them: being the substance of many lectures delivered to juvenile and popular audiences with the addition of several new and original sections*. London: Society for Promoting Christian Knowledge, 1931. ¶ Small 8vo. xi, [1], 13-190, [2] pp. Color frontispiece, 82 figures, 1 color plate (p. 149). Original brown blind- and gilt-stamped cloth; rubbed. Bookseller's ticket. Very good.

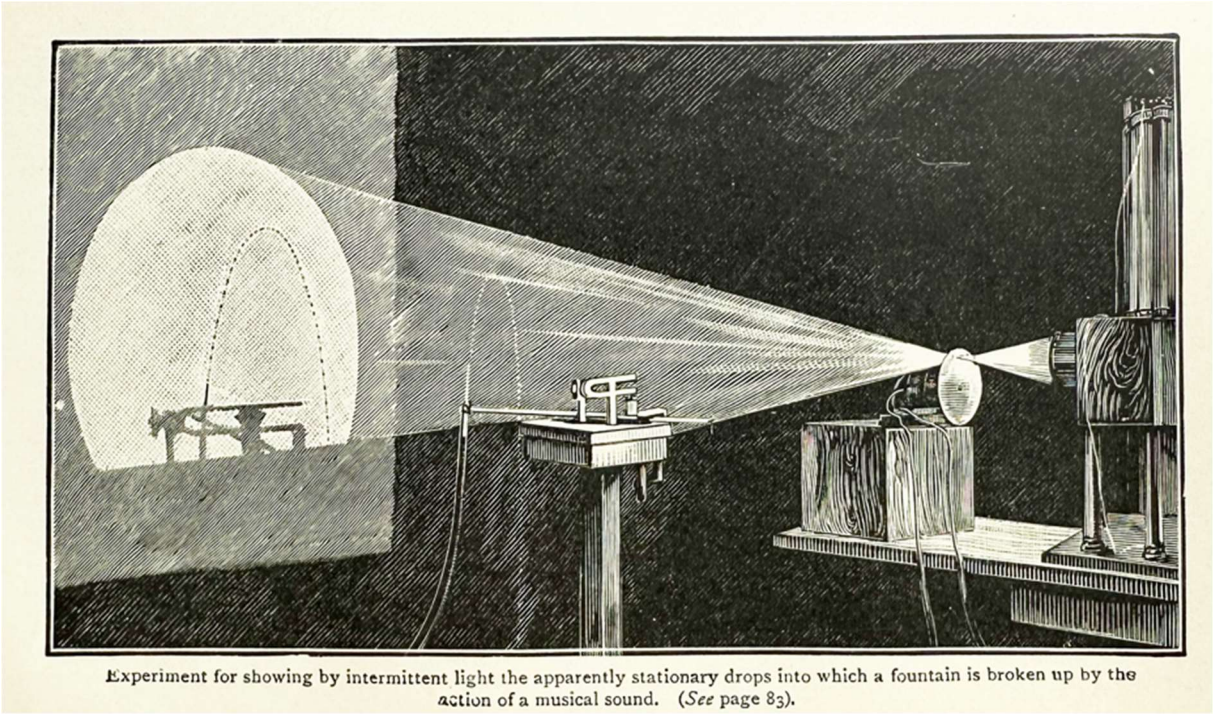
$ 95

Fourteenth-thousand, enlarged edition. A classic work on the topic of soap-bubbles.

WITH AN AUTOGRAPH LETTER SIGNED from the author, 3 pages, addressed to "Miss Callender" 66 Victoria Street, London, S.W.1, 4th April, [19]34. The first page of the letter is browned. With a hand-drawn figure. Boys writes, "The best mixture for large bubbles is that given in my book. The trouble is that what is called Oleate of Soda may be anything. The only good stuff I have had from Kahlbourn of Berlin which can be got at any chemical dealers. Here again I have found that supplied by them since the war not so good as pre-war.


Wave length in water in millionths { millimetre. inch.
300
400
500
15
20
50
40
30
20
10
0
10
5
0
Weight in 1,000ths { grain per square inch. centigramme per square centimetre.
Thickness in 10,000ths millimetre.
Thickness in millionths of an inch.
C
D
E
F
G
15
20
25
400
500
600
700
Wave lengths in air in millionths { inch. millimetre.

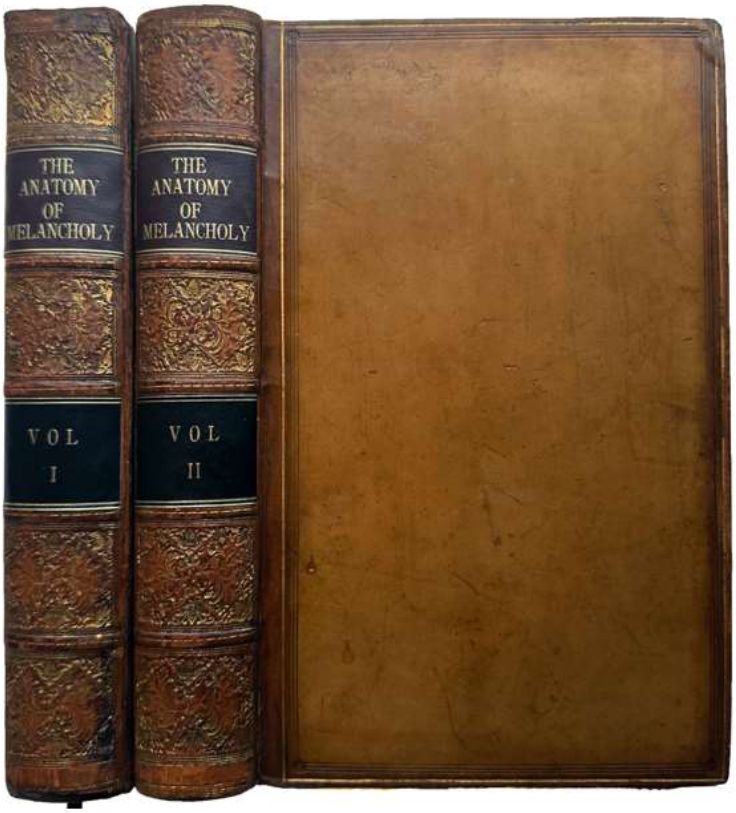
I have blown very large bubbles successfully but the difficulty is to blow enough air. I have got over this difficulty by making (first experimentally in paper) + then in this plate an injector blower like this. The mouth [see figure] was about 3 inches in diameter and a strip of an old handkerchief was tied round it to form a soft attachment for the bubble . . .”

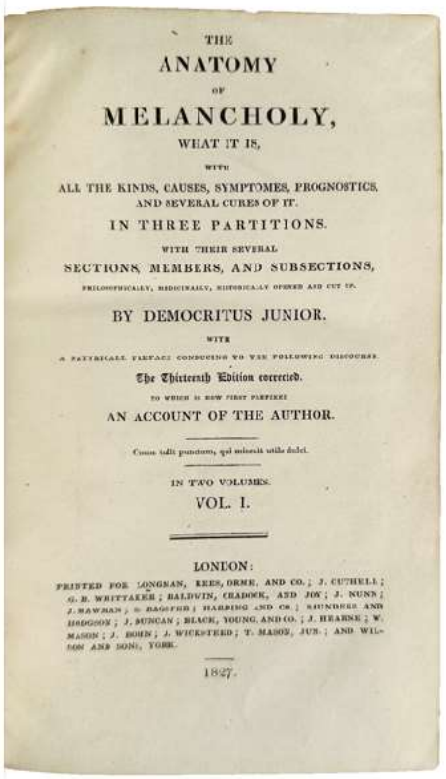


Experiment for showing by intermittent light the apparently stationary drops into which a fountain is broken up by the action of a musical sound. (*See* page 83).

“Boys conducted public lectures on the properties of soap films, which were gathered into the book *Soap Bubbles: Their Colours and the Forces Which Mould Them*, a classic of scientific popularization. The first edition of *Soap Bubbles* appeared in 1890 and the second in 1911; it has remained in print to this day. The book deeply impressed French writer Alfred Jarry, who in 1898 wrote the absurdist novel *Exploits and Opinions of Dr. Faustroll, Pataphysician*, in which the title character, who was born at the age of 63 and sails in a sieve, is described as a friend of C.V. Boys (see also *Pataphysics*). The book was also a favorite of American poet Elizabeth Bishop.” – Wikip.

Sir Charles Vernon Boys FRS, was a British physicist, was assistant professor of physics, Royal College of Science, South Kensington. He was “known for his careful and innovative experimental work in the fields of thermodynamics and high-speed photography, and as a popular science communicator through his books, inventions, and his public lectures for children.”




THE
ANATOMY
OF
MELANCHOLY,
WHAT IT IS,
WITH
ALL THE KINDS, CAUSES, SYMPTOMES, PROGNOSTICS,
AND SEVERAL CURES OF IT.
IN THREE PARTITIONS.
WITH THEIR SEVERAL
SECTIONS, MEMBERS, AND SUBSECTIONS,
PHILOSOPHICALLY, MEDICINALLY, HISTORICALLY OPENED AND CUT UP.
BY DEMOCRITUS JUNIOR.
WITH
A SATYRICALL PREFACE, CONDUCING TO THE FOLLOWING DISCOURSE.
The Thirteenth Edition corrected.
TO WHICH IS NOW FIRST PREFIXED
AN ACCOUNT OF THE AUTHOR.
Cuncta tulit punctum, qui miscuit utile dulci.
IN TWO VOLUMES.
VOL. I.
LONDON:
PRINTED FOR LONGMAN, REES, ORME, AND CO.; J. CUTHELL; G. B. WHITTAKER; BALDWIN, CRADOCK, AND JOY; J. NUNN; J. RAWMAN; R. BAGSTER; HARDING AND CO.; SAUNDERS AND HODGSON; J. MURRAY; BLACK, YOUNG, AND CO.; J. HEARNE; W. MASON; J. BOHN; J. WICKSTEED; T. MASON, JUN.; AND WILSON AND SON, YORK.
1827.

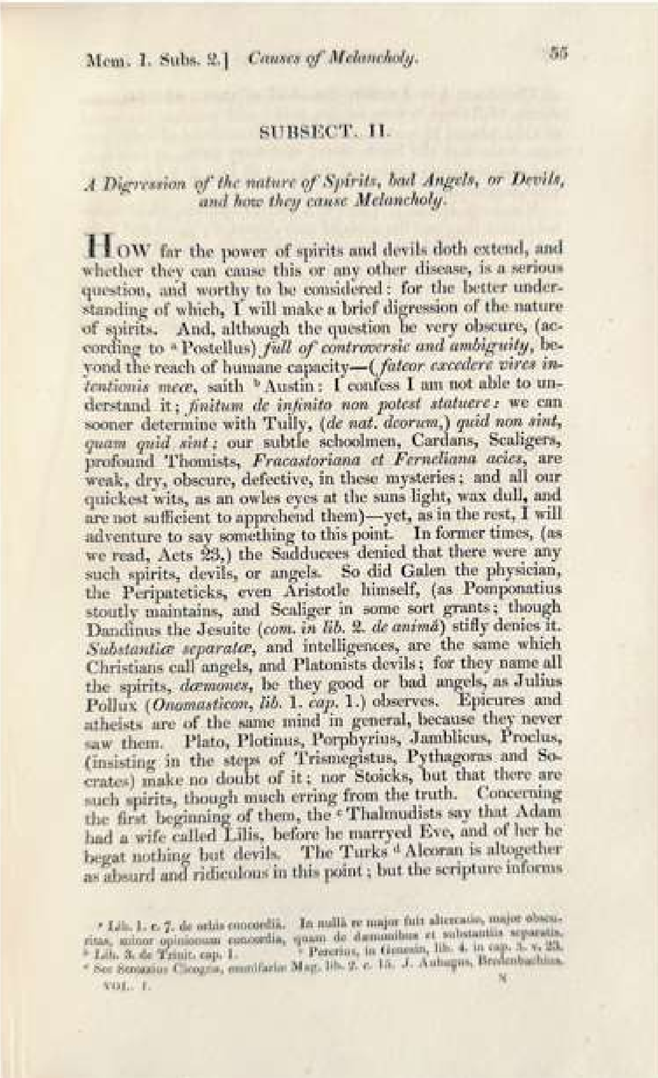
Burton also marked his place in Astronomical History

9. **BURTON, Robert** (1577-1640). *The Anatomy of Melancholy, what it is, with all the kinds, causes, symptomes, prognostics, and several cures of it . . .* London: Longman, Rees, Orme, and Co., etc., 1827. ¶ 2 volumes. 8vo. xxiv, 461, [1]; [iv], 612 pp. Small portrait of the author, index. Original calf, gilt-stamped spine, modern gilt-stamped spine labels in black and maroon, all edges marbled; vol. I joint neatly mended. Bookplate of Henry Charles King (vol. I); bookplate of Edwin Simpson (vol. II). Very good.

$ 300

First published in 1621, this is one of the great classics of medicine. “In his satirical preface to the reader, Burton's persona and pseudonym "Democritus Junior" explains, "I write of melancholy by being busy to avoid melancholy." This is characteristic of the author's style, which often supersedes the book's strengths as a medical text or historical document as its main source of appeal to admirers. Both satirical and serious in tone, the *Anatomy* is "vitalized by [Burton's] pervading humour", and Burton's digressive and inclusive style, often verging on a stream of consciousness, consistently informs and animates the text. In addition to the author's techniques, the *Anatomy's* vast breadth – addressing topics such as digestion, goblins, the geography of America, and others – make it a valuable contribution to multiple disciplines.” – Wikip.

Burton himself defines Melancholy as: "*Melancholy*, the subject of our present discourse, is either in disposition or in habit. In disposition, is that transitory Melancholy which goes and comes upon every small occasion of sorrow, need, sickness, trouble, fear, grief, passion, or perturbation of the mind, any manner of care, discontent, or thought, which causes anguish, dul[l]ness, heaviness and vexation of spirit, any ways opposite to pleasure, mirth, joy, delight, causing forwardness in us, or a dislike. In which equivocal and improper sense, we call him melancholy, that is dull, sad, sour, lumpish, ill-disposed, solitary, any way moved, or displeased. And from these melancholy dispositions no man living is free, no Stoic, none so wise, none so happy, none so patient, so generous, so godly, so divine, that can vindicate himself; so well-composed, but more or less, some time or other, he feels the smart of it. Melancholy in this sense is the character of Mortality... This Melancholy of which we are to treat, is a habit, a serious ailment, a settled humour, as Aurelianus and others call it, not errant, but fixed: and as it was long increasing, so, now being (pleasant or painful) grown to a habit, it will hardly be removed."



Mem. 1. Subs. 2.] *Causes of Melancholy.* 55

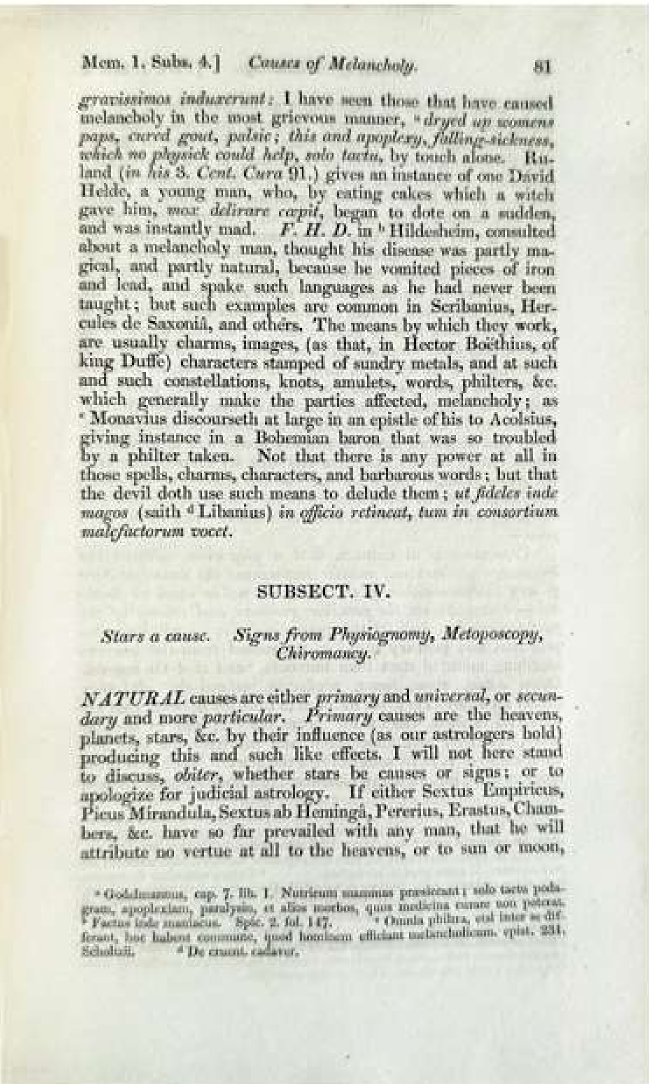
SUBSECT. II.

A Digression of the nature of Spirits, bad Angels, or Devils, and how they cause Melancholy.

HOW far the power of spirits and devils doth extend, and whether they can cause this or any other disease, is a serious question, and worthy to be considered: for the better understanding of which, I will make a brief digression of the nature of spirits. And, although the question be very obscure, (according to [a] Postellus) *full of controversie and ambiguity*, beyond the reach of humane capacity—(*fateor excedere vires intentionis meæ*, saith [b] Austin: I confess I am not able to understand it; *finitum de infinito non potest statuere:* we can sooner determine with Tully, (*de nat. deorum,*) *quid non sint, quam quid sint;* our subtle schoolmen, Cardans, Scaligers, profound Thomists, *Fracastoriana et Ferneliana acies*, are weak, dry, obscure, defective, in these mysteries; and all our quickest wits, as an owles eyes at the suns light, wax dull, and are not sufficient to apprehend them)—yet, as in the rest, I will adventure to say something to this point. In former times, (as we read, Acts 23,) the Sadducees denied that there were any such spirits, devils, or angels. So did Galen the physician, the Peripateticks, even Aristotle himself, (as Pomponatius stoutly maintains, and Scaliger in some sort grants; though Dandinus the Jesuite (*com. in lib. 2. de animâ*) stifly denies it. *Substantiæ separatæ*, and intelligences, are the same which Christians call angels, and Platonists devils; for they name all the spirits, *dæmones*, be they good or bad angels, as Julius Pollux (*Onomasticon, lib. 1. cap. 1.*) observes. Epicures and atheists are of the same mind in general, because they never saw them. Plato, Plotinus, Porphyrius, Jamblicus, Proclus, (insisting in the steps of Trismegistus, Pythagoras and Socrates) make no doubt of it; nor Stoicks, but that there are such spirits, though much erring from the truth. Concerning the first beginning of them, the [c] Thalmudists say that Adam had a wife called Lilis, before he marryed Eve, and of her he begat nothing but devils. The Turks [d] Alcoran is altogether as absurd and ridiculous in this point; but the scripture informs

[a] Lib. 1. c. 7. de orbis concordiâ. In nullâ re major fuit altercatio, major obscuritas, minor opinionum concordia, quam de dæmonibus et substantiis separatis. [b] Lib. 3. de Trinit. cap. 1. [c] Pererius, in Genesin, lib. 4. in cap. 3. v. 23. [d] See Strozzius Cicogna, omnifariæ Mag. lib. 2. c. 15. J. Aubanus, Bredenbachius.

VOL. I. N



Mem. 1. Subs. 4.] *Causes of Melancholy.* 81

gravissimos induxerunt: I have seen those that have caused melancholy in the most grievous manner, [a] *dryed up womens paps, cured gout, palsie; this and apoplexy, falling-sickness, which no physick could help, solo tactu*, by touch alone. Ruland (*in his 3. Cent. Cura* 91.) gives an instance of one David Helde, a young man, who, by eating cakes which a witch gave him, *mox delirare cœpit*, began to dote on a sudden, and was instantly mad. *F. H. D.* in [b] Hildesheim, consulted about a melancholy man, thought his disease was partly magical, and partly natural, because he vomited pieces of iron and lead, and spake such languages as he had never been taught; but such examples are common in Scribanius, Hercules de Saxoniâ, and others. The means by which they work, are usually charms, images, (as that, in Hector Boëthius, of king Duffe) characters stamped of sundry metals, and at such and such constellations, knots, amulets, words, philters, &c. which generally make the parties affected, melancholy; as [c] Monavius discourseth at large in an epistle of his to Acolsius, giving instance in a Bohemian baron that was so troubled by a philter taken. Not that there is any power at all in those spells, charms, characters, and barbarous words; but that the devil doth use such means to delude them; *ut fideles inde magos* (saith [d] Libanius) *in officio retineat, tum in consortium malefactorum vocet.*

SUBSECT. IV.

Stars a cause. Signs from Physiognomy, Metoposcopy, Chiromancy.

NATURAL causes are either *primary* and *universal*, or *secundary* and more *particular*. *Primary* causes are the heavens, planets, stars, &c. by their influence (as our astrologers hold) producing this and such like effects. I will not here stand to discuss, *obiter*, whether stars be causes or signs; or to apologize for judicial astrology. If either Sextus Empiricus, Picus Mirandula, Sextus ab Hemingâ, Pererius, Erastus, Chambers, &c. have so far prevailed with any man, that he will attribute no vertue at all to the heavens, or to sun or moon,

[a] Godelmannus, cap. 7. lib. 1. Nutricum mammas præsiccant; solo tactu podagram, apoplexiam, paralysin, et alios morbos, quos medicina curare non poterat. [b] Factus inde maniacus. Spic. 2. fol. 147. [c] Omnia philtra, etsi inter se differant, hoc habent commune, quod hominem efficiant melancholicum. epist. 231. Scholtzii. [d] De cruent. cadaver.

Joseph Ashbrook writes, with apt conviction, that Robert Burton's classic, *The Anatomy of Melancholy*, contains within it many references to the current cosmic vision, of or relating to the planets and stars. He references Copernican ideas, "the Anatomy contains at great length the arguments for an earth-centered solar system as well as the newer heliocentric system. Burton is up to date enough to dismiss as 'absurd and ridiculous' the notion that the vast machinery of concentric spheres, epicycles, and eccentrics has a material existence; at best they are concepts arbitrarily invented to help describe mathematically the motions of the moon, sun, and planets." "The Medicean Stars, as Burton calls the four bright satellites of Jupiter, are referred to repeatedly" . . . "Selenography in mentioned in this book published only 12 years after Galileo took his first look at the moon through a telescope. Burton notes that Galileo, Kepler, and others 'find by their glasses that *Maculae in facie Lunae* [those spots on the face of the moon], the brighter parts are Earth, the dusky Seam which Thales, Plutarch, and Pythagoras formerly taught: and manifestly discern Hills and Dales, and such like concavities.'" – Ashbrook (quoting Burton).

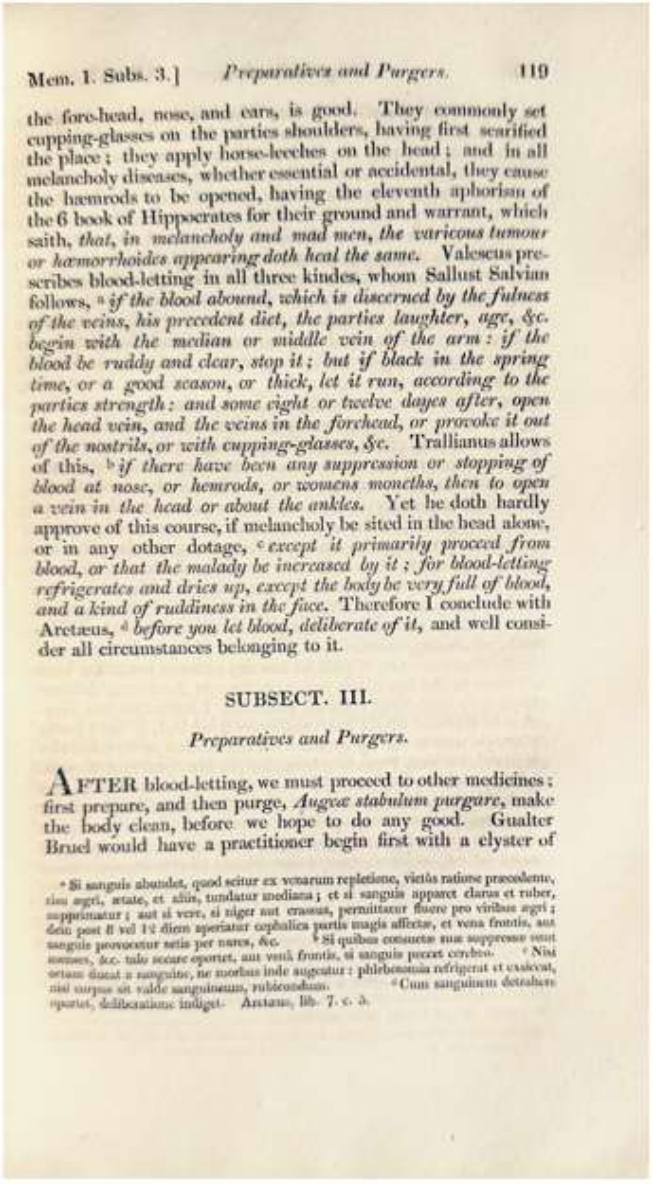
See: Joseph Ashbrook (1918-1980), "The cosmic vision of Robert Burton". Astronomical Scrapbook [series]. *Sky and Telescope*, vol. 33, Febr., 1967, p. 92. Also reprinted: Joseph Ashbrook, *The Astronomical Scrapbook: Skywatchers, Pioneers and Seekers in Astronomy*, Cambridge University Press, 2009.

"It was one of Sir William Osler's favourite books." – Garrison and Morton 4918.1.

"Burton had read much, and all that he had read . . . was incorporated in the Anatomy . . . if ever a single book deserved to be called the work of a lifetime, it is this . . . All the learning of the age as well as its humour – and its pedantry – are there. It has something in common with Brant's 'Ship of Fools', Erasmus's 'Praise of Folly', and More's 'Utopia', with Rabelais and Montaigne, and like these it exercised a considerable influence on the thought of the time." – *Printing and the Mind of Man*, 118.

PROVENANCE [2]: [1] Edwin Simpson, with motto "quid fit rectum" [what is right] with British heraldic symbol; [2] Henry Charles King (1915-2005) – he signed the book in 1938 likely the date he acquired the book. In the 1950s he was Senior Lecturer in Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London

Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope. He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).



Mem. 1. Subs. 3.] *Preparatives and Purgers.* 119

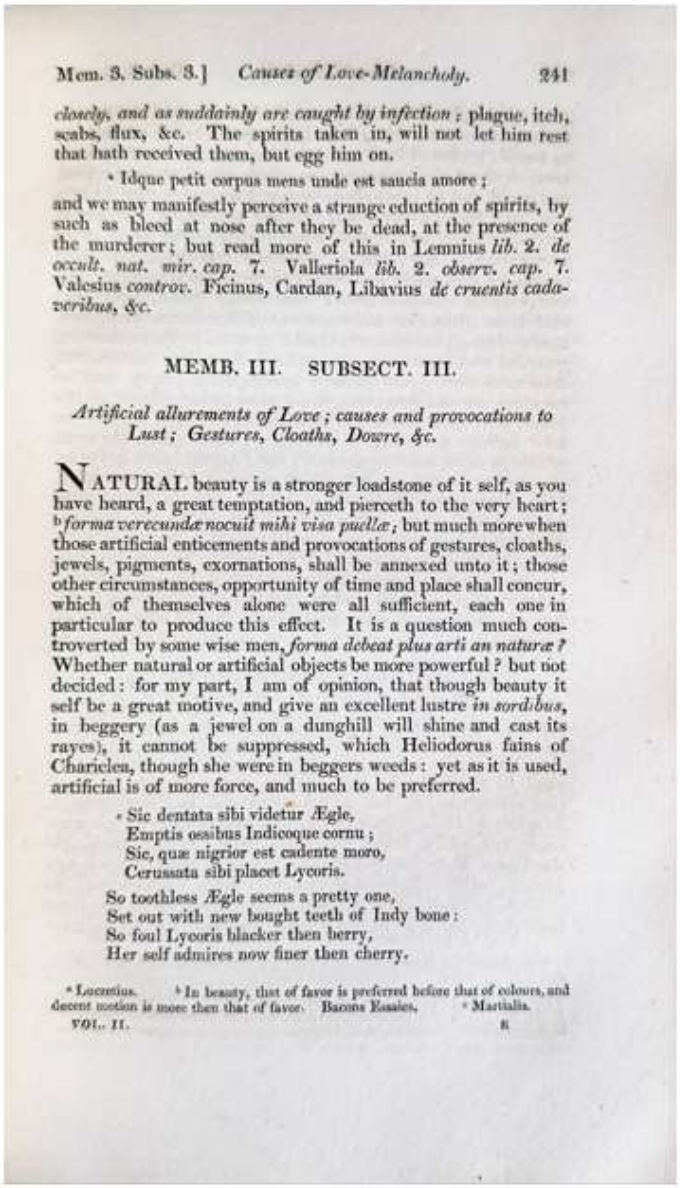
the fore-head, nose, and ears, is good. They commonly set cupping-glasses on the parties shoulders, having first scarified the place; they apply horse-leeches on the head; and in all melancholy diseases, whether essential or accidental, they cause the hæmrods to be opened, having the eleventh aphorism of the 6 book of Hippocrates for their ground and warrant, which saith, *that, in melancholy and mad men, the varicous tumour or hæmorrhoides appearing doth heal the same.* Valescus prescribes blood-letting in all three kindes, whom Sallust Salvian follows, [a] *if the blood abound, which is discerned by the fulness of the veins, his precedent diet, the parties laughter, age, &c. begin with the median or middle vein of the arm: if the blood be ruddy and clear, stop it; but if black in the spring time, or a good season, or thick, let it run, according to the parties strength: and some eight or twelve dayes after, open the head vein, and the veins in the forehead, or provoke it out of the nostrils, or with cupping-glasses, &c.* Trallianus allows of this, [b] *if there have been any suppression or stopping of blood at nose, or hemrods, or womens moneths, then to open a vein in the head or about the ankles.* Yet he doth hardly approve of this course, if melancholy be sited in the head alone, or in any other dotage, [c] *except it primarily proceed from blood, or that the malady be increased by it; for blood-letting refrigerates and drics up, except the body be very full of blood, and a kind of ruddiness in the face.* Therefore I conclude with Aretæus, [d] *before you let blood, deliberate of it,* and well consider all circumstances belonging to it.

SUBSECT. III.

Preparatives and Purgers.

AFTER blood-letting, we must proceed to other medicines: first prepare, and then purge, *Augeæ stabulum purgare*, make the body clean, before we hope to do any good. Gualter Bruel would have a practitioner begin first with a clyster of

[a] Si sanguis abundet, quod scitur ex venarum repletione, victûs ratione præcedente, item ægri, ætate, et aliis, tundatur mediana; et si sanguis apparet clarus et ruber, supprimatur; aut si vere, si niger aut crassus, permittatur fluere pro viribus ægri; dein post 8 vel 12 diem aperiatur cephalica partis magis affectæ, et vena frontis, aut sanguis provocetur naribus per nares, &c. [b] Si quibus consuetæ suæ suppresse sunt menses, &c. tale secare oportet, aut venâ frontis, si sanguis pecet cerebro. [c] Nisi ortum ducat a sanguine, ne morbus inde augeatur: phlebotomia refrigerat et exsiccat, nisi corpus sit valde sanguineum, rubicundum. [d] Cum sanguinem detrahere oportet, deliberatione indiget. Aretæus, lib. 7. c. 5.



Mem. 3. Subs. 3.] *Causes of Love-Melancholy.* 241

closely, and as suddainly are caught by infection; plague, itch, scabs, flux, &c. The spirits taken in, will not let him rest that hath received them, but egg him on.

[a] Idque petit corpus mens unde est saucia amore;

and we may manifestly perceive a strange eduction of spirits, by such as bleed at nose after they be dead, at the presence of the murderer; but read more of this in Lemnius *lib.* 2. *de occult. nat. mir. cap.* 7. Valleriola *lib.* 2. *observ. cap.* 7. Valesius *controv.* Ficinus, Cardan, Libavius *de cruentis cadaveribus, &c.*

MEMB. III. SUBSECT. III.

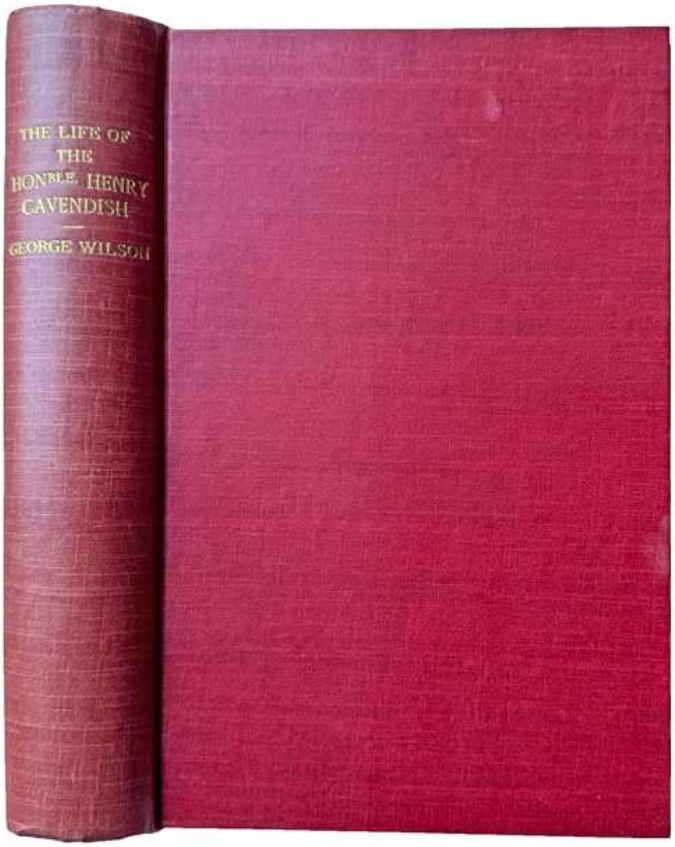
Artificial allurements of Love; causes and provocations to Lust; Gestures, Cloaths, Dowre, &c.

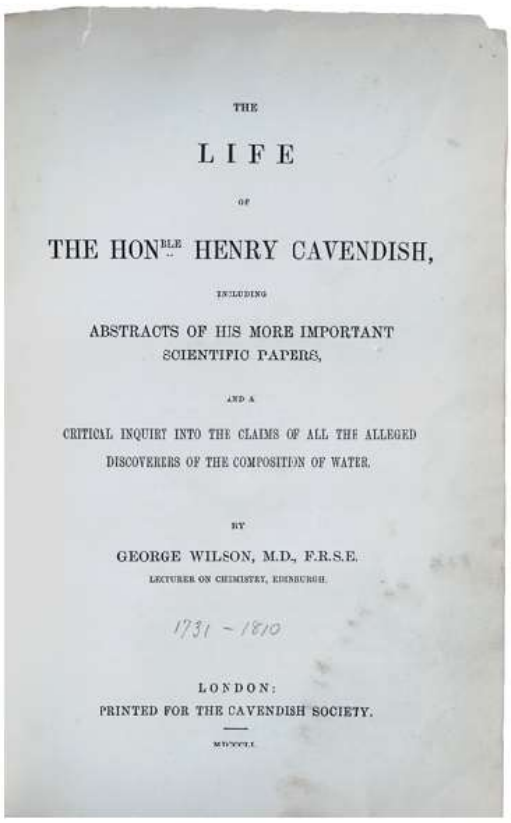
NATURAL beauty is a stronger loadstone of it self, as you have heard, a great temptation, and pierceth to the very heart; [b] *forma verecundæ nocuit mihi visa puellæ;* but much more when those artificial enticements and provocations of gestures, cloaths, jewels, pigments, exornations, shall be annexed unto it; those other circumstances, opportunity of time and place shall concur, which of themselves alone were all sufficient, each one in particular to produce this effect. It is a question much controverted by some wise men, *forma debeat plus arti an naturæ?* Whether natural or artificial objects be more powerful? but not decided: for my part, I am of opinion, that though beauty it self be a great motive, and give an excellent lustre *in sordibus*, in beggery (as a jewel on a dunghill will shine and cast its rayes), it cannot be suppressed, which Heliodorus fains of Charicles, though she were in beggers weeds: yet as it is used, artificial is of more force, and much to be preferred.

[c] Sic dentata sibi videtur Ægle,
Emptis ossibus Indicoque cornu;
Sic, quæ nigrior est cadente moro,
Cerussata sibi placet Lycoris.

So toothless Ægle seems a pretty one,
Set out with new bought teeth of Indy bone:
So foul Lycoris blacker then berry,
Her self admires now finer then cherry.

[a] Lucretius. [b] In beauty, that of favor is preferred before that of colours, and decent motion is more then that of favor. Bacons Essaies. [c] Martialis.




THE

LIFE

OF

THE HONBLE HENRY CAVENDISH,

INCLUDING

ABSTRACTS OF HIS MORE IMPORTANT SCIENTIFIC PAPERS,

AND A

CRITICAL INQUIRY INTO THE CLAIMS OF ALL THE ALLEGED DISCOVERERS OF THE COMPOSITION OF WATER.

BY

GEORGE WILSON, M.D., F.R.S.E.

LECTURER ON CHEMISTRY, EDINBURGH.

1731 - 1810

LONDON:

PRINTED FOR THE CAVENDISH SOCIETY.

MDCCCLI

10. [**CAVENDISH, Henry** (1731-1810)] **WILSON, George**. *The Life of the Honourable Henry Cavendish, including abstracts of his more important scientific papers, and a critical inquiry into the claims of all the alleged discoverers of the composition of water.* London: Cavendish Society, 1851. ¶ Series: *Works of the Cavendish Society*. 8vo. xiv, 478 pp. Frontispiece (Cavendish), 2 figures at rear (Cavendish apparatus); frontispiece + following leaves waterstained. Rebound (ca. 1950) in full red gilt-stamped cloth; preface leaf and title-page are overstitched, creating a telltale 'scar' showing the repair. Good.

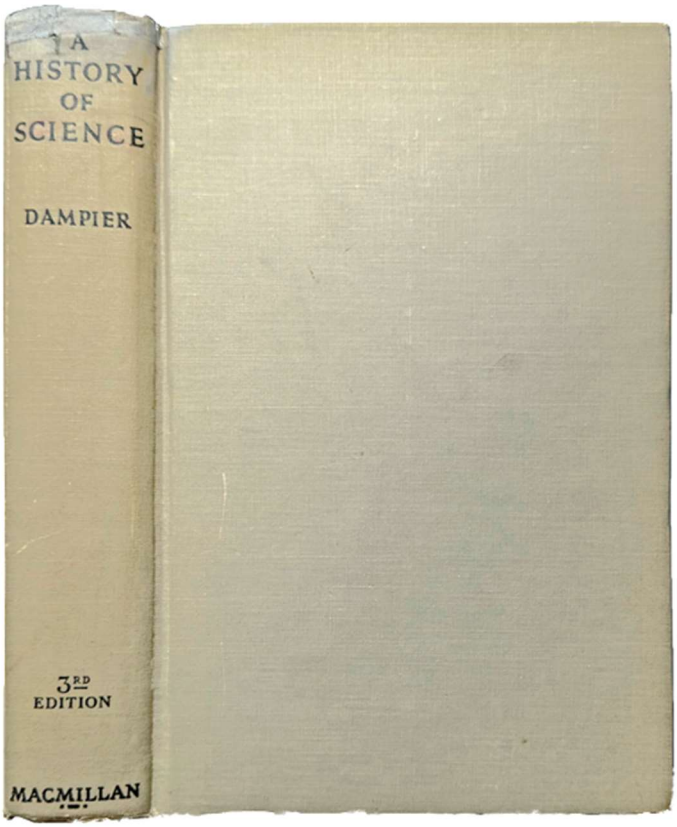
$ 45

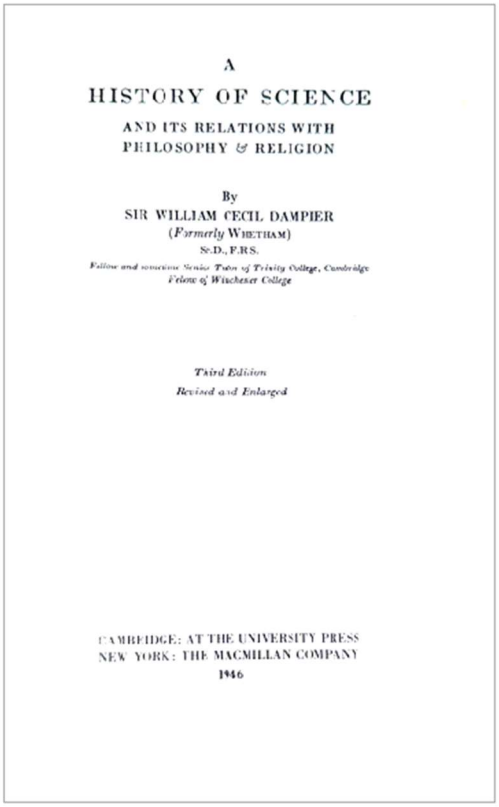
This work covers both the life and work as well the controversies involving Cavendish and his accomplishments as a chemist. The controversy over the composition of water, a particularly hot topic in the late 18th century, is thoroughly detailed. The author, George Wilson, addresses the question of priority of discovery (Cavendish, Watt or Priestley, Lavoisier's conclusions). Cavendish was accused of plagiarism and that is handled here too. Wilson concludes with a summary, Cavendish as Natural Philosopher, and a supplement on his apparatus: metallic Eudiometer, Register thermometer.

"The 'water controversy' concerns one of the central discoveries of modern science, that water is not an element but rather a compound. The allocation of priority in this discovery was contentious in the 1780s and has occupied a number of 20th century historians. The matter is tied up with the larger issues of the so-called chemical revolution of the late eighteenth century. A case can be made for James Watt or Henry Cavendish or Antoine Lavoisier as having priority in the discovery depending upon precisely what the discovery is taken to consist of, however, neither the protagonists themselves in the 1780s nor modern historians qualify as those most fervently interested in the affair. In fact, the controversy attracted most attention in early Victorian Britain some fifty to seventy years after the actual work of Watt, Cavendish and Lavoisier. The central historical question to which the book addresses itself is why the priority claims of long dead natural philosophers so preoccupied a wide range of people in the later period. The answer to the question lies in understanding the enormous symbolic importance of James Watt and Henry Cavendish in nineteenth-century science and society. More than credit for a particular discovery was at stake here." – Regarding David Philip Miller's book.

George Wilson, M.D., F.R.S.E., (1818-1859) lectured on chemistry, became Regius Professor of Technology at the University of Edinburgh, and the first Director of the Industrial Museum of Scotland.

See: David Philip Miller, Discovering Water James Watt, Henry Cavendish and the Nineteenth-Century 'Water Controversy'. Routledge, 2004. Also: Miller, Discovering Water: James Watt, Henry Cavendish, and the Nineteenth-Century "Water Controversy", Aldershot and Burlington: Ashgate, 2004.



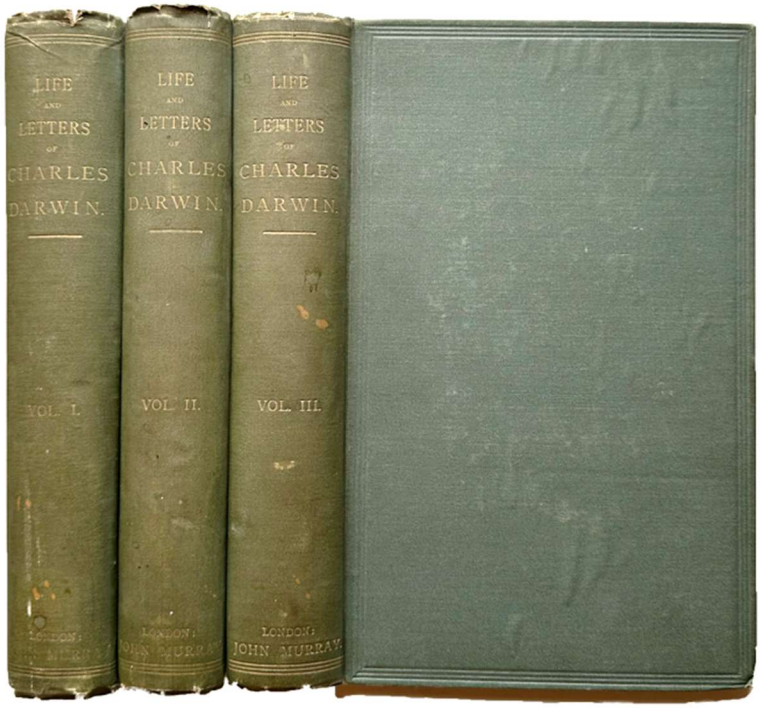

A
HISTORY OF SCIENCE
AND ITS RELATIONS WITH
PHILOSOPHY & RELIGION
By
SIR WILLIAM CECIL DAMPIER
(Formerly WHETHAM)
Sc.D., F.R.S.
Fellow and sometime Senior Tutor of Trinity College, Cambridge
Fellow of Winchester College
Third Edition
Revised and Enlarged
CAMBRIDGE: AT THE UNIVERSITY PRESS
NEW YORK: THE MACMILLAN COMPANY
1946

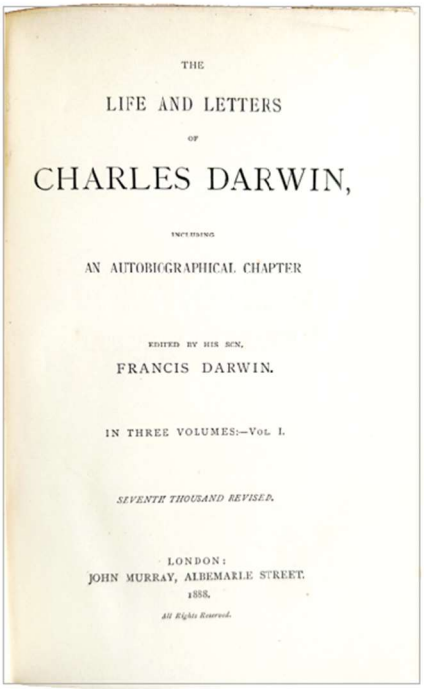
11. **DAMPIER, Sir William Cecil** (1867-1952). *A History of Science and its Relations with Philosophy & Religion*. Cambridge: The University Press; New York: Macmillan, 1946. ¶ 8vo. xxiii, [1], 574 pp. Index. Original cloth, black stamping; head of spine worn (rough repair). Ownership signature of Henry C. King (1915-2005). Good.

$ 5

Third edition, revised and enlarged.

Sir William Cecil Dampier, FRS, was a British scientist, agriculturist, and science historian.



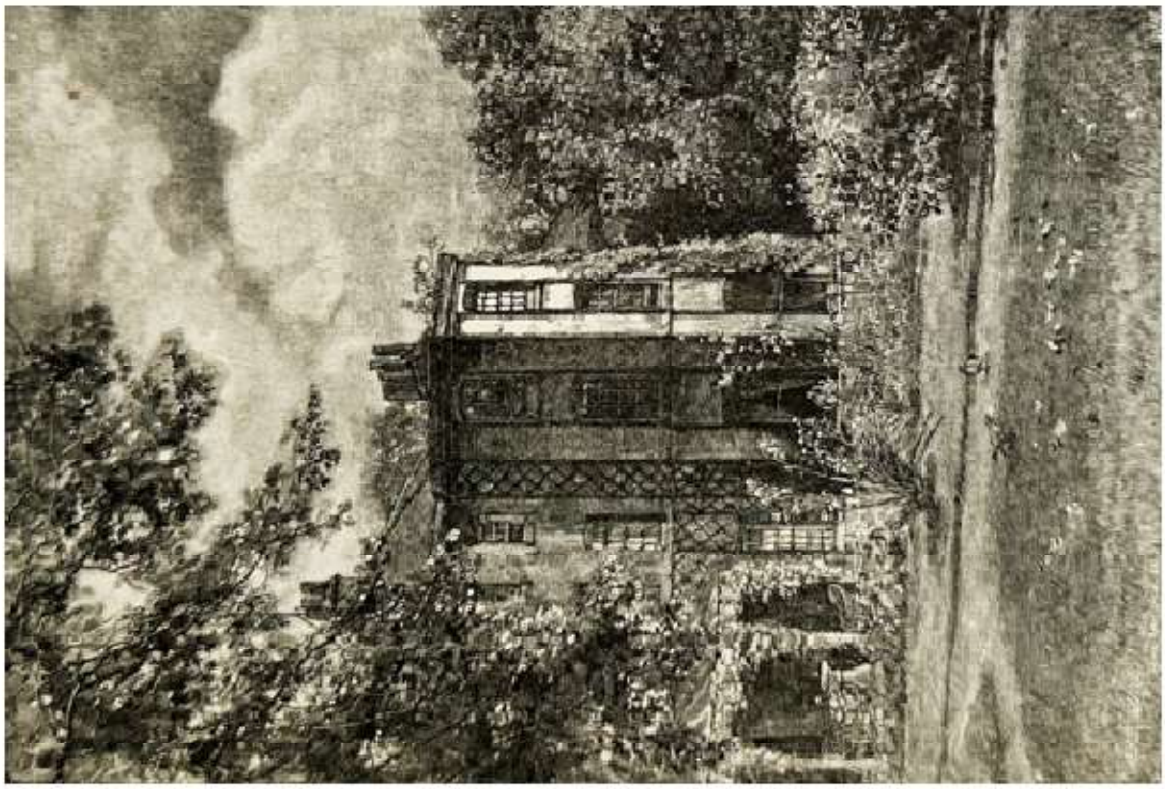

THE
LIFE AND LETTERS
OF
CHARLES DARWIN,
INCLUDING
AN AUTOBIOGRAPHICAL CHAPTER
EDITED BY HIS SON,
FRANCIS DARWIN.
IN THREE VOLUMES:—VOL. I.
SEVENTH THOUSAND REVISED.
LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1888.
All Rights Reserved.

12. **DARWIN, Charles** (1809-1882); **DARWIN, Francis** (1848-1925) ed. *The Life and Letters of Charles Darwin, including an autobiographical chapter*. London: John Murray, 1888. ¶ 3 volumes. 8vo. ix, [1], 395, [3]; [iv], 393, [3]; iv, 418, [2] pp. Frontispieces, 4 plates, index. Original sea-greenish-blue blind- and gilt-stamped cloth; rubbed, soiled, spine ends worn. Ownership signature of Henry C. King, April 1, 1944. Very good.

$ 125

Seventh thousand, revised (first issued in 1887). The first broad biographical treatment of Charles Darwin, written by one of his own sons. The book contains 87 letters which are transcribed. There is an autobiographical chapter by Charles Darwin himself, written for his family, and, finally, an essay by Thomas Huxley "On the reception of the 'Origin of Species'".

Sir Francis Darwin FLS FRS FRSE, was the third son of Charles Darwin. Francis Darwin worked with his father on experiments dealing with plant movements, specifically phototropism. They co-authored *The Power of Movement in Plants* (1880) and Francis Darwin published a second expanded edition of *Insectivorous Plants* (1888) after his father's death.

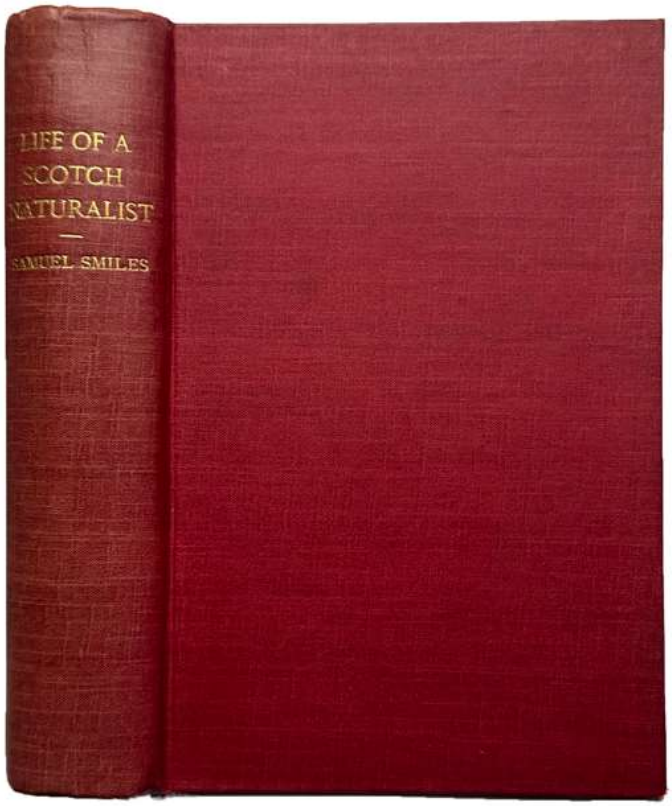


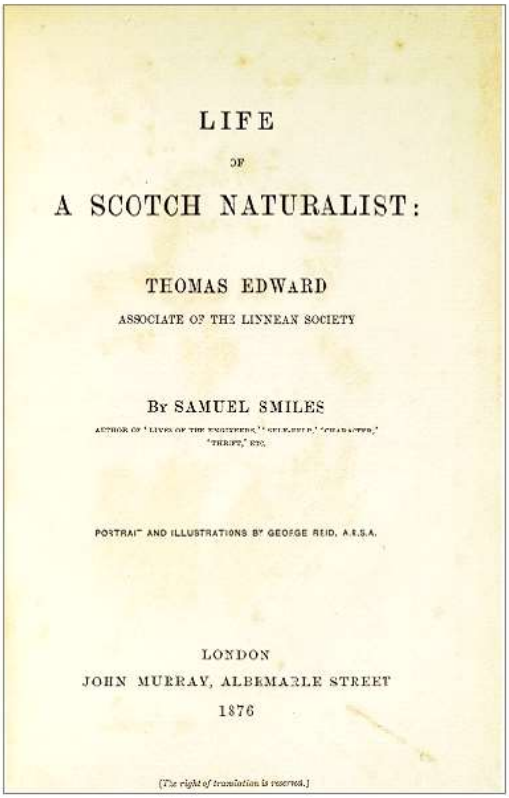

FROM A PHOTOGRAPH (1854?) BY MESSRS. MAULL AND FOX. ENGRAVED FOR
"HARPER'S MAGAZINE," OCTOBER 1884.

[12] DARWIN

The book was later described by *The Times* as "one of the best biographies ever written" and "In the selection and arrangement of the material he [Francis Darwin] was chiefly guided by a wish to portray his father's personal character, and he succeeded in a remarkable degree in giving a true picture of the man and the student, the methods of Darwin's work and the gradual development of his opinions." – *The Times*, Monday, Sep 21, 1925; pg. 14; Issue 44072; col D. [Wikip.].

THE STUDY AT DOWN.*




LIFE

OF

A SCOTCH NATURALIST:

THOMAS EDWARD

ASSOCIATE OF THE LINNEAN SOCIETY

By SAMUEL SMILES

PORTRAIT AND ILLUSTRATIONS BY GEORGE REID, A.R.S.A.

LONDON

JOHN MURRAY, ALBEMARLE STREET

1876

[The right of translation is reserved.]

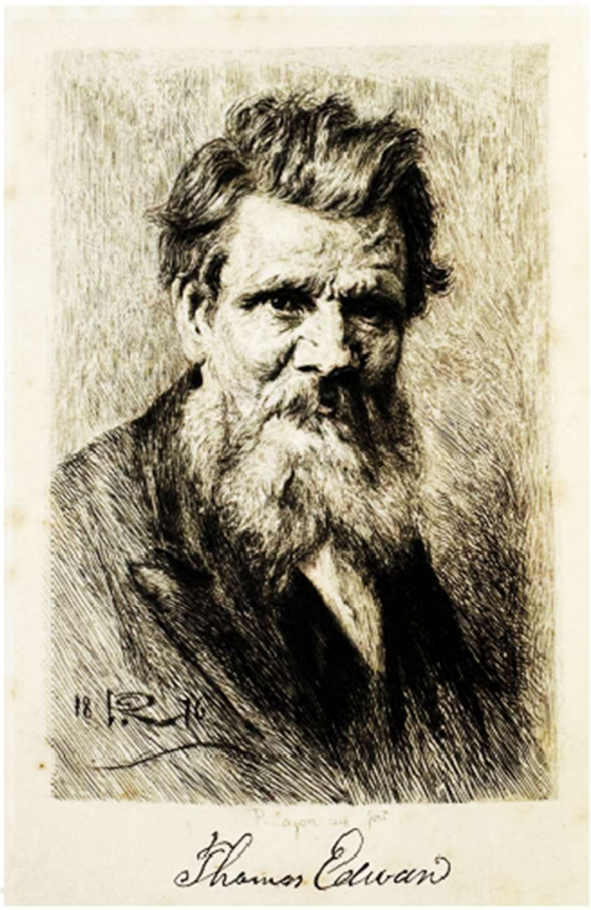
13. **[EDWARD, Thomas** (1814-1886)**] SMILES, Samuel** (1812-1904). *Life of a Scotch Naturalist: Thomas Edward, associate of the Linnean Society*. London: John Murray, 1876. ¶ 8vo. xix, [1],438 pp. Illustrated by George Reid; browning, offsetting. Rebound ca. 1950 in full red gilt-stamped cloth. PROVENANCE: Rubber-stamp of M.H. Nisbet; inscribed to Mat. Nisbet by John Moosy[!?]; signature of Henry C. King, Feb. 23, 1936, Slough. Very good.

$ 20

Thomas Edward (1814–1886) was a Scottish naturalist born in Gosport. He was trained as a shoemaker and eventually settled in Banff, where he devoted his leisure time to the study of animal nature, and collected numerous specimens of animals, which he stuffed and exhibited, but with monetary loss. Samuel Smiles, his biographer, describes him as "one of those men who lived for science, not by science."

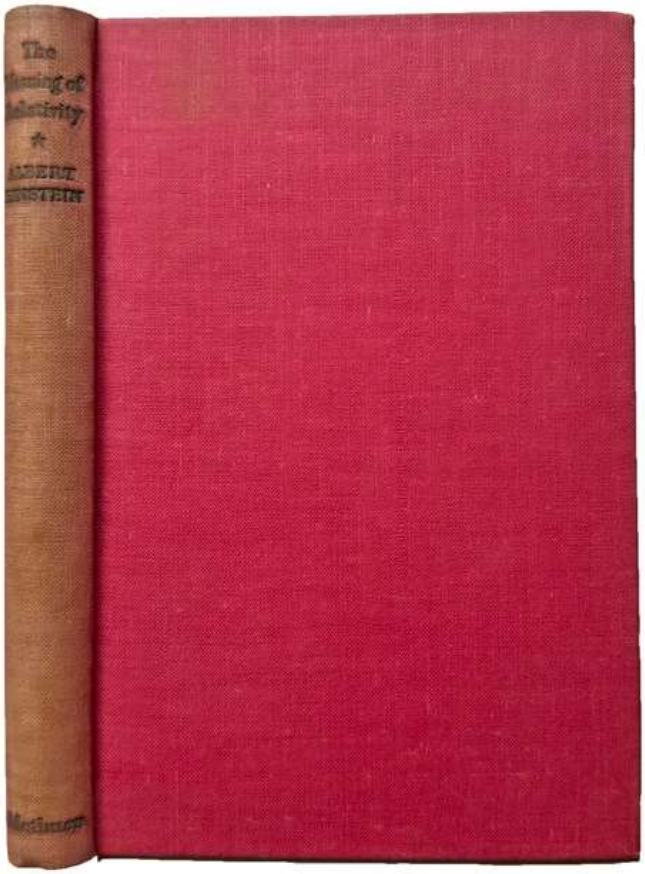
Samuel Smiles wrote several biographical works (many are engineers or men of science), all given with lots of details. He wrote of George & Robert Stephenson, James Brindley, Sir Cornelius Vermuyden, Sir Hugh Myddleton, Capt. John Perry, John Smeaton, John Rennie (1761–1821), John Metcalf, Thomas Telford, Boulton and Watt, Andrew Yarranton, Benjamin Huntsman, Dud Dudley, Henry Maudslay,

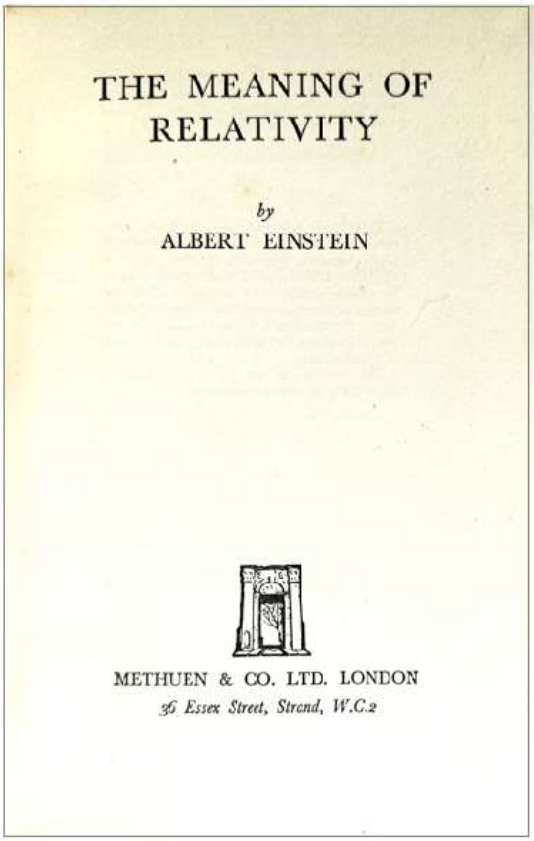
Joseph Clement, George Moore, Robert Dick, Phineas Pett, Francis Pettit Smith, John Harrison, John Lombe, William Murdoch, Frederick Koenig, The Walter family of The Times, William Clowes, Charles Bianconi, James Nasmyth, Josiah Wedgwood, and Thomas Edwards.



"Selections from the fauna of Banffshire, by Thomas Edward": p. [337]-390 (mammals, birds, fishes, crustacea).

PROVENANCE: Henry C. King (1915-2005), signed in Slough, U.K. When he came to Slough, Henry C. King gained access to the Herschel library. Earlier, and apparently, one Matthew H. Nisbet had the titles of L.D.S. and F.P.S., earning a license in dental surgery, and a Fellow of the Pharmaceutical Society. This copy could be inscribed to him.





14. **EINSTEIN, Albert** (1879-1955). *The Meaning of Relativity*. London: Methuen & Co. Ltd., 1950. ¶ Small 8vo. v, [1], 145, [1] pp. Index. Original pinkish-red gilt-stamped cloth; spine faded, letters darkened. Very good.

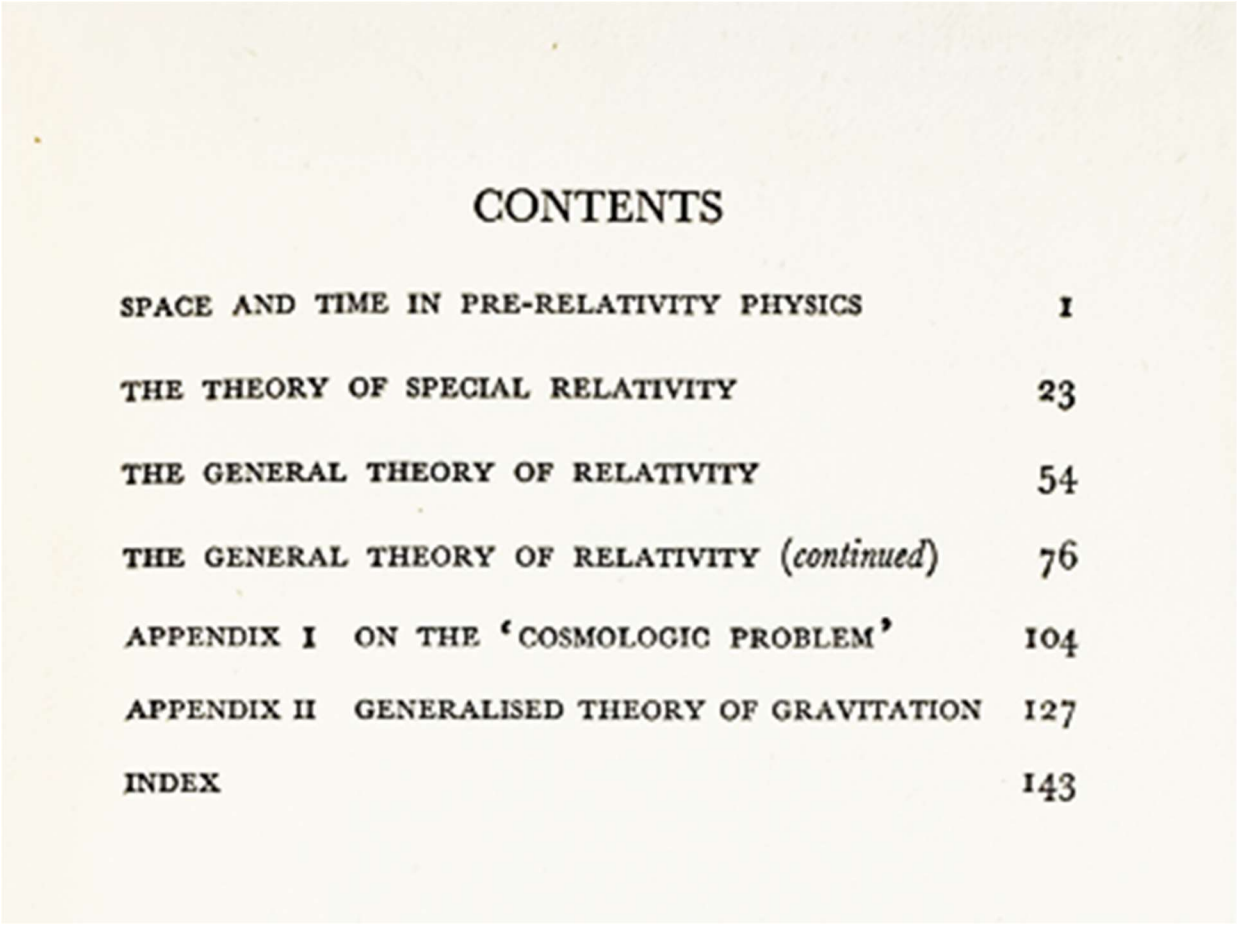
$ 10

Fourth edition. With a receipt of purchase from Blackwell Ltd, Oxford, 1950, purchased by H.C. King Esq, Science Dept., Technical School, Slough, Bucks.

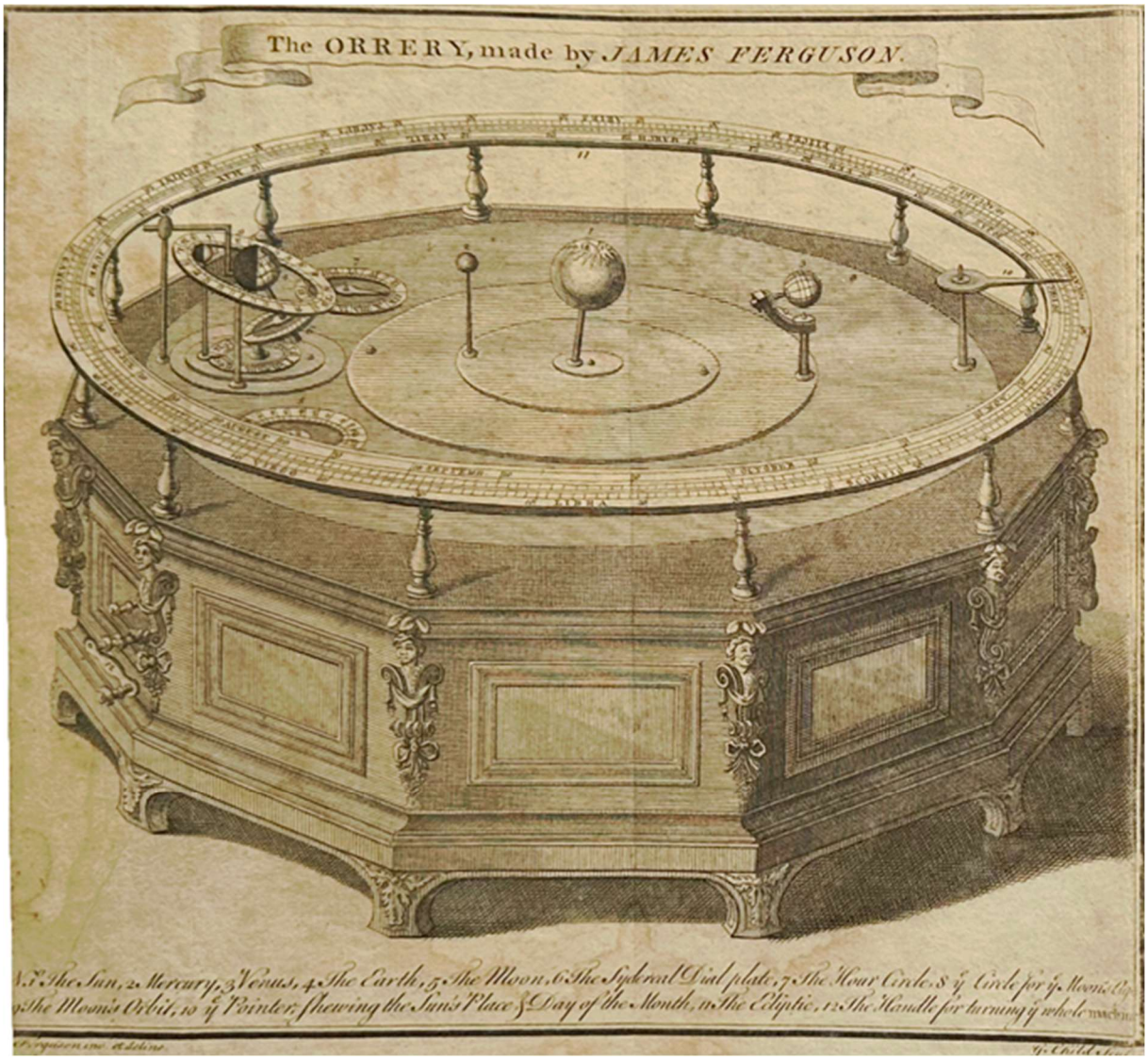
The Meaning of Relativity: Four Lectures Delivered at Princeton University, May 1921 is a book published by Princeton University Press in 1922 that compiled the 1921 Stafford Little Lectures at Princeton University, given by Albert Einstein. The lectures were translated into English by Edwin Plimpton Adams. The lectures and the subsequent book were Einstein's last attempt to provide a comprehensive overview of his theory of relativity and is his only book that provides an accessible overview of the physics and mathematics of general relativity. Einstein explained his goal in the preface of the book's German edition by stating he "wanted to summarize the principal thoughts and mathematical methods of relativity theory" and that his "principal aim was to let the fundamentals in the entire train of thought of the theory emerge clearly".

On December 27, 1949, The New York Times ran a story titled "New Einstein theory gives a master key to the universe" in reaction to the new appendix in the book's fifth edition in which Einstein expounded upon his latest unification efforts. Einstein had nothing to do with the article and subsequently refused to speak with any reporters on the matter; he reportedly used the message "[c]ome back and see me in twenty years" to brush off their inquiries.

Gutfreund and Renn described *The Meaning of Relativity* as "Einstein's definitive exposition of his special and general theories of relativity". – Hanoch Gutfreund & Jürgen Renn, *The Formative Years of Relativity,* p. 3.



CONTENTS



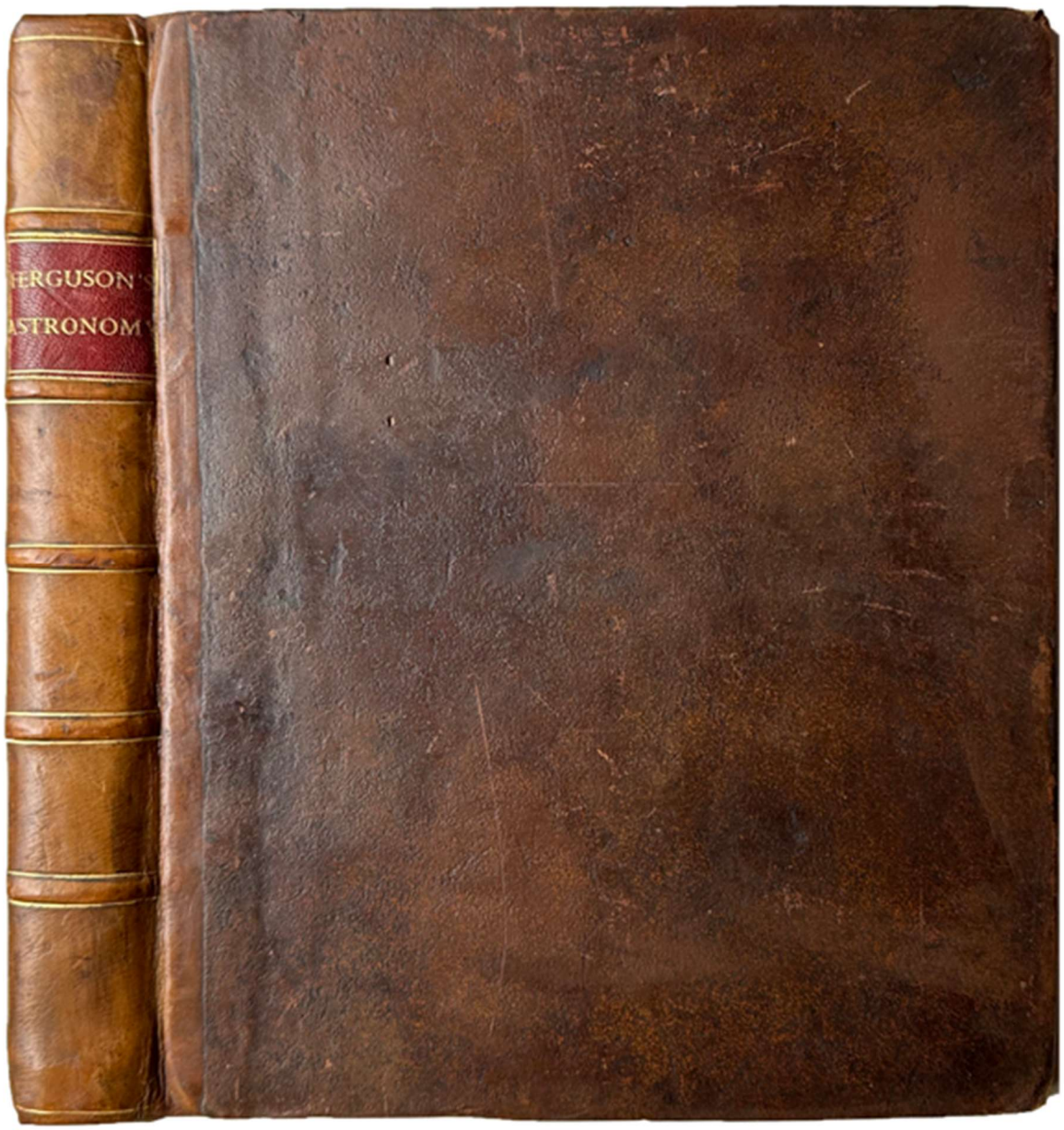
'I respect Millar, Sir; he has raised the price of literature' – Dr. Johnson (relating to this book, this edition)

15. **FERGUSON, James** (1710-1776). *Astronomy Explained upon Sir Isaac Newton's Principles, And made easy to those who have not studied Mathematics . . . Transit of Venus over the Sun's Disc, in the Year 1761. An account of Mr. Horrox's Observation of the Transit of Venus in the Year 1639: Of the distances of all the planets from the Sun . . . The Third edition*. London: Print for A. Millar, 1764. ¶ 4to. [viii], 354, [10] pp. Large fold-out engraved frontispiece plate showing The Orrery made by James Ferguson, 17 folding engraved plates, index; occasional foxing, some browning, head of title-page trimmed, no textual loss, faint waterstain showing on frontispiece. Original full calf; rebacked with recent calf, spine

bands, red morocco spine label, preserving original endsheets. 6-lines of early inked notes written on the first free fly-leaf at rear. Very good.

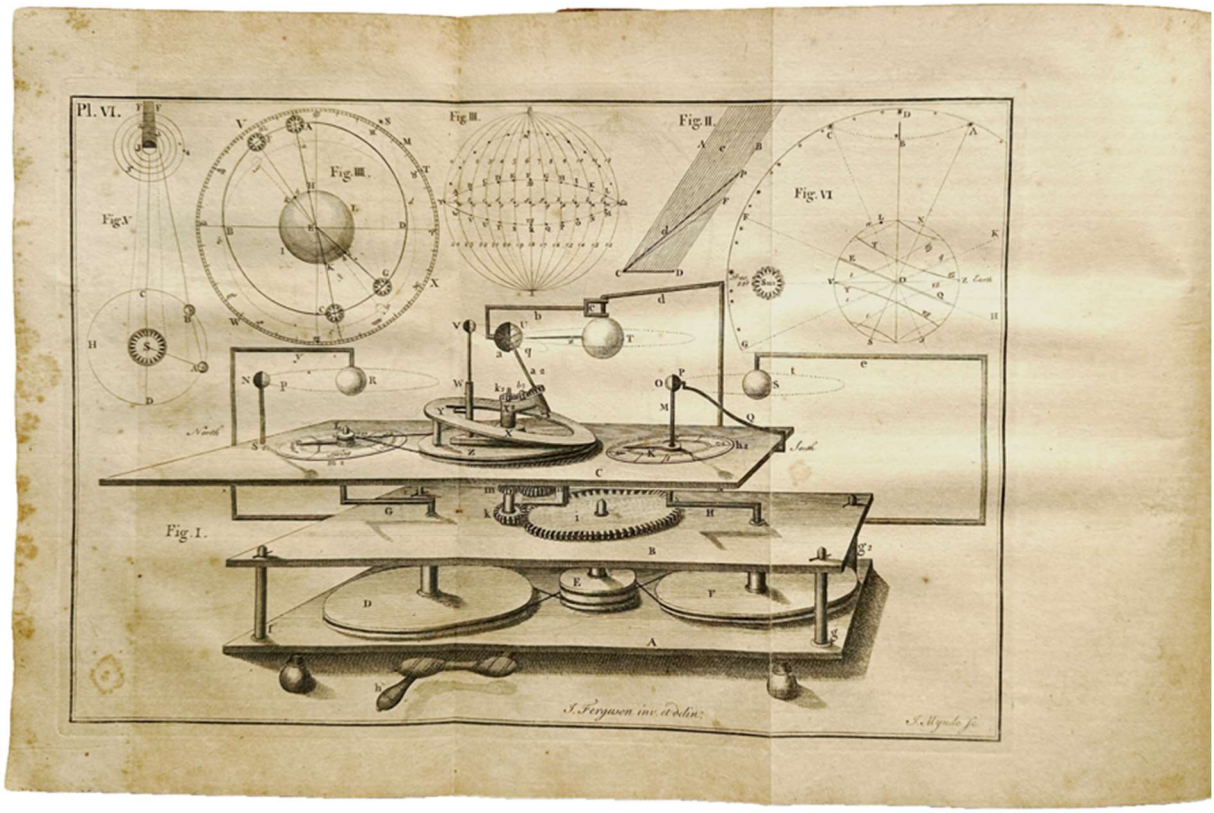
$ 650

Third edition, the first to mention Millar as distributor. "In 1756 [the first edition] he published *Astronomy Explained upon Sir Isaac Newton's Principles*, which presented a clear, non-mathematical account of Newton's ideas. It proved extremely popular and helped to bring the new astronomy to a wider audience." – Davenhall.



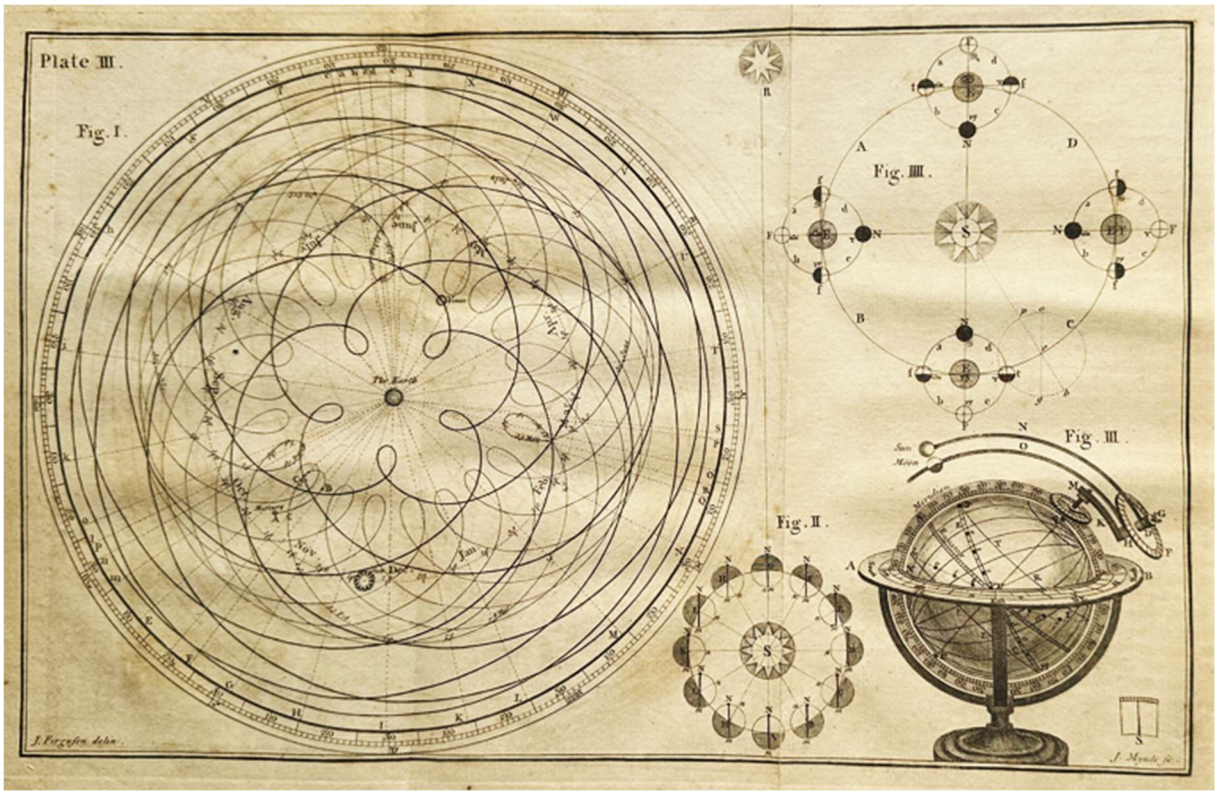
"WHEN EBENEZER HENDERSON compiled his *Life of James Ferguson* just over a century ago, lack of facilities for bibliographic research led him into some errors concerning the early history of Ferguson's major work *Astronomy explained upon Sir*

Isaac Newton's principles. The earliest edition that he had seen – the third – was published in London in 1764 by Andrew Millar, of whom Dr Johnson said 'I respect Millar, Sir; he has raised the price of literature'. This (the third edition) was the first of Ferguson's writings to be published entirely by a bookseller: his earlier tracts were all 'printed for the author' Millar's imprint, and his reputation for being unusually generous to authors, led Henderson to assume that he had financed the initial publication of this work as well, but in fact both the first (1756) and second (1757) editions bear the imprint 'London: printed for and sold by the author, at The Globe, opposite Cecil Street in the Strand', with no mention of Millar or any other bookseller. Though neither edition contains a sub scribers list, it is now known that Ferguson certainly solicited subscriptions in the usual way by issuing a printed Proposal, for a copy has survived amongst the Mackenzie papers in the National Library of Scotland." – John Millburn, *New Light on James Ferguson's 'Astronomy explained'. The Bibliotheck; a Scottish Journal of Bibliography and Allied Topics Preview publication details*; Stirling Vol. 7, Issue 3, (Jan 1, 1974): p. 61.



"Ferguson's '*Astronomy explained on Sir Isaac Newton's Principles'* was [first] published in July 1756, and met with immediate and complete success. The first issue was exhausted in a year; the thirteenth edition, revised by Brewster, appeared in 1811, and the demand for successive reprints did not cease until 10 years later. It was translated into Swedish and German, and long excluded other treatises on the same

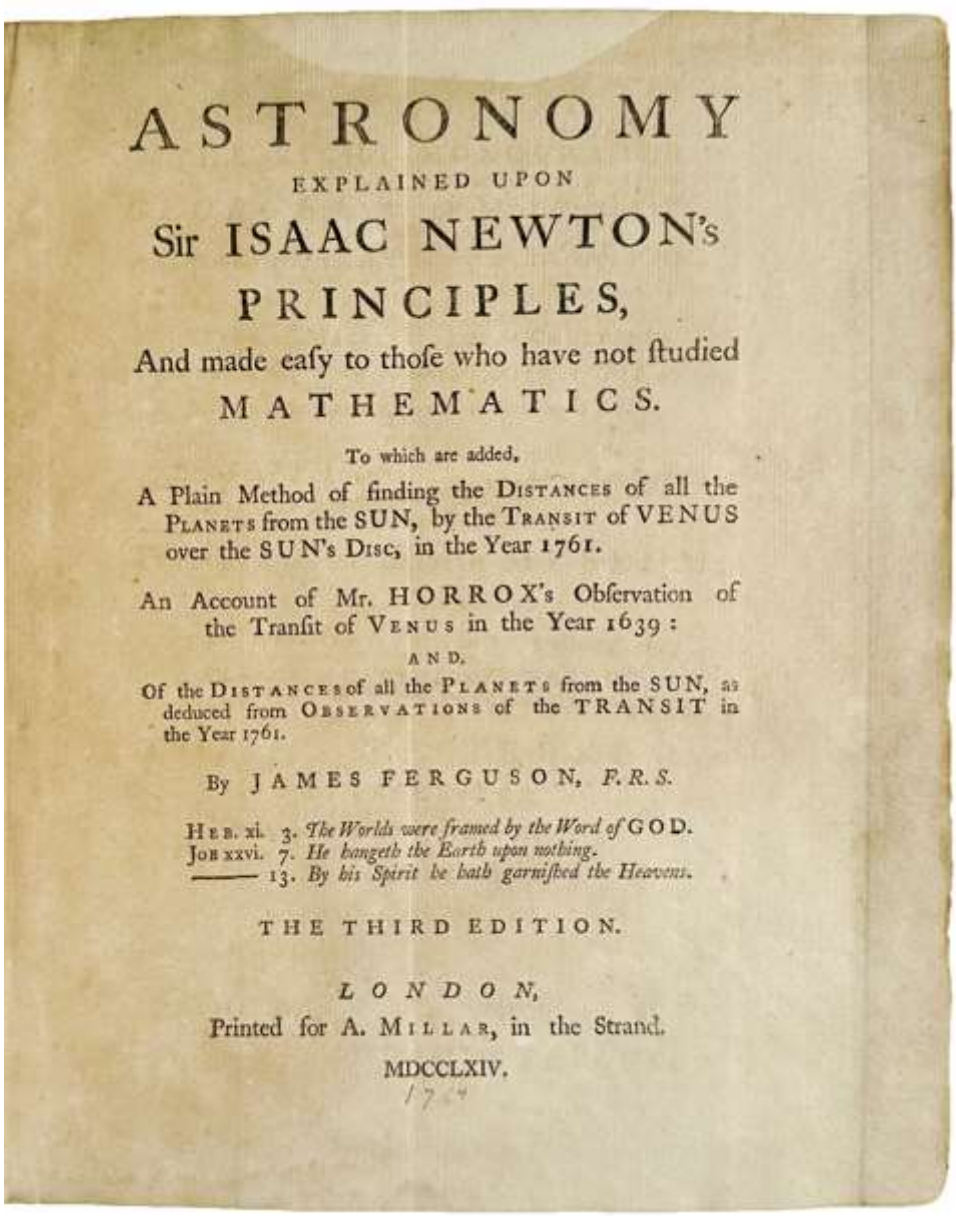
subject. Although containing no theoretical novelty, the manner and method of its expositions were entirely original. Astronomical phenomena were for the first time described in familiar language." – *DNB*.



James Ferguson was a Scottish astronomer who, despite never receiving formal training, became famed for his travelling lectures and easy-to-understand works on the basics of astronomy. Ferguson learned mechanics at a very early age and developed an interest in stargazing while working as a shepherd in the Scottish highlands. These interests, as well as an innate skill for draughtsmanship, were encouraged by his father and others but due to lack of funds he was unable to pursue study at one of the major universities in Scotland. Nevertheless, he was able to use his skills to produce mechanical devices such as orreries (an early piece of equipment used to demonstrate the movements of the planets), clocks and globes and earned a steady living painting portrait miniatures with India ink.

This book on astronomy was the first major work by Ferguson and earned him an immediate scientific reputation, resulting in his election as Fellow of the Royal Society in 1763. It provides easy-to-follow illustrated instructions on the workings of an orrery and simply describes the movements of the planets, the timings of eclipses and the discoveries of other astronomers such as Johannes Kepler, Sir Isaac Newton and Edmond Halley. This was a remarkably useful enterprise: it allowed ordinary people without formal mathematical training to understand the

works of Newton and helped support the vogue for amateur astronomy that was taking place in the mid eighteenth century. Ferguson travelled the country giving popular lectures on astronomy and followed the work with several others along similar themes in the 1760s and 1770s until his death in 1776." – *Buckingham Palace*, The Royal Collection Trust.



ASTRONOMY

EXPLAINED UPON

Sir ISAAC NEWTON's

PRINCIPLES,

And made eaſy to thoſe who have not ſtudied

MATHEMATICS.

To which are added,

A Plain Method of finding the DISTANCES of all the PLANETS from the SUN, by the TRANSIT of VENUS over the SUN's DISC, in the Year 1761.

An Account of Mr. HORROX's Obſervation of the Tranſit of VENUS in the Year 1639:

AND,

Of the DISTANCES of all the PLANETS from the SUN, as deduced from OBSERVATIONS of the TRANSIT in the Year 1761.

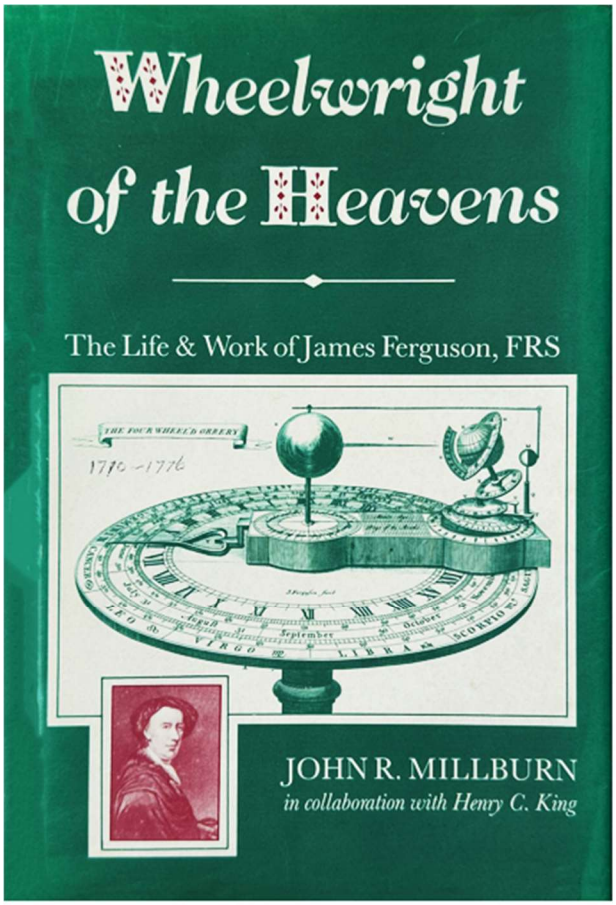
By JAMES FERGUSON, *F.R.S.*

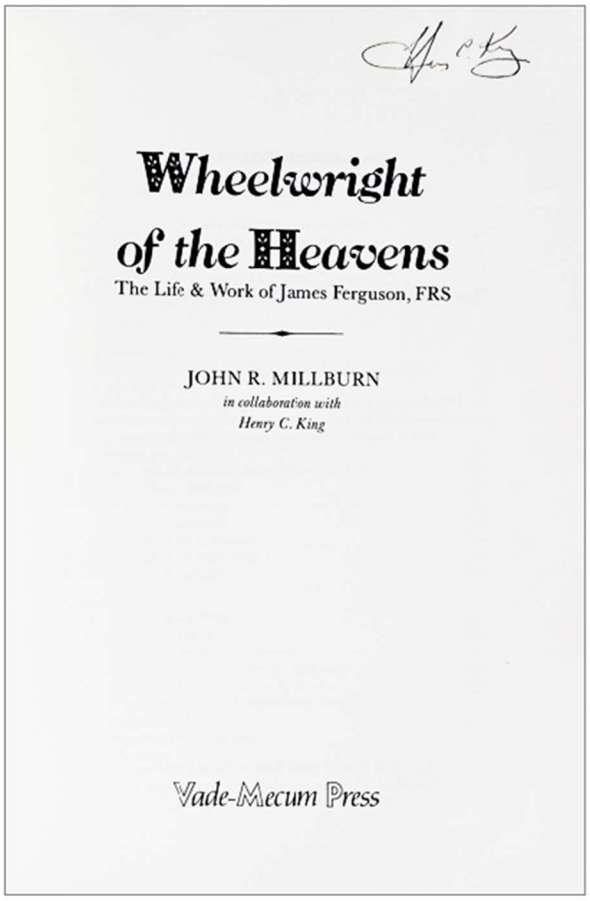
HEB. xi. 3. *The Worlds were framed by the Word of* GOD.
JOB xxvi. 7. *He hangeth the Earth upon nothing.*
——— 13. *By his Spirit he hath garniſhed the Heavens.*

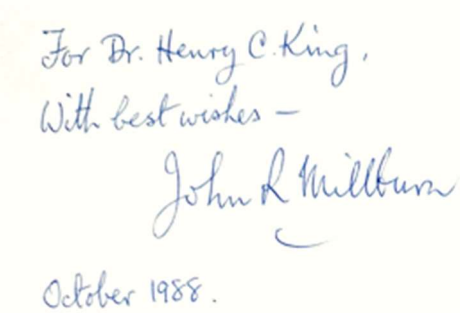
THE THIRD EDITION.

LONDON,
Printed for A. MILLAR, in the Strand.
MDCCLXIV.

□ Ferguson, *Bibliotheca Chemico-Mathematica* 1317 (5th edition); Gascoigne, Robert Mortimer, *A Chronology of the History of Science, 1450-1900*, no. 4556. See: Clive Davenhall, 'James Ferguson: a commemoration'. *Journal of Astronomical History and Heritage*, Vol. 13, No. 3, pp. 179-186, (2010). Millburn, J.R., in collaboration with Henry C. King (the owner of this copy), *Wheelwright of the Heavens, the Life and Work of James Ferguson*. (1988).







16. **[FERGUSON, James** (1710-1776)**] MILLBURN, John R**. (1925-2005); in collaboration with **Henry C. KING** (1915-2005). *Wheelwright of the Heavens – The Life and Work of James Ferguson*. London: Vade-Mecum, 1988. ¶ 8vo. xi, [1], 328 pp. Frontispiece, 59 figures, index. Maroon gilt-stamped cloth, dust-jacket; some mild wear to the jacket. Ink notation (referencing dialing) written by Dr. King – on the rear free flyleaf; INSCRIBED BY THE AUTHOR TO THE CO-AUTHOR, "For Dr. Henry C. King, With best wishes – John R. Millburn – October 1988". Four British postage stamps commemorating James Ferguson tipped-in. Very good.

$ 125

Accompanied by a typed letter signed from T. Cuyler Young, Jr., Director of the Royal Ontario Museum, Toronto, noting the gift of a copy of this book. Also laid in is a copy of Gerard L'E. Turner's book review of this title. Turner compliments thus, "[This book] is remarkable in the extent of material gleaned over years of research that not only give in detail the life and work of a remarkable Scot, but also present a picture of part of the intellectual life of London and provincial cities, which found excitement in the explanations for the phenomena of astronomy and physics."

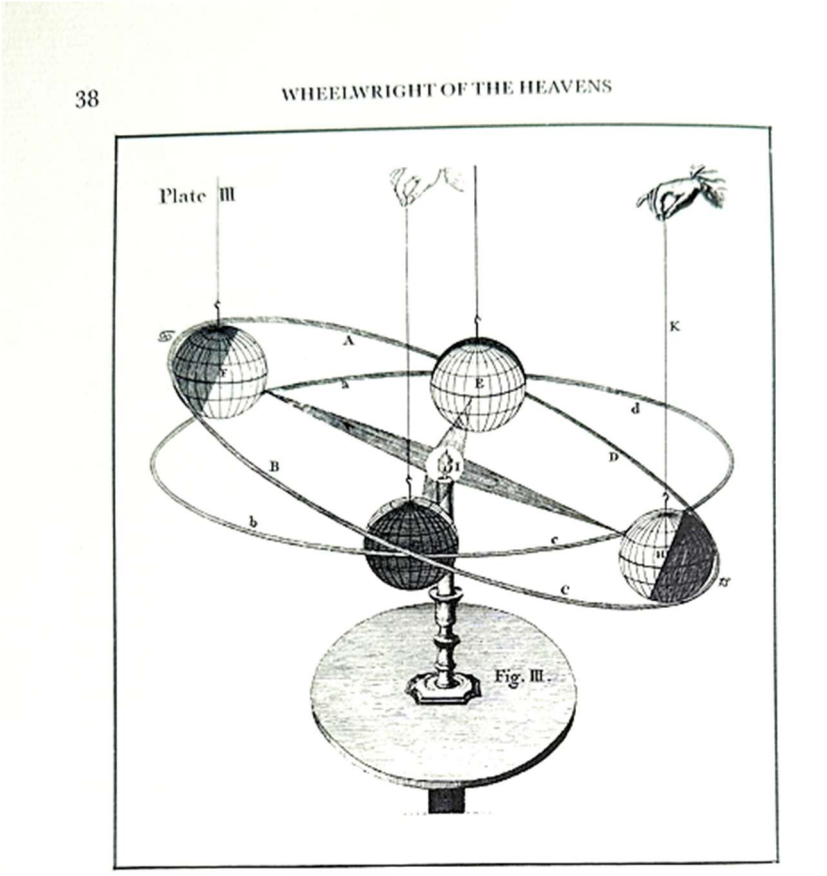

38 WHEELWRIGHT OF THE HEAVENS

Plate III

Fig. III.

Figure 13. The 'Seasons Illustrator', from *Astronomy Explained*, 1756. The Earth-globe is suspended by a twisted cord, which shows its axial rotation. The hoop (held by an assistant) shows the position of the Earth's orbit. If the hoop is placed in a horizontal position the seasons disappear.

"JAMES FERGUSON (1710-1776) is known to antiquarian horologists for his clocks with astronomical and tidal dials; to historians of astronomy for his books, lectures, and mechanical models of the solar system ('orreries'); to geographers for his terrestrial globes; to art collectors for his miniature portraits drawn in Indian ink (his major source of income for many years); and to book collectors for his writings on astronomy, mechanics, horology, drawing, and electricity, all of which passed through many editions both in his lifetime and on into the Victorian era."

"James Ferguson's life was the subject of a detailed investigation in the mid-19th century by Ebenezer Henderson, whose *Life of James Ferguson, FRS* (1867) was the principal source for the lengthy entry on Ferguson in the *DNB*. However, much more has since been discovered about certain aspects of Ferguson's activities, and as Henderson's book is now itself a scarce and expensive collector's item', a new study of the subject has become increasingly desirable in recent years. This well researched new biography will supply this need, both for general readers and (through numerous footnotes and appendices) academic students of the history of science." – jacket.

John R. Millburn "originally trained as an engineer, reading for a degree in Mathematics and Physics at King's College London, before becoming involved in astronautics and orbiting communications satellites in the 1960s. This focus on satellites and their orbits fired his interest in orreries – mechanical solar-system models – and led him to produce a range of innovative geocentric orreries dealing with satellite orbit. In turn, this inspired his interest in the history of scientific instruments."

"Millburn went on to become a well-respected and devoted amateur historian with a long-standing focus on the life and times of Benjamin Martin, an entrepreneurial 18th-century instrument maker, author, publisher and public lecturer on experimental science. Millburn's various works on Martin still add up to one of the most detailed studies of such a creative tradesman." – History of Science Museum, University of Oxford.

Henry C. King (1915-2005) – he signed the book in 1940 likely the date he acquired the book. In the 1950s he was Senior Lecturer in Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope. He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).

17 FESSENKOV & ROZHKOUSKI
59 Original Photographic Plates

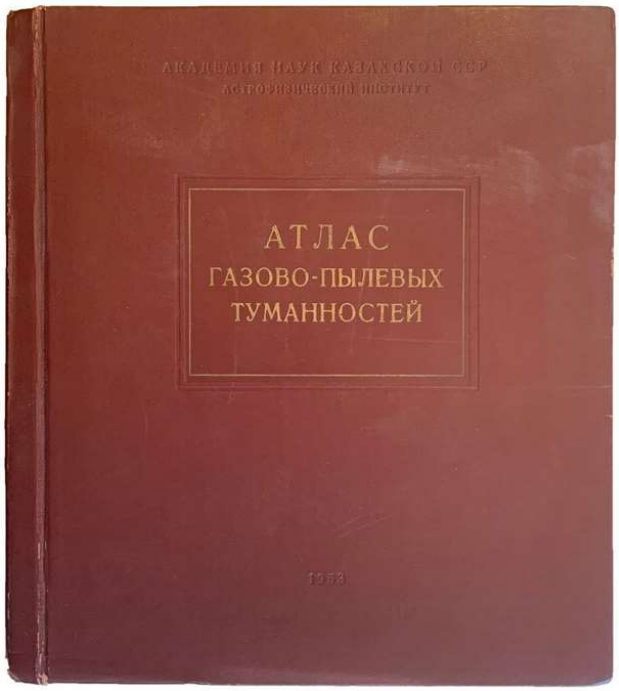
59 Original Photographs of Nebulae

17. **FESSENKOV, Vasiliy [Vasily Grigor'evich FESENKOV] [V. G. FESENKOV (Vasilii Grigor'evich)]** (1889-1972); **ROZHKOUSKI, D. A. [ROZHKOVSKY, Dmitry Alexandrovich]** (1915-1991). *[Russian text]. [Atlas of Gaseous Dust Nebulae]. Academic of Sciences of the Kazakh, SSR, Astrophysical Institute.* [Russia], 1953. ¶ Small folio. 10.5 x 11.75 inches. Not paginated. 59 original mounted photographs, with text referencing each photograph and additional text material. Original gilt-

stamped maroon cloth; a touch of wear, some soiling to fore-edge, embossed stamp of Carnegie Institution [HALE]. Very clean and well preserved. RARE. S13869

$ 6,500

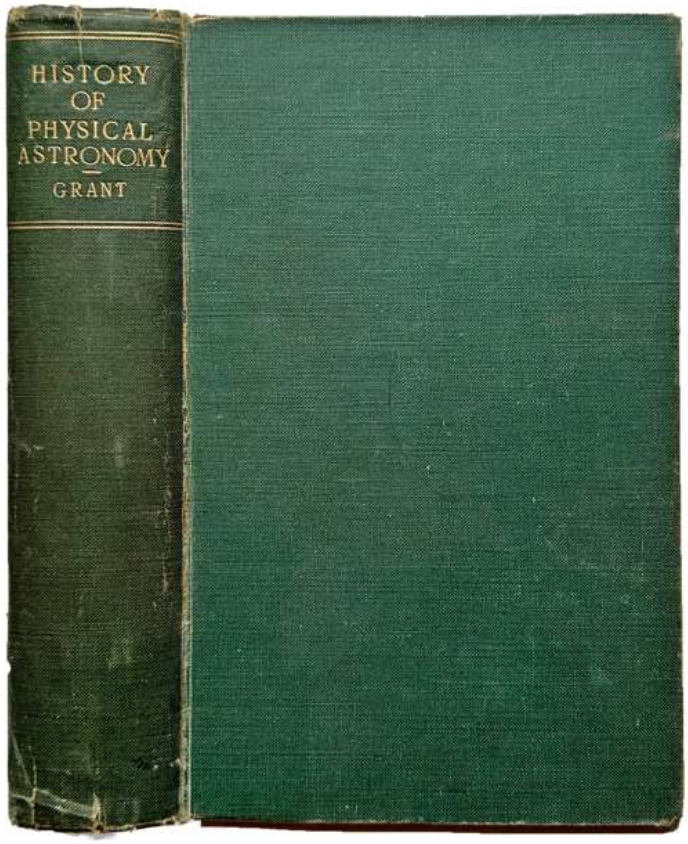
First and only edition of this large atlas volume of original photographs with accompanying text compiled by V. G. Fesenkov and D.A. Rozhkovsky who pioneered studying the gaseous nebulae. These are the leading Russian astrophysicists of their time who were the first to make a photographic "Atlas of Gas and Dust Nebulae" in trying to understand the "evolution of structure of nebulae, turbulent phenomena in interstellar clouds and in the vicinity of hot stars."

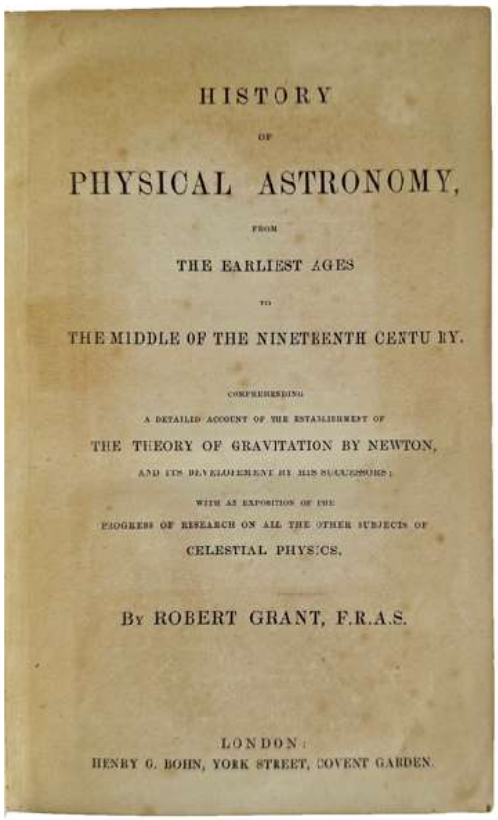


"In 1950, academician V. G. Fesenkov and D.A. Rozhkovsky began a detailed study of gas-dust galactic nebulae. A large collection of original photographs of them, over 700 negatives, made it possible to prepare and publish in 1953, for the first time in the USSR, the Atlas of Gas and Dust Nebulae, in which reproductions of several dozen nebulae and their individual details were presented. The purpose of this work was to study the evolution and structure of nebulae, turbulent phenomena in interstellar clouds and in the vicinity of hot stars. High-quality photographs of the atlas clearly illustrated a peculiar panorama of the fine structure of objects formed by the radiation of ionized gas and made it possible to reveal dust scattering the light of stars. The atlas contained new, very useful information and stimulated the interest of astronomers in observing nebulae."

"A detailed study of a large observational material allowed D.A. Rozhkovsky to discover about 30 new diffuse nebulae."

No copy in WordCat.




HISTORY

OF

PHYSICAL ASTRONOMY,

FROM

THE EARLIEST AGES

TO

THE MIDDLE OF THE NINETEENTH CENTURY.

COMPREHENDING

A DETAILED ACCOUNT OF THE ESTABLISHMENT OF

THE THEORY OF GRAVITATION BY NEWTON,

AND ITS DEVELOPEMENT BY HIS SUCCESSORS;

WITH AN EXPOSITION OF THE

PROGRESS OF RESEARCH ON ALL THE OTHER SUBJECTS OF

CELESTIAL PHYSICS.

By ROBERT GRANT, F.R.A.S.

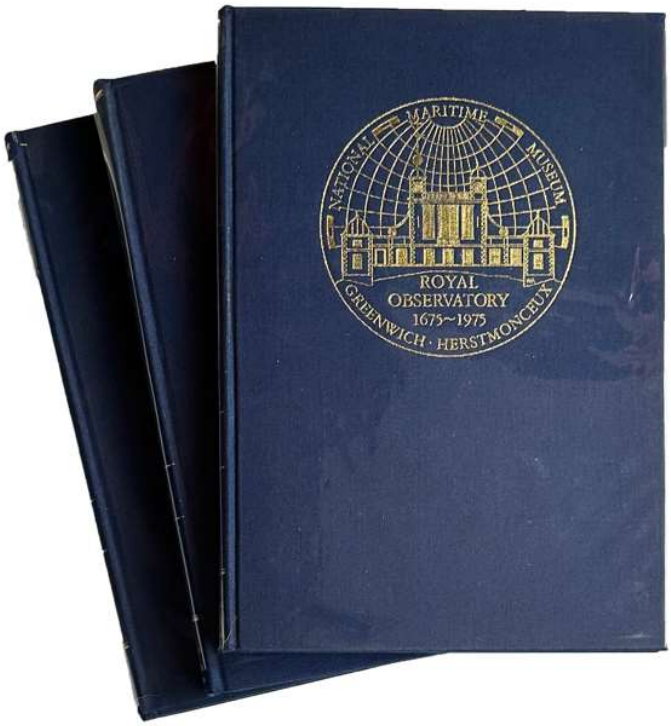
LONDON:

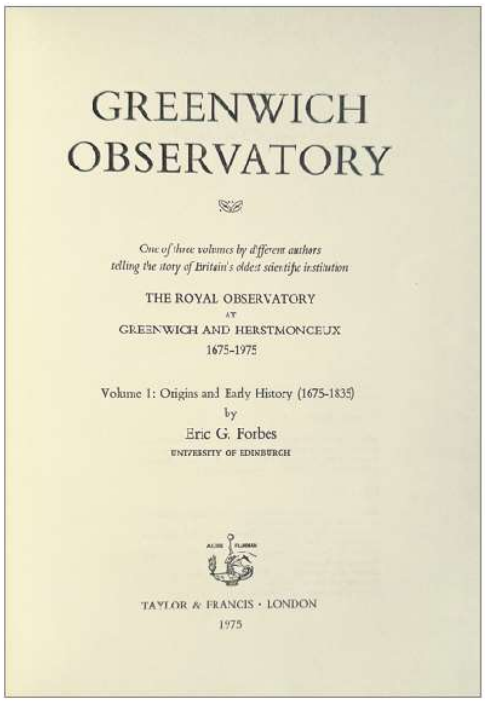
HENRY G. BOHN, YORK STREET, COVENT GARDEN.

18. **GRANT, Robert** (1814-1892). *History of Physical Astronomy from the Earliest Ages to the Middle of the Nineteenth Century . . .* London: Henry G. Bohn, [1852?]. ¶ Presumedly a later printing as the title is undated. 8vo. *xx, xiv, 15-637, [1] pp. Index, errata; several leaves with dog-earing (particularly at the index), somewhat brittle, some tears, title browned (offsetting). Later full green gilt-stamped cloth; spine ends and extremities worn. Bookplate of Henry Charles King, additionally signed by King and with his initials, 1935. Good.

$ 25

This work was first partially issued by the *Society of Useful Knowledge* (1848-9) and appeared in its complete form March 1852. He was elected a Fellow of the Royal Society on 14 June 1850. For this book, Grant, a Scottish astronomer, was awarded the Royal Astronomical Society's gold medal (1856).




GREENWICH
OBSERVATORY

One of three volumes by different authors telling the story of Britain's oldest scientific institution

THE ROYAL OBSERVATORY
AT
GREENWICH AND HERSTMONCEUX
1675-1975

Volume 1: Origins and Early History (1675-1835)
by
Eric G. Forbes
UNIVERSITY OF EDINBURGH

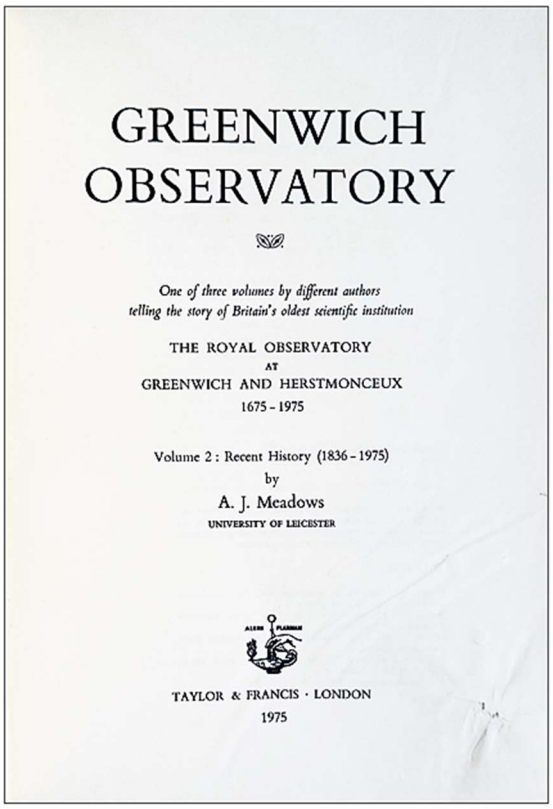
TAYLOR & FRANCIS · LONDON
1975

19. **[Greenwich Observatory] FORBES, Eric G.** (1933-1984); **Arthur Jack MEADOWS** (1934-2016); **Derek HOWSE** (1919-1998). *Greenwich Observatory. One set of three volumes by different authors telling the story of Britain's oldest scientific institution The Royal Observatory at Greenwich and Herstmonceux 1675 1835. Vol. 1. Origins and Early History (1675 1835). Vol. II. Recent History (1836 1975). Vol. III. The Buildings and Instruments*. London: Taylor and Francis, 1975. ¶ 3 volumes. Tall 8vo. xv, [1], 204; xi, [1], 135; xix, [1], 178 pp. 14, 14, and 130 illus., index; vol. II title-page damaged (as in wrinkled and with a jagged tear – not touching any text – closed with kozo tissue). Blue gilt-stamped cloth, glassine wrappers, slipcase; glassine is torn with pieces absent, one corner of the case is mended with a bit of kozo. Generally, very good (noting the closed tear on the title of vol. II).

$ 100

Written on the tercentenary (1975) "of the appointment of John Flamsteed as the King's 'astronomical observator' and the building of a small observatory" . . . "Although these three volumes have been printed in a common style the three authors have approached their subjects in quite different ways. Forbes has written a chronological account of the first six Astronomers Royal, whereas Meadows has considered in turn different aspects of the later work of the Observatory. Howse's volume spans the whole period, and treats in meticulous detail each of the many instruments that have been used at Greenwich and Herstmonceux." – review.

A fine history of the Royal Observatory at Greenwich, written by authorities and scholars (see below). Well-illustrated. Naturally, the text is very much oriented to being a history of British astronomy from the late seventeenth century to recent times, all centered on the oldest and most revered observatory in Britain.

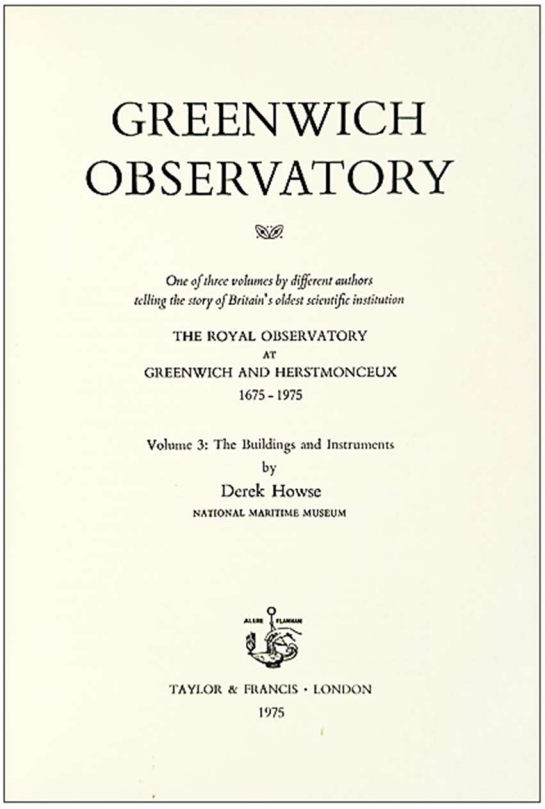

GREENWICH
OBSERVATORY

One of three volumes by different authors telling the story of Britain's oldest scientific institution

THE ROYAL OBSERVATORY
AT
GREENWICH AND HERSTMONCEUX
1675 - 1975

Volume 2 : Recent History (1836 - 1975)
by
A. J. Meadows
UNIVERSITY OF LEICESTER

TAYLOR & FRANCIS · LONDON
1975


GREENWICH
OBSERVATORY

One of three volumes by different authors telling the story of Britain's oldest scientific institution

THE ROYAL OBSERVATORY
AT
GREENWICH AND HERSTMONCEUX
1675 - 1975

Volume 3: The Buildings and Instruments
by
Derek Howse
NATIONAL MARITIME MUSEUM

TAYLOR & FRANCIS · LONDON
1975

The early history of the Observatory is completely dominated by the Astronomers Royal, and Forbes has given an interesting account of the scientific work of Flamsteed, Halley, Bradley, John Nevil Maskelyne and Pond.

Eric Gray Forbes FRSE FRAS was Professor of the History of Science at the University of Edinburgh.

Arthur Jack Meadows was a British astronomer and information scientist. Known for founding the astronomy department of University of Leicester.

Derek Howse retired from the Royal Navy as a Lieutenant Commander in 1958 and later became Head of Navigation and Astronomy at the National Maritime Museum in Greenwich, England. Among his books are "The Sea Chart" (1973) and "Greenwich Time and the Discovery of the Longitude" (1980). D. W. Waters called this work the 'standard history'. Both Howse and Waters were avid bookmen.

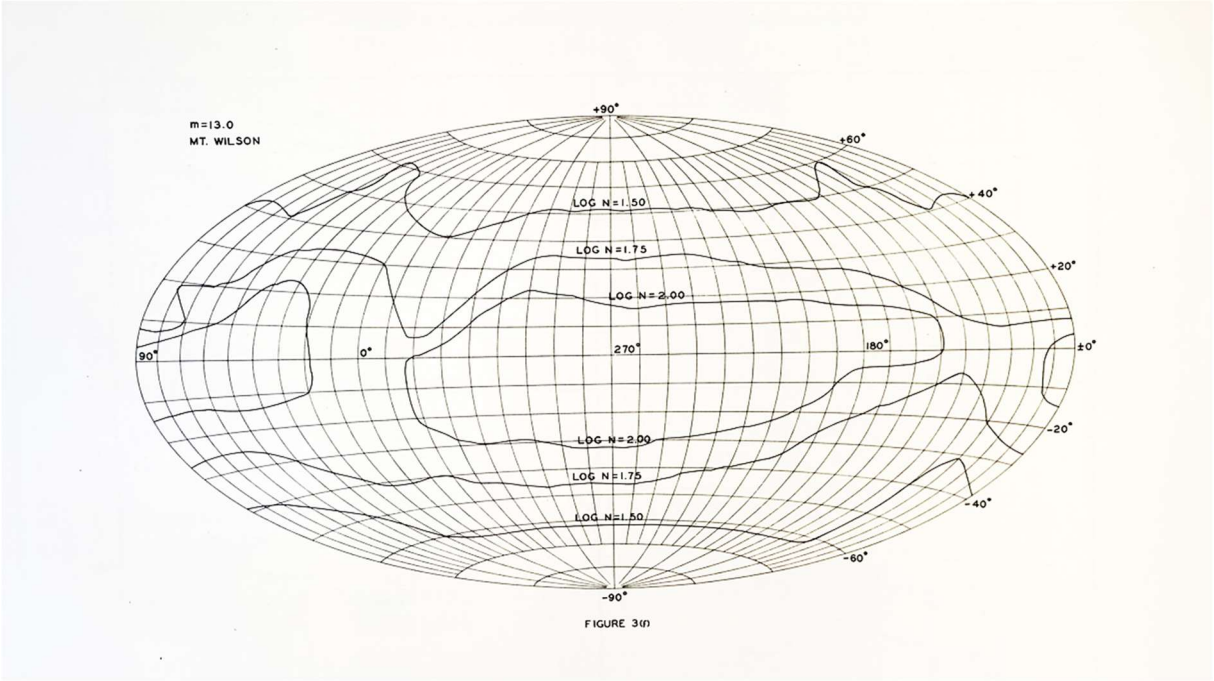


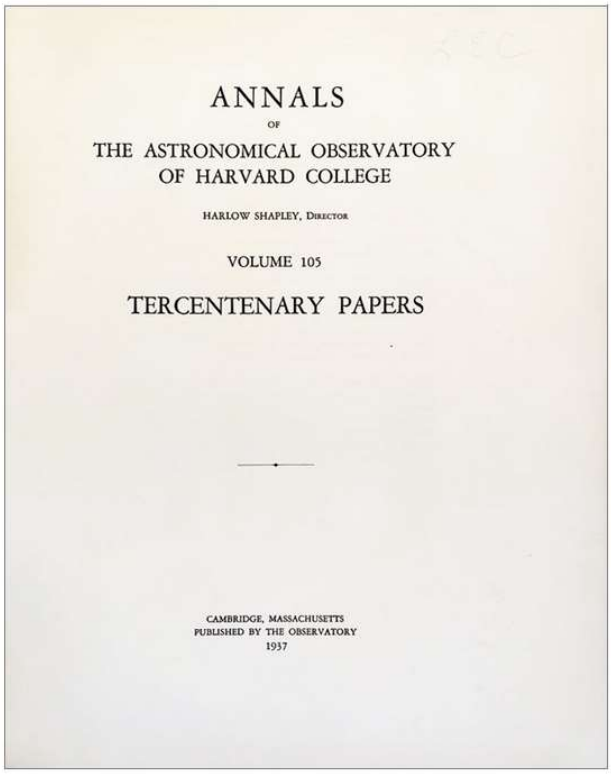
FIGURE 3(f)

20. **Harvard College, Astronomical Observatory**. *Annals of the Astronomical Observatory of Harvard College. Volume 105: Tercentenary papers. Harlow Shapley, Director*. Cambridge: Harvard College, Astronomical Observatory, 1937. 4to. [viii], 632 pp. Numerous tables, diagrams, some plates. Contemporary red gilt-stamped library buckram; spine faded. Rubber ownership-stamp of Leland E. Cunningham (his initials written on the title), a contributor to this volume). Very good. S14019

$ 55

With 32 papers for this Tercentenary volume. This is Leland Cunningham's copy, a co-author, with Fred L. Whipple (1906-2004), A DEFINITIVE ORBIT OF APOLLO (REINMUTH OBJECT, 1932 HA), paper 29. Among the contributors: James G. Baker (1914-2005), Bart J. Bok (1906-1983), Constance D. Boyd (1907-1976), Wallace R. Brode (1900-1974), William Alexander Calder (1906-1998), Leon Campbell (1881-1951), Annie J. Cannon (1863-1941), Barbara Cherry (1914-2008), James Cuffey (1911-1999), George Z. Dimitroff, Sergei Gaposchkin (1900-1979), Jesse Leonard Greenstein (1909-2002), Margaret Harwood (1885-1979), Dorrit Hoffleit (1907-2007), H.H. Lane, Eric Mervyn Lindsay (1907-1974), Willem Jacob Luyten (1899-1994), Sidney Wilcox McCuskey (1907-1979), Margaret Walton Mayall (1902-1995), Donald H. Menzel (1901-1976), Freeman Devold Miller (1909-2000), Peter Mackenzie Millman (1906-1990), Jenka Mohr (b.1902), Ernst Öpik (1893-1985), John Stefanos Paraskevopoulos (1889-1951), Cecilia H. Payne-Gaposchkin (1900-1979), Arthur Robert Sayer (1908-1986), Carl Keenan Seyfert (1911-1960), Howard Shapley (1885-1972), T.E. Sterne, William Francis Swann (1884-1962), Henrietta H. Swope (1902-1980), and Fletcher Watson, Jr. (1912-

1997). Harvard College Observatory began hiring women assistants as early as 1875, this volume containing some pioneering women in astronomy.



ANNALS
OF
THE ASTRONOMICAL OBSERVATORY
OF HARVARD COLLEGE

HARLOW SHAPLEY, DIRECTOR

VOLUME 105

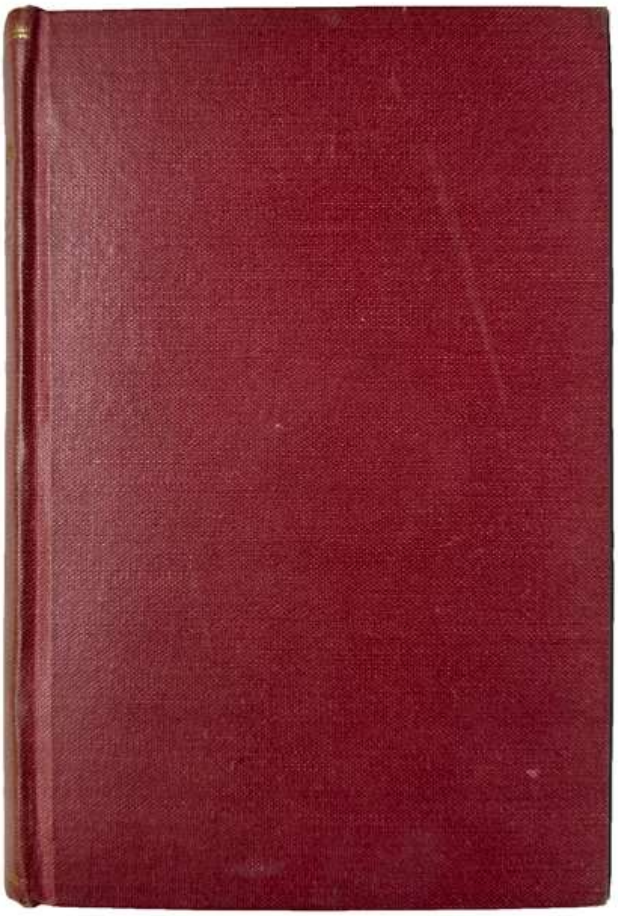
TERCENTENARY PAPERS

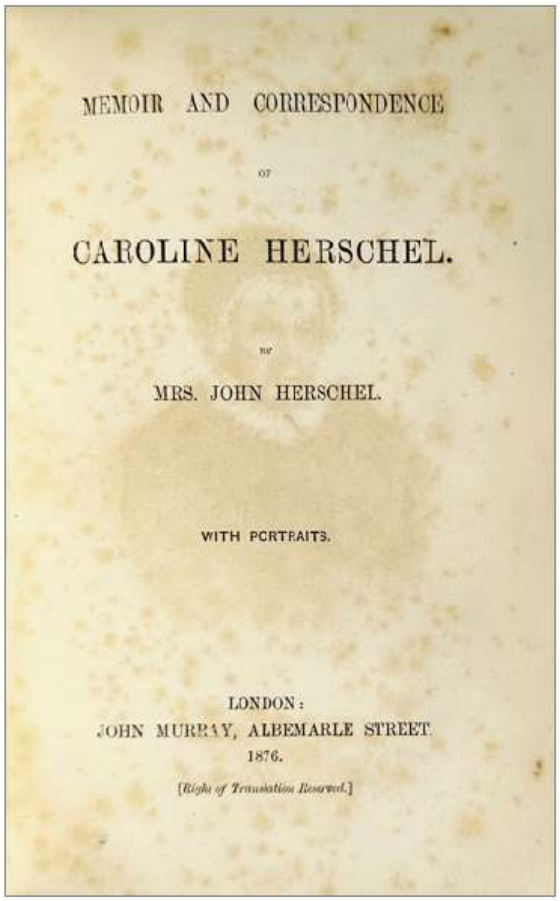
CAMBRIDGE, MASSACHUSETTS
PUBLISHED BY THE OBSERVATORY
1937

PLATE II

Coronal Photograph Taken in Zero Order of Concave-grating Spectrograph No. 9.

PROVENANCE: Leland Erskin Cunningham (1904-1989), Wiscasset, Maine, was an American astronomer. See: Women at the Harvard College Observatory, Wolbach Library.




MEMOIR AND CORRESPONDENCE

OF

CAROLINE HERSCHEL.

BY

MRS. JOHN HERSCHEL.

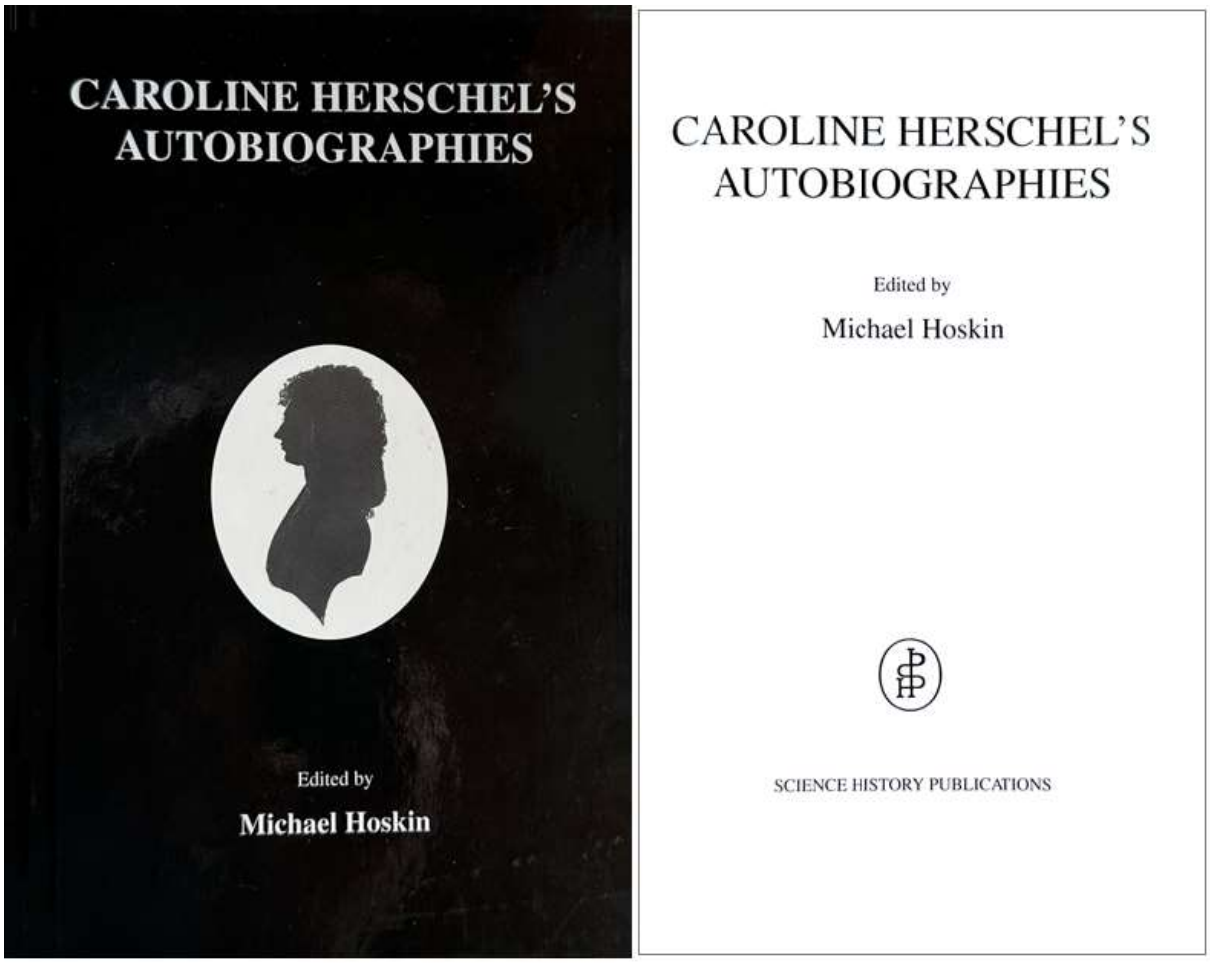
WITH PORTRAITS.

LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1876.
[Rights of Translation Reserved.]

21. **HERSCHEL, Caroline** (1750-1848)**; HERSCHEL, Mrs. John [Lady Margaret]** (1810-1884). *Memoir and Correspondence of Caroline Herschel.* London: John Murray, 1876. ¶ 8vo. x, 355, [1] pp. Frontispiece portrait of Caroline Herschel at 92 years of age, portrait of Sir William Herschel, plate showing the 40-foot telescope, index; light foxing, offsetting. Rebound in brick-red gilt-stamped cloth, 1950. Ownership signature of Henry C. King, 1932. Very good. Scarce.

$ 125

First edition, British issue. "The only biography of one of the most extraordinary characters in the history of science. Arrived in England from Germany to take over her brother Sir William's household, she spent her time between home duties and sweeping the heavens, which resulted in her discovery of 8 comets between 1786 and 1797, For her Catalogue of Zones of Sir W Herschel's Star Clusters and Nebulæ she received the Gold Medal of the Astronomical Society." – Henry Sotheran, London, 1951, 626.



22. [**HERSCHEL, Caroline** (1750-1848)] **HOSKIN, Michael A**. (editor). *Caroline Herschel's Autobiographies*. Cambridge: Science History Publications, 2003. ¶ 8vo. viii, l47, [1] pp. Illustrations. Hardcover. Very good+.

$ 25

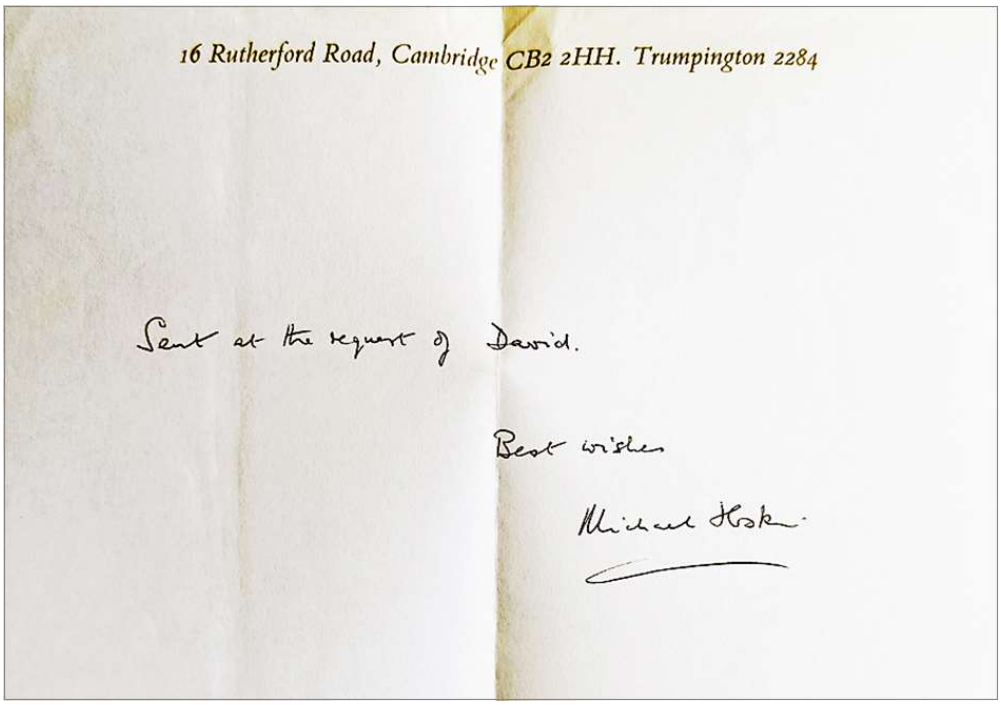
"Caroline Herschel (1750–1848) became in 1787 the first female professional in the history of astronomy, when King George III conferred on her a salary of £50 in recognition of her work as assistant to his astronomer, her brother William.

The two had grown up in Hanover in a talented musical family; but in 1757 William had fled to England as a refugee from the Seven Years War. By 1766 he had established himself as a musician in fashionable Bath, and in 1772 he invited Caroline there, to run his bachelor household and to see whether she could make a career as a singer. But her arrival coincided with William's development of a passion for astronomy, and Caroline found him unwilling to spare the time to foster her career.

In 1781 William found unexpected fame when he discovered the planet Uranus, and his allies at court used this to persuade the King to make it financially possible for William to dedicate himself to astronomy. There followed hectic years of activity, in the most productive partnership astronomy has ever known: William observed, while Caroline sat nearby, writing down his observations as he shouted them out. But in 1788 William married a rich widow, and a resentful Caroline found herself displaced, still his assistant but no longer at the centre of his life.

In her seventies Caroline compiled an autobiography that detailed her life to the date of her brother's marriage, and in her nineties, incredibly, she embarked on another autobiography, which told her story a second time, to the middle of her Bath years. These primary sources for the Herschel saga are now made available to historians for the first time.

Michael Hoskin before retirement was Head of the Department of History and Philosophy of Science at Cambridge University. In 1970 he founded Journal for the History of Astronomy, which he has edited ever since, and in 2001 the International Astronomical Union named a minor planet in his honour. He is the author of The Herschel Partnership: As Viewed by Caroline." – (jacket) Science History Publications Ltd.

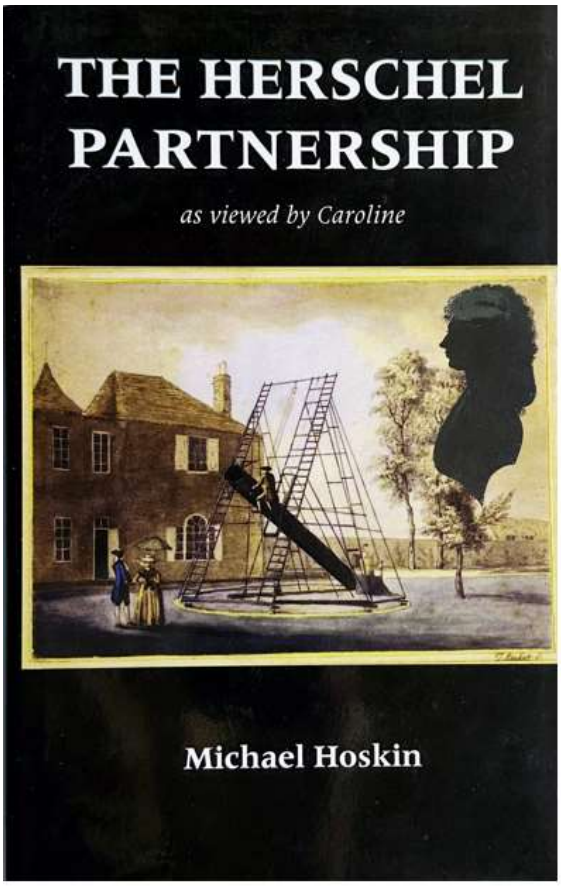

16 Rutherford Road, Cambridge CB2 2HH. Trumpington 2284

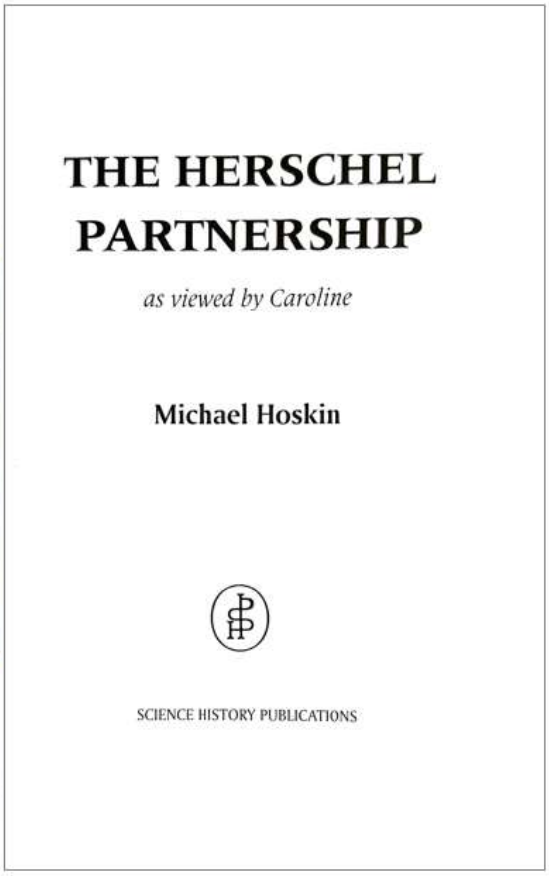
Sent at the request of David.

Best wishes

Michael Hoskin.

[23]



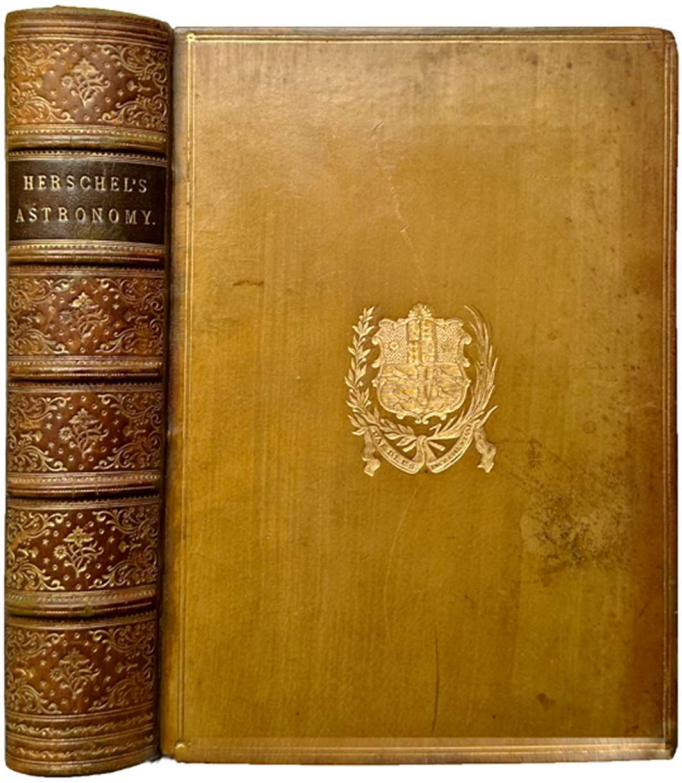


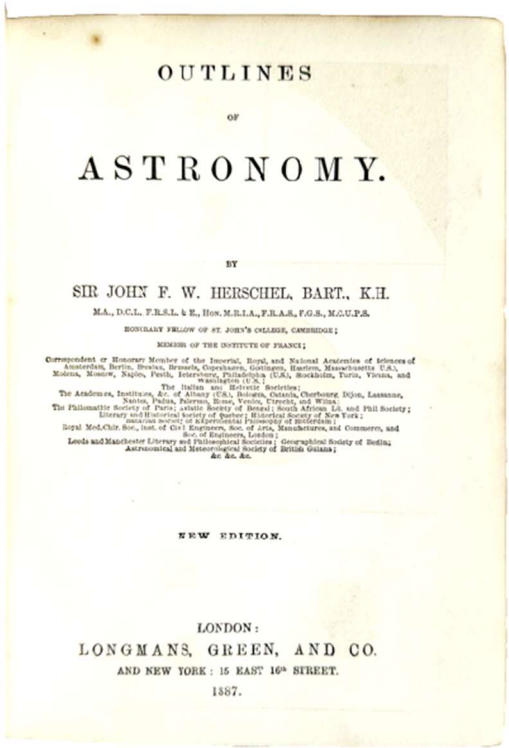
23. [**HERSCHEL, Caroline** (1750-1848)] **HOSKIN, Michael A.** (1930-2021). *The Herschel Partnership as viewed by Caroline*. Cambridge: Science History Publications, 2003. ¶ 8vo. viii, 182 pp. Original green gilt-stamped cloth, dust-jacket. With presentation slip, from the author, laid-in: "Sent at the request of David [King], Best wishes, Michael Hoskin". Small marginal note, p. 136 (from King). Near fine.

$ 25

"The partnership between William Herschel (1738-1822) and his sister Caroline (1750-1848) transformed astronomy from the study of the solar system, with the stars as little more than a backcloth, to the exploration of the stellar system, the nebulae, and the cosmos as a whole. This book examines the partnership from the viewpoint of Caroline, and reveals the sacrifices she was called on to make and the effects these had on her." – jacket.

"The rags-to-riches story of Caroline Herschel, from household drudge in Hanover to gold-medal-winning astronomer, has been well known since the posthumous publication of her memoirs in 1876. But Michael Hoskin brings to the subject a richness of detail and nuance that was previously unimaginable. He firmly establishes the context for the most extraordinary partnership astronomy has ever known." – Owen Gingerich, Harvard-Smithsonian Center for Astrophysics.




OUTLINES

OF

ASTRONOMY.

BY

SIR JOHN F. W. HERSCHEL, BART., K.H.

NEW EDITION.

LONDON:

LONGMANS, GREEN, AND CO.

AND NEW YORK: 15 EAST 16th STREET.

1887.

In a Deluxe Binding, full calf, all edges gilt

24. **HERSCHEL, Sir John Frederick William** (1792-1871). *Outlines of Astronomy. New edition*. London & New York: Longman, Green & Co., 1887. ¶ 8vo. xxiii, 753 pp. Frontispiece (heightened with a touch of red for the 'Total Eclipse of the Sun' July 7, 1842), and 8 additional plates (1 folding, 2 of which are over-come with blackness – I have not seen this before, it looks like the whole of both plates are printed black and git blacker still, as if an emulsion in the printing (or photographic?) process had changed over more than a century). Original gilt-stamped calf, with crest on upper cover, raised bands, heavily gilt-tooled compartments, brown gilt-stamped spine label, all edges gilt; corners bumped, rubbed. Ownership inscription of Henry C. King, Slough, 1936, with his 'HK' rubber-stamp, and the Henry Charles King bookplate. Very good.

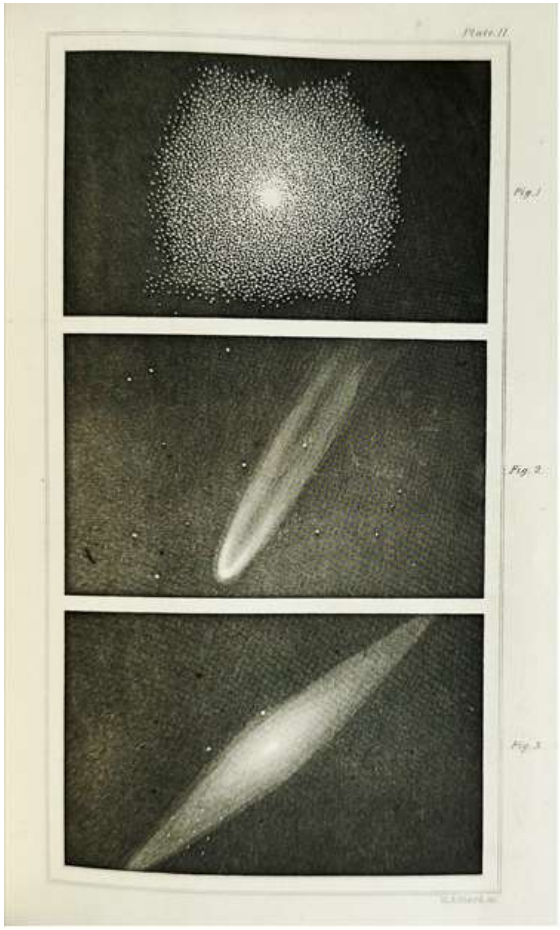
$ 75

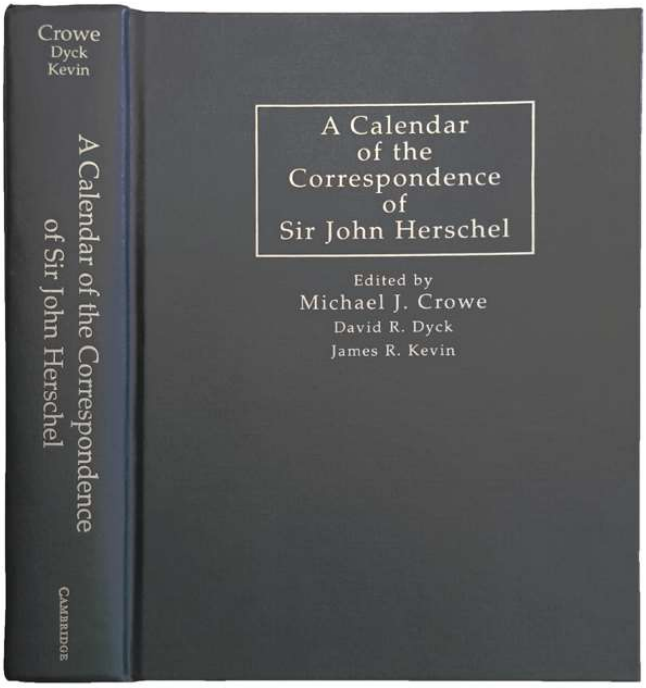
Essentially a tenth edition, reprinted. It has within the prefaces for the first, fifth, and tenth editions. Herschel's *Treatise on Astronomy* first appeared in 1833. What seems a standard text for everything astronomical, was nonetheless controversial to some: one reviewer disturbed by popularizing a scientific discipline, another pointing out difficulties Herschel had in explaining "Of Perturbations" (now is Chapter 12), the issue of astrophysics and the forces at work in the universe is too

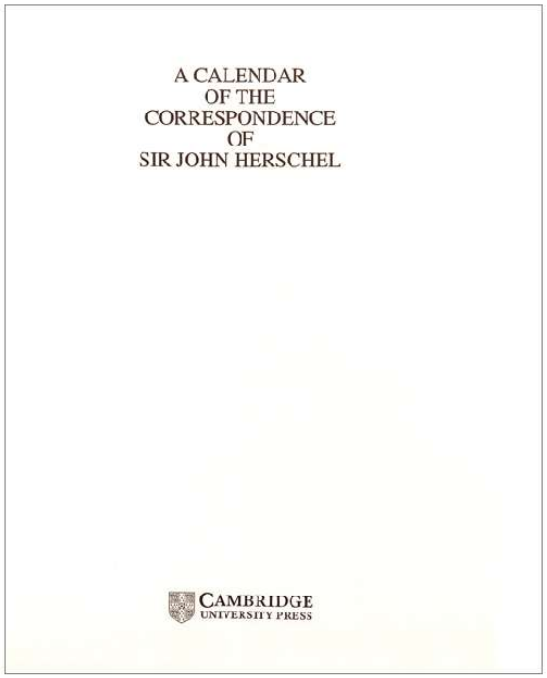
early for an understanding there and Herschel doesn't handle these points to the satisfaction of another reviewer.

Sir John Frederick William Herschel — astronomer, mathematician, and chemist — was one of the most important English scientists of the 19th century. In his Outlines of Astronomy, he provides a complex review of what was known of the physical world in his era. His textbook appeals to both the general and the specialist reader as it discusses a range of phenomena from Earth's basic characteristics to astronomy.

PROVENANCE: Henry C. King (1915-2005). When he came to Slough, Henry C. King gained access to the Herschel library. "Here Henry contacted Lady Constance Lubbock, William Herschel's granddaughter, and was able to access the Herschel Library."



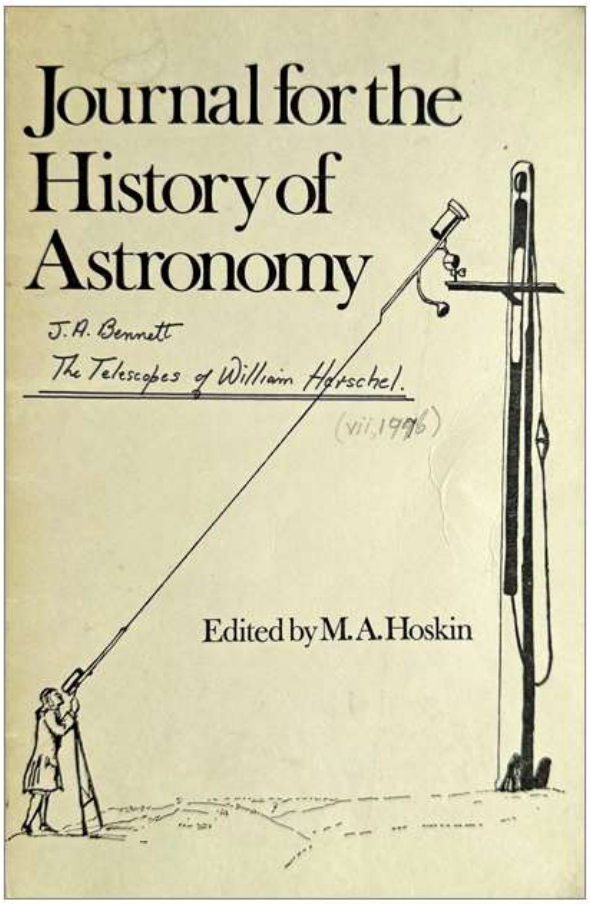


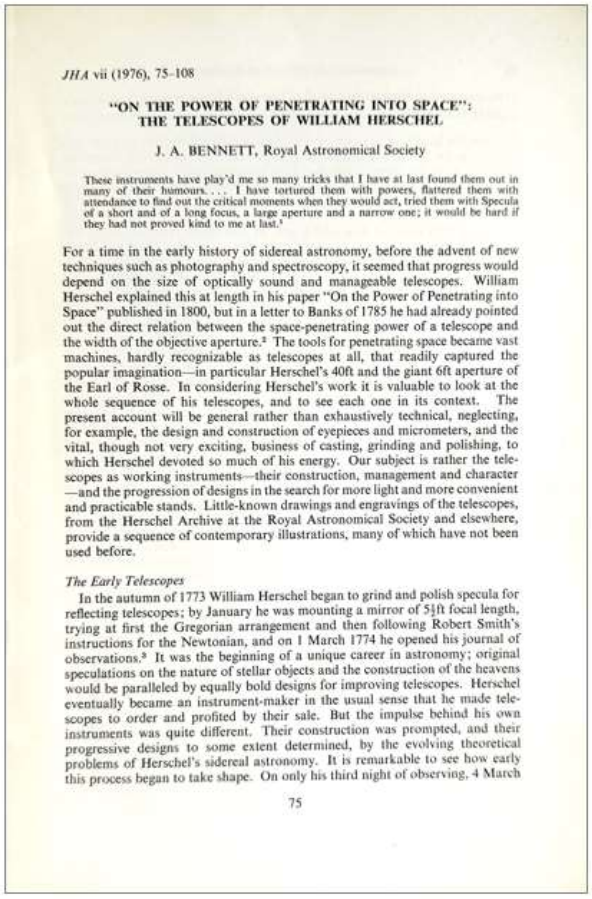


25. **HERSCHEL, John Frederick William** (1792-1871)] **CROWE, Michael J.** (1936-); **David R. DYCK** (1933-2004); **James R. KEVIN** (editors). *A Calendar of the Correspondence of Sir John Herschel. Edited by Michael J. Crowe.* . . Cambridge: Cambridge University Press, 1998. ¶ FIRST EDITION. 4to. 828 pp. Index. Navy cloth, silver stamped cover and spine titles. Fine. BL4511

$ 75

"This volume provides for the first-time summaries, descriptions, and documentation for 14,815 letters written by or sent to Sir John Herschel (1792-1871). Herschel's numerous contributions to astronomy as well as to mathematics, physics, chemistry (especially photochemistry and photography), meteorology, philosophy of science, and scientific organization, led his British contemporaries to regard him as the most prominent scientist of his era. Because Herschel corresponded on a remarkable array of topics and with leading figures both in Britain and beyond, this volume gives scholars access to a wealth of revealing new information. The many new uses of the volume are enhanced by its Biographical Register, which identifies about 1500 of Herschel's correspondents, and its Index, which supplies 30,000 references. This volume is far and away the most extensive source of information on John Herschel ever published. Also included are bibliographies of Herschel's publications and of publications on him."





JHA vii (1976), 75–108

"ON THE POWER OF PENETRATING INTO SPACE": THE TELESCOPES OF WILLIAM HERSCHEL

J. A. BENNETT, Royal Astronomical Society

These instruments have play'd me so many tricks that I have at last found them out in many of their humours. . . . I have tortured them with powers, flattered them with attendance to find out the critical moments when they would act, tried them with Specula of a short and of a long focus, a large aperture and a narrow one; it would be hard if they had not proved kind to me at last.[1]

For a time in the early history of sidereal astronomy, before the advent of new techniques such as photography and spectroscopy, it seemed that progress would depend on the size of optically sound and manageable telescopes. William Herschel explained this at length in his paper "On the Power of Penetrating into Space" published in 1800, but in a letter to Banks of 1785 he had already pointed out the direct relation between the space-penetrating power of a telescope and the width of the objective aperture.[2] The tools for penetrating space became vast machines, hardly recognizable as telescopes at all, that readily captured the popular imagination—in particular Herschel's 40ft and the giant 6ft aperture of the Earl of Rosse. In considering Herschel's work it is valuable to look at the whole sequence of his telescopes, and to see each one in its context. The present account will be general rather than exhaustively technical, neglecting, for example, the design and construction of eyepieces and micrometers, and the vital, though not very exciting, business of casting, grinding and polishing, to which Herschel devoted so much of his energy. Our subject is rather the telescopes as working instruments—their construction, management and character—and the progression of designs in the search for more light and more convenient and practicable stands. Little-known drawings and engravings of the telescopes, from the Herschel Archive at the Royal Astronomical Society and elsewhere, provide a sequence of contemporary illustrations, many of which have not been used before.

The Early Telescopes

In the autumn of 1773 William Herschel began to grind and polish specula for reflecting telescopes; by January he was mounting a mirror of 5½ft focal length, trying at first the Gregorian arrangement and then following Robert Smith's instructions for the Newtonian, and on 1 March 1774 he opened his journal of observations.[3] It was the beginning of a unique career in astronomy; original speculations on the nature of stellar objects and the construction of the heavens would be paralleled by equally bold designs for improving telescopes. Herschel eventually became an instrument-maker in the usual sense that he made telescopes to order and profited by their sale. But the impulse behind his own instruments was quite different. Their construction was prompted, and their progressive designs to some extent determined, by the evolving theoretical problems of Herschel's sidereal astronomy. It is remarkable to see how early this process began to take shape. On only his third night of observing, 4 March

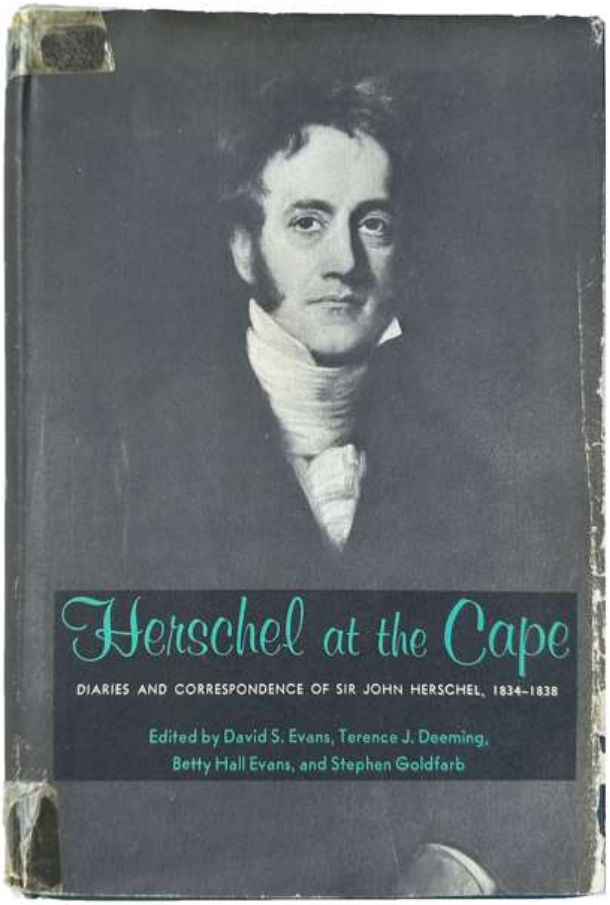
75

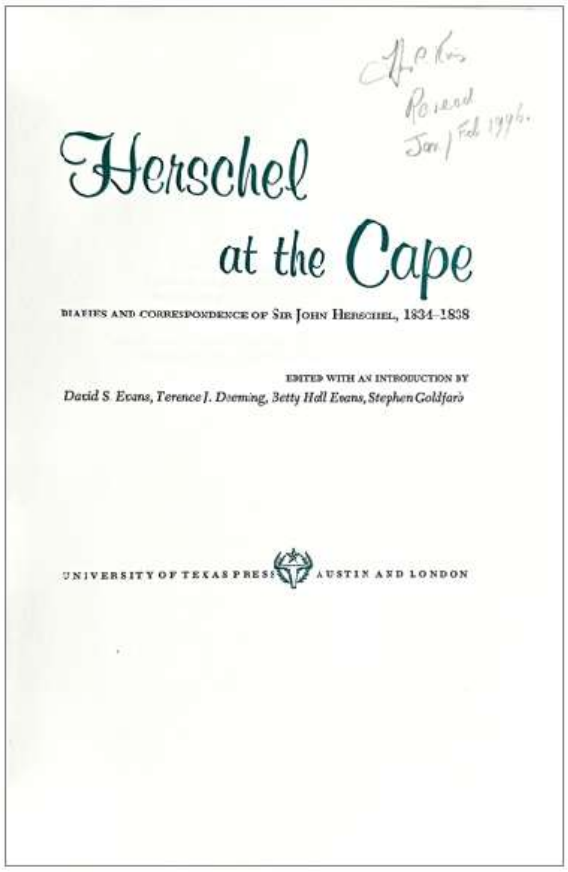
26. **[HERSCHEL, Sir John Frederick William** (1792-1871)] **BENNETT, J.A.** *"On the power of penetrating into space": the telescopes of William Herschel*. Bucks: Science History Pubs., 1976. ¶ 8vo. Pages 75-108. 11 figures. Printed wrappers. Manuscript annotation on upper cover. Very good.
$ 10

Offprint from the *Journal for the History of Astronomy*.

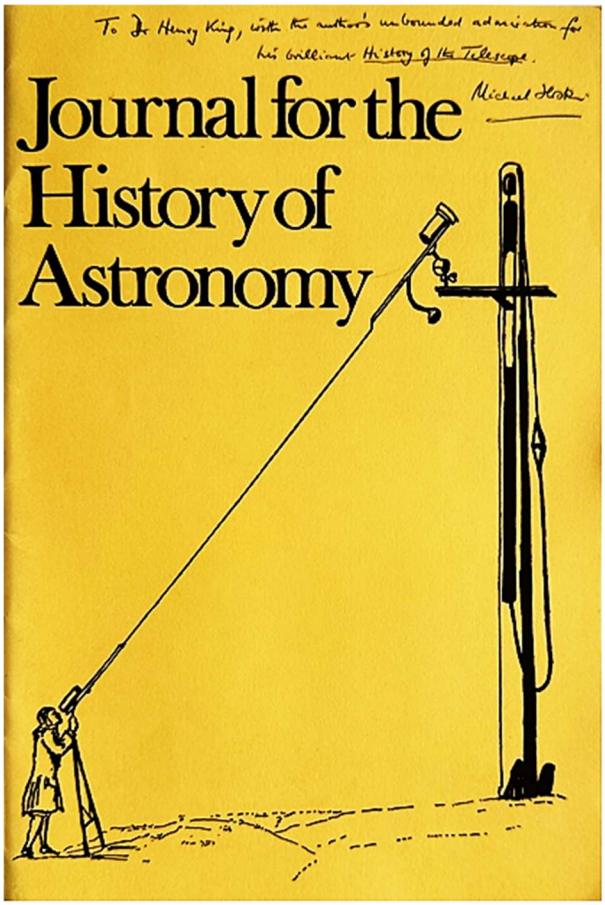
James Arthur ['Jim'] Bennett (1947-2023), historian of scientific instruments, was Director of history of science museums in Cambridge and Oxford (1994-2012). In 2016, Bennett became the president of the Hakluyt Society. He also held the position of Keeper Emeritus at the Science Museum, London. He was a member of the Royal Astronomical Society.

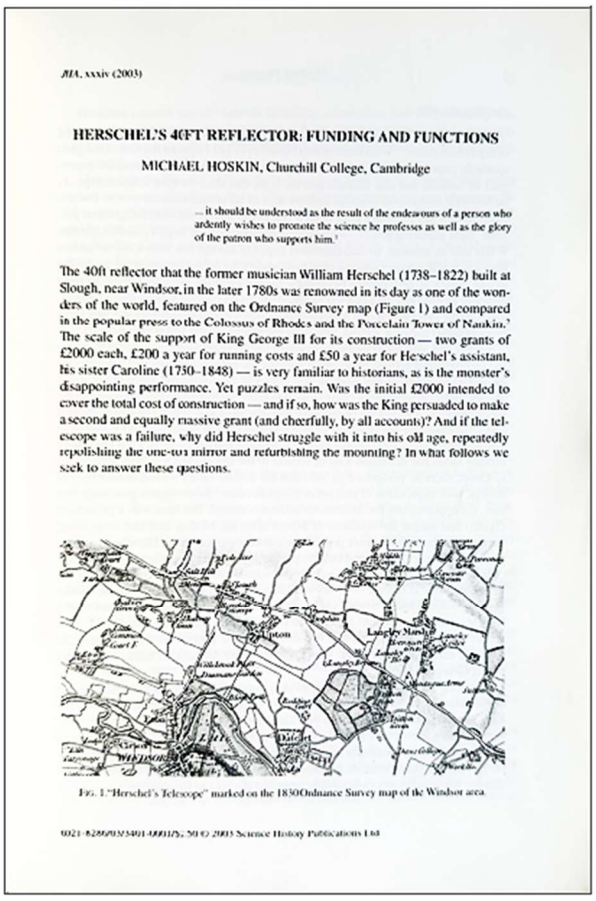
Laid in is a copy of the review by Arthur Beer of *Herschel at the Cape; Diaries and Correspondence* . . . From: *Physics Today*, Nov. 1970.





27. **HERSCHEL, Sir John Frederick William** (1792-1871); **EVANS, David S.; Terence J. DEEMING; Betty Hall EVANS; Stephen GOLDFARB**, eds. *Herschel at the Cape – Diaries and Correspondence of Sir John Herschel, 1834-1838*. Austin & London: University of Texas Press, 1969. ¶ 8vo. xxxv, 398 pp. 13 figs., index. Cloth, dust-jacket; jacket is very worn, scotch-tape appled, tears and scruffy. Henry C. King's copy (signed on the title, "reread Jan/Feb. 1996"), with his occasional annotations within (including his work on the Herschel family tree). Good condition. $ 8




JHA, xxxiv (2003)

HERSCHEL'S 40FT REFLECTOR: FUNDING AND FUNCTIONS

MICHAEL HOSKIN, Churchill College, Cambridge

... it should be understood as the result of the endeavours of a person who ardently wishes to promote the science he professes as well as the glory of the patron who supports him.[1]

The 40ft reflector that the former musician William Herschel (1738–1822) built at Slough, near Windsor, in the later 1780s was renowned in its day as one of the wonders of the world, featured on the Ordnance Survey map (Figure 1) and compared in the popular press to the Colossus of Rhodes and the Porcelain Tower of Nankin.[2] The scale of the support of King George III for its construction — two grants of £2000 each, £200 a year for running costs and £50 a year for Herschel's assistant, his sister Caroline (1750–1848) — is very familiar to historians, as is the monster's disappointing performance. Yet puzzles remain. Was the initial £2000 intended to cover the total cost of construction — and if so, how was the King persuaded to make a second and equally massive grant (and cheerfully, by all accounts)? And if the telescope was a failure, why did Herschel struggle with it into his old age, repeatedly repolishing the one-ton mirror and refurbishing the mounting? In what follows we seek to answer these questions.

FIG. 1. "Herschel's Telescope" marked on the 1830 Ordnance Survey map of the Windsor area.

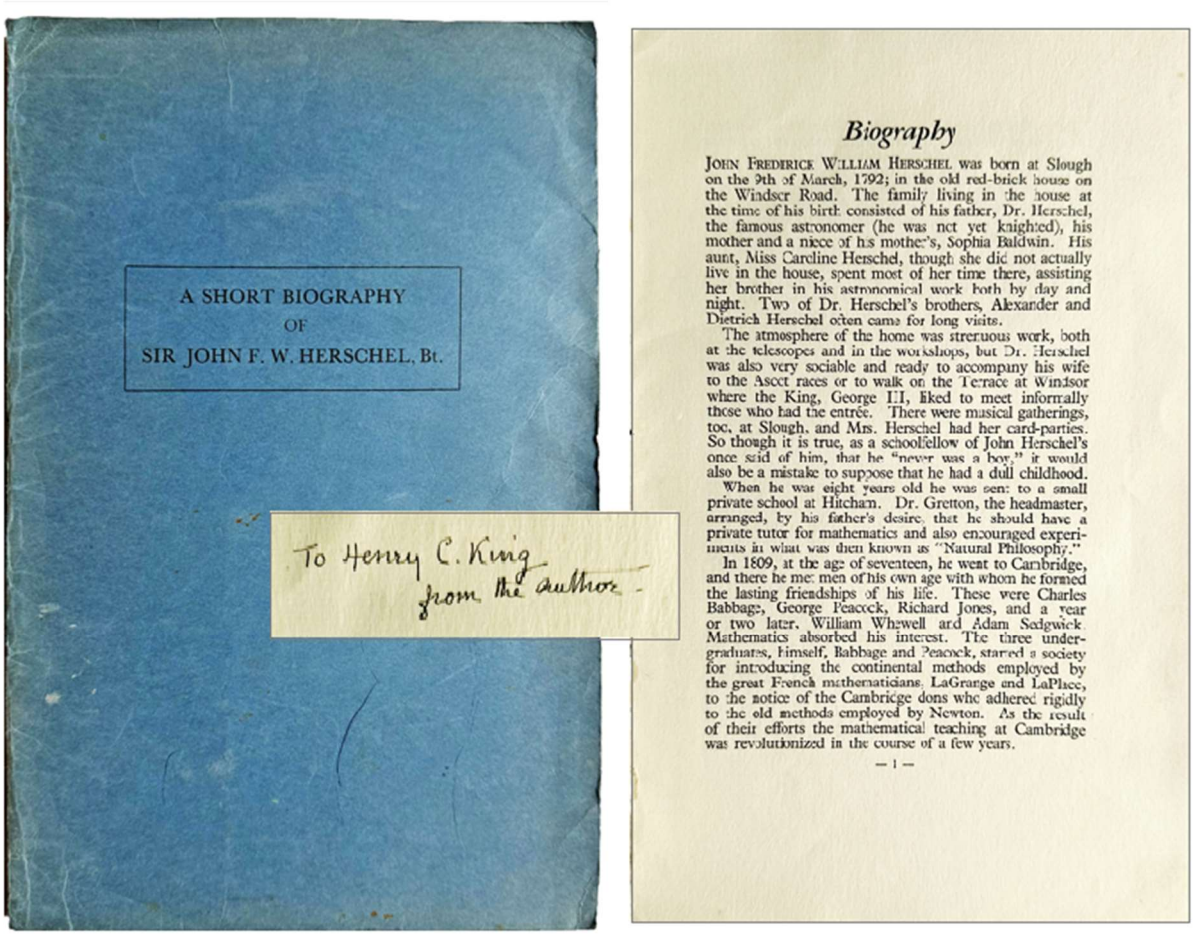
0021-8286/03/3401-0001/$2.50 © 2003 Science History Publications Ltd

28. **[HERSCHEL, Sir John Frederick William** (1792-1871)] **HOSKIN, Michael** (1930-2021). *"Herschel's 40ft Reflector: funding and functions"*. Bucks: Science History Pubs., 2003. ¶ 8vo. 32 pp. 4 figs. Sheets are trimmed at the gutter, thus loose. Original printed wrappers. INSCRIBED BY THE AUTHOR "To Henry King, with the author's unbounded admiration for his brilliant History of the Telescope – Michael Hoskin". Very good.

$ 15

Offprint from the *Journal for the History of Astronomy*.

Hoskin "specialised in the Herschel family, on whom he was eventually to write no fewer than eight books."

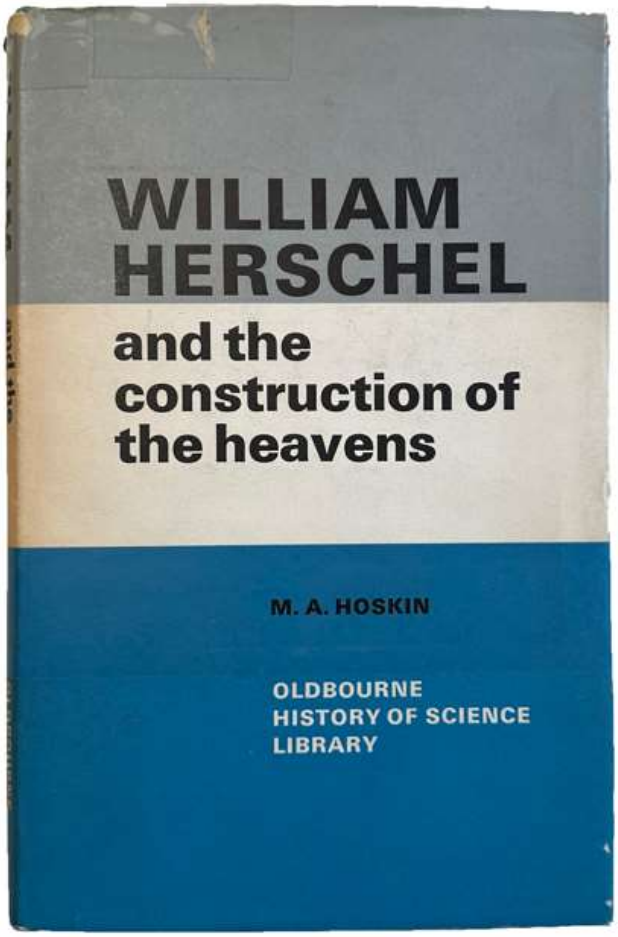


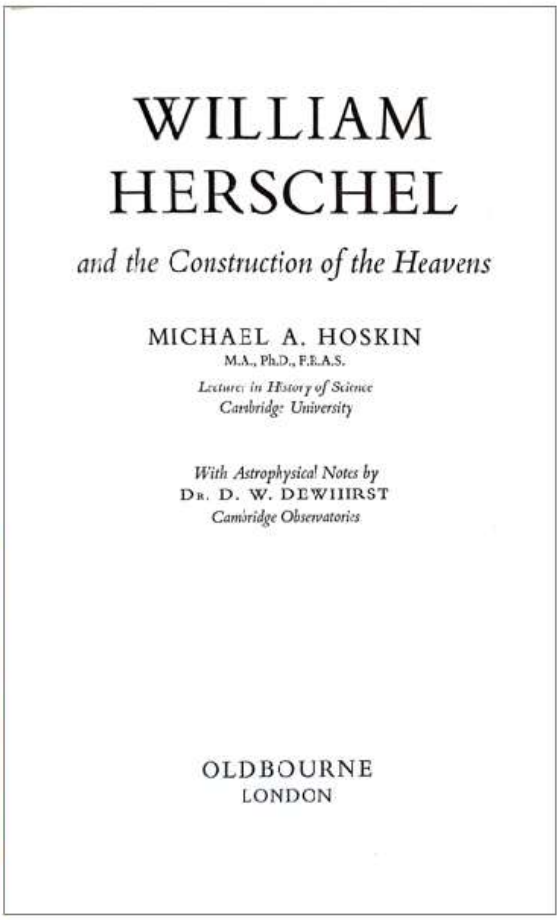
29. **[HERSCHEL, Sir John Frederick William** (1792-1871)] **C.A. LUBBOCK** (1855?-1939). *A short biography of Sir John F. W. Herschel, Bt.* [n.p., n.d., ca. 1935-39]. ¶ Tall 8vo. [2], 7, [3] pp. Mounted portrait of Sir John H.W. Herschel (with Lubbock's inscription below describing the location of the portrait, now at St. John's College). Two mounted sheets at rear: 1) Scene on the Terrace at Collingwood, 1855, showing the Herschel family (including Constance); 2) reproduction of a sketch of Louisa M. Herschel, used for a Christmas card. Original blue wrappers; edges a bit curled, rubbed. INSCRIBED BY Lady Constance Ann (Herschel) Lubbock to Henry C. King, "from the author". Two manuscript erratum are annotated directly on the location of the page (such as p. 7, line 6, "Ascham" being a correction over the printed "Aschem". Good+. A choice copy with this association. Scarce.

$ 30

This item was a gift to King from Lady Herschel during his time at Slough, Bucks, ca. 1936-39.

This pamphlet, written anonymously, was put together by Lady Constance Ann (Herschel) Lubbock.

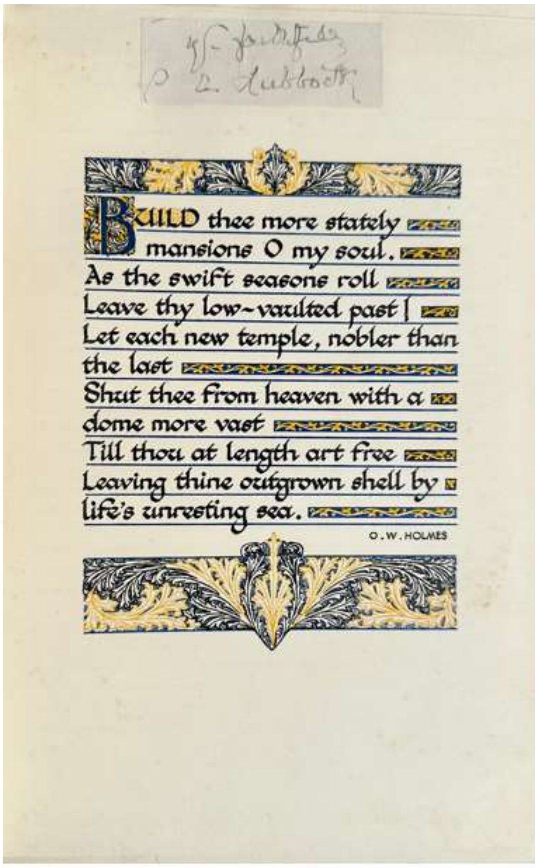


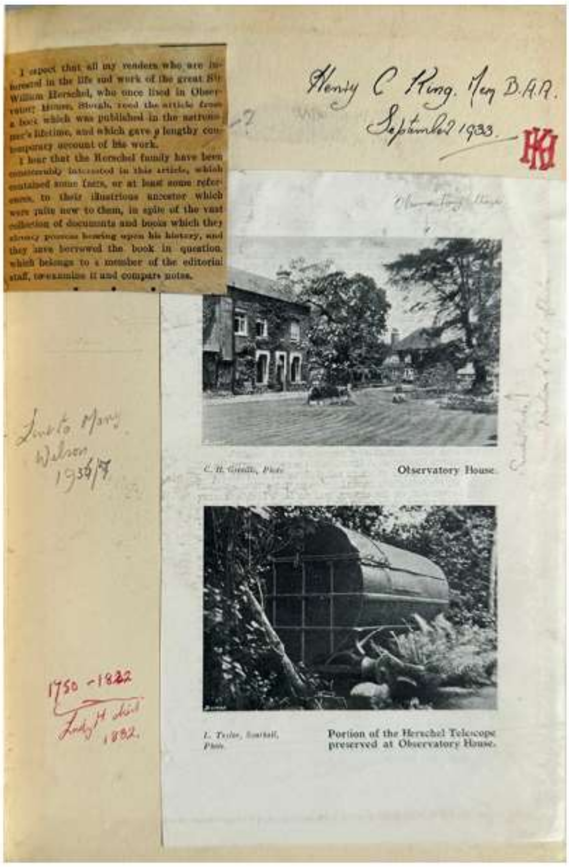


30. **[HERSCHEL, Sir John Frederick William** (1792-1871)] **HOSKIN, Michael A.** (1930-2021). *William Herschel and the Construction of the Heavens*. London: Oldbourne, 1963. ¶ 8vo. 199, [1] pp. 8 plates. Cloth, dust-jacket; jacket town and with cellophane applied, piece missing from rear of jacket. "The London Planetarium" – handwritten on the book (duplicate). Good.

$ 8

With astrophysical notes by Dr. D. W. Dewhirst, Cambridge Observatories.


BUILD thee more stately mansions O my soul.
As the swift seasons roll
Leave thy low-vaulted past!
Let each new temple, nobler than the last
Shut thee from heaven with a dome more vast
Till thou at length art free
Leaving thine outgrown shell by life's unresting sea.
O.W. HOLMES

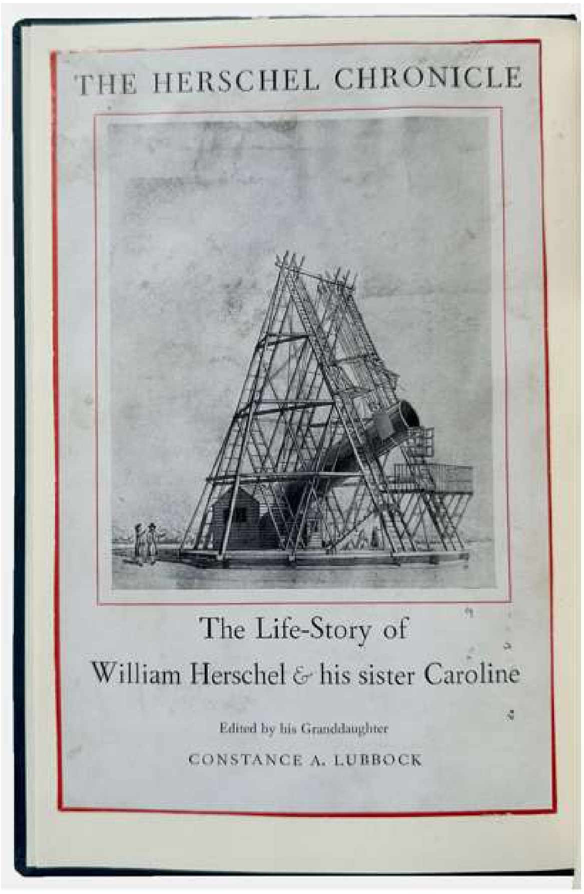

I expect that all my readers who are interested in the life and work of the great Sir William Herschel, who once lived in Observatory House, Slough, read the article from a book which was published in the astronomer's lifetime, and which gave a lengthy contemporary account of his work.

I hear that the Herschel family have been considerably interested in this article, which contained some facts, or at least some references, to their illustrious ancestor which were quite new to them, in spite of the vast collection of documents and books which they [illegible] bearing upon his history, and they have borrowed the book in question, which belongs to a member of the editorial staff, to examine it and compare notes.

C. H. Gould, Phot. Observatory House.

L. Taylor, Southall, Phot. Portion of the Herschel Telescope preserved at Observatory House.

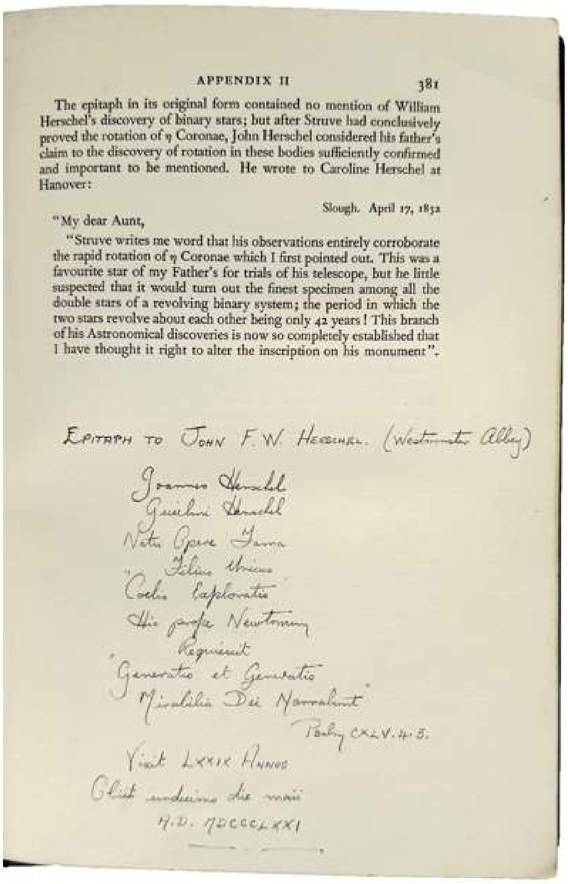
[31]


THE HERSCHEL CHRONICLE

The Life-Story of William Herschel & his sister Caroline

Edited by his Granddaughter

CONSTANCE A. LUBBOCK

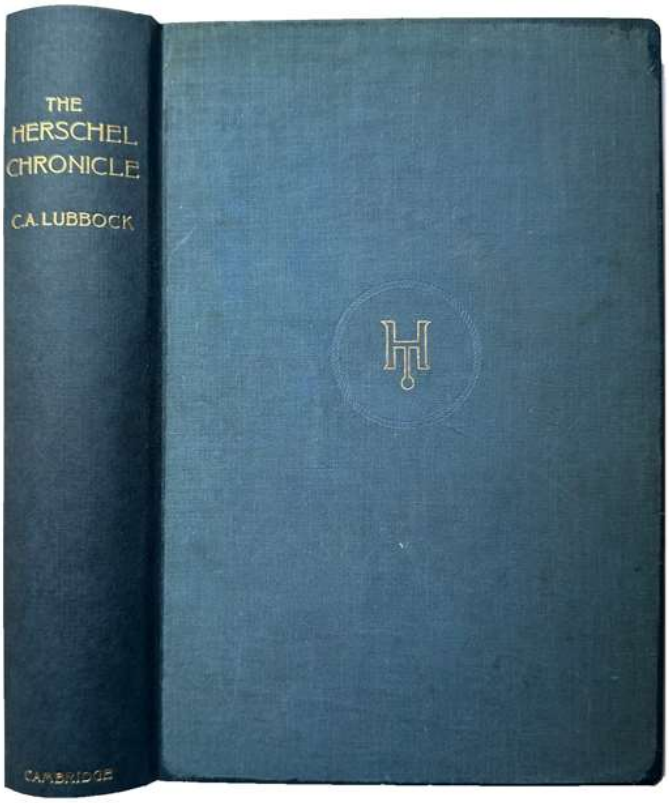

APPENDIX II 381

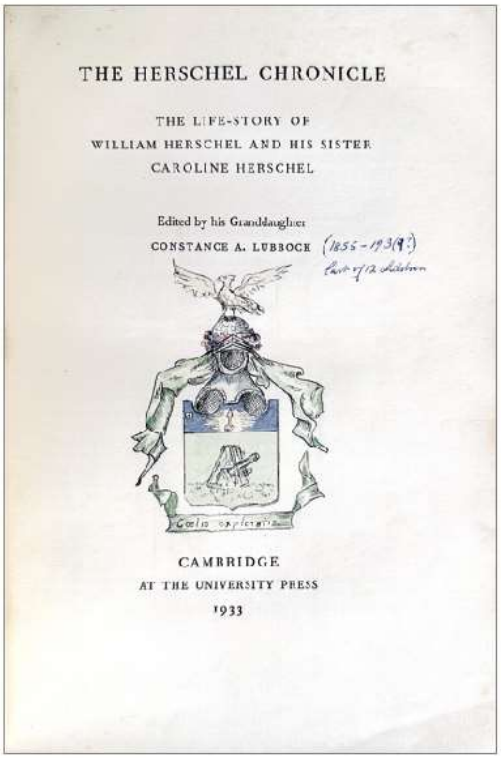
The epitaph in its original form contained no mention of William Herschel's discovery of binary stars; but after Struve had conclusively proved the rotation of η Coronae, John Herschel considered his father's claim to the discovery of rotation in these bodies sufficiently confirmed and important to be mentioned. He wrote to Caroline Herschel at Hanover:

Slough. April 17, 1832

"My dear Aunt,

"Struve writes me word that his observations entirely corroborate the rapid rotation of η Coronae which I first pointed out. This was a favourite star of my Father's for trials of his telescope, but he little suspected that it would turn out the finest specimen among all the double stars of a revolving binary system; the period in which the two stars revolve about each other being only 42 years! This branch of his Astronomical discoveries is now so completely established that I have thought it right to alter the inscription on his monument".

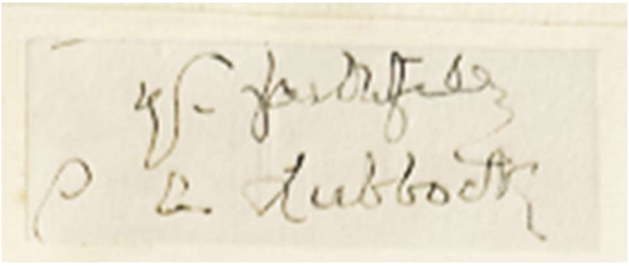



THE HERSCHEL CHRONICLE

THE LIFE-STORY OF
WILLIAM HERSCHEL AND HIS SISTER
CAROLINE HERSCHEL

Edited by his Granddaughter
CONSTANCE A. LUBBOCK (1855-1939?)

CAMBRIDGE
AT THE UNIVERSITY PRESS
1933



31. [**HERSCHEL, Sir John Frederick William** (1792-1871)]; **Caroline HERSCHEL** (1750-1848)] **LUBBOCK, Constance A**. [Lady Lubbock, nee Constance Anne Herschel] (1855-1939), ed. *The Herschel Chronicle – The Life- Story of William Herschel and his Sister Caroline Herschel.* Cambridge: The University Press, 1933. ¶ 8vo. x, [2], 388 pp. Frontispiece, title-vignette, 7 plates (8 illus.), index. Original full blue cloth mounted on modern blue cloth of a similar tone, new gilt-stamped spine title, new endleaves. Upper-cover fragment of original dust-jacket mounted within. Various memorabilia laid-in by HCK. Ownership signature and initial stamp of Hency C. King, 1933. Printed leaf with quote of Oliver Wendell Holmes – also with an original signed sheet from [Lady] C[onstance]. A[nne]. Lubbock [Constance Anne Herschel].” Fine copy with all the additions mounted or annotated into this personal copy of Henry C. King and showing his involvement with the Herschel family in the 1930s.

$ 200

Consisting for the most part of extracts from their autobiographical notes and journals and from their correspondence. Edited by his granddaughter C. A. Lubbock.

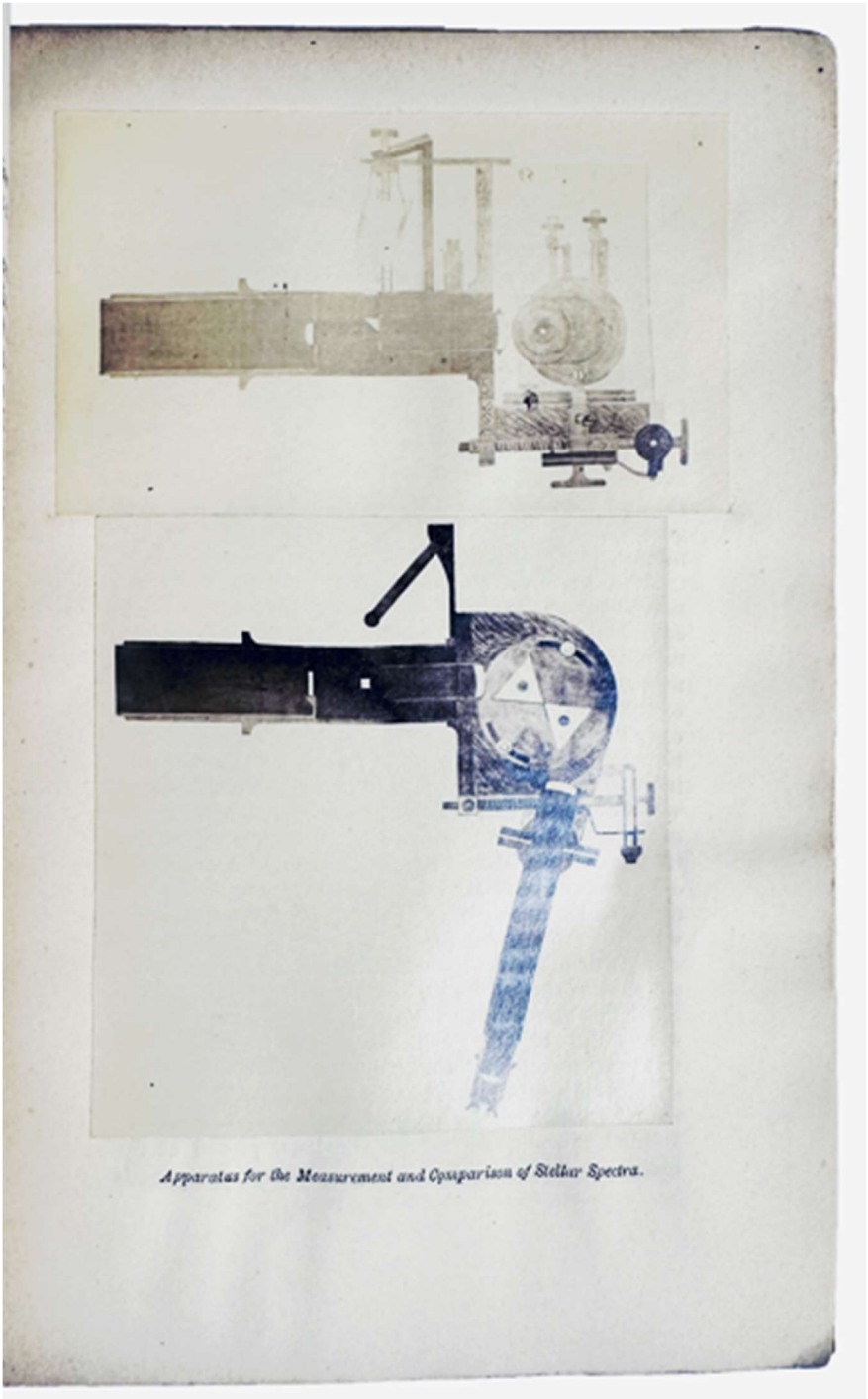
"The other basic source [in addition to Herschel's Scientific Papers] for the historian is Constance A. Lubbock, *The Herschel Chronicle* (Cambridge, 1933), which includes many letters and private papers" – Michael A. Hoskin, *DSB* VI, p. 336.

This was clearly Lady Constance Lubbock's copy and given to Henry C. King in 1933 when he came to study the Herschel family history in their town of Slough. King has heavily annotated his copy with corrections and numerous careful notes relating to the Herschels, recorded by King.

Two mounted slips of manuscript from the same person, being J.A. Calendar, a relative of the Herschel's in correspondence with Henry C. King – these are preserved herein: [1] "Dear Mr. King, I have now finished reading all three books with increasing interest, + found the Memoirs so engrossing that I just read on + on till 12.20 a.m. When I finally finished them! How did Caroline Herschel manage to be such a competent helper + how could she do [abstract?] calculations if she 'always had to carry the multiplication table about with her' . . . And she was wonderful too in her old age. The letters from Hanover are rather pathetic – especially that account of her nephew's last visit + his leaving without a final farewell, + she was so brave about it all. . . ." – a pencil note (from Henry C. King) attributes the letter to Miss. J. A. Callander. [2] Tipped-in to page 43 is another manuscript letter fragment from the same writer above – she writes, "Their son Thomas [Herschel] married my grandfather's sister Caroline Callander (1806). Another item of interest is that Miss C. Herschel knew Joanna Baillie the authoress, whom my Swinton grandmother knew in her early married life (1843-1851) . . ."

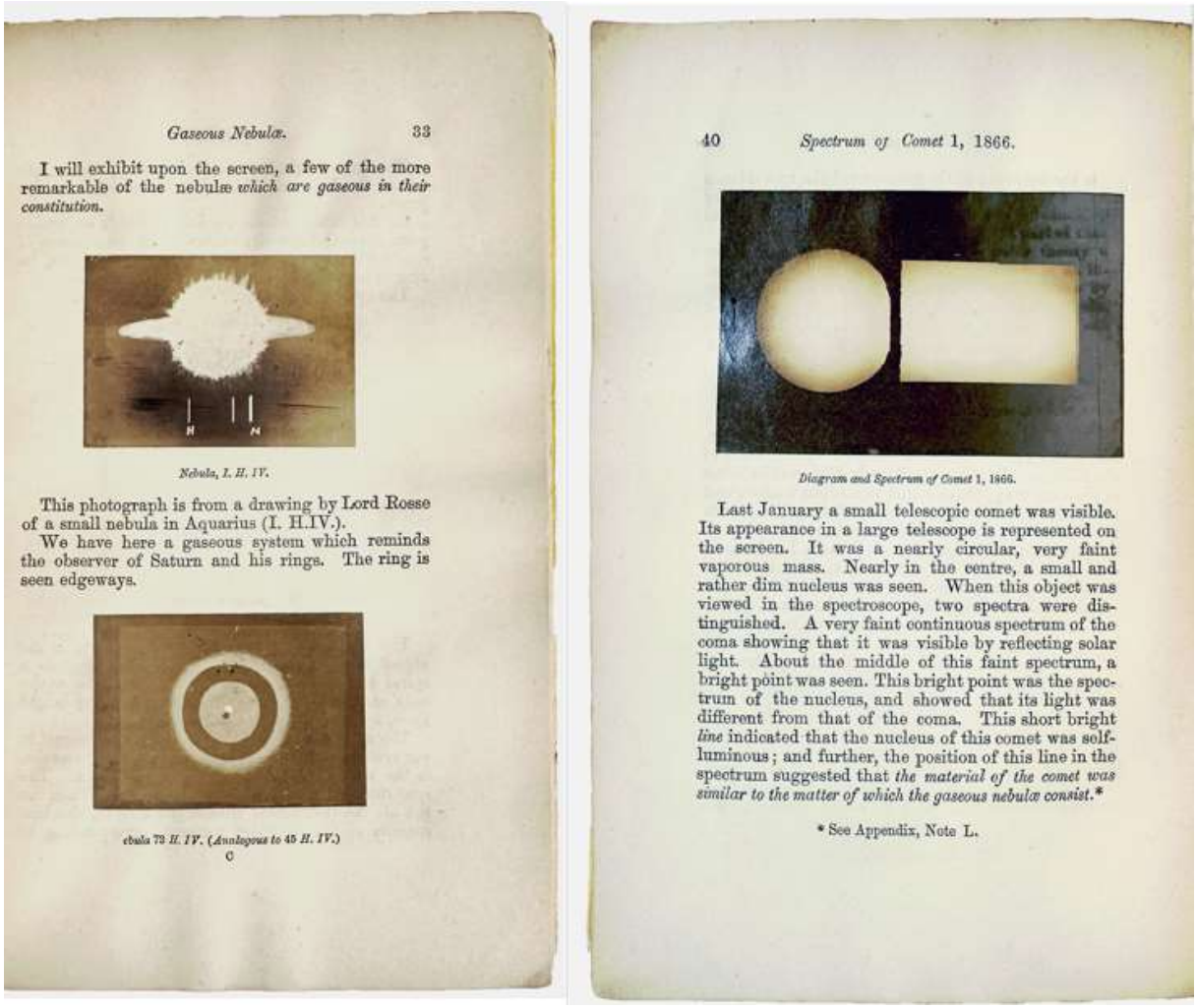
Lady Lubbock was the granddaughter of William Herschel, and the daughter of Sir John Frederick William Herschel. Born into the most famous family of astronomers, she grew up to become resident lecturer in natural sciences and mathematics at Girton College, Cambridge.

[H – Herschel on the book cover]



Apparatus for the Measurement and Comparison of Stellar Spectra.

With the Publishers
Compliments



Gaseous Nebulæ. 33

I will exhibit upon the screen, a few of the more remarkable of the nebulæ *which are gaseous in their constitution.*

Nebula, I. H. IV.

This photograph is from a drawing by Lord Rosse of a small nebula in Aquarius (I. H.IV.).

We have here a gaseous system which reminds the observer of Saturn and his rings. The ring is seen edgeways.

ebula 73 H. IV. (Analogous to 45 H. IV.)

C

40 Spectrum of Comet 1, 1866.

Diagram and Spectrum of Comet 1, 1866.

Last January a small telescopic comet was visible. Its appearance in a large telescope is represented on the screen. It was a nearly circular, very faint vaporous mass. Nearly in the centre, a small and rather dim nucleus was seen. When this object was viewed in the spectroscope, two spectra were distinguished. A very faint continuous spectrum of the coma showing that it was visible by reflecting solar light. About the middle of this faint spectrum, a bright point was seen. This bright point was the spectrum of the nucleus, and showed that its light was different from that of the coma. This short bright *line* indicated that the nucleus of this comet was self-luminous; and further, the position of this line in the spectrum suggested that *the material of the comet was similar to the matter of which the gaseous nebulæ consist.**

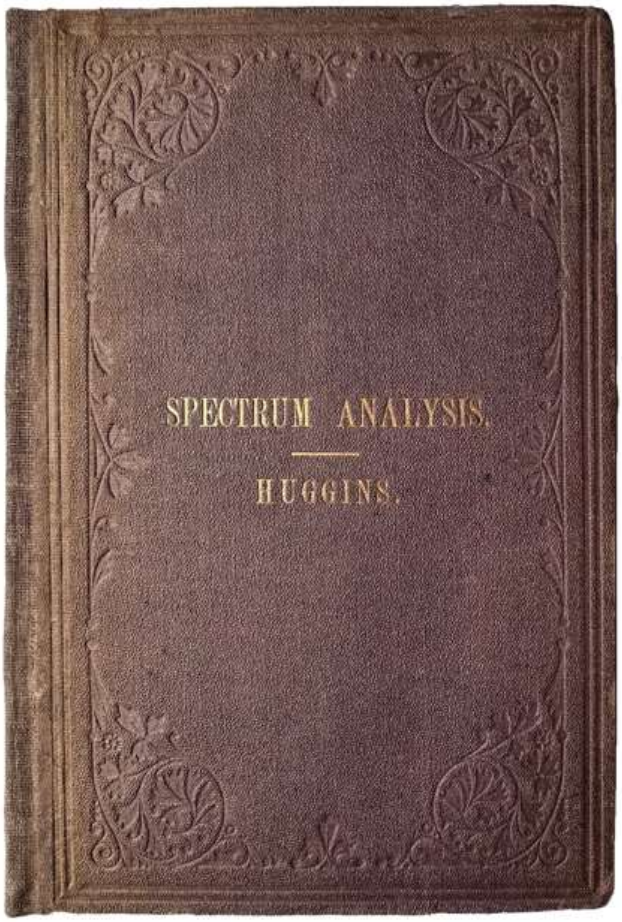
* See Appendix, Note L.

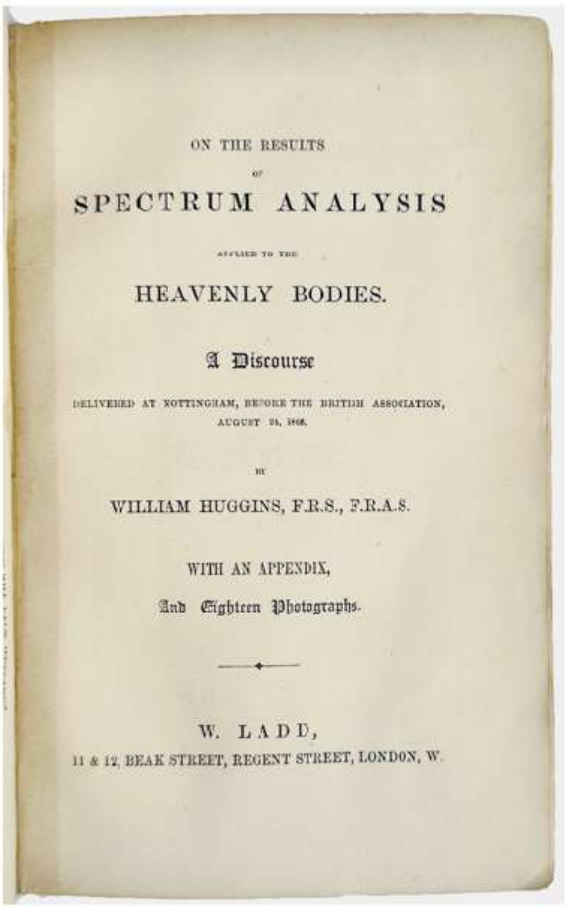
The Sir William Crookes & Owen Gingerich Copy
Illustrated with 18 Original Mounted Photographs

32. **HUGGINS, William** (1824-1910). *On the Results of Spectrum Analysis applied to the Heavenly Bodies. A Discourse Delivered at Nottingham, Before the British Association, August 24, 1866*. London: W. Ladd, [1866]. ¶ Small 8vo. (180 x 120 mm). 56, [2] pp. Advertising slip for lantern slides illustrating Huggin's lecture and 2-page advertisement at end. 18 ORIGINAL PHOTOGRAPHS MOUNTED IN TEXT SHOWING diagrams of spectrums, sketches of nebulæ, and "Apparatus for the Measurement and Comparison of Stellar Spectra". Original plum flexible blind-stamped cloth, gilt-lettered on front cover (neatly rebacked, preserving original yellow endleaves). Provenance: Armorial bookplate of Sir William Crookes, D.Sc., F.R.S.; rubber stamp of H.B. Rumrill, Tredyffrin Observatory, Berwyn, Pennsylvania; Owen Gingerich (his bookplate). INSCRIBED "With the Publisher's Compliments" [to Crookes].

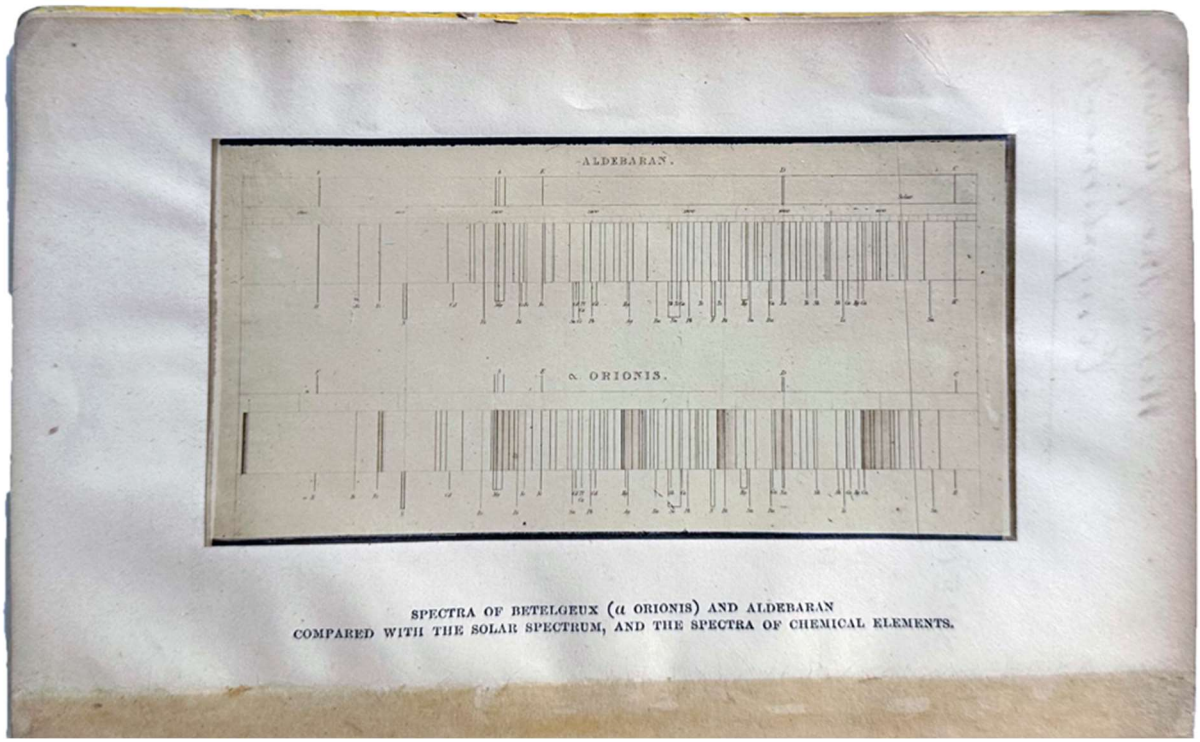
$ 9,500

FIRST EDITION OF HUGGINS' SCARCE PHOTOGRAPHICALLY-ILLUSTRATED SCIENTIFIC WORK explaining his pioneering use of the spectroscope and his method of analyzing the results of his observations. New discoveries in astronomic research in the 19th century necessitated the advancement of instruments used by scientists for observations. Working in collaboration with his friend William Allen Miller (1817-1870), a professor of chemistry at King's College, London, and an experienced spectroscopist and photographer, Huggins was able to perfect a spectroscope attached to his telescope that brought the spectral lines of bright stars into view. Huggins' developments pushed the boundaries of astronomical research, and he is generally considered the founder of celestial spectroscopy.




ON THE RESULTS
OF
SPECTRUM ANALYSIS
APPLIED TO THE
HEAVENLY BODIES.
A Discourse
DELIVERED AT NOTTINGHAM, BEFORE THE BRITISH ASSOCIATION, AUGUST 24, 1866.
BY
WILLIAM HUGGINS, F.R.S., F.R.A.S.
WITH AN APPENDIX,
And Eighteen Photographs.
W. LADD,
11 & 12, BEAK STREET, REGENT STREET, LONDON, W.

HUGGINS PIONEERING STUDIES IN SPECTROSCOPY WAS THE ROSETTA STONE ASTRONOMICAL OBSERVATION AS IT LEAD DIRECTLY TO THE BIG BANG THEORY RELATING TO THE EXPANSION OF THE UNIVERSE. By the of both the measurement of star spectroscopy and their individual chemical make-up, these first spectrographic analysis of the stars lead directly to a new understanding of how the universe was created.



SPECTRA OF BETELGEUX (α ORIONIS) AND ALDEBARAN
COMPARED WITH THE SOLAR SPECTRUM, AND THE SPECTRA OF CHEMICAL ELEMENTS.

"Huggins perfected a spectroscope which, attached to his telescope, brought the prominent spectral lines of the brighter stars into view. Huggins's star spectroscope enabled astronomers to ask new questions and undertake new mensuration, and ultimately altered the boundaries of acceptable astronomical research" – ODNB.

Ladd, the publisher, appears to have also been a manufacturer and retailer of spectroscopes and apparatus.

PROVENANCE: [1] SIR WILLIAM CROOKES (1832-1919), this is a publisher's presentation copy to Crookes. Crookes and Huggins both pioneered the use of spectroscopy. He also invented the Crookes vacuum tube in 1875; [2] Rubber stamp of HARRY BARLOW RUMRILL (1867-1951) of the TREDYFFRIN OBSERVATORY, Berwyn, Pennsylvania (privately built), who was known for his recorded observations of sunspots; [3] OWEN GINGERICH (1930-), Professor Emeritus of Astronomy and of the History of Science at Harvard University and a senior astronomer emeritus at the Smithsonian Institution; [4] David BLOCK, Fellow of the Royal Astronomical Society of London, Professor Emeritus, School of Computer Science and Applied Mathematics at the University of the Witwatersrand, Johannesburg, South Africa.

RARE: according to *American Book Prices Current*, only one other copy has sold in the last 30 years: the Plotnick copy, sold Christie's New York, October 4, 2002, lot 138. Bonhams, sold another Dec 5, 2012, lot 5.

Huggins, Sir William (1824-1910), was President of the Royal Society. Huggins started as an amateur astronomer, but he soon devoted his career to the field. He built his own observatory on his own property, at Tulse Hill, London, in 1856. "And when spectrum analysis made its way, Huggins was among the first to apply it to astronomy. His pioneering work in celestial spectroscopy, which involved the technique of splitting starlight into its various wavelengths, brought him fame in the 1860s." – Ganesh.

See: Leila Belkora, *Minding the Heavens: The Story of our Discovery of the Milky Way*; Becker, Barbara J. *Unravelling Starlight: William and Margaret Huggins and the Rise of the New Astronomy*, Cambridge University Press, 2011; Ganesh, A.S. *How Huggins changed observational astronomy*, The Hindu, 2019; H. Kayser, "Scientific Worthies: XXXIII—Sir William Huggins, K.C.B." *Nature*, 64, pages 225–226 (1901).

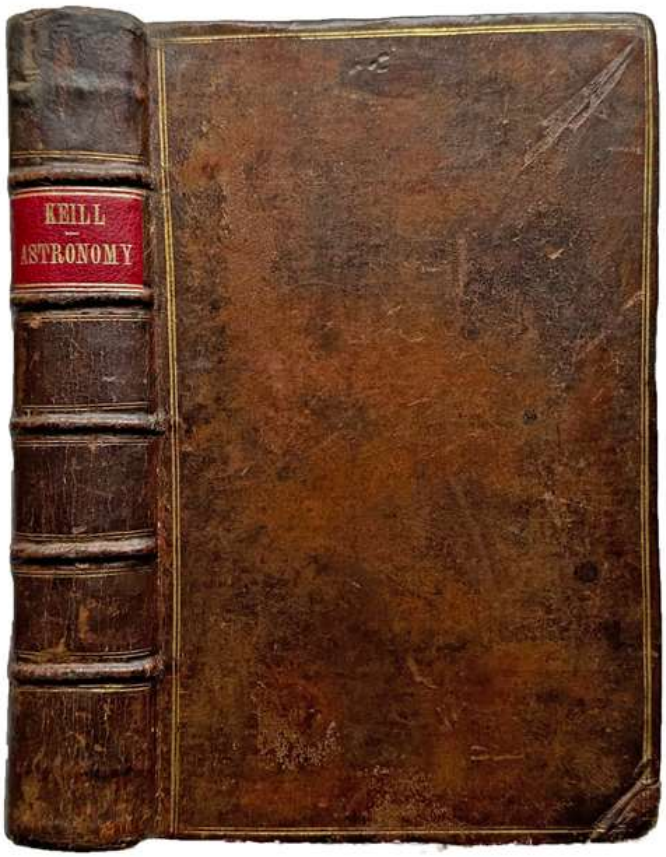
Bookplates of Sir William Crookes, D.Sc., and Owen Gingerich

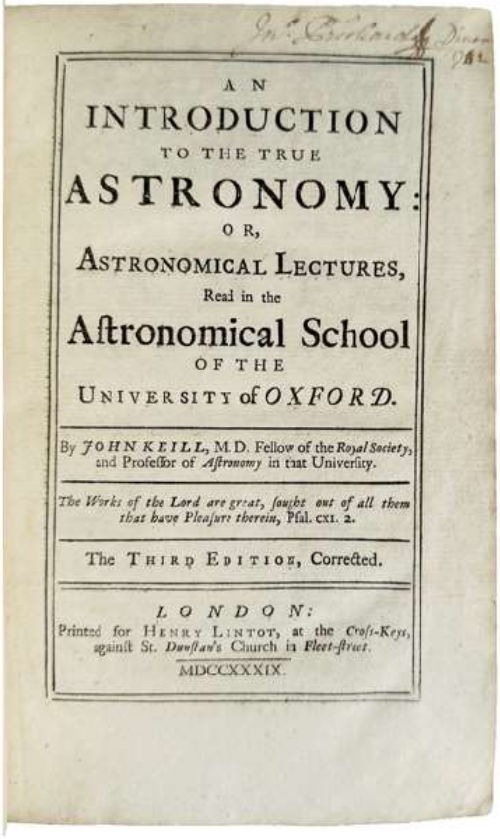
33. **KEILL, John** (1671-1721). *An Introduction to the true Astronomy: or, Astronomical Lectures read in the Astronomical School of the University of Oxford*. London: Printed for Henry Linton, 1739. ¶ 8vo. xiv, [4], 396, [12] pp. 26 [of 27] numbered + 2 unnumbered engraved plates of the MOON (following p. 108, engraved by John Senex (1678-1740)), index, ads; lacks plate XVIII, pages 325-378 heavily stained. Original full calf, spine bands, gilt-tooling to accent the bands, new red morocco spine label, modern red morocco gilt-stamped spine label; minor kozo repair to spine head, lower corners dented, with related wear, otherwise very good. Ownership signature of Henry C. King, his initials also applied; early ownership signature of Jn. Creshard [or like: Preschard!?] / Din---, 1752 [or 1782]. As is [good+].

$ 200

Third edition.

"Keill was one of the very important disciples gathered around Newton who transmitted his principles of philosophy to the scientific and intellectual community". – *DSB* VII, p.275.



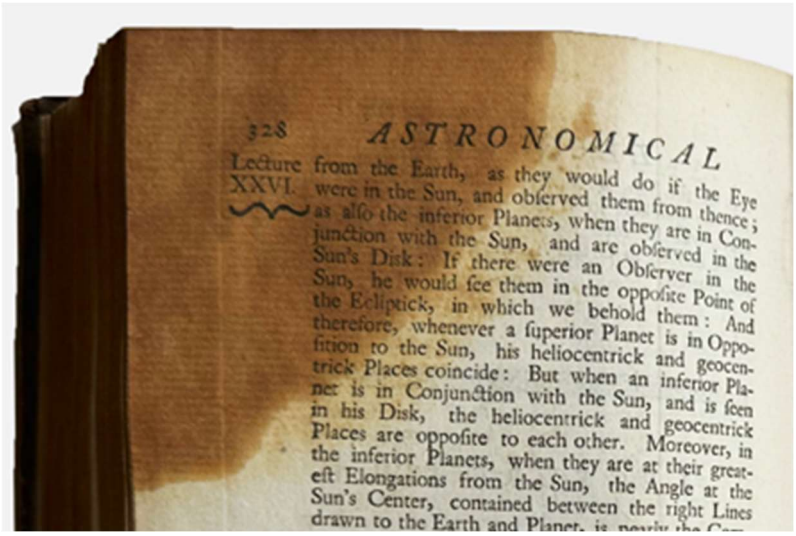

AN
INTRODUCTION
TO THE TRUE
ASTRONOMY:
OR,
ASTRONOMICAL LECTURES,
Read in the
Aſtronomical School
OF THE
UNIVERSITY of OXFORD.

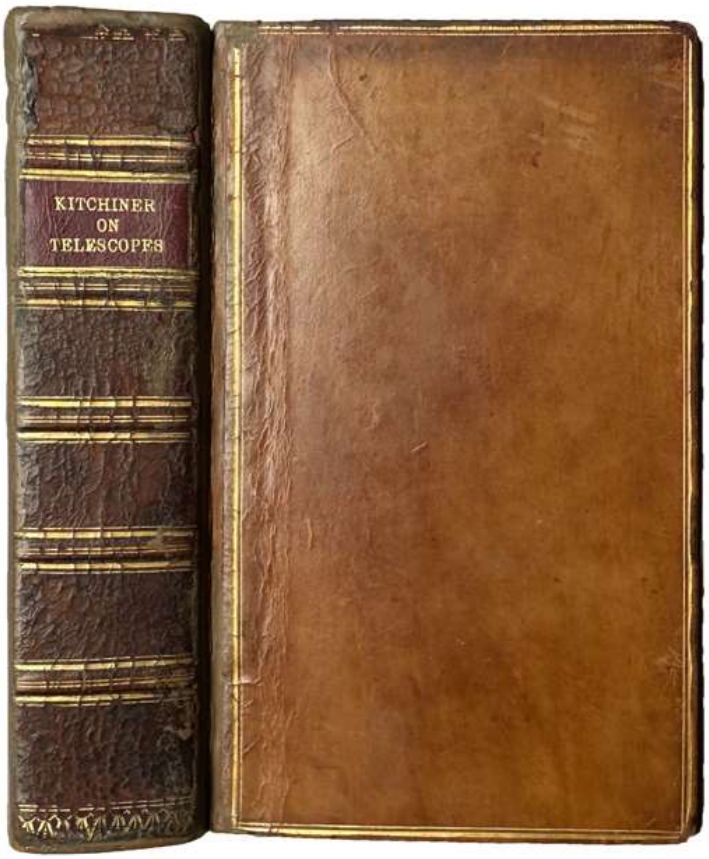
By JOHN KEILL, M.D. Fellow of the *Royal Society*, and Profeſſor of *Aſtronomy* in that Univerſity.

The Works of the Lord are great, ſought out of all them that have Pleaſure therein, Pſal. cxi. 2.

The THIRD EDITION, Corrected.

LONDON:
Printed for HENRY LINTOT, at the *Croſs-Keys*, againſt St. *Dunſtan's* Church in *Fleet-ſtreet*.
MDCCXXXIX.


328 ASTRONOMICAL
Lecture from the Earth, as they would do if the Eye
XXVI. were in the Sun, and obſerved them from thence;
as alſo the inferior Planets, when they are in Con-
junction with the Sun, and are obſerved in the
Sun's Diſk: If there were an Obſerver in the
Sun, he would ſee them in the oppoſite Point of
the Ecliptick, in which we behold them: And
therefore, whenever a ſuperior Planet is in Oppo-
ſition to the Sun, his heliocentrick and geocen-
trick Places coincide: But when an inferior Pla-
net is in Conjunction with the Sun, and is ſeen
in his Diſk, the heliocentrick and geocentrick
Places are oppoſite to each other. Moreover, in
the inferior Planets, when they are at their great-
eſt Elongations from the Sun, the Angle at the
Sun's Center, contained between the right Lines
drawn to the Earth and Planet, is nearly the Com-



THE

ECONOMY OF THE EYES:

PRECEPTS

FOR

THE IMPROVEMENT AND PRESERVATION

OF

THE SIGHT.

PLAIN RULES WHICH WILL ENABLE ALL TO JUDGE EXACTLY WHEN, AND WHAT

SPECTACLES

ARE BEST CALCULATED FOR THEIR EYES

OBSERVATIONS

ON

OPERA GLASSES AND THEATRES,

AND AN ACCOUNT OF THE

PANCRATIC MAGNIFIER,

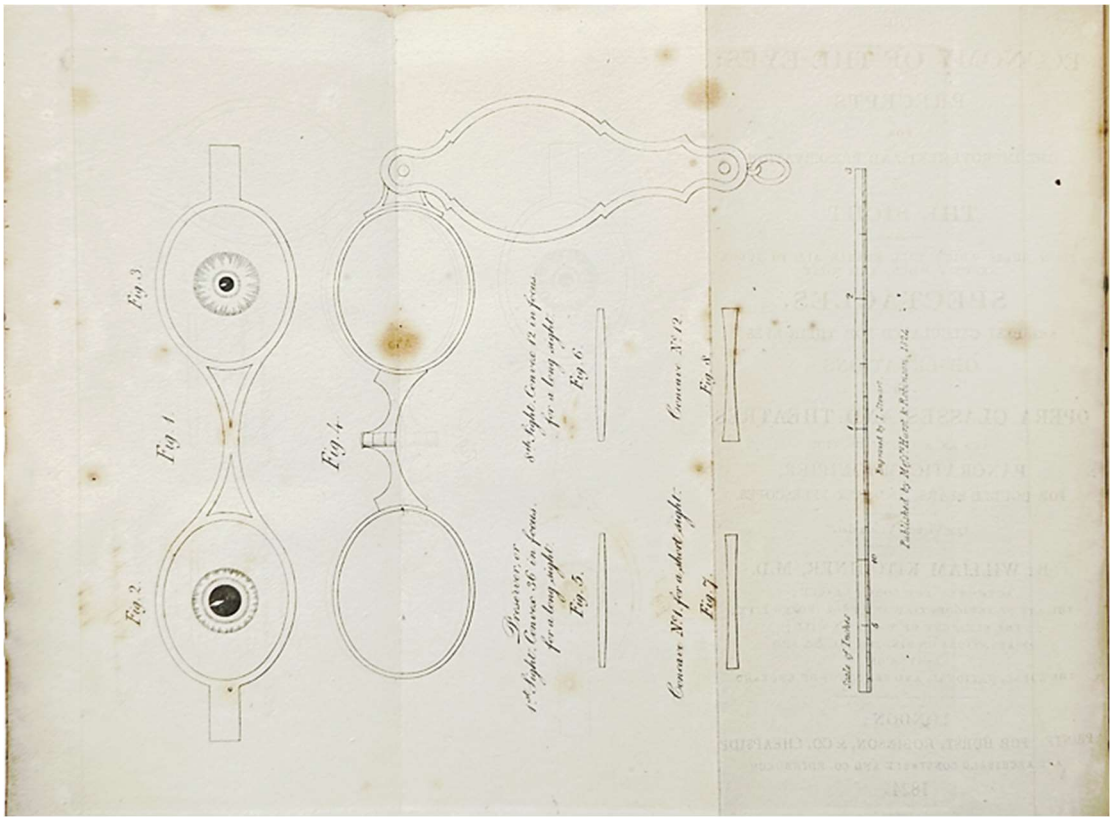
FOR DOUBLE STARS, AND DAY TELESCOPES.

Qui Visum, Visum dat."

By WILLIAM KITCHINER, M.D.

AUTHOR OF THE COOK'S ORACLE;
THE ART OF INVIGORATING AND PROLONGING LIFE;
THE PLEASURE OF MAKING A WILL;
OBSERVATIONS ON SINGING, &c. &c. AND
EDITOR OF
THE LOYAL, NATIONAL, AND SEA SONGS OF ENGLAND.

LONDON:
PRINTED FOR HURST, ROBINSON, & CO. CHEAPSIDE;
AND ARCHIBALD CONSTABLE AND CO. EDINBURGH.
1824.



34. **KITCHINER, William** (1777-1827). *The Economy of the Eyes: Precepts for the Improvement and Preservation of the Sight. Plain rules which will enable all to judge exactly when, and what, spectacles are best calculated for their eyes. Observations on opera glasses and theatres, and an account of the pancratic magnifier for double stars, and day telescopes*. London: Hurst, Robinson & Co., 1824.

Bound with: *The Economy of the Eyes. – Part II. Of Telescopes; being the result of thirty years' experiments with fifty-one telescopes, of from one to nine inches in diameter, in the possession of William Kitchiner, M.D*. London: Hurst, Robinson & Co., 1825.

¶ Two volumes in one. Small 8vo. viii, 246; xi, 485, [1] pp. 2 folding engraved plates (frontispieces), occasional figures, diagrams, 1 specimen of music, "The Glass-Grinder's Roundelay," (Pt. II, p. 262), index. Original full calf, gilt-rules, rebacked with original spine laid-down, original marbled endsheets and inner joints reinforced with cloth (associated with the rebacking). In the rear of the book is an old newspaper clipping from 1927 on the centennial of the author's death, that clipping (preserved by Hollis) is mounted, resulting in a good bit of related browning. PROVENANCE: Thomas T Wright[!?]; H.P. Hollis; Henry C. King, 1940.

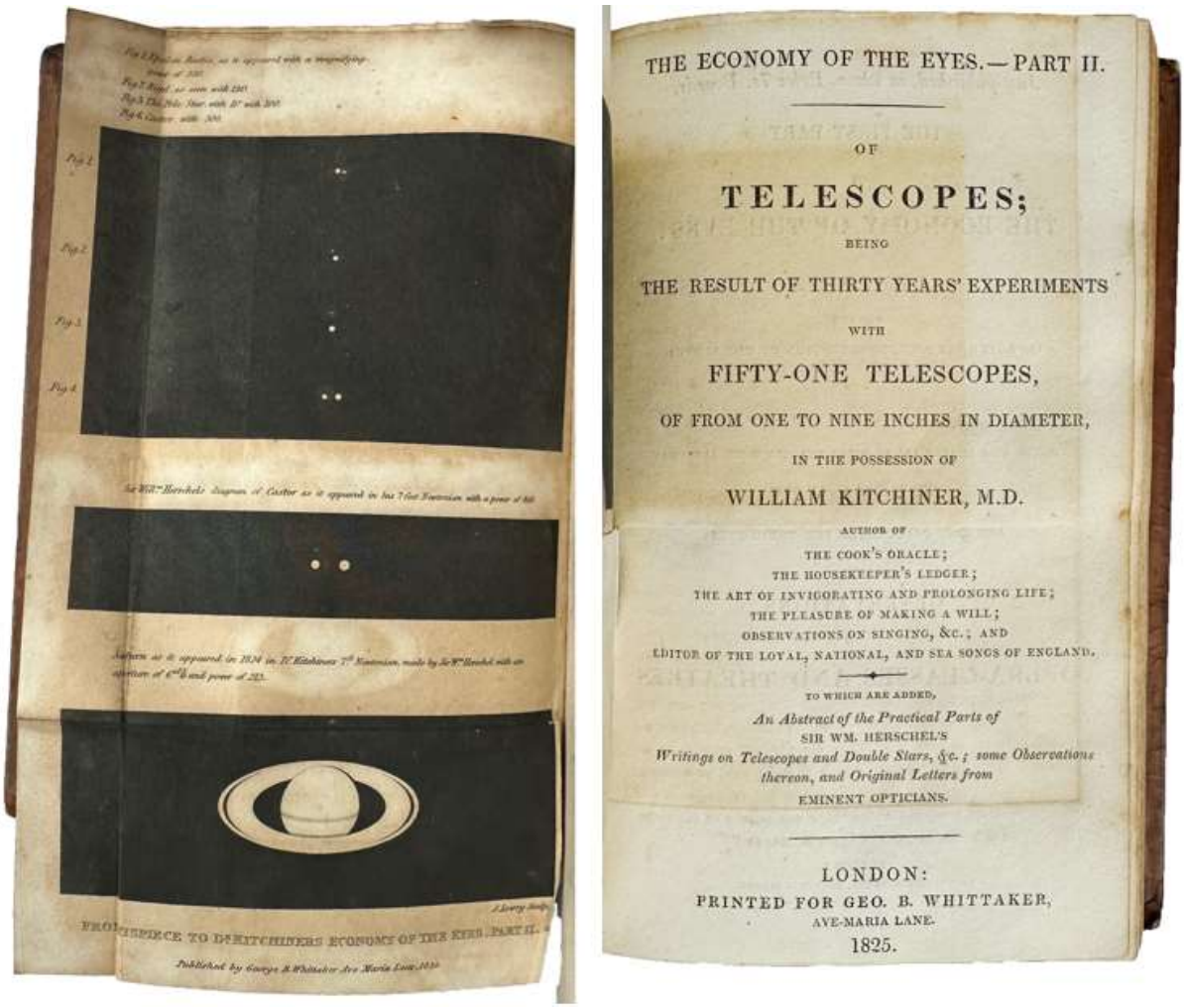
$ 750

First editions, under the title of which the author refers to as The Economy of the Eyes. The Telescope part being particularly scarce. This is really two separate works, unified by the topic of optics. The first is devoted to the spectacles and various applications of eye-wear. This work on spectacles is not an ophthalmic text, rather a review of all the various forms of optical lenses used by people and for their vision. The second work is devoted to the study, use and description of the author's 51 telescopes.

William Kitchiner is unusual in that he was famous and claimed university courses at Eton and Glasgow (both of which he never attended), he wrote a best-selling cookbook and was known to be a wonderful cook. He claimed to be an M.D., but he neither practiced and it seems no one cared enough to check or challenge the title.

The contents for the spectacles book (note the non-medical flavor of the text): On reading glasses [the use of . . .] for pleasure; Spectacles and plain glasses; Cases of persons who could not read in spectacles; Symptoms of the eye requiring spectacles; Of preservers; Table of the focal length of the magnifying glasses

required at various ages; When to change spectacles; My grandmother's spectacles – spectacles for gourmands; Hints to persons choosing spectacles; Hints to persons beginning to wear spectacles; and of reading lamps and candlesticks; precepts for improving and preserving the sight; Glasses for short-sighted persons; Spectacle frames (Silver Frames Tortoise-shell, Blue steel, How many Tears shod Daily); On the quality of spectacle glasses, and how to measure their focal length; Pebbles; On the various degrees of the perfection of the eye and ear; Opera glasses; Theatres; Appendix.



THE ECONOMY OF THE EYES.—PART II.

OF

TELESCOPES;

BEING

THE RESULT OF THIRTY YEARS' EXPERIMENTS

WITH

FIFTY-ONE TELESCOPES,

OF FROM ONE TO NINE INCHES IN DIAMETER,

IN THE POSSESSION OF

WILLIAM KITCHINER, M.D.

AUTHOR OF

THE COOK'S ORACLE;
THE HOUSEKEEPER'S LEDGER;
THE ART OF INVIGORATING AND PROLONGING LIFE;
THE PLEASURE OF MAKING A WILL;
OBSERVATIONS ON SINGING, &c.; AND
EDITOR OF THE LOYAL, NATIONAL, AND SEA SONGS OF ENGLAND.

TO WHICH ARE ADDED,

An Abstract of the Practical Parts of
SIR WM. HERSCHEL'S
Writings on Telescopes and Double Stars, &c.; some Observations thereon, and Original Letters from
EMINENT OPTICIANS.

LONDON:
PRINTED FOR GEO. B. WHITTAKER,
AVE-MARIA LANE.
1825.

"The present work, the fruit of the author's avid interest in (see note) optics, is a popular work on lenses and the hygiene of the eye." British opt. Ass. Libr. Cab. III, p. 112.

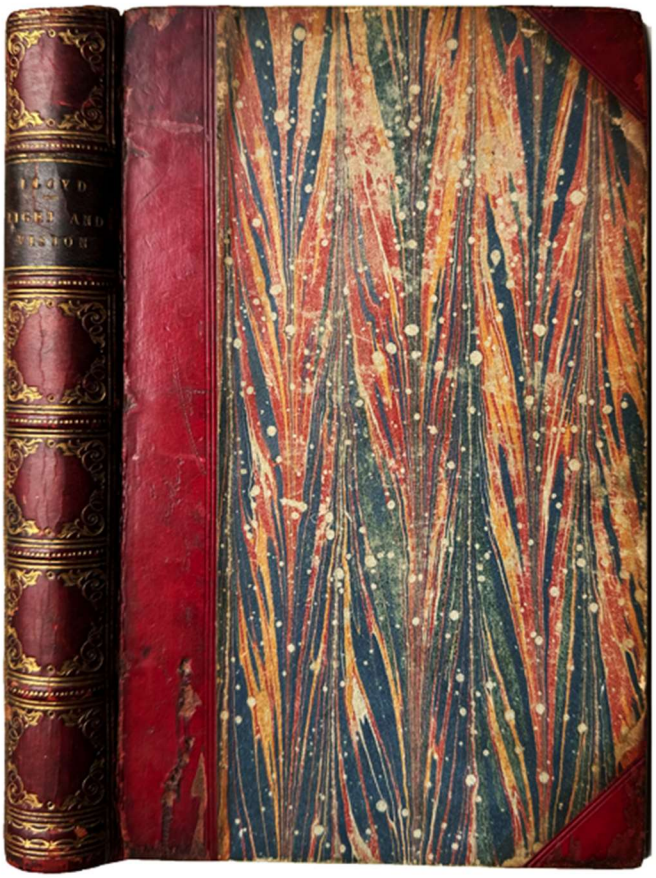
In his Preface to the part of the telescope: "The Author has written this "Second Part" of the ECONOMY OF THE EYES, in the same plain and circumstantial manner which he adopted in "the First Part," as he has not heard any objection against it from any Oculist or any Optician excepting One, who, when the Author requested his opinion of it, said, O. "Why, Sir, I think that you have done exactly

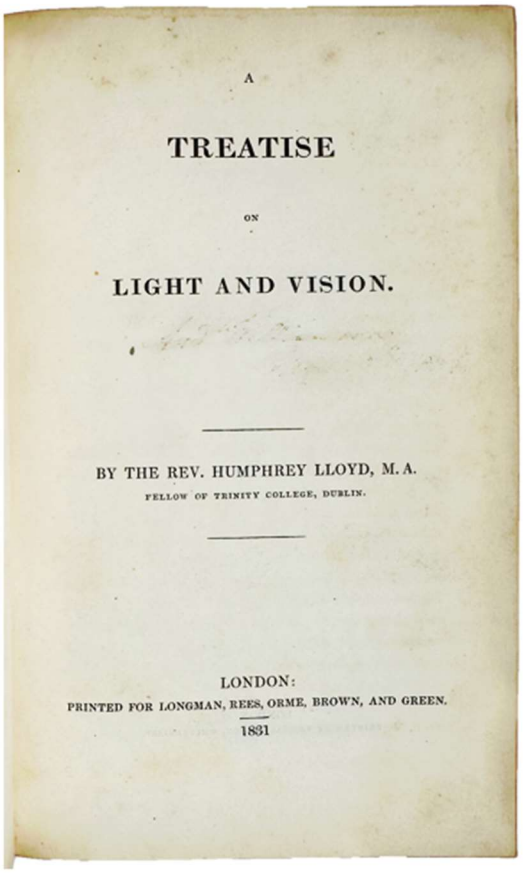
the contrary of what you ought to have done: - Why didn't you write in learned scientifical terms? - Why, your Book will soon make all the World as Wise about Spectacles and Opera Glasses as I am Myself!"

"Advice on the choosing of eyeglasses [spectacles], the quality of lenses, and proper hygiene of the eyes. This popular work also describes the "pancratic eye tube" invented by the author for achromatic and reflecting telescopes and for microscopes". – Albert, Daniel M.; Edward W.D. Norton; Reva Hurtes, *Source Book of Ophthalmology*, 1233:

"The son of a wealthy London coal merchant, Kitchiner's medical degree from Glasgow assured that he would never have to practice in London, where he opted to settle after receiving his inheritance. A renowned gourmet, Kitchiner's lunches and dinners were famous. His culinary experiences resulted in his best-known work, Apicius redivivus, or the cook's oracle. Describing itself as "a culinary code for the rational epicure," this work went through at least twenty editions between 1817 and 1855. The present work, the fruit of the author's avid interest in optics, is a popular work on lenses and the hygiene of the eye. A German translation was made in 1825. In 1826 a second edition appeared, followed in the same year by a sequel, The economy of the eyes. Part II. Becker 218 [actually, the 2nd part came out in 1825, not 1826].

PROVENANCE [3]: [1] Thomas T. Wright[!?]; [2] H.P. [Henry Park] Hollis (1858-1939), was assistant at the Royal Observatory, Greenwich, retiring in 1920. "His work at first was connected with the regular astronomical observations with the transit and altazimuth instruments; but later he took part in the measurement and reduction of solar photographs." – *Nature*, Obituary, 144, pages 470–471, 09 September 1939 – *British Astronomical Association*, Obituary, [ca.1939-40]; [3] Henry C. King (1915-2005) – he signed the book in 1940 likely the date he acquired the book. In the 1950s he was Senior Lecturer in Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope. He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).




A

TREATISE

ON

LIGHT AND VISION.

BY THE REV. HUMPHREY LLOYD, M. A.
FELLOW OF TRINITY COLLEGE, DUBLIN.

LONDON:
PRINTED FOR LONGMAN, REES, ORME, BROWN, AND GREEN.
1831

35. **LLOYD, Rev. Humphrey** (1800-1881). *A Treatise on Light and Vision.* London: Longman, Rees, Orme Brown and Green, 1831. ¶ 8vo. xx, xii, 402 pp. Original gilt-stamped half red calf, marbled boards, raised bands, black leather spine label; extremities heavily rubbed. PROVENANCE: bookplate of Reverend Richard Townsend (seemingly his blue pencil handiwork in this volume, resulting in a few pages with some underlining); title-page with ink manuscript signature neatly removed (possibly that of Townsend, but now obscured); signature of Henry C. King, 1951. Good+. Scarce.

$ 100

First edition. "A most valuable though scarce work. The chapter on spherical aberration and the general description of instruments have been derived mainly from this treatise. – Pref., Heath in Geometrical Optics' The author first proved by experiment the correctness of Sir William Rowan Hamilton's prediction-arrived at mathematically-of the conical refraction of light [1832]. He also discovered a class of interference known as Lloyd's Single-Mirror Fringes." – from a note mounted in the book.

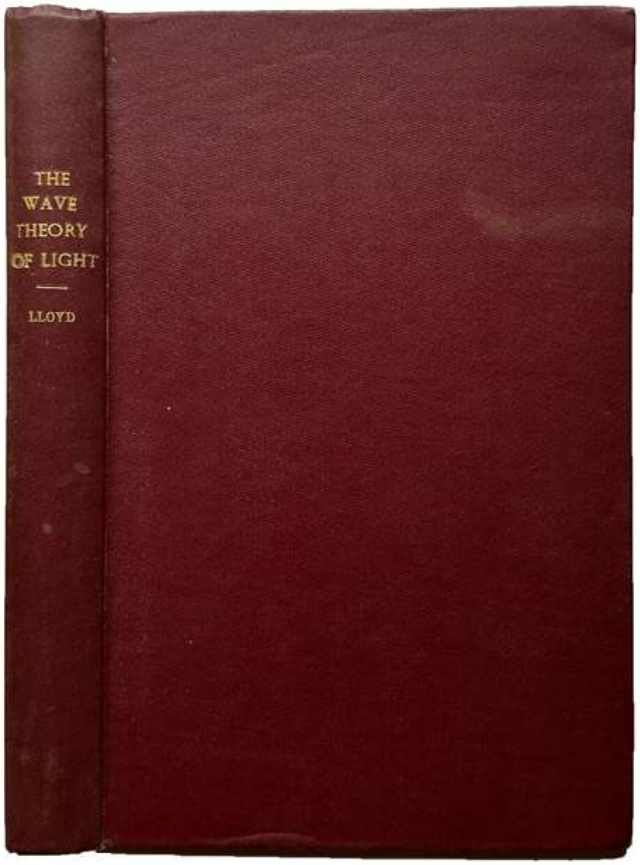
"In his final paper of 1832 Hamilton applied his results to Fresnel's theory of the double refraction of light in biaxal crystals and deduced theoretically that for

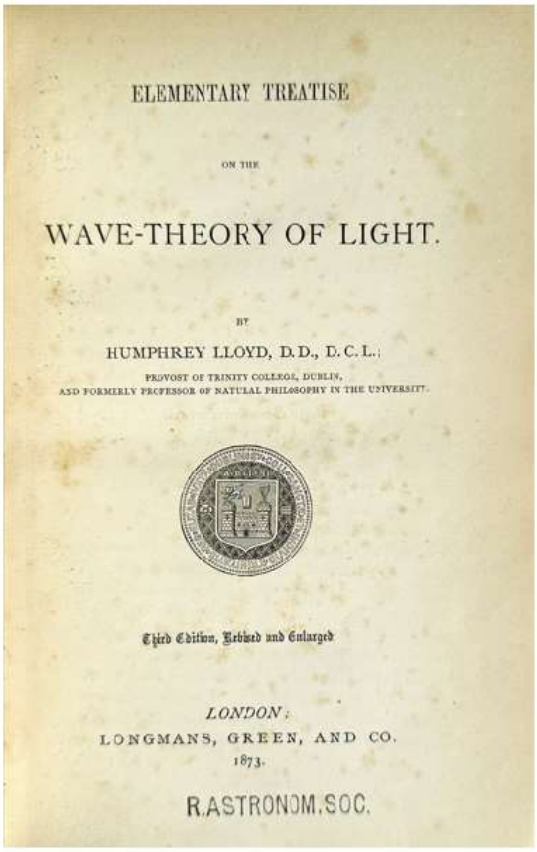
certain directions of the incident ray the light would be refracted aa a cone of rays, a totally unexpected result. He asked his friend Humphrey Lloyd, the son of Bartholomew and the then Professor of Natural Philosophy, to test the result experimentally, and the phenomenon of conical refraction was observed for the first time in December, 1832. This was the first of four famous predictions of physical phenomena by theoretical calculation, the other three being the discovery of Neptune by Adams and Leverrier in 1845 by analysing the perturbations of Uranus, the theoretical prediction of wireless waves by Maxwell in 1864, afterwards verified experimentally by Hertz, and Einstein's deduction of the bending of light rays by the sun from his theory of relativity, later observed during the solar eclipse of 1919." – McConnell.

Humphrey Lloyd was "an Irish physicist and academic who served as the 30th Provost of Trinity College Dublin from 1867 to 1881. He was Erasmus Smith's Professor of Natural and Experimental Philosophy at Trinity College Dublin from 1831 to 1843. Lloyd is known for experimentally verifying conical refraction, a theoretical prediction made by William Rowan Hamilton about the way light is bent when travelling through a biaxial crystal. He was a Fellow of the Royal Society, and President of both the British Association and the Royal Irish Academy."

PROVENANCE: Reverend Richard Townsend (1821-1884), Trinity College, Dublin (a colleague of the author?), mathematician, "Following graduation Richard's whole career was spent as an academic at Trinity: initially as First Senior Moderator in mathematics and physics; Junior Fellow May 1845; Tutor October 1847; Professor of Natural Philosophy June 1870; Examiner in Mathematics and Mathematical Physics and Senior Fellow in 1883." [*DNB*]; Henry C. King, (1915-2005) 1951.

See: A.J. McConnell, 'The Dublin Mathematical School in the first half of the nineteenth century'. *Proceedings of the Royal Irish Academy. Section A: Mathematical and Physical Sciences*, Vol. 50 (1944/1945), pp. 75-88.




ELEMENTARY TREATISE

ON THE

WAVE-THEORY OF LIGHT.

BY

HUMPHREY LLOYD, D.D., D.C.L.;

PROVOST OF TRINITY COLLEGE, DUBLIN,
AND FORMERLY PROFESSOR OF NATURAL PHILOSOPHY IN THE UNIVERSITY.

Third Edition, Revised and Enlarged

LONDON:
LONGMANS, GREEN, AND CO.
1873.

R.ASTRONOM.SOC.

36. **LLOYD, Rev. Humphrey** (1800-1881). *Elementary Treatise on the Wave-Theory of Light*. London: Longmans, Green & Co., 1873. ¶ 8vo. xi, [1], 247, [1], 48 pp. Figs., publisher ads (dated April 1874); lightly foxed, large brown stain showing (pages 126-7). Handsomely rebound in full maroon gilt-stamped cloth. Rubber-stamps of the Royal Astronomical Society (title-page, p. v); ownership signature of Henry C. King, Dec. 1951. Very good.

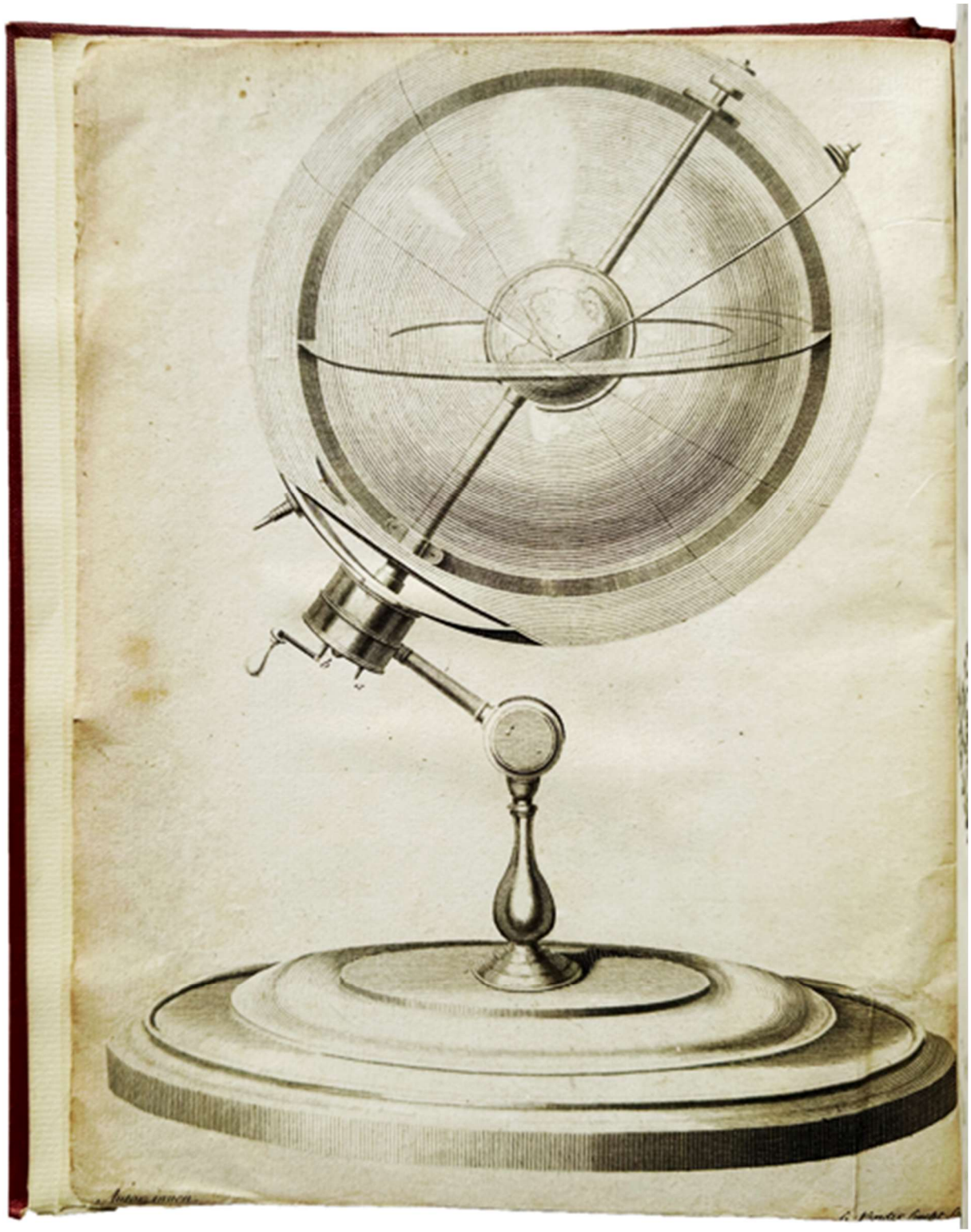
$ 35

Third edition, revised and enlarged (first ed. in 1836, 1841; second ed. was issued in 1857). Handwritten in this volume, "This is an excellent + most helpful text with invaluable historical explan. references."

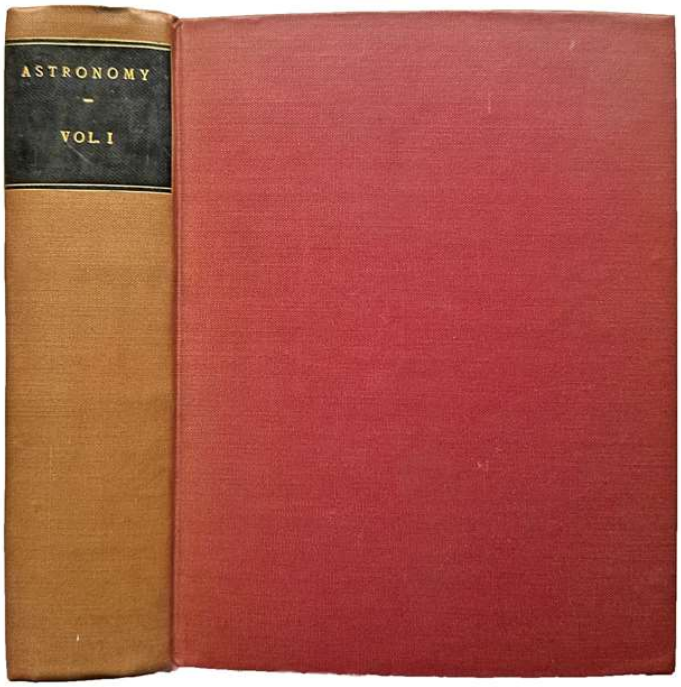
Humphrey Lloyd "was destined to surpass his father's impressive scientific record, and published widely. On taking up the professorship he began researches in the field of optical science, contributing to the theories on reflected light and also on the wave theory of light." – *Dictionary of Irish Biography*.

Humphrey Lloyd was "an Irish physicist and academic who served as the 30th Provost of Trinity College Dublin from 1867 to 1881. He was Erasmus Smith's Professor of Natural and Experimental Philosophy at Trinity College Dublin from 1831 to 1843. Lloyd is known for experimentally verifying conical refraction, a

theoretical prediction made by William Rowan Hamilton about the way light is bent when travelling through a biaxial crystal. He was a Fellow of the Royal Society, and President of both the British Association and the Royal Irish Academy."



37 LONG



ASTRONOMY,

IN FIVE BOOKS.

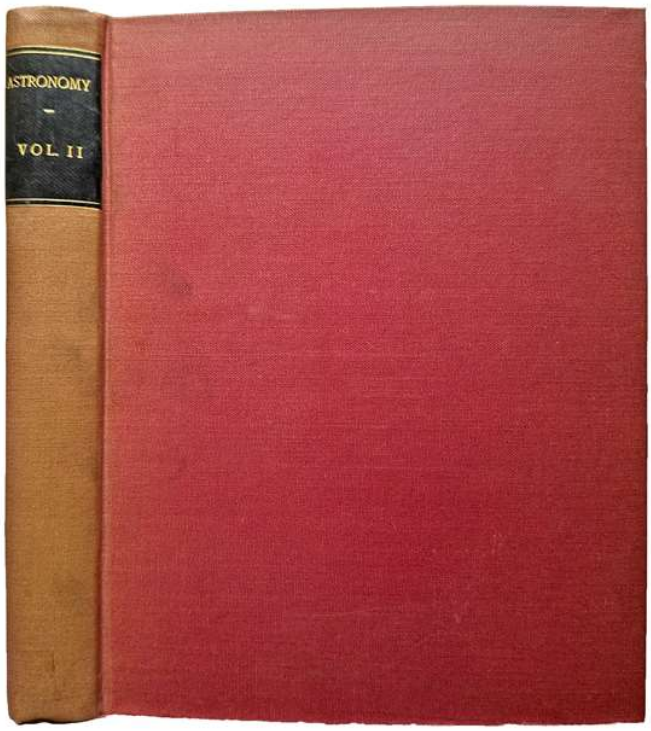
BY

ROGER LONG, D.D. F.R.S.

MASTER OF PEMBROKE HALL IN THE UNIVERSITY OF CAMBRIDGE.

VOL. I.

CAMBRIDGE,
PRINTED FOR THE AUTHOR,
M. DCC. XLII.



ASTRONOMY,

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BY

ROGER LONG, D.D. F.R.S.

MASTER OF PEMBROKE HALL, AND LOWNDES'S PROFESSOR OF ASTRONOMY AND GEOMETRY, IN THE UNIVERSITY OF CAMBRIDGE.

VOL. II.

CAMBRIDGE,
PRINTED FOR THE AUTHOR,
M.DCC.LXIV.

Agnes M. Clerke calls this an "important work."

37. **LONG, Roger** (1680-1770); **Richard DUNTHORNE** (1711-1775); **William WALES** F.R.S. (1734?-1798). *Astronomy, in Five Books.* Cambridge: Printed for the Author, 1742-64. ¶ 2 volumes (containing 3 books). 4to. xvi, 356,[8]; iv, (357)-584 pp. 2 engraved frontispieces, title vignette, chapter vignettes, Subscriber's List (431 copies subscribed for), 94 (total) engraved folding plates (vol. I contains 68 numbered plates plus the frontispiece; vol. II contains plates numbered 69-92 plus the 2nd frontispiece), index; vol. I title with short closed tear, large stain confined to vol. I., 43. Full recent rouge cloth, black leather spine label with gilt-title, bound ca. 1950. Very good.

$ 595

First edition. A thorough treatment of the known principles of astronomy and navigation, applied mathematics, as well as the uses of maps and globes. Long lays out in Book I the basic principles of the Earth, its shape, turning on its axis, longitude, dialing, latitude, the celestial poles, equator circles of declination, climates, transits, visible horizon, height of mountains and depth of the seas. Book II treats a system of the world, constellations, the solar system, orbits, ecliptic – zodiac – circles of latitude, comets, retrograde, Earth's rotation, of the atmosphere, distance from the Sun to the Earth, colors, stars and their places, distance to the stars, diameters of the Sun and primary planets, etc.

Long was celebrated in his day. His vision was unique, as he built in 1765 an (18-foot diameter) astronomical sphere, which he called the Uranium, the subject of the frontispiece in the second volume. The text states that this apparatus, "shews the heavenly bodies with their motions and appearances in a more compleat manner than can be done by any other instrument that I know of, it consists of a planetarium, or machine that exhibits the motions of the earth and all the primary planets round the sun, and the motion of the moon round the earth all enclosed in a sphere . . ." It was located at Pembroke Hall, Cambridge, large enough to seat 30 spectators.

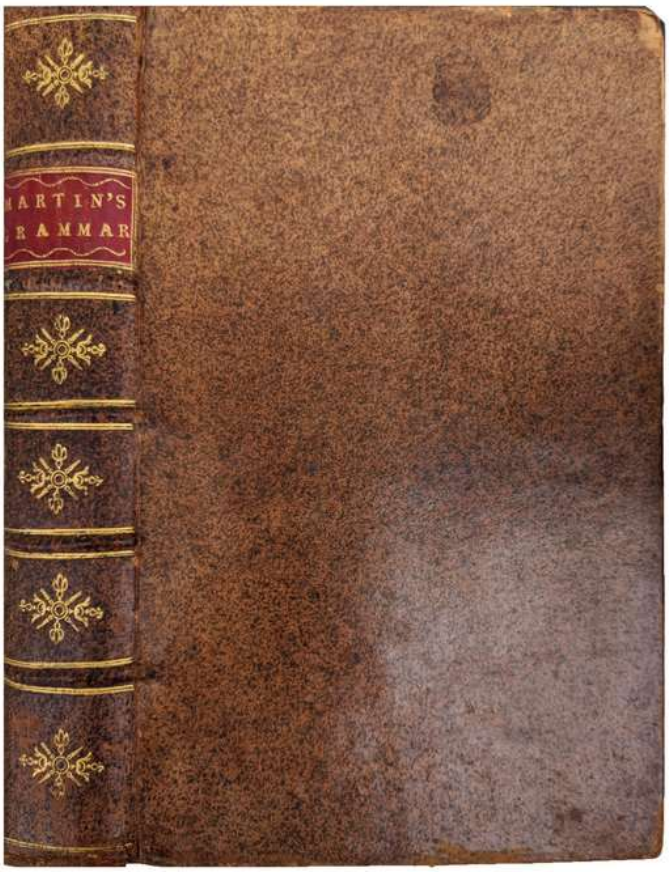
Long published the first two books, comprising the first volume, in 1742. The third book was largely completed by Richard Dunthorne and William Wales, reviewed by Nevil Maskelyne, and printed fourteen years after the author's death.

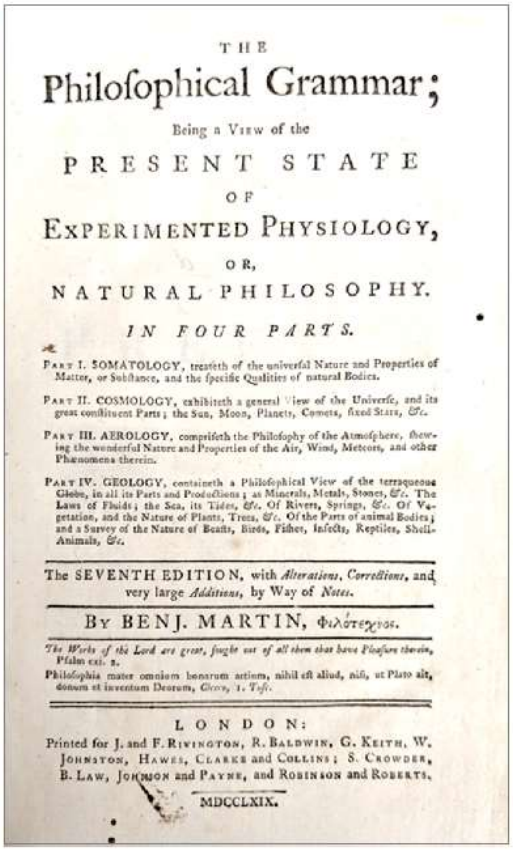
Roger Long, Fellow of Pembroke College, English astronomer, and Master of Pembroke College, Cambridge (1733-1770). He was chosen the first holder of the Lowndean Professorship of Astronomy & Geometry (1750-1770).

Richard Dunthorne was an English astronomer and surveyor, who worked in Cambridge as astronomical and scientific assistant to Roger Long. William Wales was a British mathematician and astronomer who sailed on Captain Cook's second voyage of discovery.

□ Houzeau & Lancaster 9252.

[37]





THE

Philoſophical Grammar;

Being a View of the

PRESENT STATE

OF

EXPERIMENTED PHYSIOLOGY,

OR,

NATURAL PHILOSOPHY.

IN FOUR PARTS.

PART I. SOMATOLOGY, treateth of the univerſal Nature and Properties of Matter, or Subſtance, and the ſpecific Qualities of natural Bodies.

PART II. COSMOLOGY, exhibiteth a general View of the Univerſe, and its great conſtituent Parts; the Sun, Moon, Planets, Comets, fixed Stars, &c.

PART III. AEROLOGY, compriſeth the Philoſophy of the Atmoſphere, ſhewing the wonderful Nature and Properties of the Air, Wind, Meteors, and other Phænomena therein.

PART IV. GEOLOGY, containeth a Philoſophical View of the terraqueous Globe, in all its Parts and Productions; as Minerals, Metals, Stones, &c. The Laws of Fluids; the Sea, its Tides, &c. Of Rivers, Springs, &c. Of Vegetation, and the Nature of Plants, Trees, &c. Of the Parts of animal Bodies; and a Survey of the Nature of Beaſts, Birds, Fiſhes, Inſects, Reptiles, Shell-Animals, &c.

The SEVENTH EDITION, with *Alterations*, *Corrections*, and very large *Additions*, by Way of *Notes*.

BY BENJ. MARTIN, Φιλοτεχνος.

The Works of the Lord are great, ſought out of all them that have Pleaſure therein, Pſalm cxi. 2.

Philoſophia mater omnium bonarum artium, nihil eſt aliud, nili, ut Plato ait, donum et inventum Deorum, *Cicero, in Tuſc.*

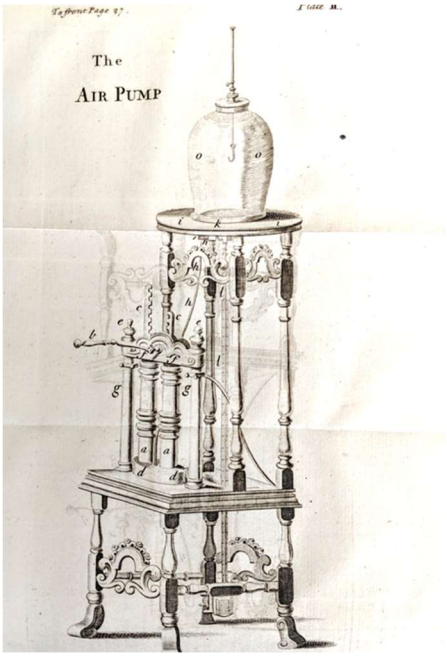
LONDON:

Printed for J. and F. RIVINGTON, R. BALDWIN, G. KEITH, W. JOHNSTON, HAWES, CLARKE and COLLINS; S. CROWDER, B. LAW, JOHNSON and PAYNE, and ROBINSON and ROBERTS.

MDCCLXIX.

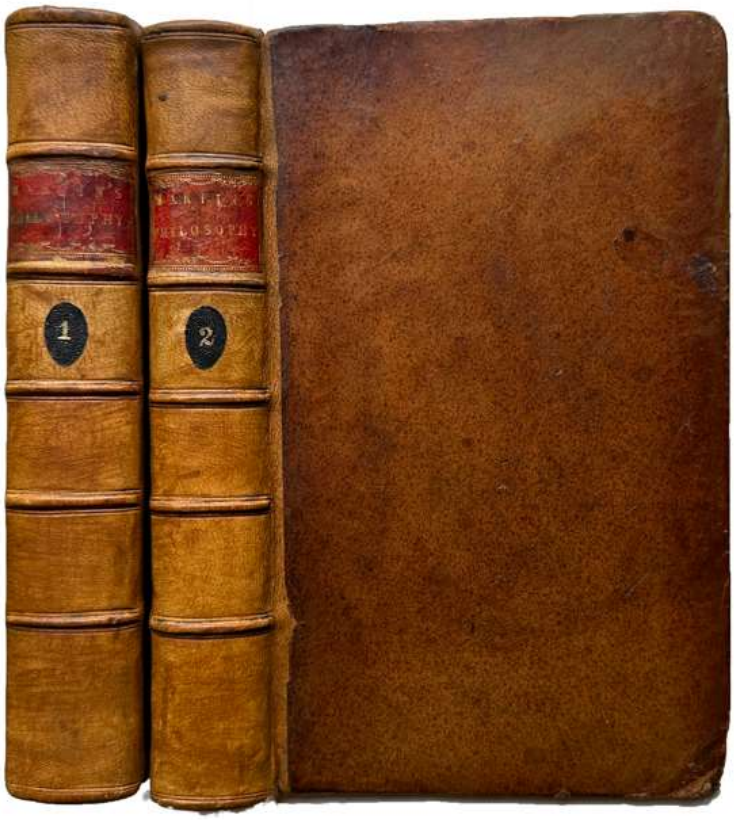
38. **MARTIN, Benjamin** (1704-1782). *The Philosophical Grammar; Being a View of the Present State of Experimental Physiology, or Natural Philosophy. In Four Parts*. London: J. and F. Rivington, R. Baldwin, G. Keith, W. Johnston, Hawes, Clarke, and Collins; S. Crowder, B. Law, Johnson and Payne, and Robinson and Roberts, 1769. ¶ 8vo. [viii], 362, [6] pp. 26 folding plates, index; worming to the bottom of the text, but text is unharmed. Original speckled gilt-stamped calf, red leather gilt-stamped spine label, raised bands. Very good. SW1556

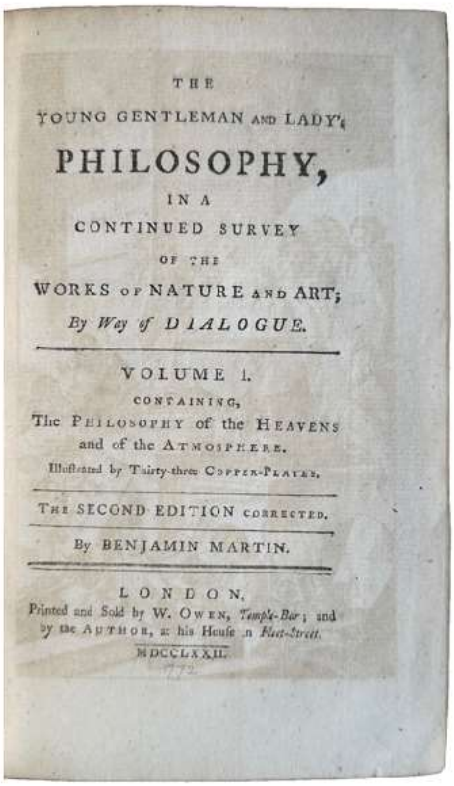
$ 400



Seventh edition, "with Alterations, Corrections, and very large Additions, by Way of Notes." An early book of Newtonian natural philosophy, it is divided into four parts: Somatology (the nature of properties and matter), Cosmology, Aerology (properties of the atmosphere), and Geology.

39 MARTIN




THE
YOUNG GENTLEMAN AND LADY'S
PHILOSOPHY,
IN A
CONTINUED SURVEY
OF THE
WORKS OF NATURE AND ART;
By Way of DIALOGUE.

VOLUME I.
CONTAINING,
The PHILOSOPHY of the HEAVENS
and of the ATMOSPHERE.
Illustrated by Thirty-three COPPER-PLATES.

THE SECOND EDITION CORRECTED.

By BENJAMIN MARTIN.

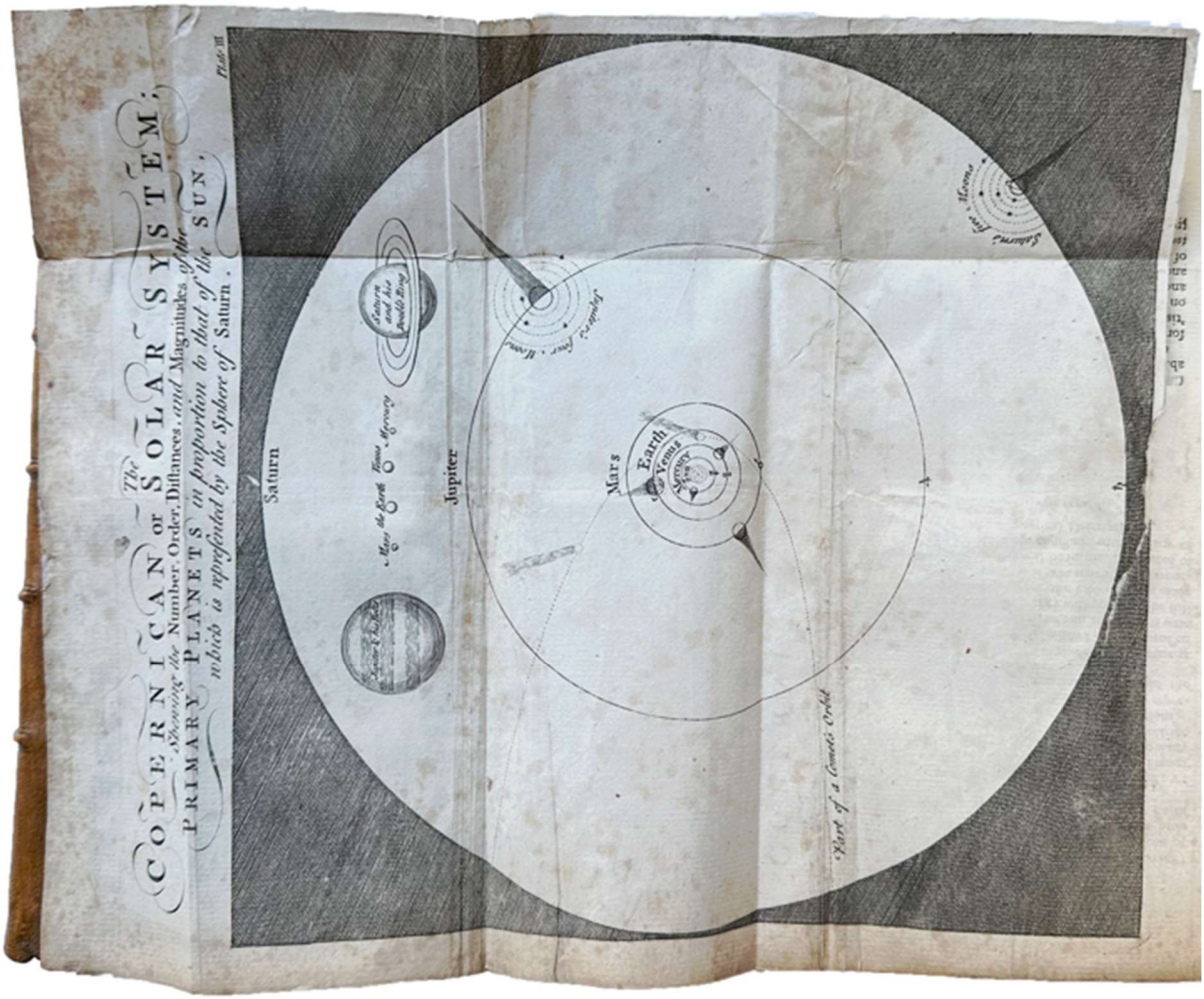
LONDON,
Printed and Sold by W. OWEN, *Temple-Bar*; and
by the AUTHOR, at his House in *Fleet-Street*.
MDCCLXXII.

39. **MARTIN, Benjamin** (1704-1782). *The Young Gentleman and Lady's Philosophy, in a continued survey of the works of nature and art; By Way of Dialogue. VOLUME I. Containing, The Philosophy of the Heavens and of the Atmosphere. VOLUME II. Containing, I. The Use of the Celestial and Terrestrial Globes. II. The Philosophy of Light and Colours, and the Use of all Sorts of Optical Instruments. III. The Philosophy of Sounds, Music and the Organization of the Ear. The second edition corrected.* London: W. Owen, and by the Author, 1772. ¶ 2 volumes. 8vo. [x], 408, [xviii], [2]; [viii], 416, [xvi] pp. 2 engraved frontispieces, 52 numbered (and 1 unnumbered) engr. plates (several folding, including a map); 2 of the folding plates with careful mending and re-folding, some margins renewed with newer paper material. WITH BOTH LEAVES OF INSTRUCTION TO THE BINDER. Original full speckled calf, spines renewed with calf, raised bands, red and black leather spine labels (the red label is original, the black is modern; corners showing. Ownership signatures of 'Fra. Woolnough' and 'O.' [possibly 'D'] ['Nobert' – or something like 'Norcutt'!?]. Very good.

$ 375

In 1735, he published his first work, *The Philosophical Grammar*; it ran to eight editions. The second edition includes a description of a pocket microscope, suggesting that Martin was also engaged in manufacturing and selling optical

instruments. By 1743, he had become a traveling lecturer in experimental philosophy. In that same year he published a textbook based on his course of lectures, entitled, *The Philosophical Grammar*. Martin made a curiously inept attempt during this period to secure election to the Royal Society. In letters written in 1741 to Sir Hans Sloane and the duke of Richmond, he claimed that he found it an embarrassment when lecturing not to be a fellow, and therefore requested their support in acquiring the title. This approach found no favor at all, and Martin never achieved the desired fellowship. [*Encyclopedia*].



Martin's book is full of interesting elements of natural science, philosophy and scientific instrumentation. His treatment is broad – in that he is offering a view of the cosmos – then he addresses everything in the solar system (including comets and the Moon), a mathematical approach to astronomy (Part III), "colours," the Orrery, the seasons, pneumatics (properties of the air), wind, meteors, nature and electricity, use of the barometer (also the 'thermometer', the hygrometers, the invention and construction of the air pump, etc. volume II contains Parts IV & V (as per the title-page), and the author all types of 'dialogues' relating to astronomy

and related instrumentation. The fifth part is devoted to the treating and use of optical instruments (microscopes, telescopes, the magic 'lanthorn', the optical clock, of various lenses, of vision and the eye, of music and musical instruments, animal notes (speech), and of hearing.

THE
YOUNG GENTLEMAN AND LADY'S
PHILOSOPHY,
IN A
CONTINUED SURVEY
OF THE
WORKS OF NATURE AND ART;
By Way of DIALOGUE.

VOLUME II.
CONTAINING,
I. The Use of the *Celestial* and *Terrestrial* GLOBES.
II. The PHILOSOPHY of LIGHT and COLOURS, and the Use of all Sorts of *Optical* INSTRUMENTS.
III. The PHILOSOPHY of SOUNDS, MUSIC, and the Organization of the EAR.

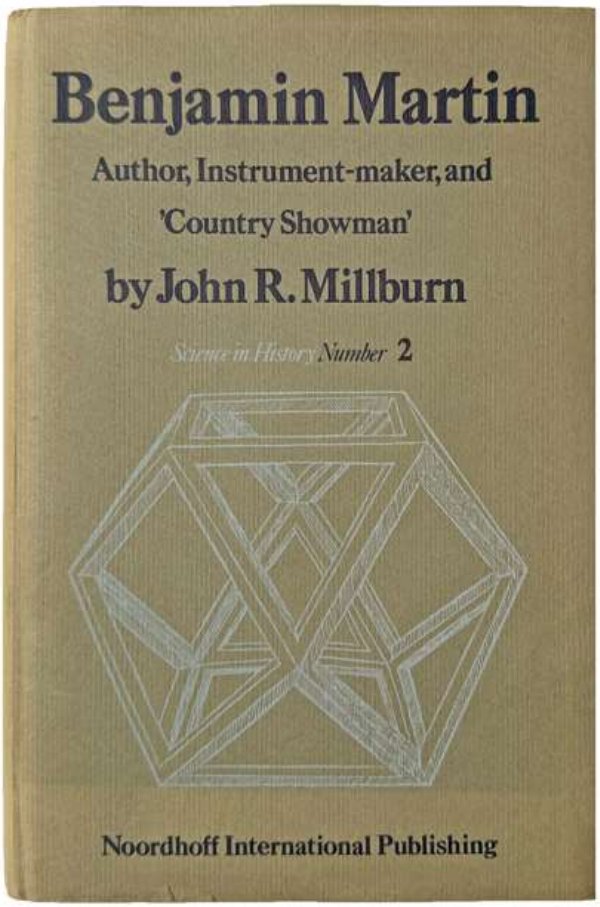
Illustrated by Nineteen COPPER-PLATES.

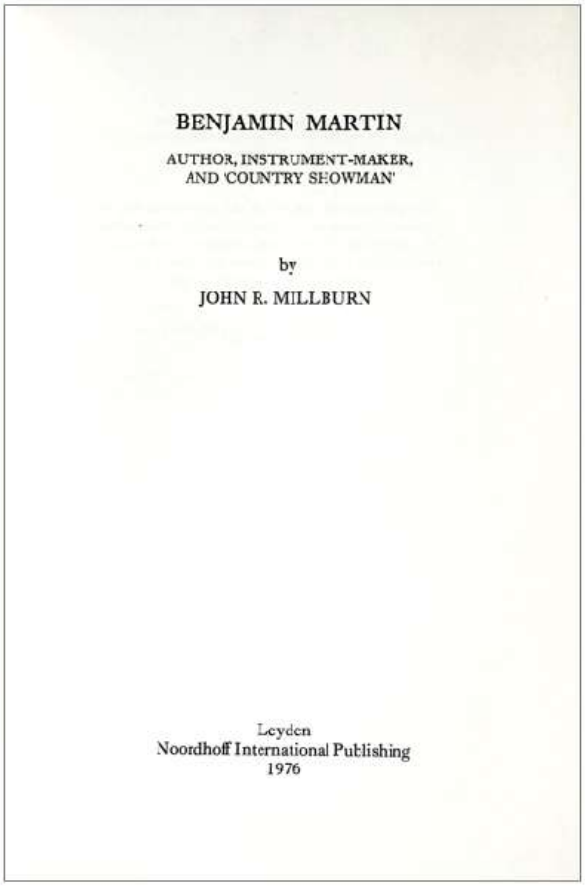
THE SECOND EDITION CORRECTED.

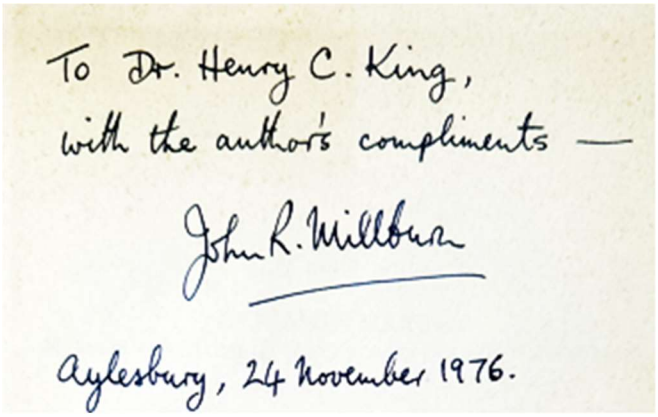
By BENJAMIN MARTIN.

LONDON,
Printed and Sold by W. OWEN, *Temple-Bar*; and by the AUTHOR, at his House in *Fleet-Street*.
MDCCLXXII.

PROVENANCE: Ownership signatures of 'Fra. Woolnough' and 'O.' [possibly 'D'] ['Nobert' – or something like 'Norcutt'!?]. [Unmarked: Henry C. King].







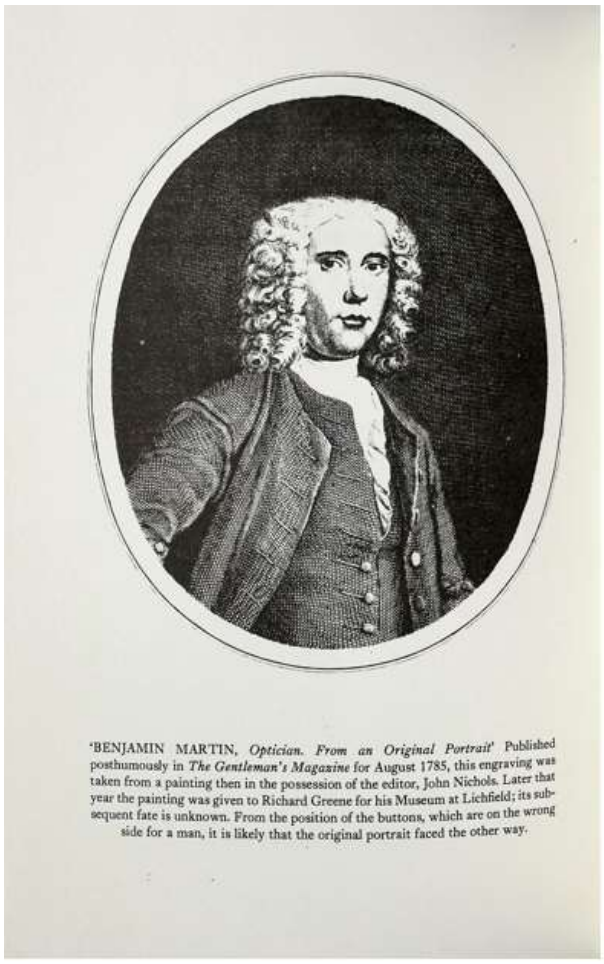
40. **[MARTIN, Benjamin** (1705-1782)**] MILLBURN, John R**. (1925-2005). *Benjamin Martin – Author, Instrument-Maker, and 'Country Showman'*. Leyden: Noordhoff International Publishing, 1976. ¶ Series: *Science in History*, 2. 8vo. xii, 244 pp. Frontispiece, 8 plates, 7 figs., index. Cloth, dust-jacket. INSCRIBED BY THE AUTHOR, "To Dr. Henry C. King, with the author's compliments – John R. Millburn, Aylesbury, 24 November 1976". THIS COPY CONTAINS an ERRATA, CORRIGENDA, DUBITENDA sheet, typed and annotated (thus possibly unique). Very good.

$ 75

Benjamin Martin, a self-taught lexicographer and lecturer, and optician, he had a large workshop which produced scientific instruments under his name; made improvements to the microscope and wrote extensively in the field of natural philosophy. He was an early champion for the Newtonian system. In 1737, he published the *Bibliotheca Technologica, or Philological Library of Literary Arts and Sciences,* – being a survey of natural philosophy in 25 sub-headings.

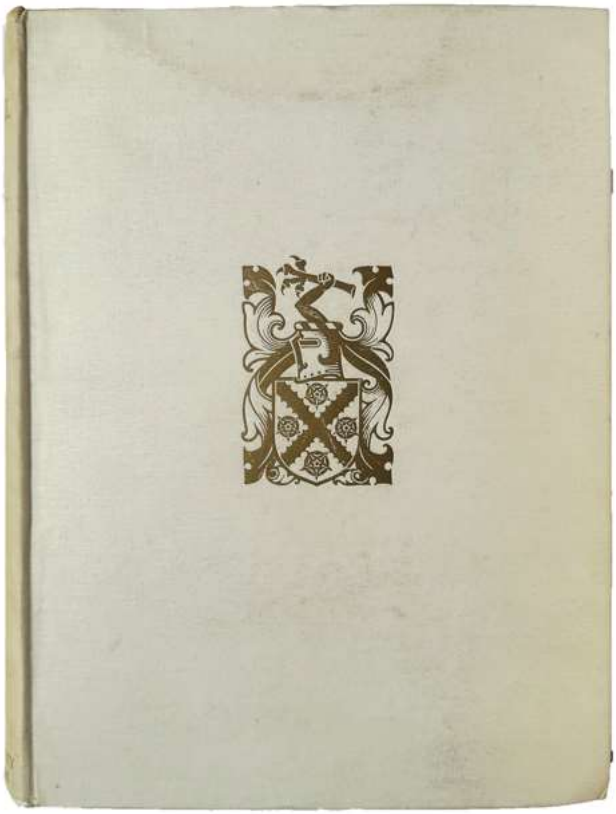
Benjamin Martin traded at South St., Chichester, Sussex (1736-40), Hadley Quadrant & Visual Glasses, nr Crane Court, Fleet St., London (1756-62), Two doors from Crane Court, Fleet St. (1756-9), resident in Fleet St. (1756-82), Four doors East of Crane Court (1760), The New Invented Visual Glasses, Fleet St. (1761) & 171 Fleet St. (1767-77), London. – *DNB.*

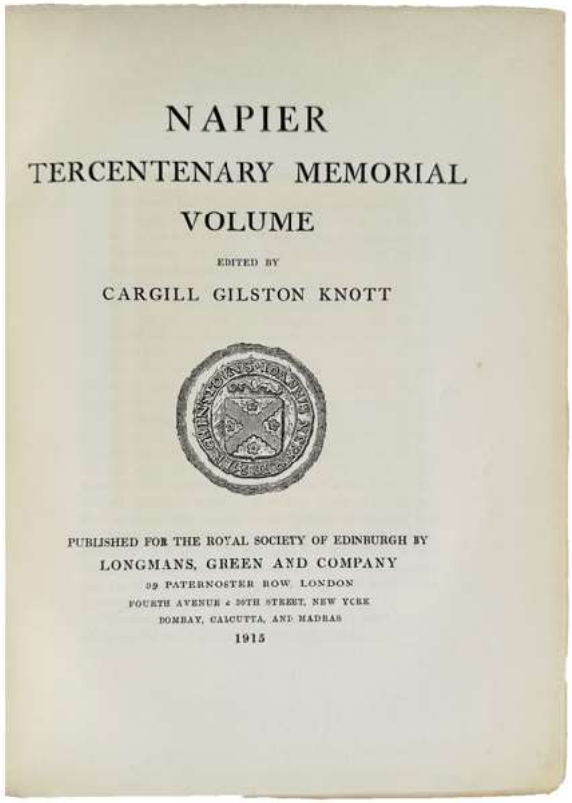
PROVENANCE: This is an inscribed copy from the author to his close friend and co-writer (in other works), Henry C. King.



'BENJAMIN MARTIN, *Optician. From an Original Portrait*' Published posthumously in *The Gentleman's Magazine* for August 1785, this engraving was taken from a painting then in the possession of the editor, John Nichols. Later that year the painting was given to Richard Greene for his Museum at Lichfield; its subsequent fate is unknown. From the position of the buttons, which are on the wrong side for a man, it is likely that the original portrait faced the other way.

40 MILLBURN On Benjamin Martin





41. [**NAPIER, John** (1550-1617)] **KNOTT, Cargill Gilston** (1856-1922), editor, *Napier Tercentenary Memorial Volume*. London: Longmans, Green and Company, for The Royal Society of Edinburgh, 1915. ¶ 4to. xi, [1], 441, [1] pp. Color frontispiece, 15 numbered plates, indexes. Original cream-white gilt-stamped cloth; a dent on the upper cover is evident (by estimation, the dent is about half the width of the book and positioned exactly in the center point of the upper cover). Very good (noting the cover is dented).

$ 50

"The Napier Tercentenary celebration fell in 1914. The chief share of the organisation fell upon Knott, and he edited the Memorial Volume of writings contributed by those who took part in it." – Obituary, School of Mathematics and Statistics, University of St Andrews, Scotland.

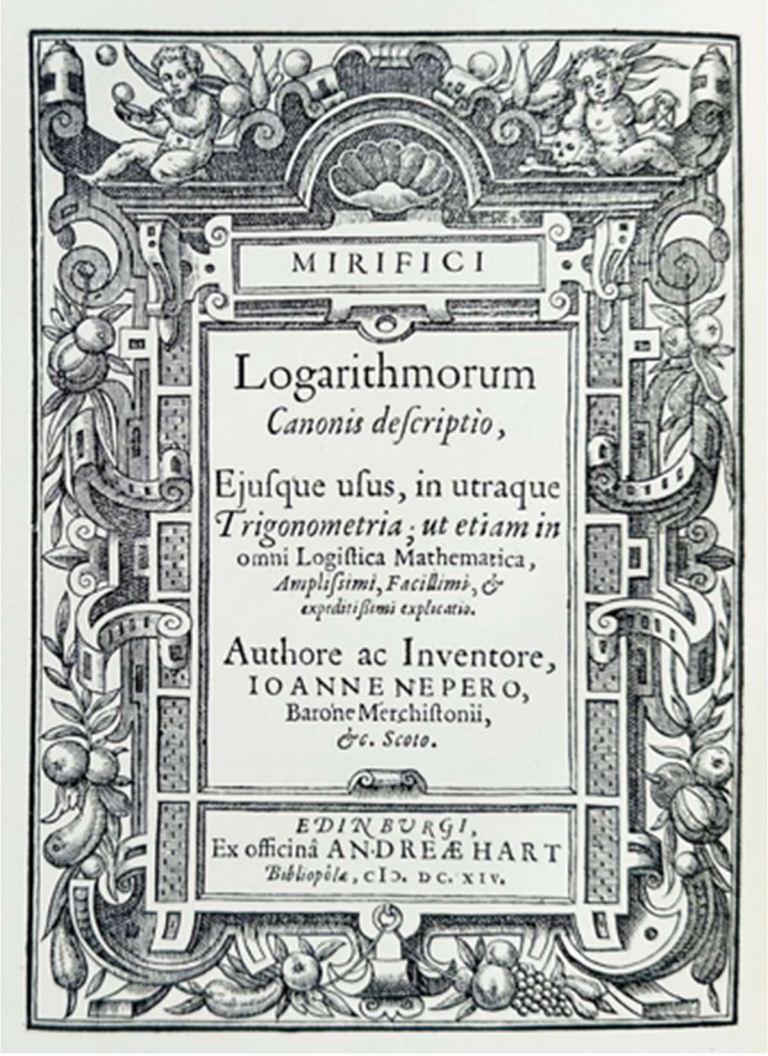
"An elegantly printed collection of addresses and essays delivered at the Napier tercentennial." – *Origins of Cyberspace*, 331.

Cargill Gilston Knott FRS, FRSE LLD, was a Scottish physicist and mathematician who was a pioneer in seismological research. He spent his early career in Japan. He later became a Fellow of the Royal Society, Secretary of the Royal Society of Edinburgh, and President of the Scottish Meteorological Society.

Reproduced by Andre, Sleigh & Anglo, Ltd., from the portrait in the possession of the University of Edinburgh.

TABLE OF CONTENTS: [1] Preface. By the Editor, – [2] The invention of logarithms, its genesis and growth. By Lord MOULTON, – [3] John Napier of Merchiston. By Professor P. HUME BROWN, – [4] Merchiston castle. By Mr GEORGE SMITH, – [5] Logarithms and computation. By Dr J. W. L. GLAISHER, – [6] The law of exponents in the works of the sixteenth century. By Professor D. EUGENE SMITH, – [7] algebra in Napier's day and alleged prior inventions of logarithms. By Professor F. CAJORI, – [8] Napier's logarithms and the change to Briggs's logarithms. By Professor G. A. GIBSON, – [9] Introduction of logarithms into Turkey. By Lieut. Salie MOURAD, – [10] A short account of the treatise 'De Arte Logistica'. By Professor J. E. A. STEGGALL, – [11] The first Napierian logarithm calculated before Napier. By Professor G. VACCA, – [12] The theory of Napierian logarithms explained by Pietro Mengoli (1659). By Professor G. VACCA, – [13] Napier's rules and trigonometrically equivalent polygons. By Professor D. M. Y. SOMERVILLE, – [14] Bibliography of books exhibited at the Napier Ter Centenary Celebration, July 1914. By Professor R. A. SAMPSON, – [15] Fundamental trigonometrical and logarithmic tables. By Professor H. ANDOYER, – [16] Edward Sang and his logarithmic calculations. By Professor C. G. KNOTT, – [17] Formule and scheme of calculation for the development of a function of two variables in spherical harmonics, By Professor J. BAUSCHINGER,

– [18] Numerical tables and nomograms. By Professor M. D'OCAGNE, – [19] On the origin of machines of direct multiplication. By Professor M. D'OCAGNE, – [20] New table of natural sines. By Mrs E. GIFFORD, – [21] The arrangement of mathematical tables. By Dr J. R. MILNE, – [22] Note on 'critical' tables. By Mr T. C. HUDSON, – [23] On a possible economy of entries in tables of logarithmic and other functions. By Professor J. E. A STEOGALL, – [24] The graphical treatment of some crystallographic problems. By Dr A. HUTCHINSON, – [25] A method of computing logarithms by simple addition. By Mr WILIAM SCHOOLING, – [26] How to reduce to a minimum the mean error tables. By Mr A. K. ERLANG, – [27] Extension of accuracy of mathematical tables by improvement of differences. By Dr W. F. SHEPPARD, – [28] A method of finding without the use of tables the number corresponding to a given natural logarithm. By Dr ARTEMAS MARTIN, – [29] Approximate determination of the functions of an angle, and the converse. By Mr H. S. GAY, – [30] Life probabilities: on a logarithmic criterion of Dr Goldziher, and on its extension. By M. ALBERT QUICHET, – [31] An account of the Napier tercentenary celebration and congress. By the SECRETARY, – [32] Sermon preached before the congress at the memorial service in St. Giles cathedral. By the Rev. Dr FISHER, – [33] Congratulatory addresses to the royal society of Edinburgh, – [34] List of representatives forming the general committee, – [35] List of founder members (individuals), – [36] List of founder members (institutions and corporations), – [37] List of ordinary members, – [38] List of representatives of institutions or corporations other than those constituting the General Committee, – [39] Subject index, Name index.

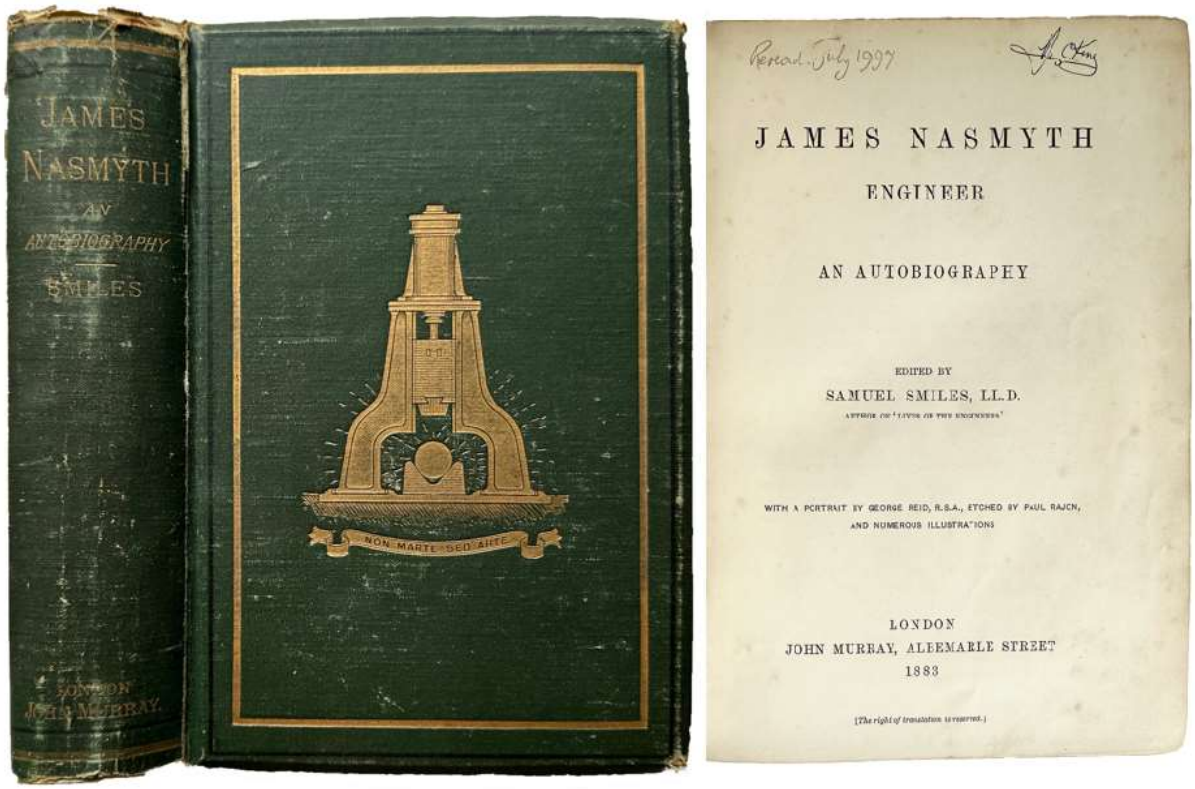

MIRIFICI

Logarithmorum
Canonis descriptio,

Ejusque usus, in utraque
Trigonometria; ut etiam in
omni Logistica Mathematica,
Amplissimi, Facillimi, &
expeditissimi explicatio.

Authore ac Inventore,
IOANNE NEPERO,
Barone Merchistonii,
&c. Scoto.

EDINBURGI,
Ex officinâ ANDREÆ HART
Bibliopôlæ, CIↃ. DC. XIV.



42. [**NASMYTH, James** (1808-1890)] **SMILES, Samuel** (1812-1904), editor. *James Nasmyth, Engineer - An Autobiography*. London: John Murray, 1883. ¶ Small 8vo. xviii, 456 pp. Frontispiece portrait by George Reid and etched by Paul Rajon, numerous illustrations, index; foxed, frontis. loose and with manuscript name added. Original dark green cloth with black- and gilt-stamping; well worn, split inner joint, corners and hinges frayed or worse. PROVENANCE: Ownership signature of Henry C. King, 1933 (also on title). A working copy: poor.

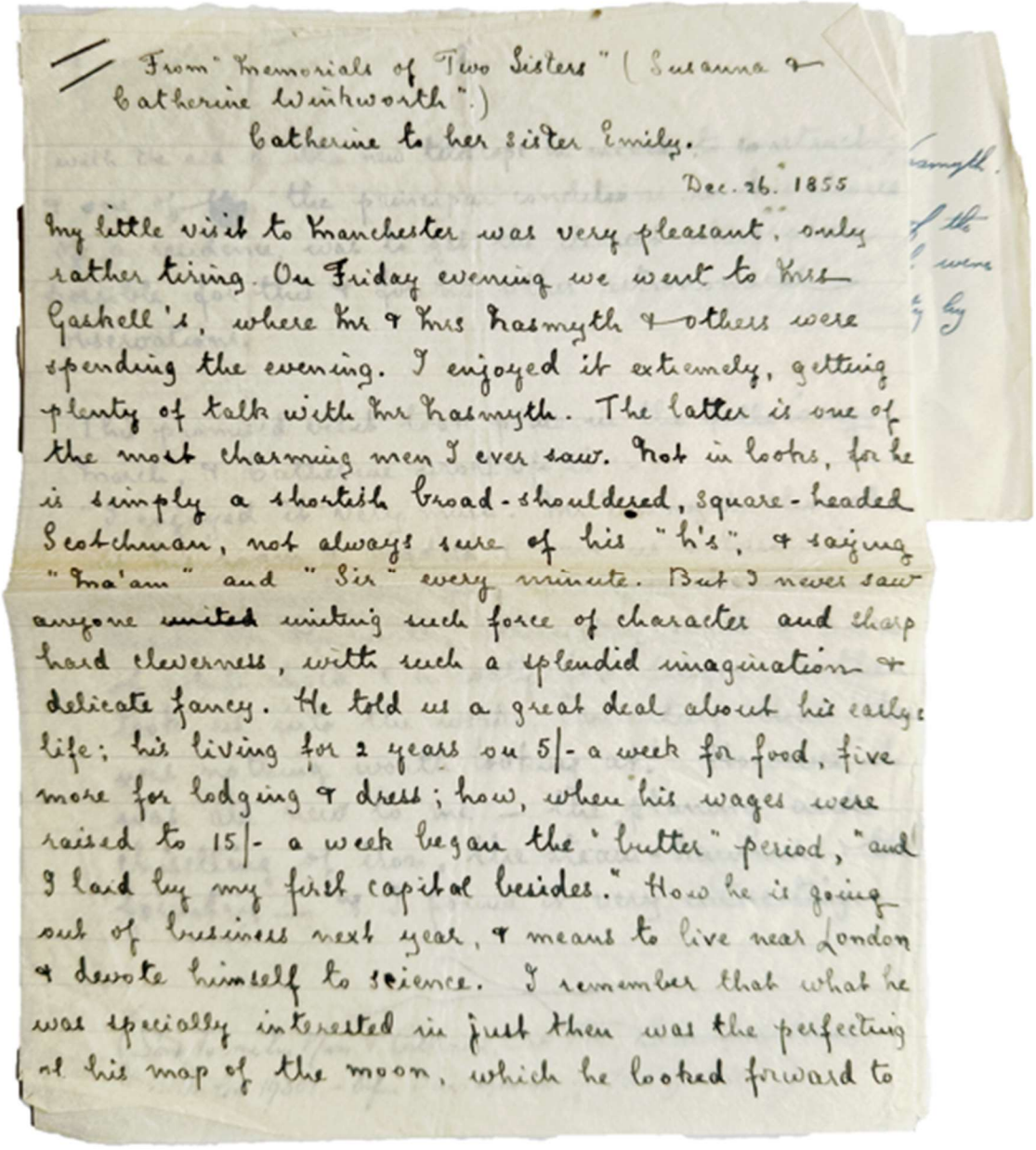
$ 15

Of particular interest is a manuscript 2-page note: From "Memorials of Two Sisters" (Susanna [1820-1884] & Catherine Winkworth [1827-1878]). Catherine [writes] to her sister Emily. December 26, 1855. "My little visit to Manchester was very pleasant, only rather tiring. On Friday evening we went to Mrs. Gaskell's where Mr. & Mrs. Nasmyth + others were spending the evening. I enjoyed it extremely, getting plenty of talk with Mr. Nasmyth. The latter is one of the most charming men I ever saw. Not in looks, for he is simply a shortish broad-shouldered, square-headed Scotsman, not always sure of this "h's", + saying "Ma'am" and "Sir" every minute . . . I remember that he was specially interested in just then was the perfecting of his map of the moon, which he looked forward to with the aid of the new telescope he means to construct . . ." An added manuscript slip states that Joseph Sidebotham (1824-1886) F.R.A.S., was a very intimate friend of James

Nasmyth. Sidebotham, a cotton baron, was one of the earliest people to practice photography in Manchester. His natural history collections are now in the Manchester Museum.

With: J. Nasmyth, "On some Peculiar Features in the Structure of the Sun's Surface." 1862.

James Hall Nasmyth was a Scottish engineer, philosopher, artist and inventor famous for his development of the steam hammer. He was the co-founder of Nasmyth, Gaskell and Company manufacturers of machine tools.

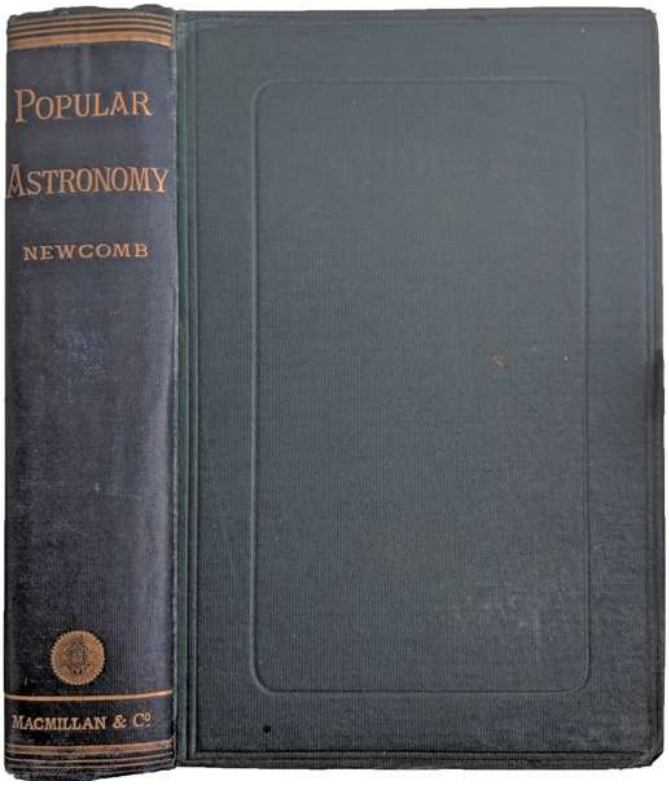


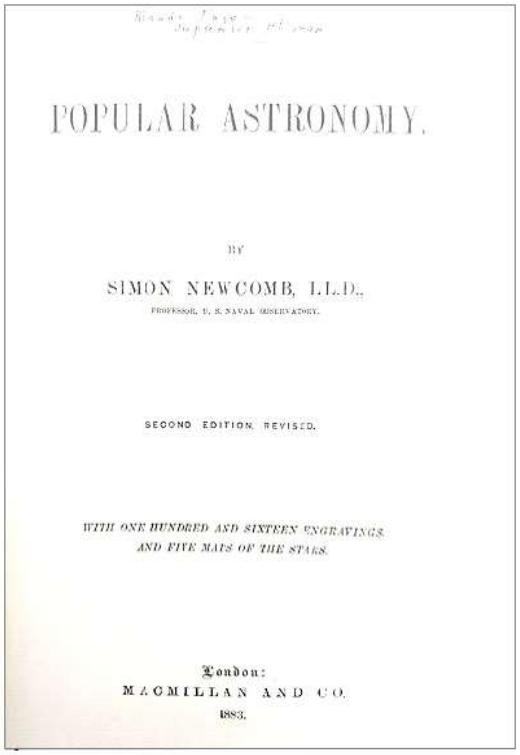
From "Memorials of Two Sisters" (Susanna & Catherine Winkworth".)

Catherine to her sister Emily.

Dec. 26. 1855

My little visit to Manchester was very pleasant, only rather tiring. On Friday evening we went to Mrs Gaskell's, where Mr & Mrs Nasmyth & others were spending the evening. I enjoyed it extremely, getting plenty of talk with Mr Nasmyth. The latter is one of the most charming men I ever saw. Not in looks, for he is simply a shortish broad-shouldered, square-headed Scotchman, not always sure of his "h's", & saying "Ma'am" and "Sir" every minute. But I never saw anyone united uniting such force of character and sharp hard cleverness, with such a splendid imagination & delicate fancy. He told us a great deal about his early life; his living for 2 years on 5/- a week for food, five more for lodging & dress; how, when his wages were raised to 15/- a week began the "butter" period, "and I laid by my first capital besides." How he is going out of business next year, & means to live near London & devote himself to science. I remember that what he was specially interested in just then was the perfecting of his map of the moon, which he looked forward to




POPULAR ASTRONOMY.

BY

SIMON NEWCOMB, LL.D.,

PROFESSOR, U. S. NAVAL OBSERVATORY.

SECOND EDITION, REVISED.

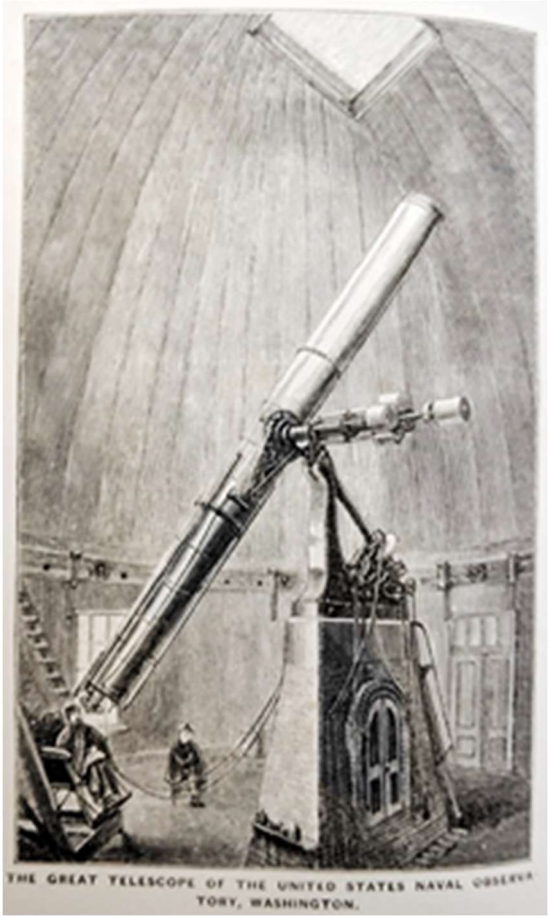
WITH ONE HUNDRED AND SIXTEEN ENGRAVINGS AND FIVE MAPS OF THE STARS.

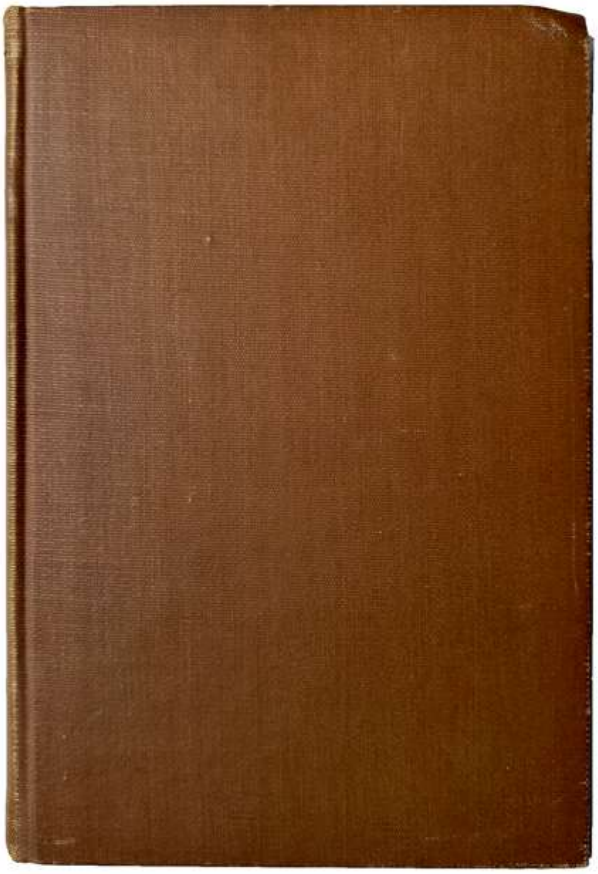
London:
MACMILLAN AND CO.
1883.

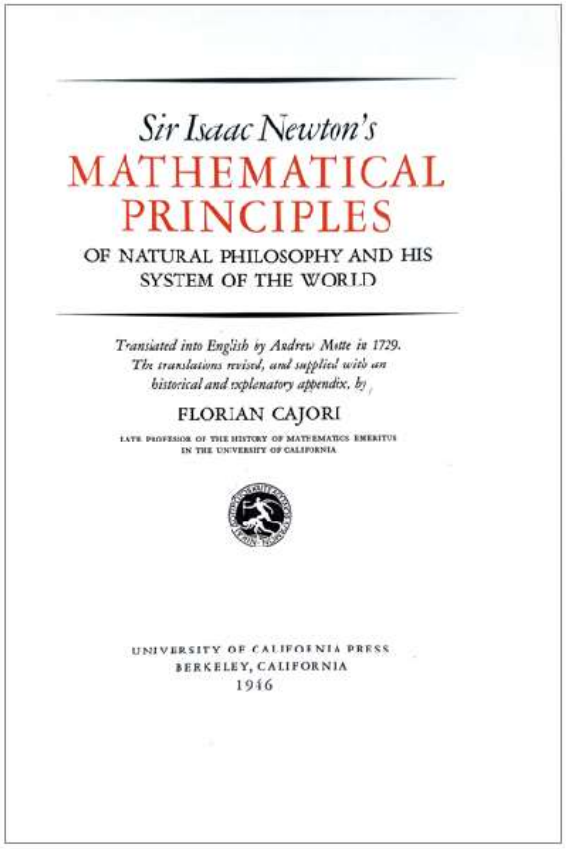
43. **NEWCOMB, Simon** (1835-1909). *Popular Astronomy*. London: Macmillan, 1883. ¶ Thick 8vo. xx, 579, [1] pp. Frontis., 5 folding stellar maps, 110 figs. Original dark green blind- and gilt-stamped cloth. Ownership inscription of "Maude Pagan, September 1st, 1894". Very good. RW1576

$ 70

Second edition, revised. "The commanding figure of United states astronomy in the 19th century, Simon Newcomb systematized and brought unparalleled precision to our knowledge of the Solar System." – Hockey, *Biographical Encyclopedia of Astronomers*, Vol. II, p. 827.


THE GREAT TELESCOPE OF THE UNITED STATES NAVAL OBSERVATORY, WASHINGTON.





44. **NEWTON, Isaac** (1642-1726/7); **MOTTE, Andrew** (1696-1734) (trans.); **CAJORI, Florian** (1859-1930) (ed.). *Sir Isaac Newton's Mathematical Principles of Natural Philosophy and his System of the World. Translated into English by Andrew Motte in 1729. The translations revised, and supplied with an historical and explanatory appendix*. Berkeley: University of California Press, 1946. ¶ Tall 8vo. xxxv, [1], 680 pp. Frontis. portrait, title in red and black, numerous diagrams. Original brown gilt-stamped buckram. Ownership signature of Henry C. King (1915-2005), 1947. Very good.

$ 30

"ANDREW MOTTE'S translation of the "*Principia*" is not so well known as it deserves to be. It was supplied to his brother, the publisher, soon after Newton's death. One might expect it then to be no more than a publisher's hack work, of which we have so many dismal examples. But Motte appears to have understood the "*Principia*", and his language does not date noticeably, and never falls below a good level. The present work is really a republication of Motte, with some improvements, and—it is regrettable to add—one most serious omission. *Sir Isaac Newton's Mathematical Principles of Natural Philosophy and his System of the World*." – *Nature,* volume 135, pages 128–129 (1935).

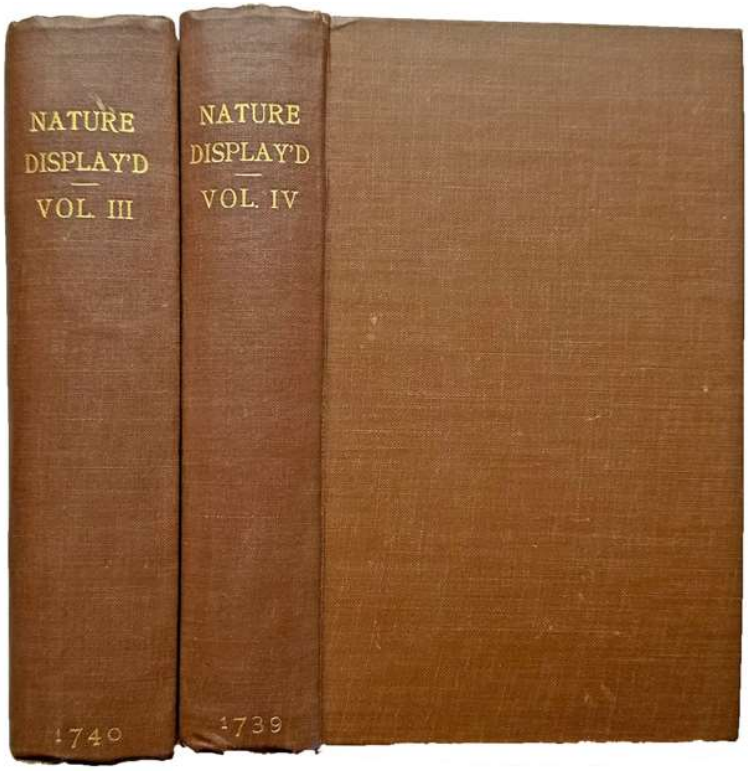
45. **PLUCHE, Noël-Antoine** (1688-1761) ; **DE FREVAL, John Baptist**, translator. *Spectacle de la Nature: or, Nature Display'd. Being Discourses on such particulars of Natural History as were though most proper to excite the curiosity, and form the minds of youth. Translated from the original French.* London: Printed for R. Francklin, etc., and J. Pemberton, 1740, 1739. ¶ Volumes III & IV (only, of 7). 8vo. xxiv, 456; v, [1], 453, [1] pp. 2 engraved frontispieces, title-pages printed in red & black. vol. III: 29 engraved plates (all but one are folding pls.), index. Vol. IV: 23 mostly folding engraved plates; VOL. IV with paper repairs applied to "The Second Northern Celestial" plate facing p. 233, some waterstaining. Modern brown gilt-stamped cloth. Very good.

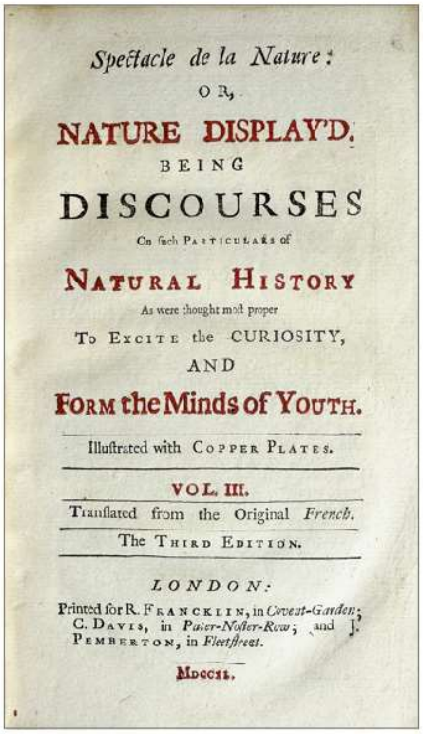
$ 50

Third edition of vol. III and vol. IV is of an edition not stated (printed earlier), but the same publishers. Uniformly bound. Nature is explained, being an account of seventeenth-century ideas relating to the physical and natural sciences, including those of Descartes, Gassendi, Newton, etc.

Volume III: *The sequel of the second part, An account of the surface and bowels of the Earth* (derived of dialogues XVII- XXVI, in a series of letters addressed from the Prior

to the Chevalier). This volume contains the sections on the Pasture, Meadow-grounds, Rivers, Of fountains, Mountains, The sea, Discourse on the Properties of the Air, Fossils, Quarrys, Mines, Useful reflections on the whole, index.



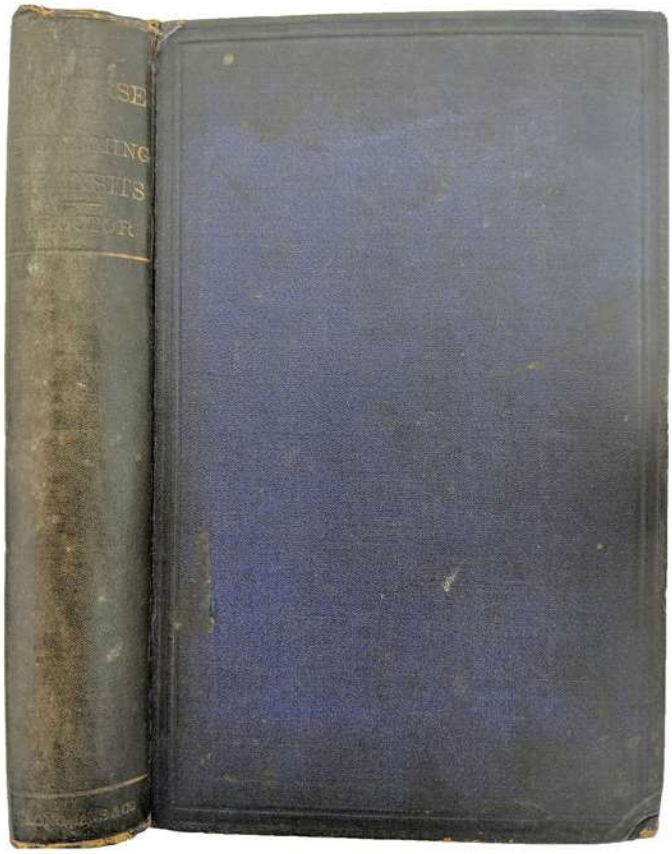

Spectacle de la Nature:
OR,
NATURE DISPLAY'D,
BEING
DISCOURSES
On such PARTICULARS of
NATURAL HISTORY
As were thought most proper
To EXCITE the CURIOSITY,
AND
FORM the Minds of YOUTH.
Illustrated with COPPER PLATES.
VOL. III.
Translated from the Original *French.*
The THIRD EDITION.
LONDON:
Printed for R. FRANCKLIN, in *Covent-Garden*; C. DAVIS, in *Pater-Noster-Row*; and J. PEMBERTON, in *Fleet-street.*
MDCCXL.

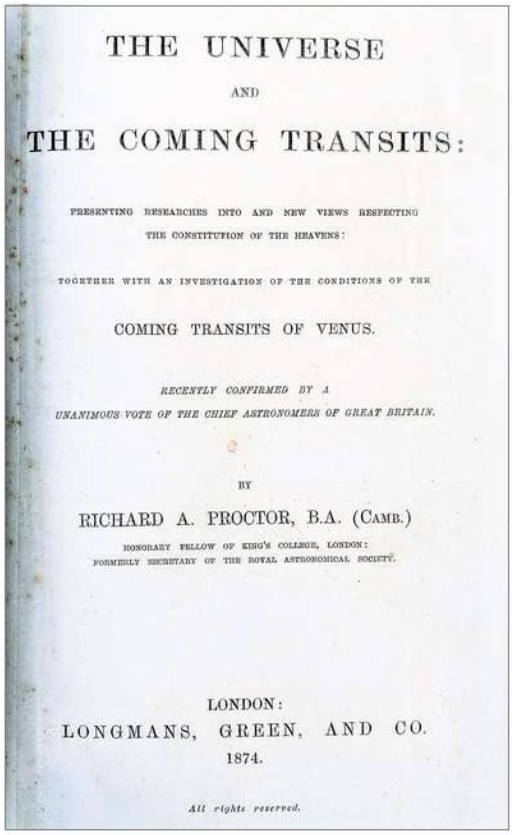
Volume IV: Features the frontispiece of '*The Dutch Spying-glass*' *applied to astronomy in ye year 1609*.' Containing dialogues I-VIII. The Heavens, The night, the Moon, The Crepuscule and the Azure of the Heaven, The aurora, Of the Sun, Light, Light & Vision, Of the Colours, Shade, The place and uses of Fire, The theory of the Fire, The history of experimental physics, The invention of the Zodiac, The discovery of the Polar Star, The discovery of the roundness of the Earth, The invention of the Globes, The Mariner's Compass – the discovery of the East and West-Indies, Of the telescope, The Microscope and the other inventions of the moderns, The history of systematic physics, The motion of the Planets, index.

Noël-Antoine Pluche, known as the abbé Pluche, was a French priest. He is now known for his *Spectacle de la nature*, a popular work of natural history.


THE STAR-SPHERE ON FLAMSTEED'S PROJECTION (EQUAL SURFACE) SHEWING ALL THE STARS VISIBLE TO THE NAKED EYE.
NORTH POLE.
SOUTH POLE.

[46] PROCTOR





THE UNIVERSE

AND

THE COMING TRANSITS:

PRESENTING RESEARCHES INTO AND NEW VIEWS RESPECTING
THE CONSTITUTION OF THE HEAVENS:

TOGETHER WITH AN INVESTIGATION OF THE CONDITIONS OF THE

COMING TRANSITS OF VENUS.

RECENTLY CONFIRMED BY A
UNANIMOUS VOTE OF THE CHIEF ASTRONOMERS OF GREAT BRITAIN.

BY

RICHARD A. PROCTOR, B.A. (CAMB.)

HONORARY FELLOW OF KING'S COLLEGE, LONDON:
FORMERLY SECRETARY OF THE ROYAL ASTRONOMICAL SOCIETY.

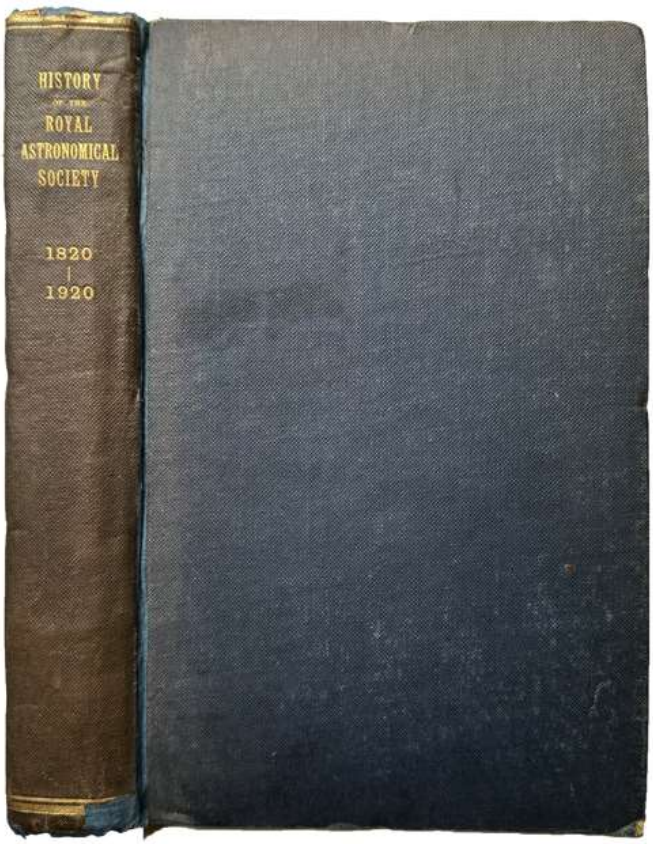
LONDON:
LONGMANS, GREEN, AND CO.
1874.

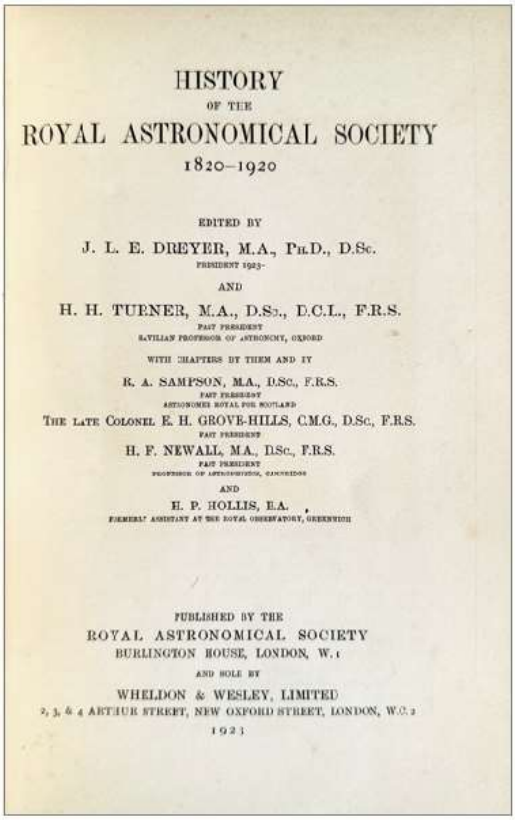
46. **PROCTOR, Richard Anthony** (1837-1888). *The Universe and the Coming Transits: Presenting Researches into and new Views Respecting the Constitution of the Heavens: Together with an Investigation of the Conditions of the Coming Transits of Venus. Recently Confirmed by a Unanimous Vote of the Chief Astronomers of Britain.* London: Longmans, Green, 1874. ¶ 8vo. xiv, 303, [1] pp. 22 plates (incl. frontis., some folding), 7 figs. Original purple blind- and gilt-stamped cloth; rubbed, spine darkened, rubbed, corner bumped, spine ends worn. Very good. RW1617

$ 225

First edition.

Contents include: "Star-streams and Star-sprays", "Are there any Fixed Stars?", "Notes on Star-gauging", "The Transit of Venus in 1874", "Remarks on Sir G. Airy's Letters", "The Direct Method of Observing Transits", "A New Method of Observing the Transits of Venus".




HISTORY
OF THE
ROYAL ASTRONOMICAL SOCIETY
1820–1920

EDITED BY
J. L. E. DREYER, M.A., PH.D., D.SC.
PRESIDENT 1923-
AND
H. H. TURNER, M.A., D.SC., D.C.L., F.R.S.
PAST PRESIDENT
SAVILIAN PROFESSOR OF ASTRONOMY, OXFORD
WITH CHAPTERS BY THEM AND BY
R. A. SAMPSON, M.A., D.SC., F.R.S.
PAST PRESIDENT
ASTRONOMER ROYAL FOR SCOTLAND
THE LATE COLONEL E. H. GROVE-HILLS, C.M.G., D.SC., F.R.S.
PAST PRESIDENT
H. F. NEWALL, M.A., D.SC., F.R.S.
PAST PRESIDENT
PROFESSOR OF ASTROPHYSICS, CAMBRIDGE
AND
H. P. HOLLIS, B.A.
FORMERLY ASSISTANT AT THE ROYAL OBSERVATORY, GREENWICH

PUBLISHED BY THE
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WHELDON & WESLEY, LIMITED
2, 3, & 4 ARTHUR STREET, NEW OXFORD STREET, LONDON, W.C. 2
1923

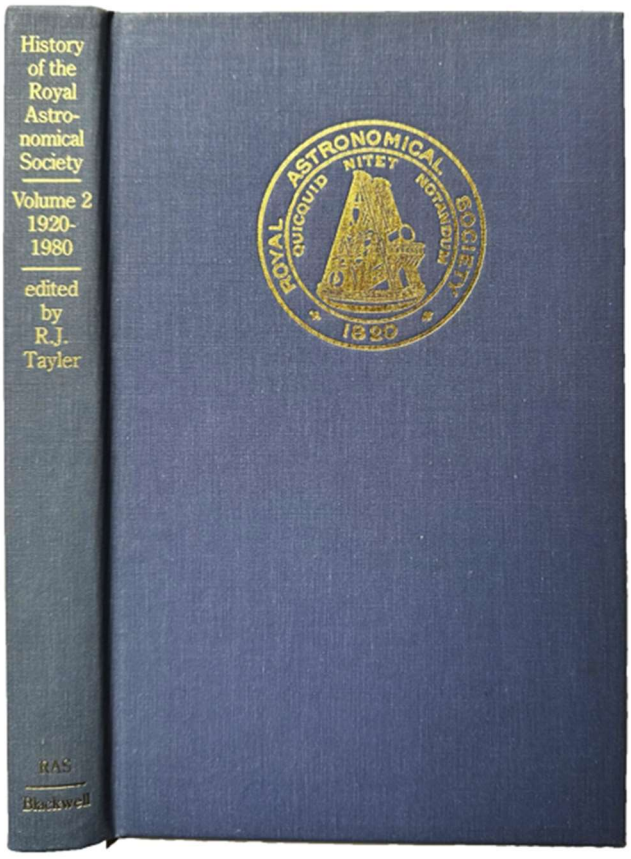
Ralph Allan Sampson's (one of the authors) copy

47. **[Royal Astronomical Society] DREYER, J. L. E. [John Louis Emil]** (1852-1926); **H. H. [Herbert Hall] TURNER** (1861-1930) (editors), **Ralph Allan SAMPSON** (1866-1939), et al. *History of the Royal Astronomical Society 1820-1920. Edited by . . . With chapters by them and by R.A. Sampson, The late Colonel E.H. Grove-Hills, H.F. Newall, and H.P. Hollis.* London: Royal Astronomical Society, 1923. ¶ 8vo. xi, [1], 258 pp. Frontispiece, 11 plates, index. Original gilt-stamped navy cloth; original spine mounted on blue kozo (my handiwork, saving the original binding), covers faded, corners showing. Bookplate and signature of Henry Charles King, 1938; earlier impression of a prior ownership signature (though quite difficult to read) of one of the authors, R.A. [Ralph Allan] Sampson, 1924. Good.

2 volumes: $ 50

Contributors [6]: [1] John Louis Emil Dreyer (1852-1926), was a Danish astronomer, Director of the Armagh Observatory, Ireland, he was also a historian of astronomy. "In 1890 he published a biography of Danish astronomer Tycho Brahe, and in his later years he edited Tycho's publications and unpublished correspondence. These were published in a 15-volume edition, Opera Omnia, the

last volume of which was published after his death"; [2] Edmond Herbert Grove-Hills CMG CBE FRS (1 August 1864 – 2 October 1922) was a British soldier and astronomer. [3] H.P. [Henry Park] Hollis (1858-1939), was assistant at the Royal Observatory, Greenwich, retiring in 1920. "His work at first was connected with the regular astronomical observations with the transit and altazimuth instruments; but later he took part in the measurement and reduction of solar photographs." – *Nature*, Obituary, 144, pages 470–471, 09 September 1939 – British Astronomical Association, Obituary, [ca.1939-40]. [4] Hugh Frank Newall (1857-1944), was a British astrophysicist and Professor of Astrophysics at Cambridge; [5] Ralph Allan Sampson (1866-1939) became Astronomer Royal for Scotland (until 1937) and Professor of Astronomy at the University of Edinburgh. He did pioneering work in measuring the color temperature of stars; [6] Herbert Hall Turner (1861-1930) was a British astronomer and seismologist.




HISTORY OF THE
ROYAL ASTRONOMICAL SOCIETY
VOLUME 2
1920–1980

EDITED BY
R.J. TAYLER

WITH CHAPTERS BY
HIM AND BY

C.W. ALLEN — Sir Wm McCREA
The Late H. DINGLE — D.H. SADLER

G.J. WHITROW

FOREWORD BY
SIR HAROLD JEFFREYS

PUBLISHED FOR THE
ROYAL ASTRONOMICAL SOCIETY BY
BLACKWELL SCIENTIFIC PUBLICATIONS
OXFORD LONDON EDINBURGH
BOSTON PALO ALTO MELBOURNE

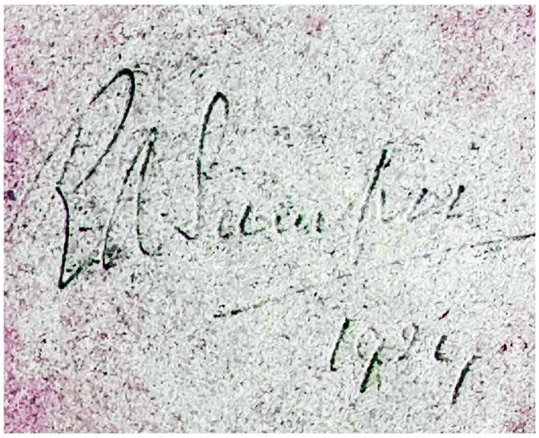
With: **TAYLER, R. J.**, (editor), et al., *History of the Royal Astronomical Society, 1920-1980*. Oxford, etc.: Blackwell Scientific for The Royal Astronomical Society, 1987. ¶ Volume 2. 8vo. vii, [1], 262 pp. Light blue gilt-stamped cloth. Ownership signature of Henry C. King. Very good.

2 First Day Cover envelopes (with stamps) laid in, from the Astronomical Society, to Dr. King.

This volume features contributions from Clabon Walter Allen (1904-1987), Herbert Dingle (1890-1978), Sir William Hunter McCrea (1904-1999), Donald Harry Sadler (1908-1987), Gerald James Whitrow (1912-2000). Foreword by Sir Harold Jeffreys.

Roger John Tayler (1929-1997), applied mathematician and astronomer, was a professor of astronomy, University of Sussex. "Tayler was a distinguished and versatile astrophysicist, contributing to our understanding of the structure and evolution of stars galaxies and the universe as a whole. As an officer of the Royal Astronomical Society and editor of its journal, he gave outstanding service to the astronomical community nationally and internationally." See: Leon Mestel, 'Obituary: Professor Roger Tayler', *Independent*, Tuesday 28 January 1997.

PROVENANCE: Henry Charles King (1915-2005) – he signed the book in 1938 likely the date he acquired the book. In the 1950s he was Senior Lecturer in Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope. He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).

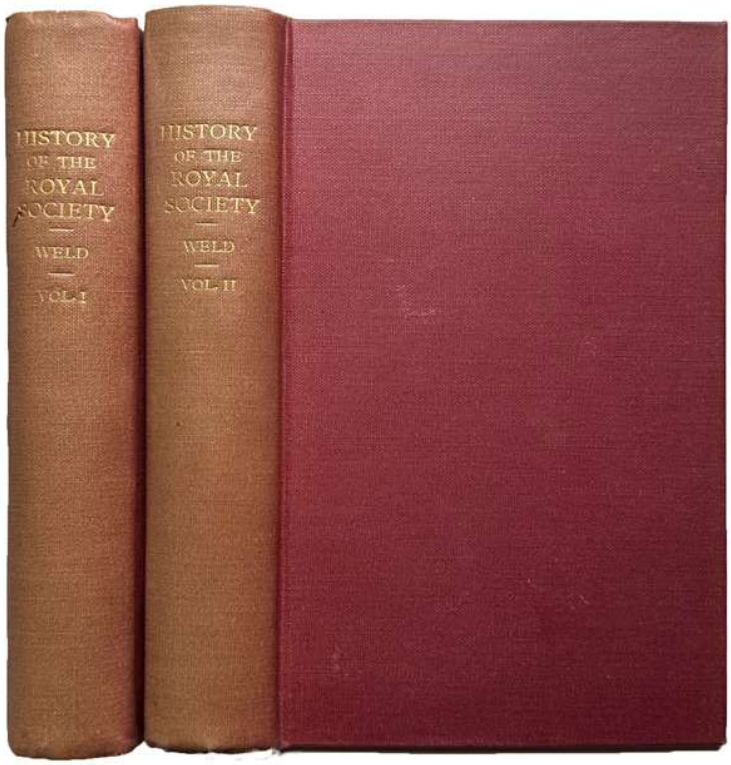

R.A. [Ralph Allan] Sampson

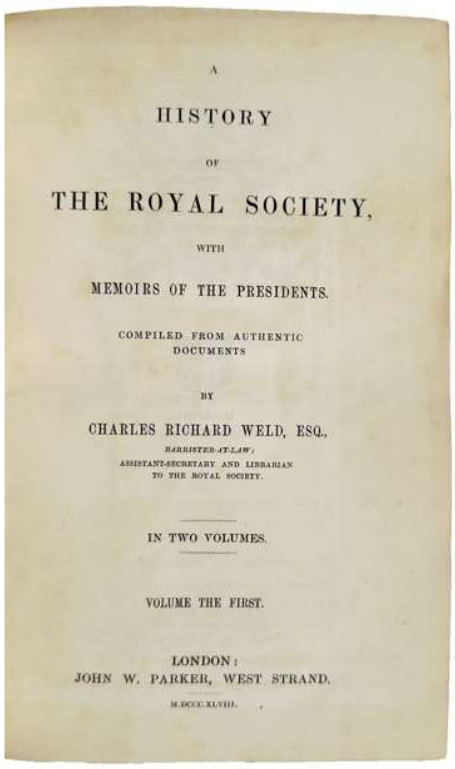
48. **[Royal Society] WELD, Charles Richard** (1813–1869). *A History of the Royal Society with Memoirs of the Presidents. Compiled from authentic documents*. London: John W. Parker, 1848. ¶ 2 volumes. 8vo. xix, [1], 527, [1]; viii, 611, [1] pp. 2 frontispieces, 12 figures (some full-page), index; some foxing, staining and/or browning. Later full brick-red gilt-stamped cloth, ca. 1950. Ownership signature of [Henry C.] King, Slough. Very good.

$ 45

First edition. Charles Richard Weld was an English writer, known as a historian of the Royal Society. He became in 1845 assistant secretary and librarian to the Royal Society, a post which he held for sixteen years, after which he resigned.

"His best-known work, *A History of the Royal Society with Memoirs of the Presidents, compiled from Authentic Documents* (London), appeared in two volumes in 1848. The book was illustrated by drawings made by Mrs. Weld, and was a supplement to the histories of Thomas Birch and Thomas Thomson." [Wikip.]




A

HISTORY

OF

THE ROYAL SOCIETY,

WITH

MEMOIRS OF THE PRESIDENTS.

COMPILED FROM AUTHENTIC DOCUMENTS

BY

CHARLES RICHARD WELD, ESQ.,

BARRISTER-AT-LAW;

ASSISTANT-SECRETARY AND LIBRARIAN TO THE ROYAL SOCIETY.

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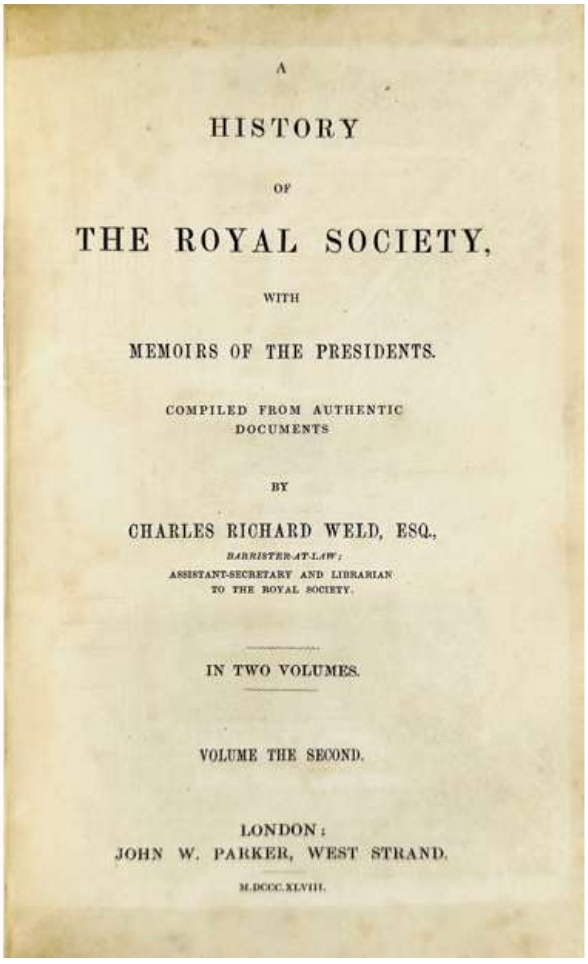
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CHARLES RICHARD WELD, ESQ.,

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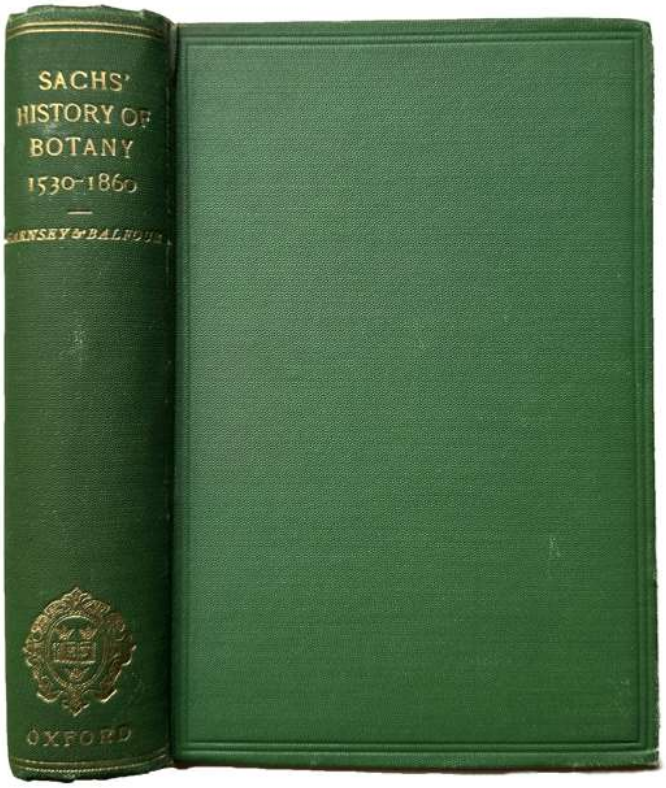
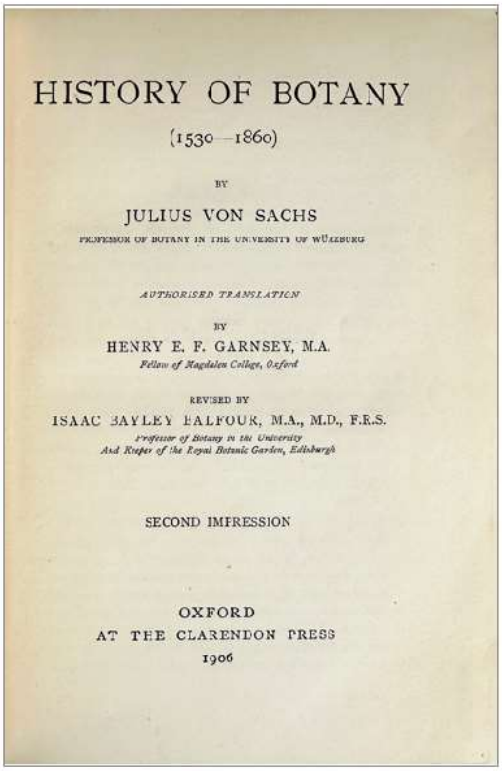
[48] Royal Society





HISTORY OF BOTANY

(1530—1860)

BY

JULIUS VON SACHS

PROFESSOR OF BOTANY IN THE UNIVERSITY OF WÜRZBURG

AUTHORISED TRANSLATION

BY

HENRY E. F. GARNSEY, M.A.

Fellow of Magdalen College, Oxford

REVISED BY

ISAAC BAYLEY BALFOUR, M.A., M.D., F.R.S.

Professor of Botany in the University
And Keeper of the Royal Botanic Garden, Edinburgh

SECOND IMPRESSION

OXFORD
AT THE CLARENDON PRESS
1906

49. **SACHS, Julius von** (1832-1897). *History of Botany (1530-1860). Authorized translation by Henry E. F. Garnsey. Revised by Isaac Bayley Balfour. Second impression.* Oxford: Clarendon Press, 1906. ¶ 8vo. xv, [1], 568 pp. Original green blind- and gilt-stamped cloth. Ownership signature of Henry C. King, 1945. Very good.

$ 38

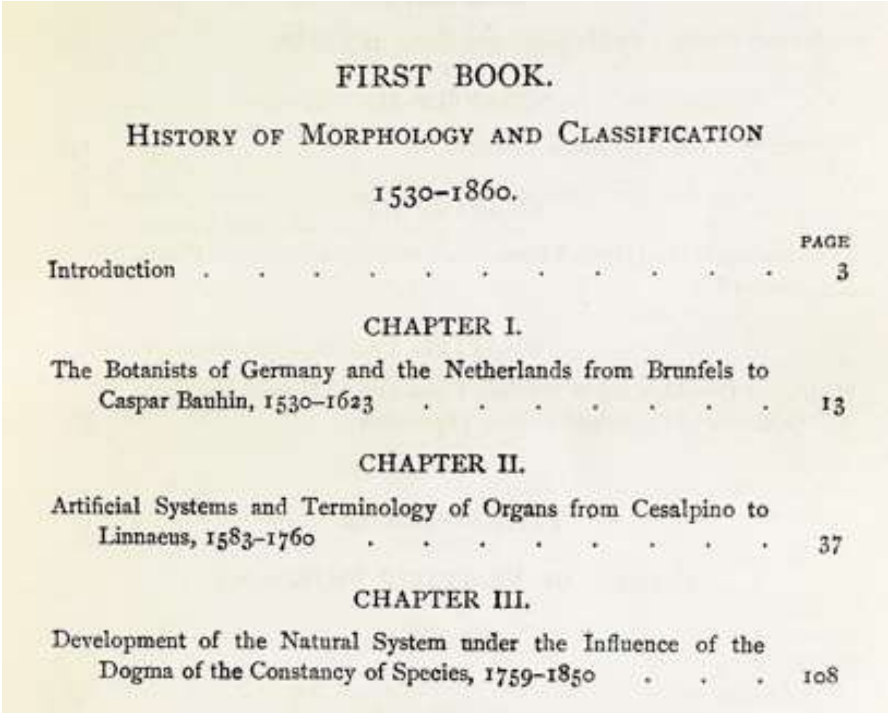
Translated from the German. Extremely informative history of botany 1530-1860. This work was originally issued in 1875. This book quickly became a standard work on the evolution of botany as a scientific field, used by contemporary peers and is still being used by modern scientists into the beginning of the 21st century. The book describes the history of morphology and classification of plants (for the years 1530-1860), the history of vegetable anatomy (years 1671-1860) and vegetable physiology (years 1583-1860). This book is one of the firsts describing the history of botany and considered among the best books on the subject.

Julius von Sachs, a German botanist from Breslau, Prussian Silesia, taught as Professor of Botany at the University of Würzburg. He is considered the founder of experimental plant physiology and co-founder of modern water culture. Julius von Sachs and Wilhelm Knop are monumental figures in the history of botany by first demonstrating the importance of water culture for the study of plant nutrition and plant physiology in the 19th century. Henry E. F. Garnsey (1826-1903) was a Fellow of Magdalen College, Oxford. Isaac Bayley Balfour (1853-1922.) was

Professor of Botany, University and Keeper of the Royal Botanic Garden, Edinburgh.

"Sachs has been described as a "post-Darwinian botanist" who "integrated the evolutionary theory into his morphological writings." He was originally supportive of Darwinism but in his late career became bitterly opposed to it, instead preferring non-Darwinian evolution." – Wikip.

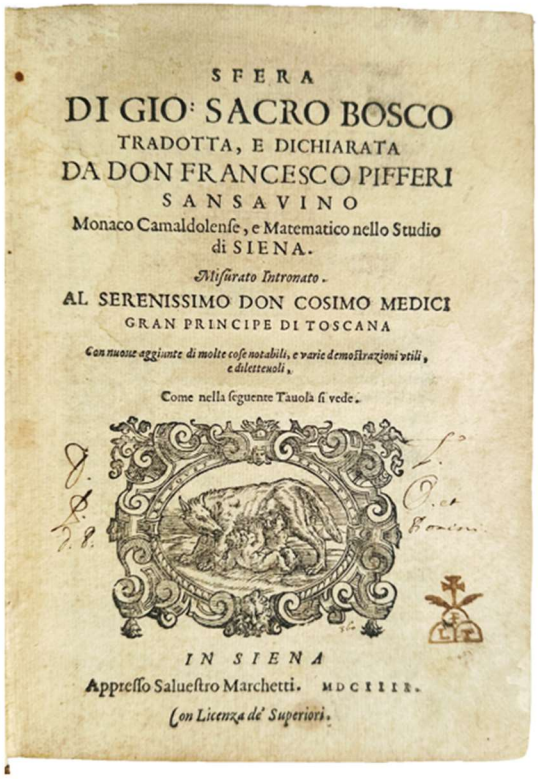
PROVENANCE: Henry C. King (1915-2005) – he signed the book in 1945 likely the date he acquired the book. In the 1950s he was Senior Lecturer in Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope. He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).



FIRST BOOK.

HISTORY OF MORPHOLOGY AND CLASSIFICATION

1530–1860.


SFERA
DI GIO: SACRO BOSCO
TRADOTTA, E DICHIARATA
DA DON FRANCESCO PIFFERI
SANSAVINO
Monaco Camaldolenſe, e Matematico nello Studio di SIENA.
Miſurato Intronato.
AL SERENISSIMO DON COSIMO MEDICI
GRAN PRINCIPE DI TOSCANA
Con nuoue aggiunte di molte coſe notabili, e varie demoſtrazioni vtili, e dilettenoli,
Come nella ſeguente Tauola ſi vede.
IN SIENA
Appreſſo Saluestro Marchetti. MDCIIII.
Con Licenza de' Superiori.

50. **SACROBOSCO, Johannes de** [*Sacro Bosco, Joannes de*] (c. 1195-c.1256). *Sfera di Gio. Sacro Bosco tradotta, e dichiarata da don Francesco Pifferi Sansavino monaco Camaldolese e matematico nello studio di Siena. Misurato Intronato Al serenissimo don Cosimo Medici gran principe di Toscana, con nuove aggiunte di molte cose notabili, e varie demonstrazioni utili, e dileteuoli, come nella seguente Tauola si vede*. In Siena, Appresso Saluestro Marchetti, 1604. ¶ Small 4to. [6]*, [xxiv], 17-400 [i.e. 402], [6] pp. [* note: lacking portrait leaf, but supplied in photocopy facsimile]. Title vignette (The sculpture shows a she-wolf suckling the mythical twin founders of Rome, Romulus and Remus), frequent woodcut diagrams throughout, index, errata; occasional waterstaining (incl. lower margin last 4 leaves). Nineteenth century quarter boards, marbled paper over bds., black leather gilt-stamped spine label; extremities worn. LOWER-EDGE with hand-written title: SFERA DI SACROBOSCO. Former ownership signature [Arthur Bourue Briant?!]; ms. ink initials on title; dark red 1-inch square ownership stamp with the initials L F T. Good+.

$ 1,000

Italian translation of Sacrobosco's *Sphaera*, translated by the scholar and Camaldolese monk Francesco Pifferi of Sansavino Camaldolese (ca. 1548-?).

This work is "one of the most successful scientific textbooks of all time, the *De sphaera* (*On the sphere*) of Johannes de Sacrobosco (ca. 1200 – ca. 1250). Sacrobosco, an Englishman who taught in the Arts Faculty of the University of Paris in the

early thirteenth century, composed the Sphere sometime around 1230 as an introductory astronomy textbook for university students. The book rapidly became the most popular and widely used astronomy textbook of the medieval and early modern period, serving as the basis for introductory astronomy lectures at universities throughout Europe from the mid-thirteenth to the end of the seventeenth century." – "The Sphere of Sacrobosco; The book everybody read", Kathleen Crowther, University of Oklahoma.

"About 1230, his best-known work, *Tractatus de Sphaera* / *De Sphaera Mundi* (Treatise on the Sphere / *On the Sphere of the World*) was published. In this book, Sacrobosco gives a readable account of the Ptolemaic universe. The "sphere" Sacrobosco was referring to is the celestial sphere – an imaginary backdrop of the stars in the sky – which was the meaning of the word mundi ("world") at that time, not the planet Earth. Though principally about astronomy, in its first chapter the book also contains a clear description of the Earth as a sphere. De Sphaera Mundi was required reading by students in all western European universities for the next four hundred years". – Wikip.

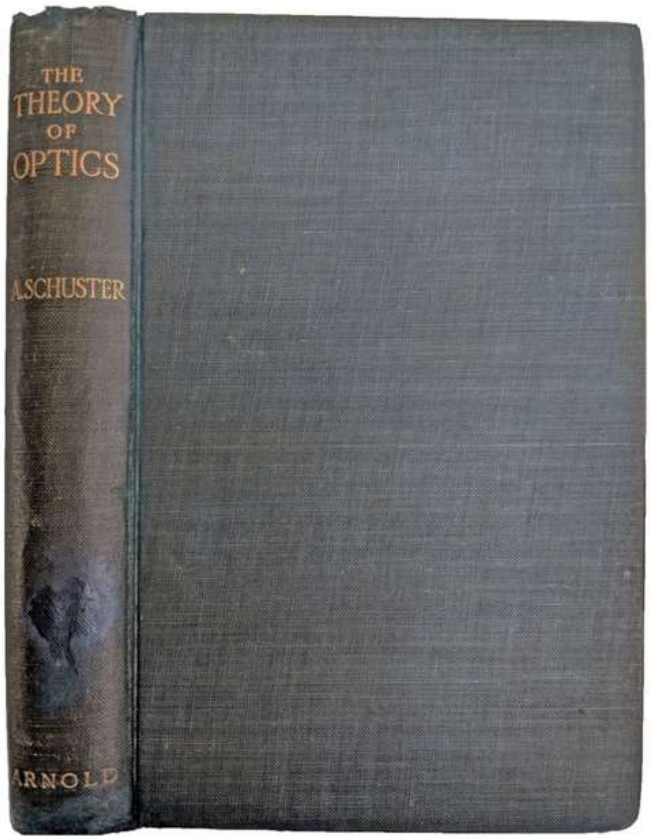
"Sacrobosco's "sphere" was in fact the cosmos, divided up into 9 individual spheres – the empyrean realm, the sphere of stars, and seven spheres for the seven planets.

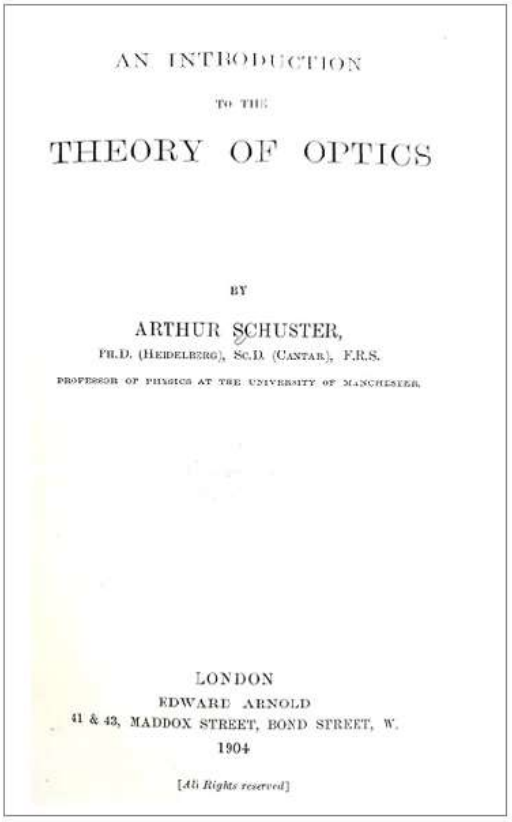
There is a woodcut early on that shows the sphere of spheres, with the Earth at the center (second image, above). However, the book is mainly concerned with the circles on the sphere – the equator, the tropics of Cancer and Capricorn, the ecliptic, the meridian and horizon. It is often said that the book is a simple version of Ptolemy's Almagest (140 C.E.), but there very little of what we call Ptolemaic astronomy in it – a single mention of epicycles and deferents, with no indication of how to use them to predict planetary motion." – William Ashworth, Linda Hall Library.

"This quarto edition was published by Salvestro Marchetti of Siena (fl. 1594–1620) in 1604 and declared at the Fair by the Societas Veneta (a consortium of Francesco de' Franceschi (ca. 1530–1599), Giovanni Battista Ciotti (1564–1635) and Roberto Meietti (1572–1634) . . .). In his dedication to Cosimo II de' Medici (1590–1621), Pifferi declares that he was appointed by Cosimo's mother, Christine de Lorraine (1565–1637), to teach Cosimo mathematics and that he had undertaken the translation and commentary to this end. In 1605, he was replaced as tutor by Galileo Galilei (1564–1642), who in 1615 published the famous pro-Copernican Lettera to Cosimo's mother. Pifferi was a Camaldolese monk, a professor of mathematics at Siena, a member of the Accademia degli Intronati, and an associate of the Accademia dei Lincei. His library (inspected and inventoried in 1603 by the Inquisition) contained a number of editions of the Sphaera from Antwerp, Rome, Cologne, Paris, and Venice, a wide range of books by Christophorus Clavius, and an impressive collection of other works on sphaeristics. Pifferi's commentary relies heavily on those of Francesco Giuntini (1523–1590) and Clavius; its approach to cosmology is functionalist, and it engages negatively with Copernicus, but Pifferi does record the argument of Andreas Osiander (1498–1552) that the work was designed to "save the appearances" (salvar l'apparenze): i.e., that it was no more than a hypothesis.Footnote 3 This is an interesting case of the vulgarization of Sacrobosco in court circles and vernacular academies, but that does not explain its advertisement at the Frankfurt Book Fair, or who the targeted purchasers there might be." – Ian McLean.

PROVENANCE: Very early ownership marks on title (ink); initials L F T (in some combination/order unknown); Arthur Bourue Briant[!?].

□ A1604 Sfera di Gio. Sacrobosco tradotta e dicharata da Don Francesco Pifferi Sansauino. Con nuouo aggiunte di molte cose notabili, e dilettouoli [Societ. Venet.] in 4. 1604. Ian McLean, "Sacrobosco at the Book Fairs, 1576–1624: The Pedagogical Marketplace". In: Valleriani, M., Ottone, A. (eds) *Publishing Sacrobosco's De sphaera in Early Modern Europe*. Springer, 2022.




AN INTRODUCTION

TO THE

THEORY OF OPTICS

BY

ARTHUR SCHUSTER,

PH.D. (HEIDELBERG), SC.D. (CANTAB.), F.R.S.

PROFESSOR OF PHYSICS AT THE UNIVERSITY OF MANCHESTER.

LONDON

EDWARD ARNOLD

41 & 43, MADDOX STREET, BOND STREET, W.

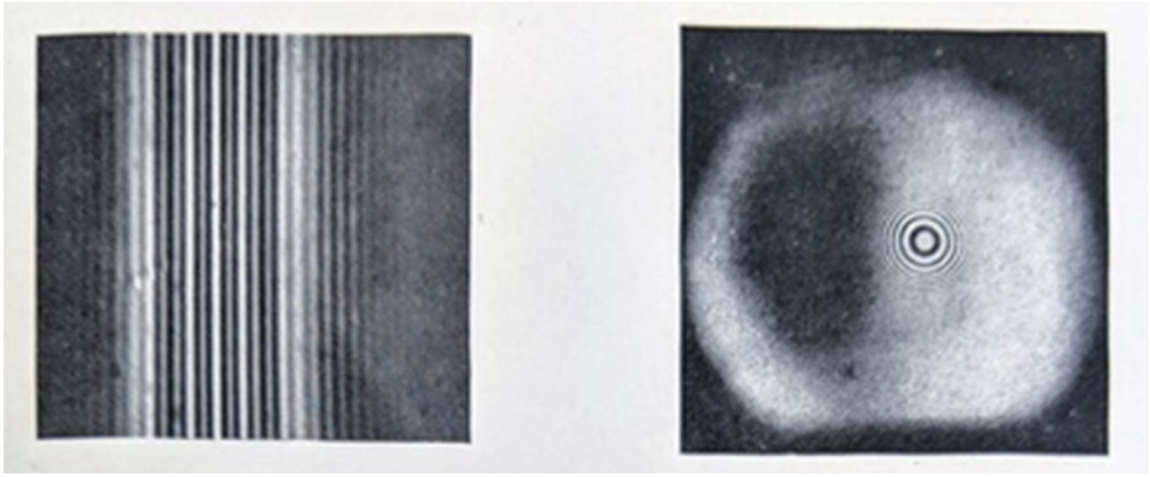
1904

[*All Rights reserved*]

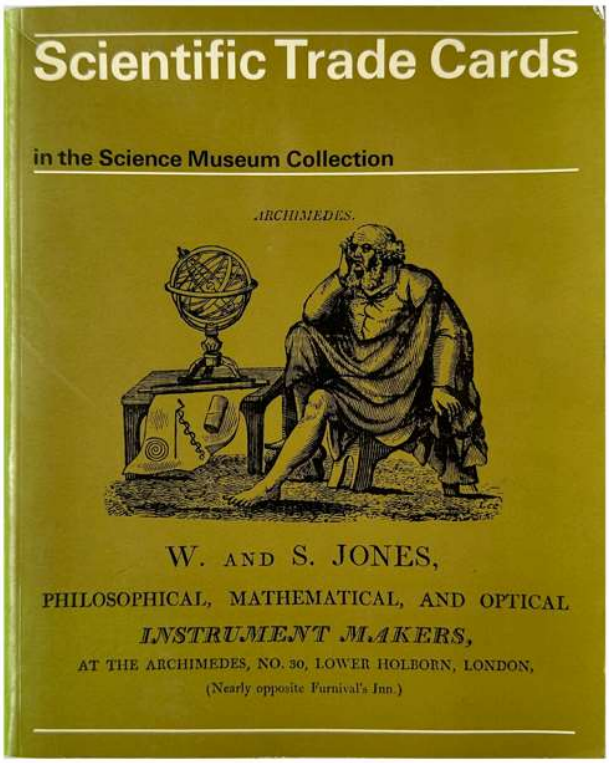
51. **SCHUSTER, Arthur** (1851-1934). *An Introduction to the Theory of Optics*. London: Edward Arnold, 1904. ¶ 8vo. xv, [1], 340, [4] pp. 180 figs., index, errata slip tipped-in. Navy gilt-stamped cloth; library markings. Magee University College Library bookplate, "withdrawn from stock" rubber stamp. Very good. RW1242

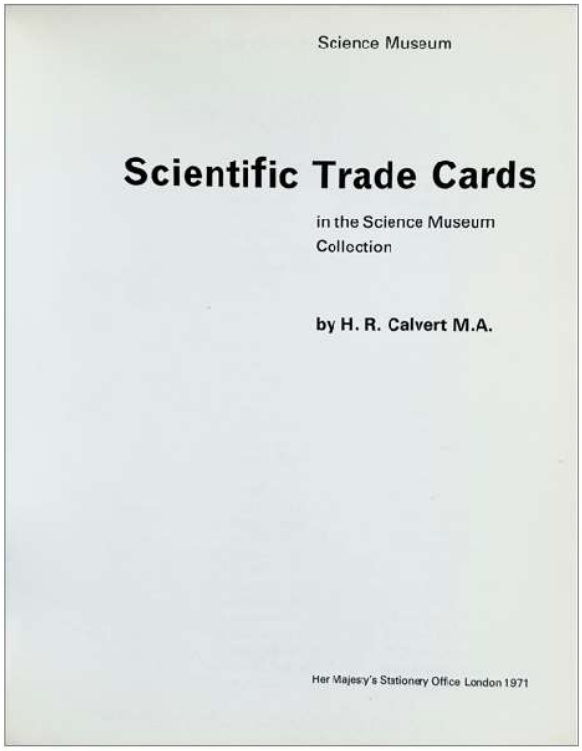
$ 40

Schuster was a German-born British physicist and theoretical astronomer.



[51]





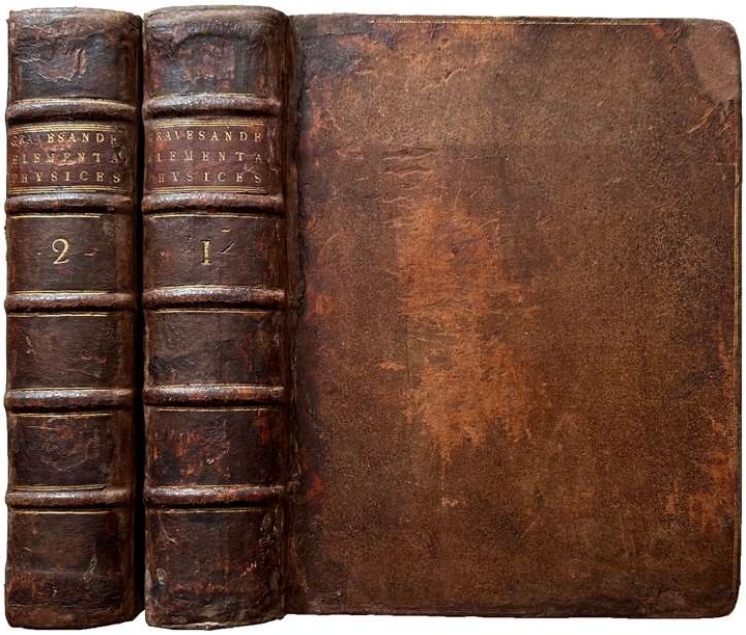
52. **[Science Museum, Great Britain] CALVERT, Henry Reginald** (1904-1992). *Scientific Trade Cards in the Science Museum Collection*. London: Her Majesty's Stationery Office, 1971. ¶ 8vo. 55, [3] pp. Frontispiece, 61 illustrations. Olive-green and black printed wrappers; rubbed, some fading. Very good.

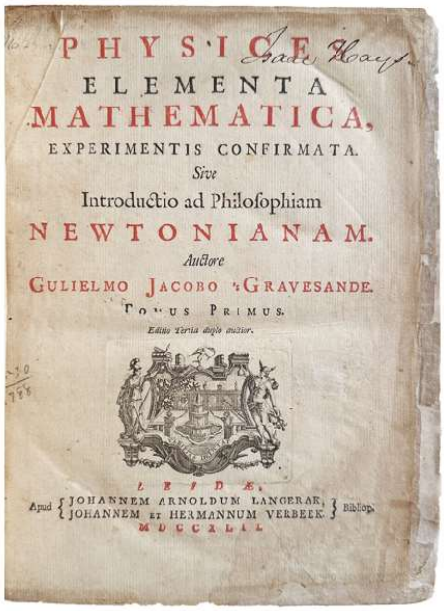
$ 10

A well-illustrated brief history of British trade cards relating to scientific advertising, especially of products and instruments included.

Henry Calvert was one of the earliest to join the British Society for the History of Science, having become a member within eight weeks of the Society's foundation in May 1947. He worked as a museum curator.

See: John A. Chaldecott, Henry Reginald Calvert (1904–92), *The British Journal for the History of Science,* 1993, v. 26, pp. 347-9. [obituary].





Philadelphia Ophthalmologist, Isaac Hays' copy

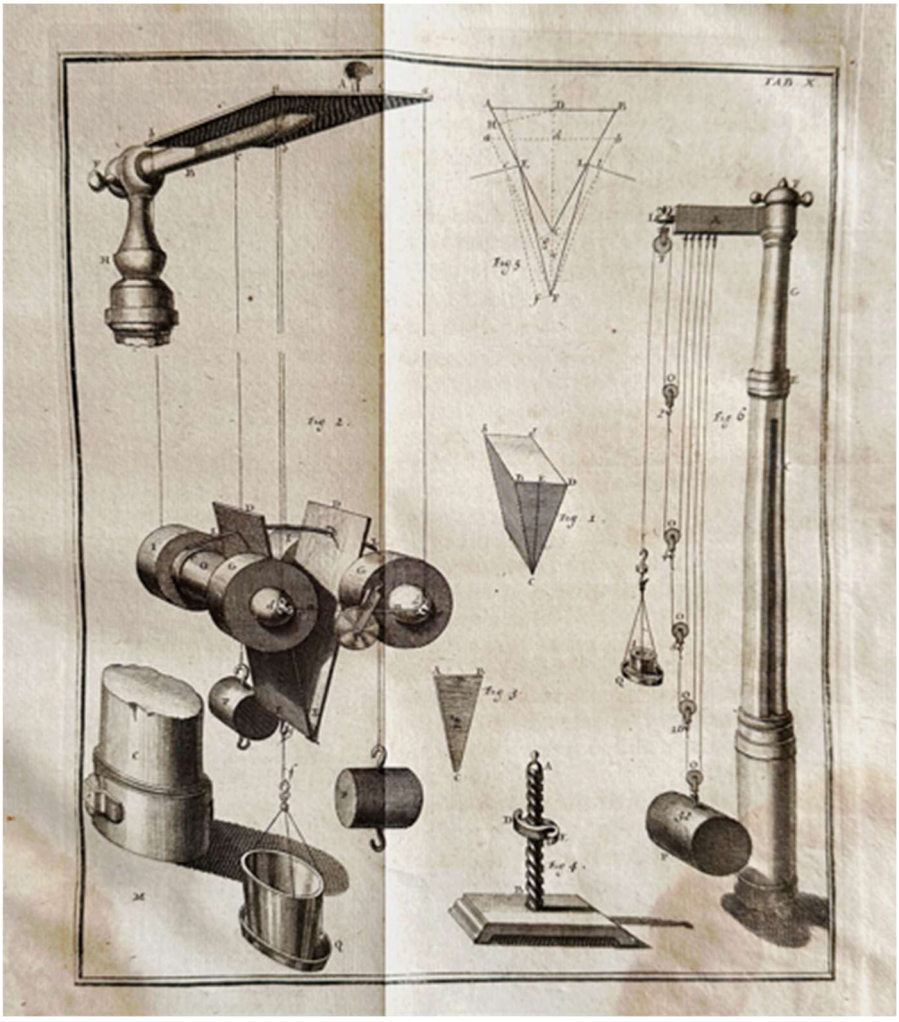
53. **'sGRAVESANDE, Willem Jacob** (1688-1742). *Physices elementa mathematica, experimentis confirmata. Sive Introductio ad Philosophiam Newtonianam*. Leidae [Leiden]: Apud Johannen Arnoldum Langereak, Johannem et Hermannum Verbeek, 1742. ¶ Two volumes. 4to. (250 x 192 mm) [4], LXXXVI, [2], 572; [2], (573)-1073, [43] pp. Title-page in red and black, 126 (of 127) folding engraved plates; marginal water-stain in both volumes, plate XXI torn with loss, plate LIII missing, margins of a few plates reinforced, as well as the title for vol. I. Contemporary full calf, raised bands, gilt-ruled spines, gilt-stamped red leather spine labels; neatly rebacked, kozo applied to outer joints. Bookplates of the Academy of Natural Sciences, Philadelphia, gift to the California Academy of Sciences, "After the Earthquake and Fire of April, 1906", ink signatures of Isaac Hays, MD on title-pages. Very good (note: lacking pl. LIII). [S14093]

$ 750

Third edition of 'sGravedande's extensive experimentation and instruction in Newtonian physics. The experiments range from basics physics, to hydraulics, optics, electricity and astronomy. The entire work is profusely illustrated with folding engraved plates of the apparatus he used, including a steam-powered Hero's Engine (plate 78), generating static electricity (plate 79), the first magic lantern slide projector (plate 109), the prismatic effect of a rainbow (plate 120) and the known solar system (plate 122). 'sGravesande "… is the author of *Elemens de physique demontrez mathematiquement… ou introduction a la philosophie Newtonienne* which was translated from the Latin and published at Leyden in 1746. In the second

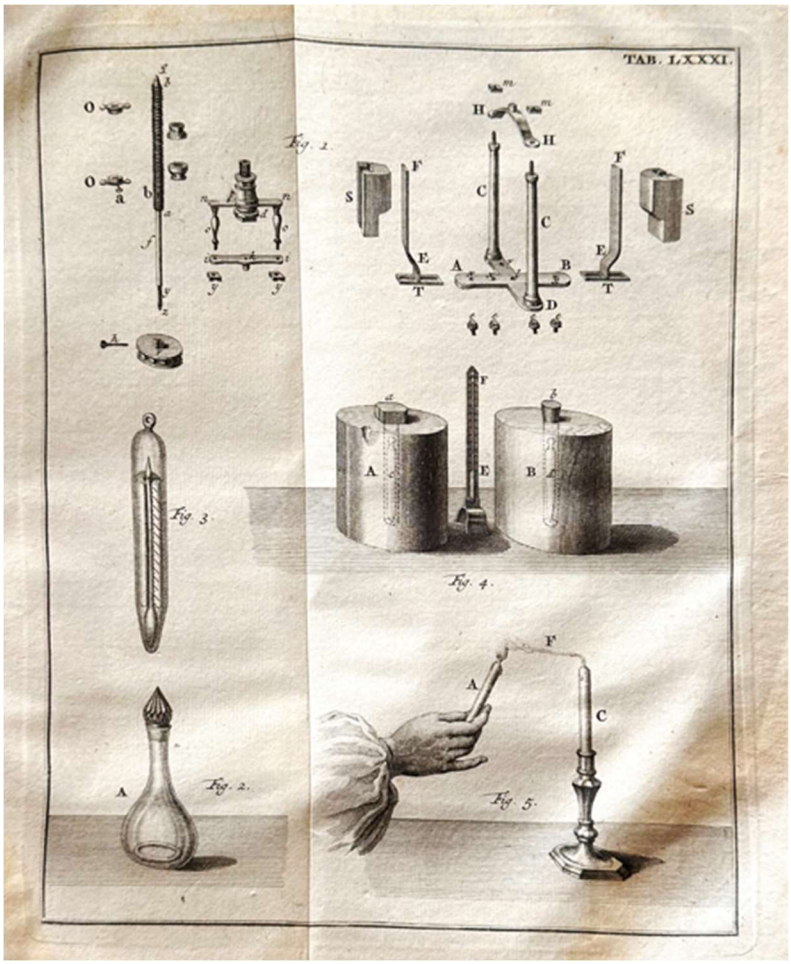
volume, he gives a description of an electrical machine constructed on the plan of that of Hauksbee. It consisted merely of a crystal globe, which was mounted upon a copper stand, and against which was pressed the hand of the operator while it was made to revolve rapidly by means of a large wheel." [Mottelay].

"The scientific reputation of 'sGravesande is enshrined in this book, which he constantly corrected and amplified in later editions" – *DSB*.



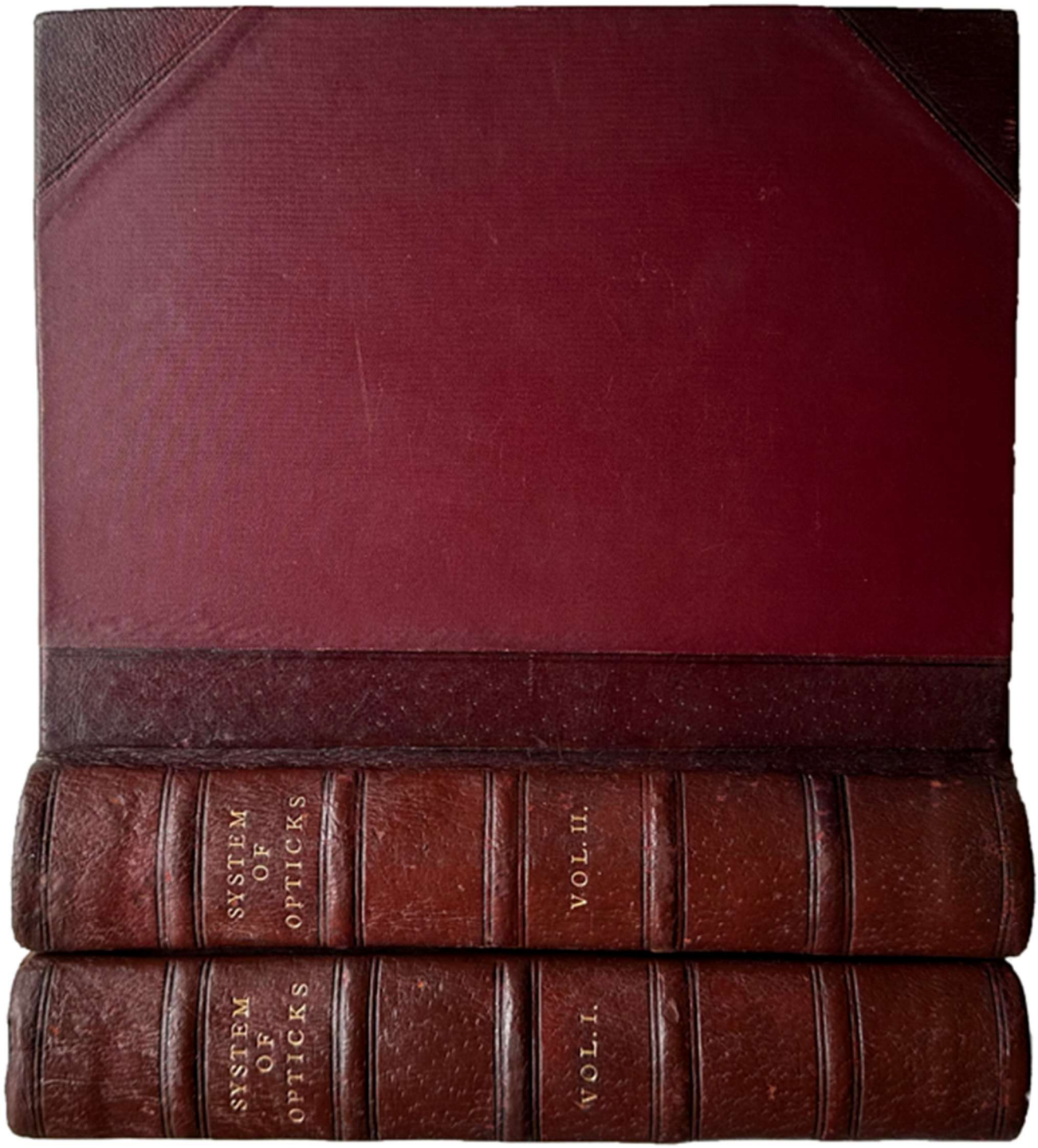
Willem Jacob 'sGravesande was a Dutch philosopher and mathematician. Born in 's-Hertogenbosch, he studied law in Leiden, and wrote a thesis on suicide. In 1715 he visited London and King George I. He became a member of the Royal Society. In 1717 he became professor in physics and astronomy in Leiden, and introduced the works of his friend Newton in the Netherlands. He was opposed against fatalists like Hobbes and Spinoza. In 1724 Peter the Great offered him a job in Saint Petersburg, but Willem Jacob did not accept. His main work is *Physices elementa mathematica, experimentis confirmata, sive introductio ad philosophiam Newtonianam or Mathematical Elements of Natural Philosophy, Confirm'd by Experiments* (Leiden 1720), in

which he laid the foundations for teaching physics. Voltaire and Albrecht von Haller were in his audience, Frederic the Great invited him in 1737 to come to Berlin. His chief contribution to physics involved an experiment in which brass balls were dropped with varying velocity onto a soft clay surface. His results were that a ball with twice the velocity of another would leave an indentation four times as deep, that three times the velocity yielded nine times the depth, and so on. He shared these results with Émilie du Châtelet, who subsequently corrected Newton's formula E = mv to E = mv2. The oldest magic lantern, as far as we know, is located in Leiden, the Netherlands, in the Museum Boerhaave. The projector was made about 1720 by the Dutch instrument maker Jan van Musschenbroek and was once the property of Willem Jacob 'sGravesande, professor of physics at the University of Leiden. After his death in 1742 the university bought with foresight his whole collection. The purchase price of the projection lantern was one hundred guilders. By this purchase the Leids Fysisch Kabinet (Physical Cabinet, Leiden) got the best and most complete collection of scientific instruments in the world. About 250 objects from this Cabinet, among them the magic lantern, have been preserved. Together they form one of the most important collections of the Museum Boerhaave. [Website: de Luikerwaal de nederlandse taverlaantarn].

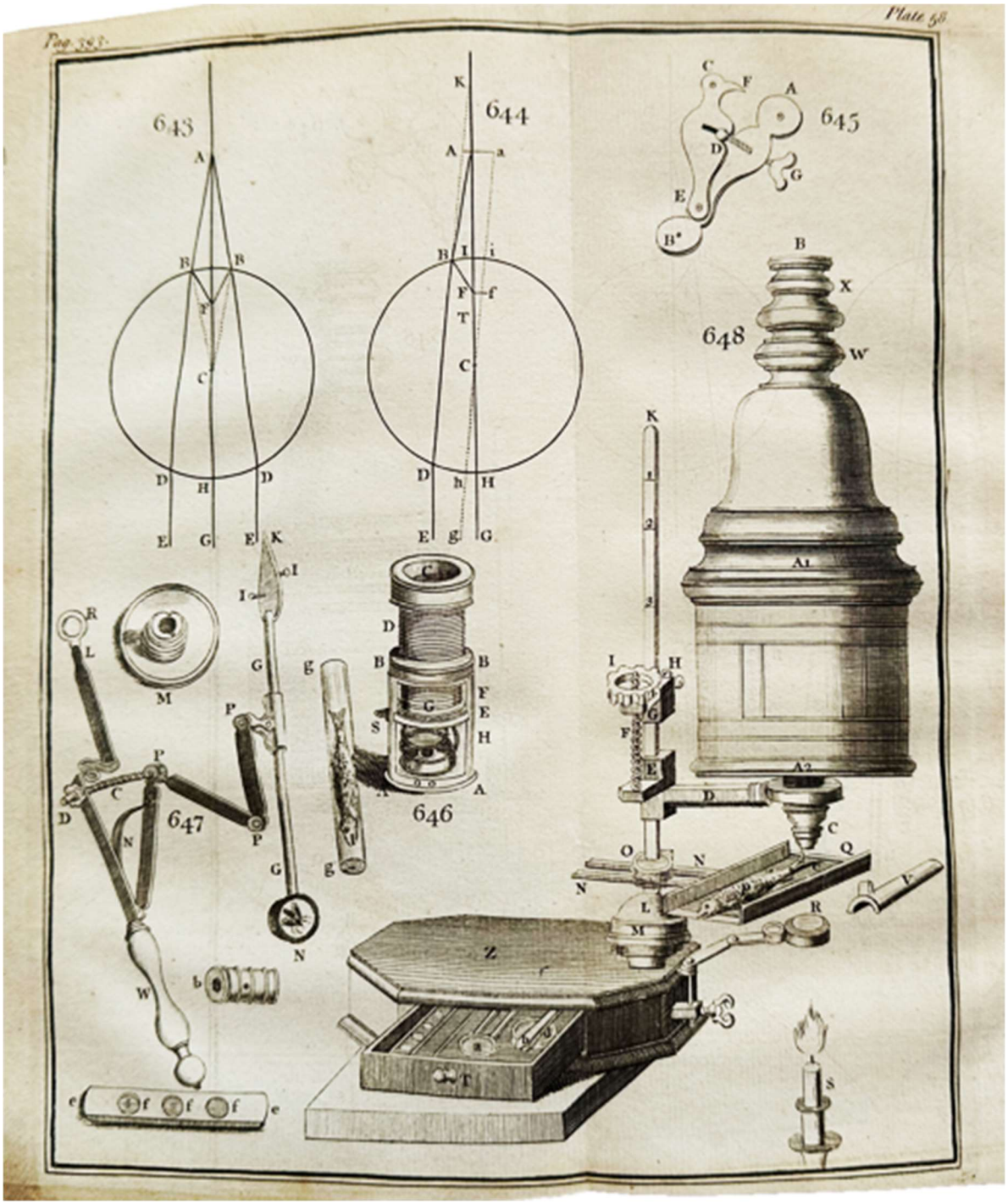


PROVENANCE: Isaac Hays, MD (1796-1879), a prominent American ophthalmologist, naturalist, he was "A founding member of the American Medical Association, and the first president of the Philadelphia Ophthalmological Society, Hays published the first study of non-congenital colorblindness and the first case of astigmatism in America. He was editor or co-editor of *The American Journal of the Medical Sciences* for over 50 years." [Wikip.]; Academy of Natural Sciences, Philadelphia [gift to]: the California Academy of Sciences, 1906; collection of Alan de Haas [not signed or marked].

□ Babson 70; *DSB* V, p. 510; Mottelay p. 181.



54 SMITH *Opticks*

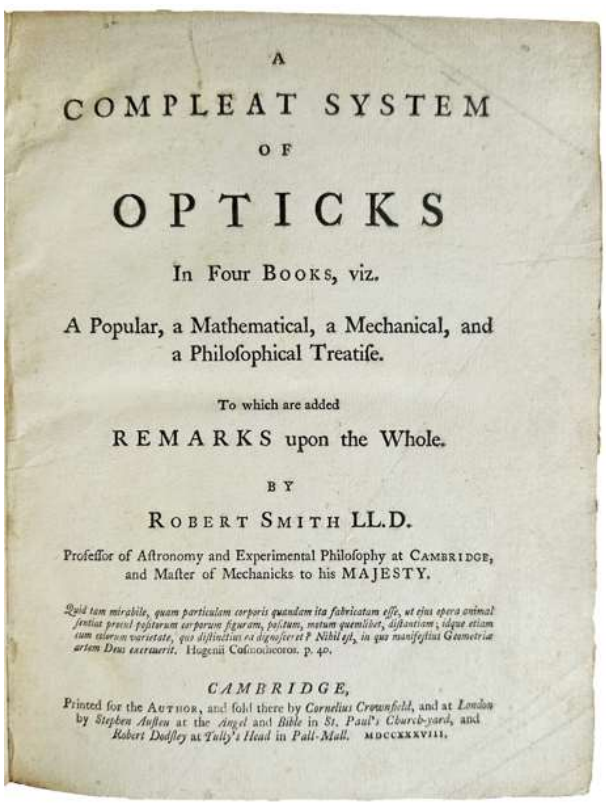


54. **SMITH, Robert** (1689-1768). *A Compleat System of Opticks in four books, viz. A Popular, a Mathematical, a Mechanical, and a Philosophical Treatise. To which are added remarks upon the whole. By Robert Smith LL. D. Professor of Astronomy and Experimental Philosophy at Cambridge, and Master of Mechanicks to his Majesty*. Cambridge: Printed for the Author, . . . by Cornelius Crownfield, etc., 1738. ¶ 2 volumes (containing 4 books). [6], vi, [8], 280; [2], 281-455, [1], 171, [17] pp. 83 folding engraved plates (numbered 1-63; 1-20), errata; note: PLATE VI is an early manuscript replacement – neatly executed

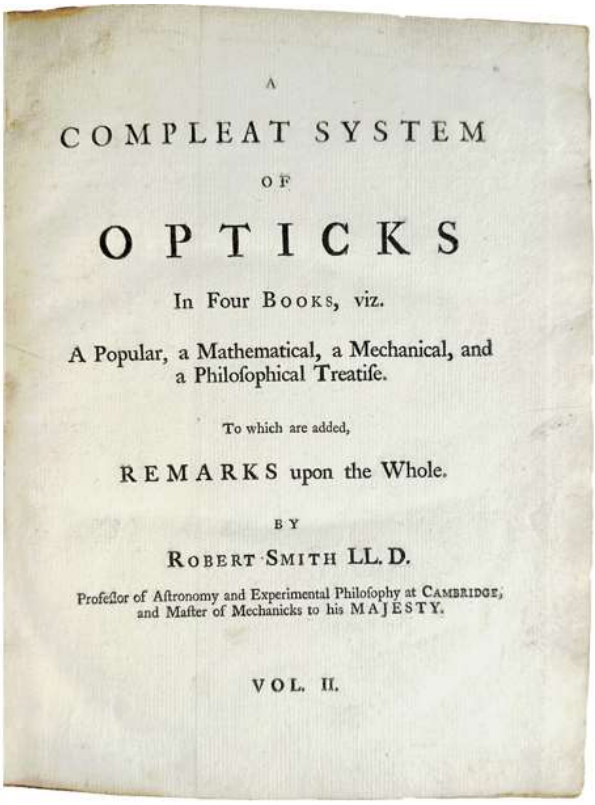
– of the original plate, some margins perforated (see for example pages 17-42 and further), the upper margin is closely trimmed throughout. Contents: I: Lead title, Dedication, Preface, List of Subscribers; II: added title, The Author's Remarks upon the Whole Work (113 pp.), Dr. Jurin's Essay upon Distinct and Indistinct Vision (171 pp.), index, advertisements, Book-binder instructions. Later (nineteenth or early twentieth century) half maroon calf, maroon cloth sides, bands tooled with black outlines, gilt-spine titles; vol. I spine head neatly mended. Ownership signatures of Charles S. Bird, [1820?]. Very good (noting pl. VI).

$ 1,500

First edition. Robert Smith's *A Compleat System of Opticks* (1738) "was the most prominent eighteenth-century text-book account of Newton's optics. By rearranging the findings and conclusions of *Opticks*, it made them accessible to a wider public and at the same time refashioned Newton's optics into a renewed science of optics. In this process, the optical parts of *Principia* were integrated, thus blending the experimental inferences and mechanistic hypotheses that Newton had carefully separated. *The Compleat System* was not isolated in its refashioning of Newton's optics." – Dijksterhuis.



A
COMPLEAT SYSTEM
OF
OPTICKS
In Four Books, viz.
A Popular, a Mathematical, a Mechanical, and a Philosophical Treatise.
To which are added
REMARKS upon the Whole.
BY
ROBERT SMITH LL.D.
Professor of Astronomy and Experimental Philosophy at CAMBRIDGE, and Master of Mechanicks to his MAJESTY.
Quid tam mirabile, quam particulam corporis quandam ita fabricatam esse, ut ejus opera animal sentiat præcel pofturum corporum figuram, politum, motum quemlibet, diftantiam; idque etiam cum aliorum varietate, quo diftinctius ea dignofcer et? Nihil eft, in quo manifeftius Geometriæ artem Deus exercuerit. Hugenii Cofmotheoros. p. 40.
CAMBRIDGE,
Printed for the AUTHOR, and fold there by *Cornelius Crownfield*, and at *London* by *Stephen Auften* at the *Angel* and *Bible* in *St. Paul's Church-yard*, and *Robert Dodfley* at *Tully's Head* in *Pall-Mall*. MDCCXXVIII.



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VOL. II.

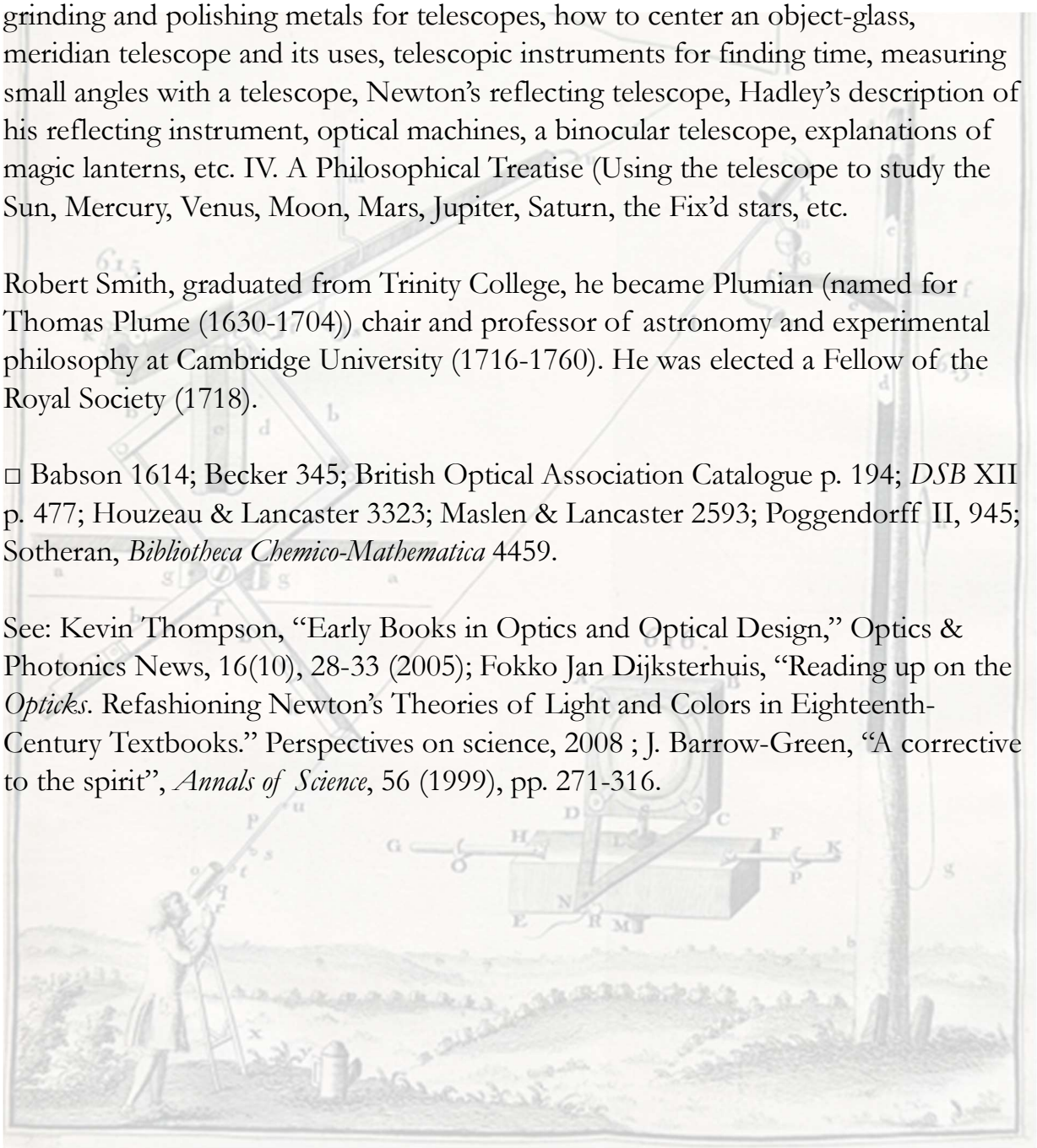
"Largely based on Newton. Greatly stimulated the construction of optical apparatus and is the most helpful historical treatise on light of its time" – Babson 1614.

The work is divided into four books: I. A Popular Treatise (of light, glasses, the eye, vision, sight, refraction, reflection, inflection, emission of light, transparency, & colors in bodies). II. A Mathematical Treatise (various applications relating to rays, how to determine distance, magnitude, situation, etc., on the refracting or reflecting telescope, properties of focus, concerning the rainbow, the corona and parhelia, how to determine apparent shapes, of microscopes). III. A Mechanical Treatise (methods of grinding and polishing glasses for telescopes, methods of casting, grinding and polishing metals for telescopes, how to center an object-glass, meridian telescope and its uses, telescopic instruments for finding time, measuring small angles with a telescope, Newton's reflecting telescope, Hadley's description of his reflecting instrument, optical machines, a binocular telescope, explanations of magic lanterns, etc. IV. A Philosophical Treatise (Using the telescope to study the Sun, Mercury, Venus, Moon, Mars, Jupiter, Saturn, the Fix'd stars, etc.

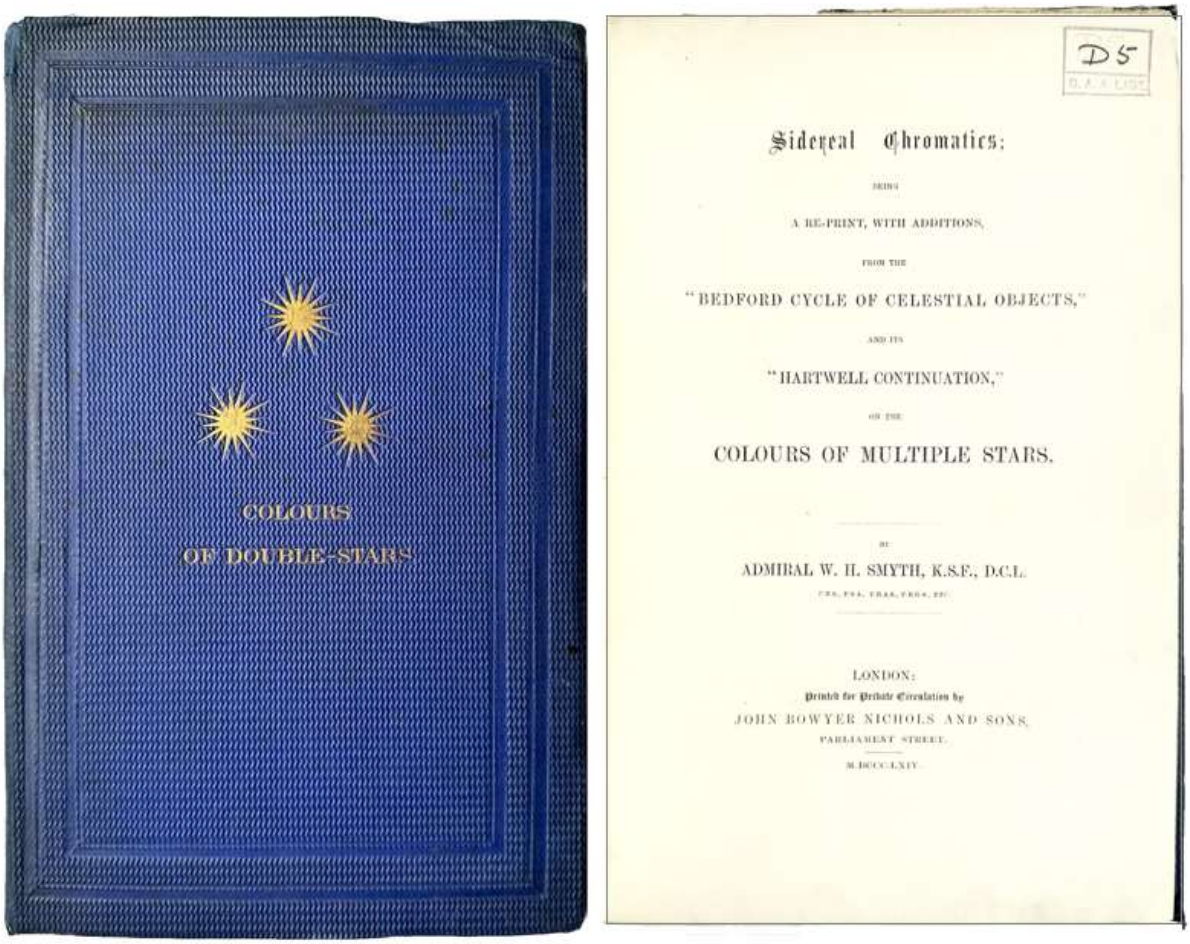
Robert Smith, graduated from Trinity College, he became Plumian (named for Thomas Plume (1630-1704)) chair and professor of astronomy and experimental philosophy at Cambridge University (1716-1760). He was elected a Fellow of the Royal Society (1718).

□ Babson 1614; Becker 345; British Optical Association Catalogue p. 194; *DSB* XII p. 477; Houzeau & Lancaster 3323; Maslen & Lancaster 2593; Poggendorff II, 945; Sotheran, *Bibliotheca Chemico-Mathematica* 4459.

See: Kevin Thompson, "Early Books in Optics and Optical Design," Optics & Photonics News, 16(10), 28-33 (2005); Fokko Jan Dijksterhuis, "Reading up on the *Opticks*. Refashioning Newton's Theories of Light and Colors in Eighteenth-Century Textbooks." Perspectives on science, 2008 ; J. Barrow-Green, "A corrective to the spirit", *Annals of Science*, 56 (1999), pp. 271-316.



[55] SMYTH



Mary Ashley's copy

55. **SMYTH, Admiral William Henry,** KFM DCL FRS FSA FRAS FRGS (1788-1865). *Sidereal Chromatics: being a re-print, with additions, from the "Bedford Cycle of Celestial Objects," and its "Hartwell Continuation," on the Colours of Multiple Stars*. London: John Bowyer Nichols and Sons, 1864. ¶ Tall 8vo. ix, 14-96 pp. 1 hand-colored plate, diagrams, tables. Original lavender-blue embossed cloth binding, with three gilt stars and gilt tile on upper cover, original yellow endsheets; inner joints reinforced with white kozo, spine ends also neatly repaired with kozo and toned to match. PROVENANCE: Mary Ashley B.A.A. Library [British Astronomical Association Library, their rubber-stamp]; Henry C. King 25/2/38. Very good copy.

$ 450

First edition of Admiral William Henry Smyth's *Sidereal Chromatics* (1864), a classic in the field of the physical properties of stars, here he presents the most precise analysis of the colours of double stars recorded to his time.

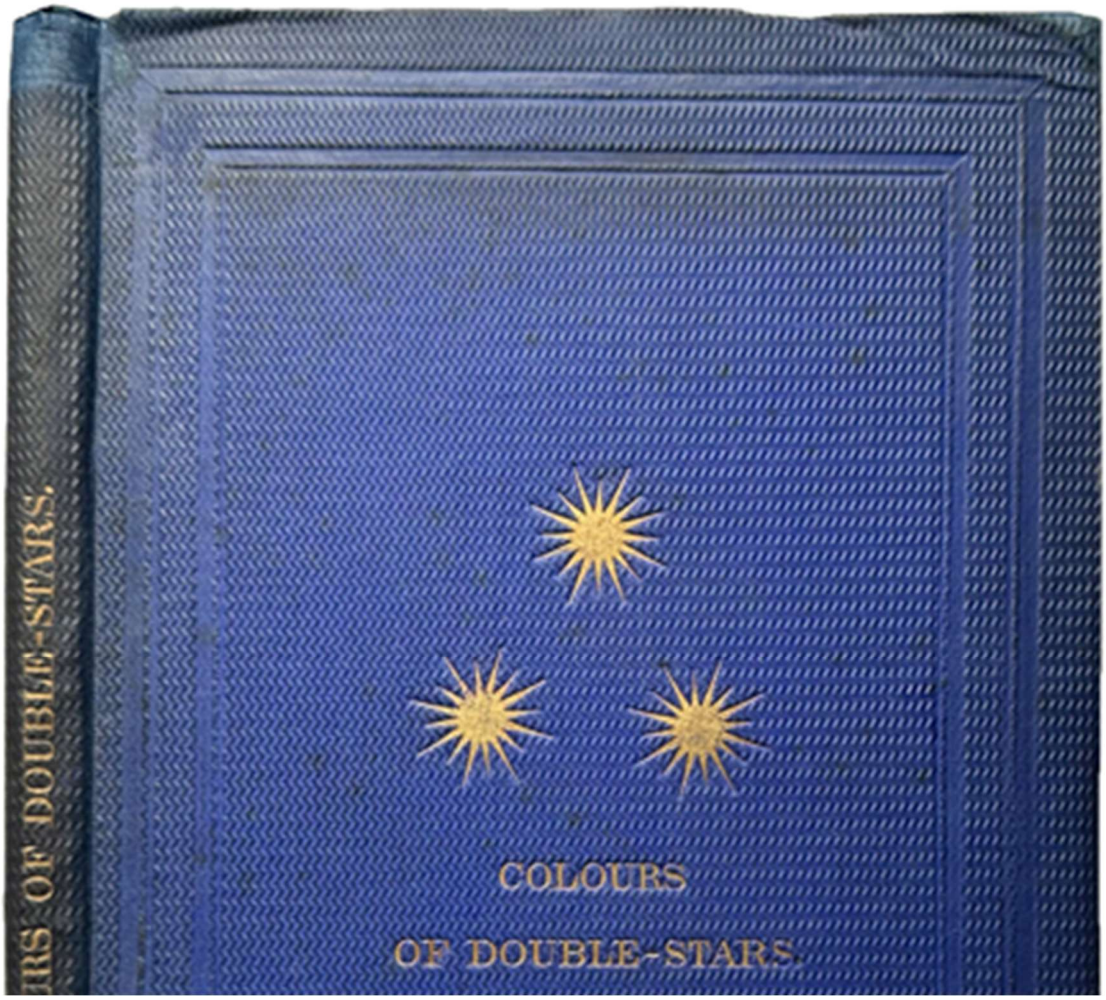
"We know that Sestini corresponded with Admiral Smyth in England, who recorded numerous references to the colours of double stars in his *Cycle of Celestial Objects* in 1844. Smyth's later work under the title *Sidereal Chromatics* of 1864 was a landmark in the early development of the subject. It was a book that not only compared observations of the colours of double stars by Smyth and Sestini, but also gave a colour chart (resembling the modern pamphlets from paint manufacturers!) reproducing standard tints and shades. Smyth recognized a sequence of red, orange, yellow, green, blue and purple and each colour was further divided into four shades from bright to pale, giving a two-dimensional array of standard colours. However, simultaneous observation of the chart and a star through the telescope was not practicable. The problems of chart illumination, the need for dark adaption of the eye and the errors arising from the use of charts have been discussed by William Pickering, who himself had attempted to use a 12-point colour scale." – J. B. Hearnshaw, *The measurement of starlight: two centuries of astronomical photometry,* 1996 (p.42).

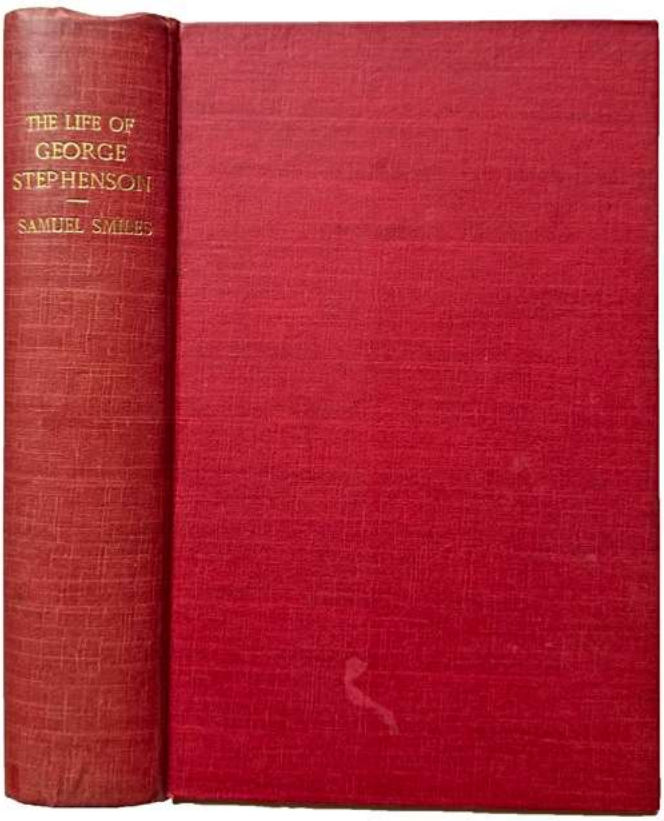
Contents: PART I - A re-print, with additions, of the remarks on the Colours of Double Stars contained in the third chapter of the CYCLE OF CELESTIAL OBJECTS, under the title of "A Glance at the Sidereal Heavens." PART II - The Colours of Double Stars continued: being a re-print of the seventh chapter of the SPECULUM HARTWELLIANUM, with additions, and a proposed Diagram of Colours. APPENDIX. I - The instance of the Double Star 95 Herculis, and its marked Variations in colour completely proved. II - The Colours of Double Stars as affected by the anomalies of rays arising from the tremors—and other effects—of the atmosphere. Postscript. Index.

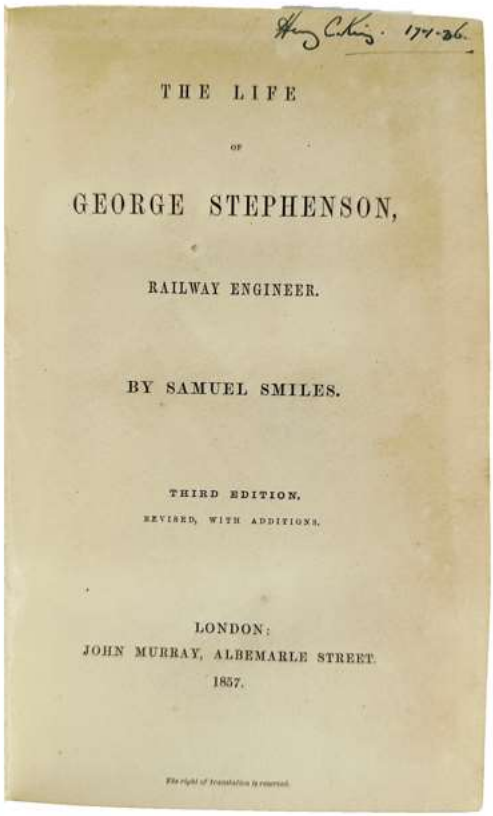
PROVENANCE [3 prior owners]: [1] Mary Ashley (1843-1903), born Shirehampton, Gloucestershire. Lived at 19, New King Street, Bath, just along the road from Herschel's house. A self-taught astronomer, she was an active observer of the Moon and Jupiter, keeping a notebook, in particular during the 1870s and 1880s, using 3 1/4-inch and 4-inch Wray refractors. It is not known if she had an observatory. She was a member of the Selenographical Society (with contributions by her on lunar observations published in the *Selenographical Journal*) and of the Liverpool Astronomical Society in 1884. See: Anthony Kinder, *Another Victorian lady astronomer*, JBAA, 108, [6], 1998, p. 338. [See: A. J. Kinder, "Letter to the Editor: Another Victorian Lady Astronomer," *Journal of the British Astronomical Association*, 108 [1998], p.338]. Her books and manuscripts must have been given or acquired by the [2] British Astronomical Association. This item is marked "reject" next to the library marking. [3] Henry C. King (1915-2005) – he signed the book in 1938 likely the date he acquired the book. In the 1950s he was Senior Lecturer in

Ophthalmic Optics at Northampton College of Advanced Technology, (now City, University of London). In 1956, he became the first Scientific Director of the London Planetarium. Ten years later, he became Director of the McLaughlin Planetarium, Toronto. He was President of the British Astronomical Association from 1958-60. He is famous for his expertise in the history of astronomy and of the telescope. He was the author of numerous books and papers in the history of astronomy, these include: *The History of the Telescope* (1955), *The World of the Moon* (1966, 1967). He co-authored, with John R. Millburn, *Wheelwright of the Heavens: The Life and Work of James Ferguson, FRS*, (1988), *Geared to the Stars: the evolution of planetariums, orreries, and astronomical clocks* (1978). See: King, David A, "Henry C. King (1915 - 2005)", *Journal for the History of Astronomy*, Vol. 38, Part 4, No. 133, p. 526 - 527 (2007).

See: N Brosch, N Brosch, *Sirius Matters*, Springer, 2008, "Approaching modern times."; J.B. Hearnshaw, *The measurement of starlight: two centuries of astronomical photometry*, 1996. Mary Brück, *Stars and satellites women in early British and Irish astronomy*, Springer, 2009.





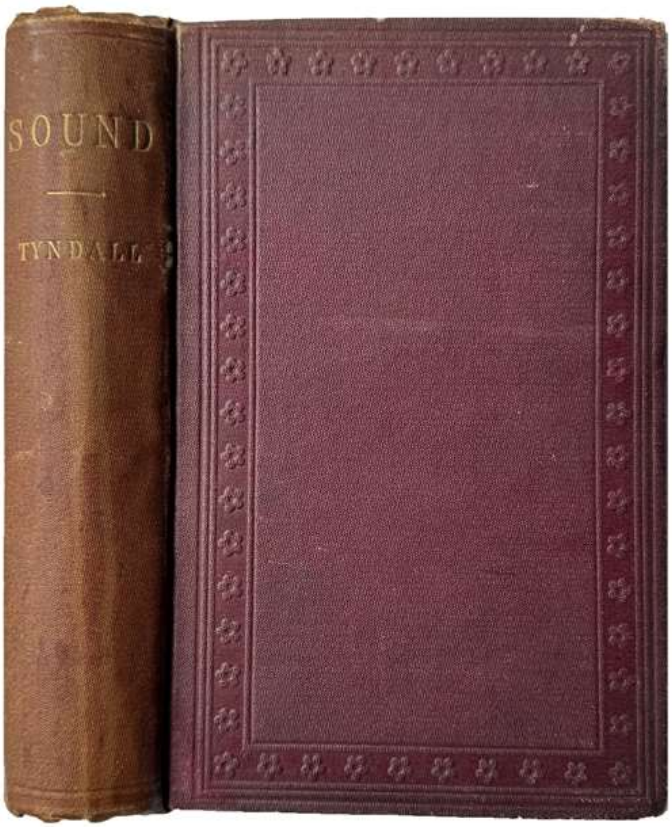


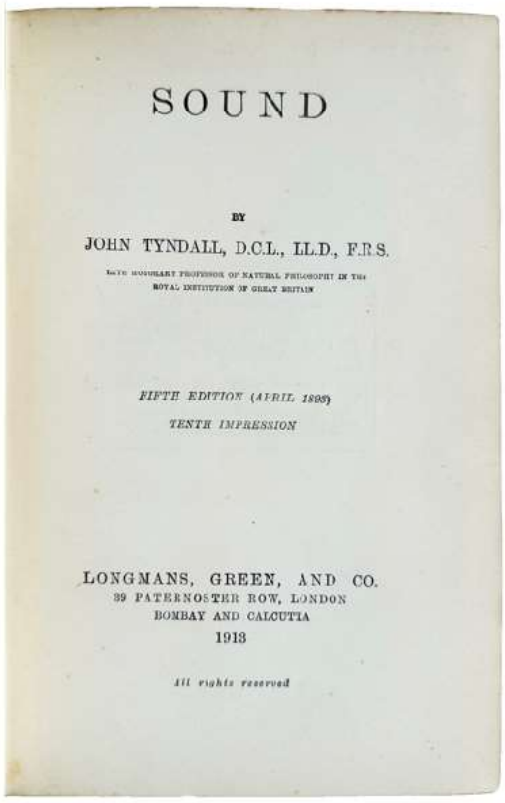
56. [**STEPHENSON, George** (1781-1848)] **SMILES, Samuel** (1812-1904). *The Life of George Stephenson, railway engineer.* London: John Murray, 1857. ¶ 8vo. xvi, 546 pp. Frontispiece portrait; thin waterstain along the upper edge (showing on the frontis., the edges, but not showing in the text block itself – thankfully), a bit of foxing. Later red gilt-stamped cloth. Ownership signature of Henry C. King, 1936.

$ 15

Third edition, revised, with additions.

George Stephenson was an English civil engineer and mechanical engineer during the Industrial Revolution. Renowned as the "Father of Railways", Stephenson was considered by the Victorians as a great example of diligent application and thirst for improvement. His chosen rail gauge, sometimes called "Stephenson gauge", was the basis for the 4-foot-8+1⁄2-inch (1.435 m) standard gauge used by most of the world's railways . . . Built by George and his son Robert's company Robert Stephenson and Company, the Locomotion No. 1 was the first steam locomotive to carry passengers on a public rail line, the Stockton and Darlington Railway in 1825. George also built the first public inter-city railway line in the world to use locomotives, the Liverpool and Manchester Railway, which opened in 1830. – Wikip.





SOUND

BY

JOHN TYNDALL, D.C.L., LL.D., F.R.S.

FIFTH EDITION (APRIL 1893)

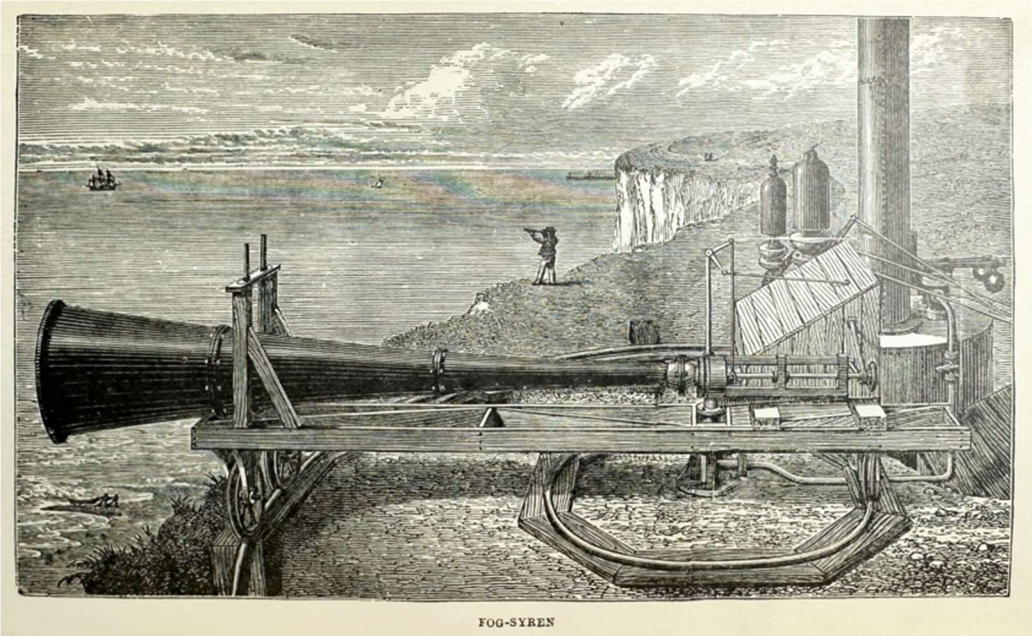
TENTH IMPRESSION

LONGMANS, GREEN, AND CO.
39 PATERNOSTER ROW, LONDON
BOMBAY AND CALCUTTA
1913

57. **TYNDALL, John** (1820-1893). *Sound*. London: Longmans, Green, 1913. ¶ 8vo. xv, [1], 464 pp. Frontispiece, 200 figs., the appendix containing 4 more figs., index. Original burgundy blind- and gilt-stamped cloth; extremities worn and faded, textblock shaken. Rather a working copy.

$ 5

Fifth edition (April 1893) tenth impression.



FOG-SYREN

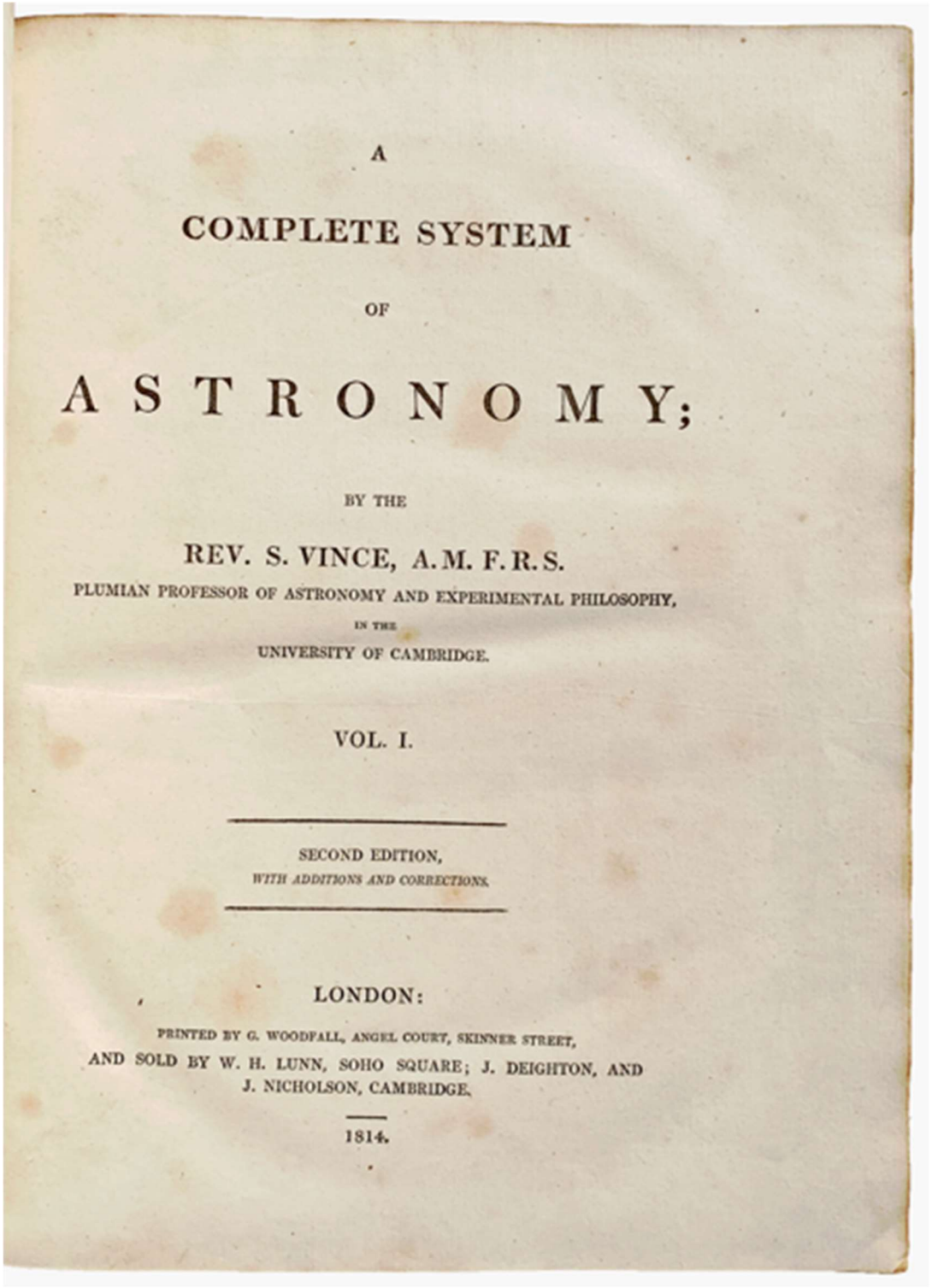
58. **VINCE, Samuel**. A *Complete System of Astronomy*. London: G. Woodfall for W. H. Lunn et al., 1814-23. ¶ 3 volumes. 4to. 270x215 mm. viii, 571, [1]; xii, 554, [2]; [4], 114, 441, [1] pp. 19 folding engraved plates, index, errata and addenda. Contemporary calf, rebacked; preliminaries and plates foxed. Very good +. S13808

$ 425

Second edition of a work originally published in 1797-1808. Some of the elements found within this work are: of time, length of a year, on Parallax, Refraction, System of the World, Kepler's discoveries, motion of a body, oppositions and conjunctions of the planets, mean motions of the planets, rotation of the Sun, Moon, planets, On the Satellites, the rings of Saturn, pm the aberration of light, solar eclipses, the transits of Mercury, of comets, fixed stars, longitude, use of globes, the division of time, the theory of the Moon and Earth, Equinoxes, "On the Motion of the Planes of the Orbits of the Planets, from their mutual Attractions," tides, the history of astronomy, followed by a wide selection of tables

recording measurements for all aspects of astronomical physical science. The third volume is entirely devoted to tables relating to objects in the Solar System, including the planets, Moon, Sun, and satellites.

□ *DNB*; Houzeau & Lancaster 9270.



A

COMPLETE SYSTEM

OF

ASTRONOMY;

BY THE

REV. S. VINCE, A.M. F.R.S.

PLUMIAN PROFESSOR OF ASTRONOMY AND EXPERIMENTAL PHILOSOPHY,

IN THE

UNIVERSITY OF CAMBRIDGE.

VOL. I.

SECOND EDITION,

WITH ADDITIONS AND CORRECTIONS.

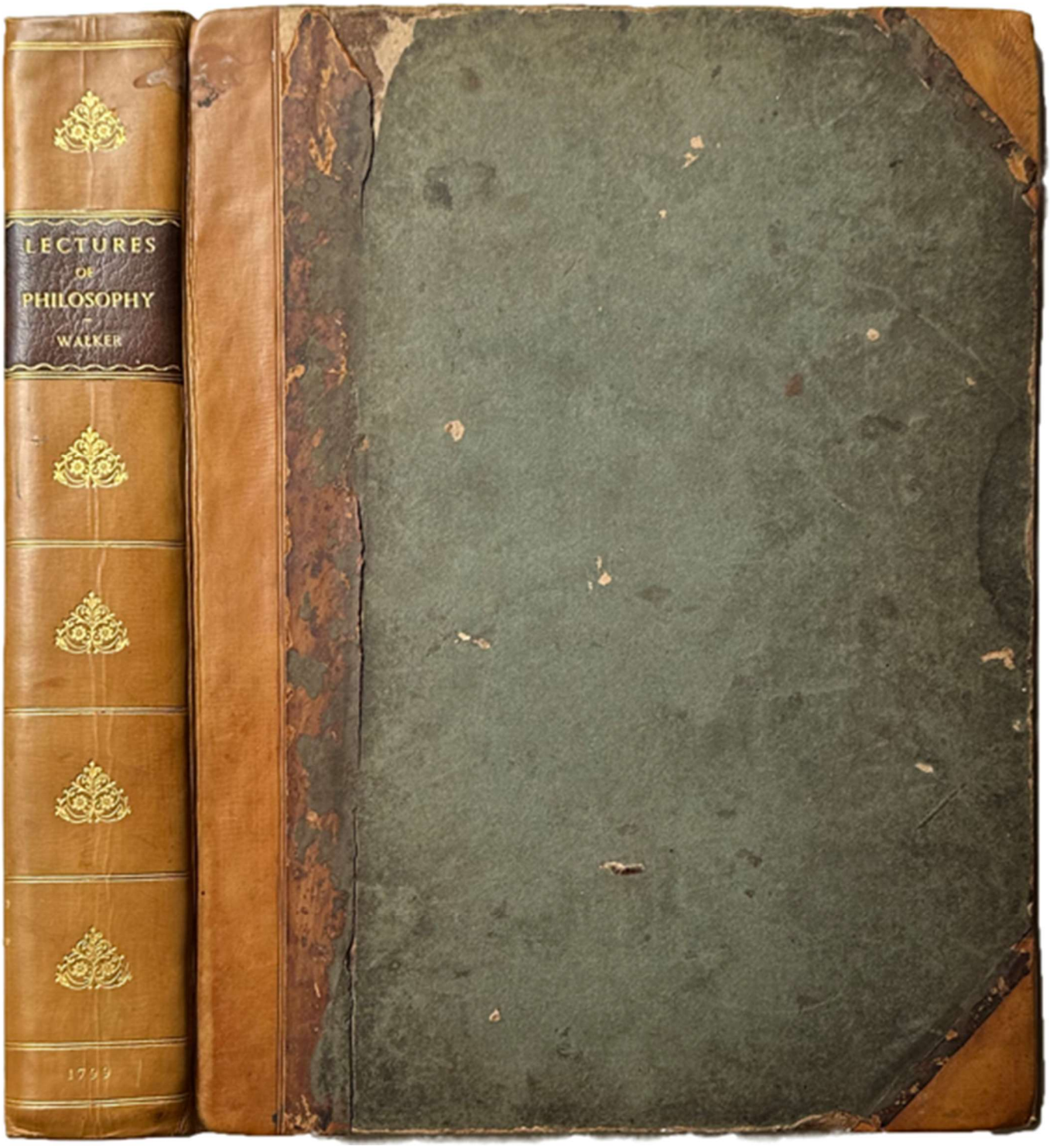
LONDON:

PRINTED BY G. WOODFALL, ANGEL COURT, SKINNER STREET,

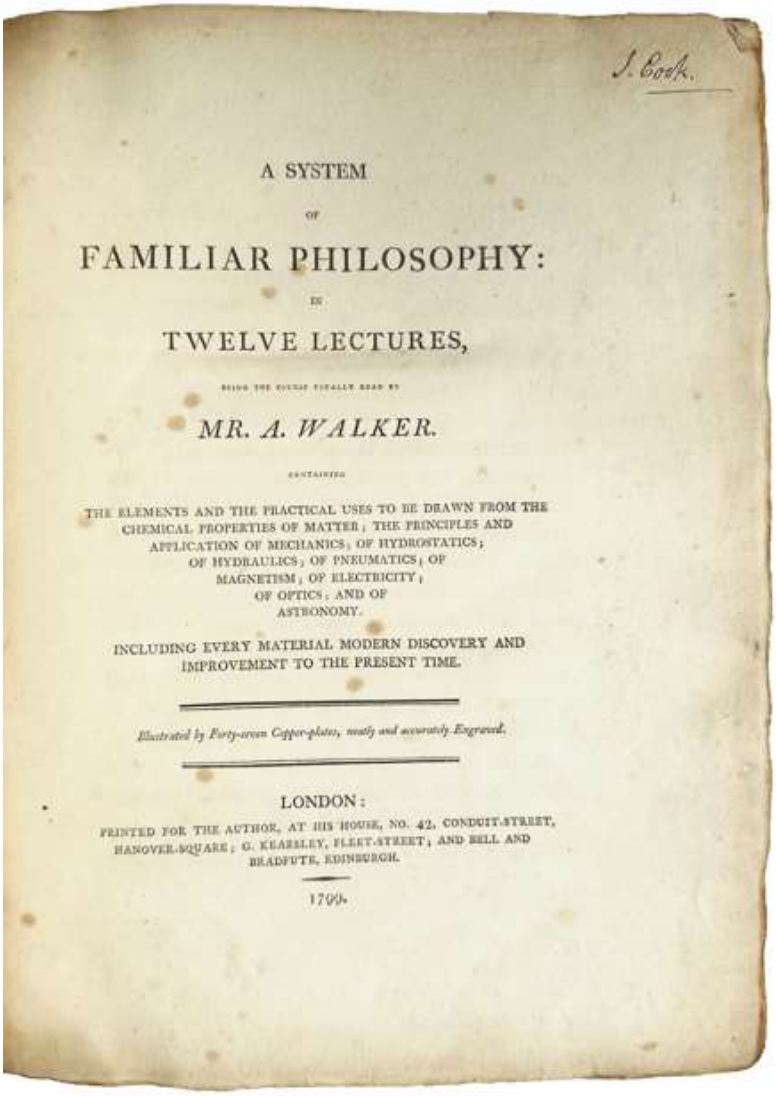
AND SOLD BY W. H. LUNN, SOHO SQUARE; J. DEIGHTON, AND J. NICHOLSON, CAMBRIDGE.

1814.

[58]



[59] WALKER



A SYSTEM

OF

FAMILIAR PHILOSOPHY:

IN

TWELVE LECTURES,

FROM THE NOTES USUALLY READ BY

MR. A. WALKER.

CONTAINING

THE ELEMENTS AND THE PRACTICAL USES TO BE DRAWN FROM THE CHEMICAL PROPERTIES OF MATTER; THE PRINCIPLES AND APPLICATION OF MECHANICS; OF HYDROSTATICS; OF HYDRAULICS; OF PNEUMATICS; OF MAGNETISM; OF ELECTRICITY; OF OPTICS; AND OF ASTRONOMY.

INCLUDING EVERY MATERIAL MODERN DISCOVERY AND IMPROVEMENT TO THE PRESENT TIME.

Illustrated by Forty-seven Copper-plates, neatly and accurately Engraved.

LONDON:

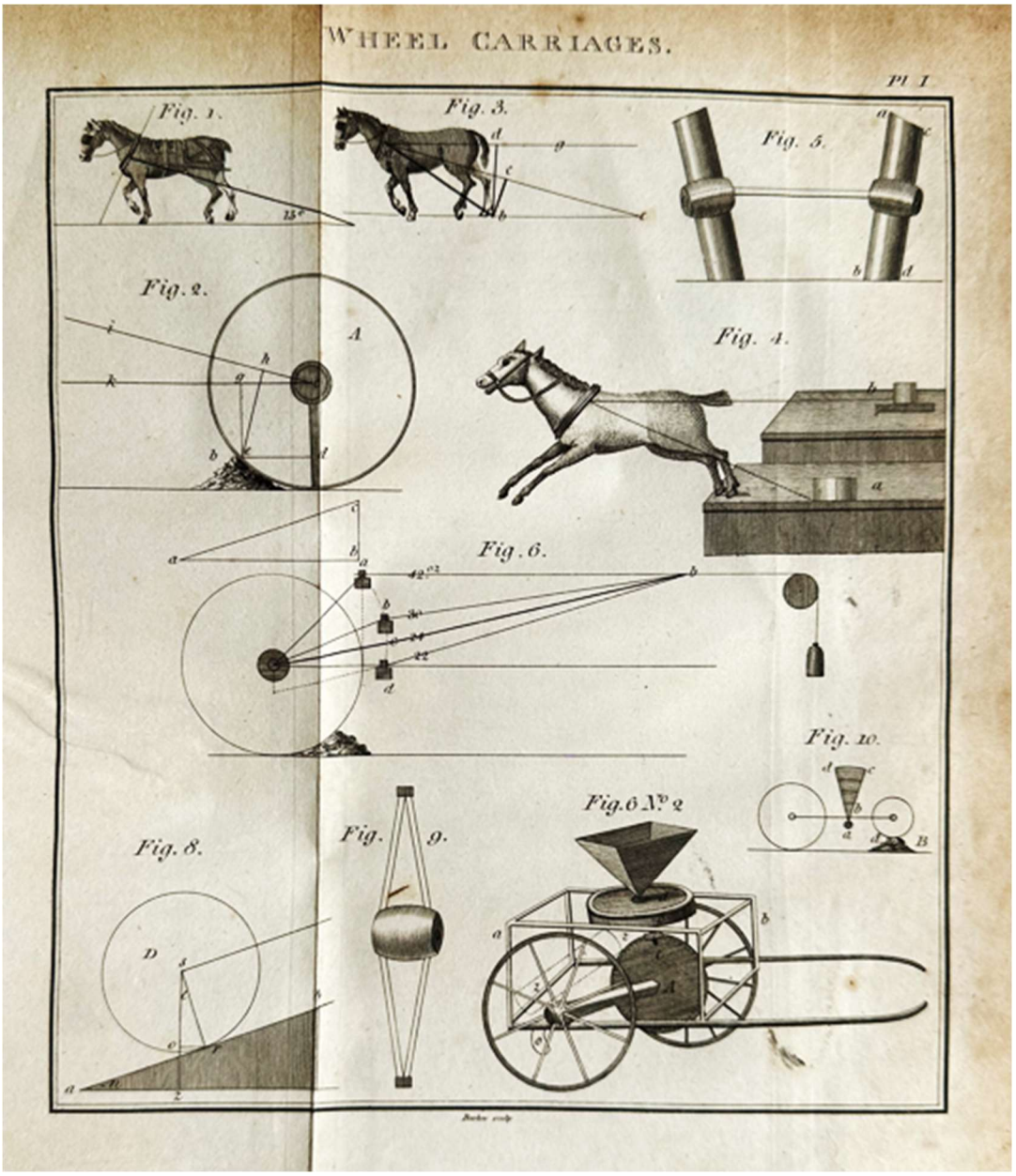
PRINTED FOR THE AUTHOR, AT HIS HOUSE, NO. 42, CONDUIT-STREET, HANOVER-SQUARE; G. KEARSLEY, FLEET-STREET; AND BELL AND BRADFUTE, EDINBURGH.

1799.

59. **WALKER, Adam** (1730/31-1821). *A System of Familiar Philosophy: in Twelve Lectures, being the course usually read by Mr. A. Walker, containing The Elements and the Practical Uses to be from the chemical properties of matter; the principles and application of mechanics; of hydrostatics; of hydraulics: of pneumatics; of magnetism; of electricity; of optics; and of astronomy. Including every material modern discovery and improvement to the present time*. London: Printed for the author, at his house; G. Kearsley. Edinburgh: Bell and Bradfute, 1799. ¶ 4to. [iii]-xviii, 571 pp. 47 copper-plates (many folding), errata, list of subscribers, index; foxed, lacks half-title. Original boards, with original calf replaced with recent half-calf, gilt-stamped spine, brown spine label. Edges unevenly trimmed. PROVENANCE: J. Cook (early signature, corner of title-page; note – his name is not among those on the subscriber's list). Very good.

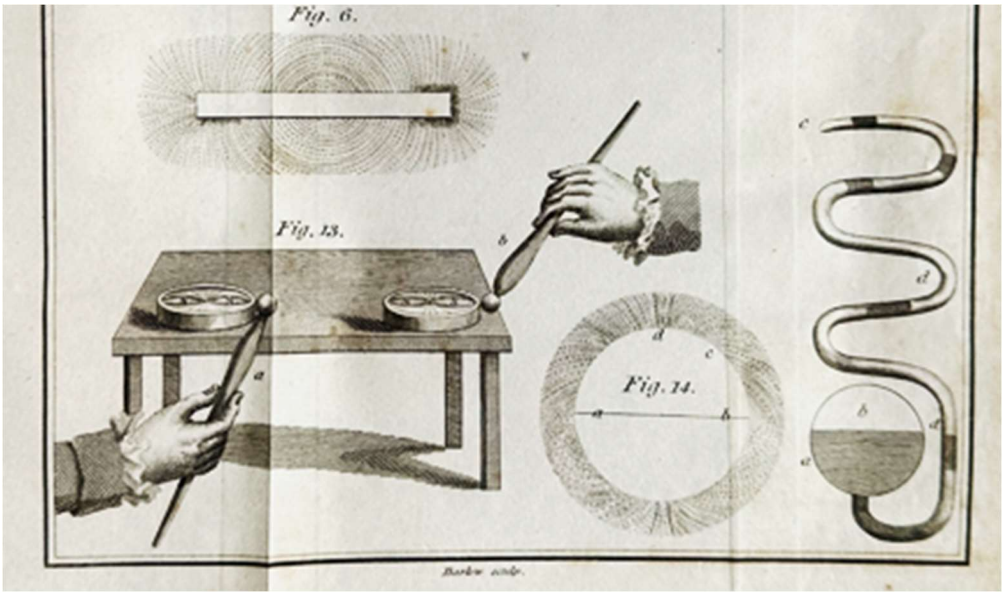
$ 600

First edition. The arrangement of the book follows what the author describes as 12 lectures (chapters), including: I. System of Nature. II. Particle of Matter, their minuteness, hardness, extension, divisibility, inertia, and cohesion, and on magnetism. III. Mechanics. IV. On Chemistry. V. On the Atmosphere. VI. Hydrostatics – hydraulics. VII. Electricity. VIII. Electricity continued. IX. Optics. X. Astronomy. XI. On the Moon. XII. Astronomy continued. Walker illustrates Watts new patent steam engine along with a steam engine of his own invention, also an early fire extinguisher.



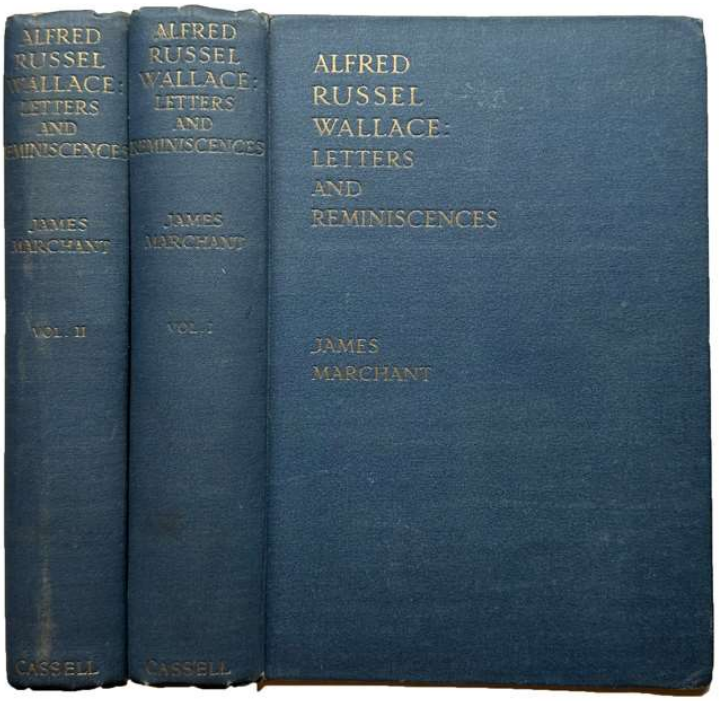
Adam Walker knew Joseph Priestley and through Priestley he began a series of scientific lectures, of which this book reviews these lectures.

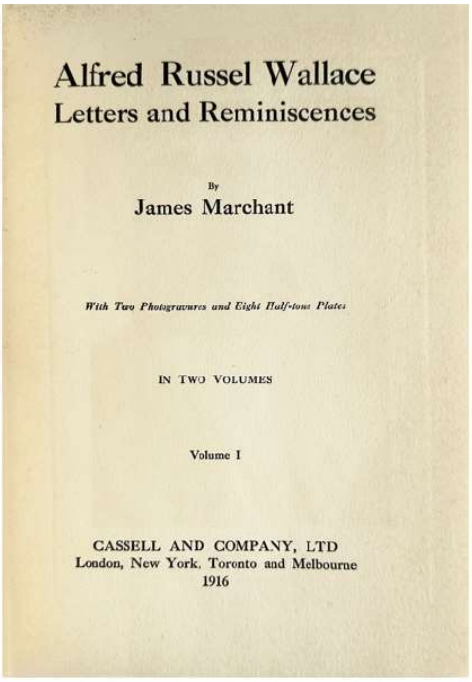
"The work having been written at various times, and in various places, tautology has crept into many parts of it; and I fear some are more condensed than they should be in a system of familiar philosophy. Originality, or the pride of discovery, has not led me beyond the bounds of what I believe to be truth. The identity of fire, light, heat, caloric, phlogiston, and electricity, or rather their being but modifications of one and the same principle as well as their being the grand agents in the order of nature; these are the leading problems of the work; and the parts which have, in a great measure, any pretensions to novelty. They do not militate against the Newtonian system; and are presented to the reader more in the form of queries, than as doctrines fully established: they do not interfere with the elementary part of the work; or influence those conclusions that have been sanctified by time and experience. Whether I am right or wrong in my ideas of them, I doubt not but they will have a fair and candid reading. The theory was not sought, but has obtruded itself through an experience of near forty years: and though it differs in many points from the late received and adopted system of chemistry, my admiration of that simple and elegant system is not at all diminished; I rather lament that its worthy and ingenious founder [Lavoisier] did not live to have perfected so excellent and promising a beginning." – Hmolp.



The subscriber's list is interesting in that it includes a title for most every name, thus it is possible to determine (for example) how many subscribers are men or women (more than a few), doctors or Reverends, booksellers, societies and even a book-club.

See: Jan Golinski, "Sublime Astronomy: The Eidouranion of Adam Walker and his Sons," *Huntington Library Quarterly* | vol. 80, no. 1, 2017. Teddi Chichester Bonca, *Shelley's Mirrors of Love: Narcissism, Sacrifice, and Sorority*, 1999.




Alfred Russel Wallace
Letters and Reminiscences

By
James Marchant

With Two Photogravures and Eight Half-tone Plates

IN TWO VOLUMES

Volume I

CASSELL AND COMPANY, LTD
London, New York, Toronto and Melbourne
1916

60. **WALLACE, Alfred Russel** (1823-1913) ; **MARCHANT, James, Sir** (1867-1956) (editor). *Alfred Russel Wallace – Letters and Reminiscences.* London, etc.: Cassell and Company, Ltd., 1916. ¶ 2 volumes. 8vo. xi, [1], 319, [1]; v, [3], 291, [1] pp. 2 photogravure plates, 8 half-tone plates, index. Original full blue gilt-stamped cloth. Volume I (pages 126-7) with heavy offsetting from a newspaper article – about this very book "Discovering the Evolution Theory – First Publication of the Correspondence Between Alfred Wallace and Charles Darwin . . ." *New York Times, Literary Section,* June 25, 1916. Very good.

$ 250

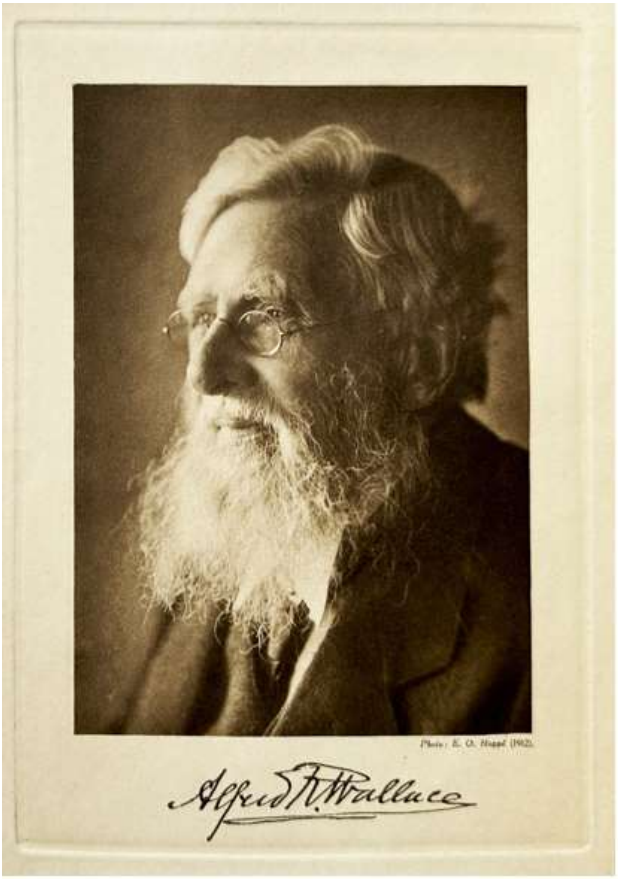
"THESE two volumes consist of a selection from several thousands of letters entrusted to me by the Wallace family and dating from the dawn of Darwinism to the second decade of the twentieth century, supplemented by such biographical particulars and comments as are required for the elucidation of the correspondence and for giving movement and continuity to the whole.

The wealth and variety of Wallace's own correspondence, excluding the large collection of letters which he received from many eminent men and women, and the necessity for somewhat lengthy introductions and many annotations, have expanded the work to two (there was, indeed, enough good material to make four) volumes. The family has given me unstinted confidence in using or rejecting letters and reminiscences, and although I have consulted scientific and literary friends, I alone must be blamed for sin of omission or commission. Nothing has been

suppressed in the unpublished letters, or in any of the letters which appear in these volumes, because there was anything to hide. Everything Wallace wrote, all his private letters, could be published to the world. His life was an open book "no weakness, no contempt, dispraise, or blame, nothing but well and fair."

The profoundly interesting and now historic correspondence between Darwin and Wallace, part of which has already appeared in the "Life and Letters of Charles Darwin" and "More Letters," and part in Wallace's auto biography, entitled "My Life," is here published . . ." – preface.

Rev Sir James Marchant FRSE FLS FRAS KBE LLD "was a British eugenicist, social reformer and author. He was leader of the National Vigilance Association, concerned with social morality, and also the Director of the National Council of Public Morals. He epitomised the view of the priggish Victorian attitude to sex and morality". – Wikip.



Alfred Russel Wallace
Letters and Reminiscences

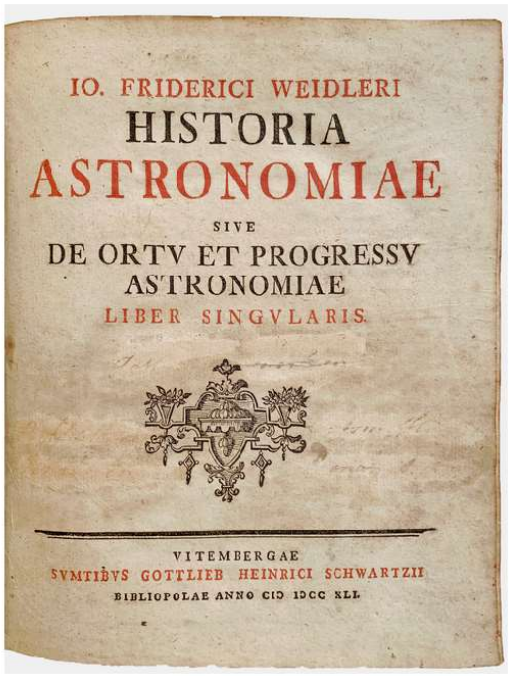
By
James Marchant

With Two Photogravures and Eight Half-tone Plates

IN TWO VOLUMES

Volume II

CASSELL AND COMPANY, LTD
London, New York, Toronto and Melbourne
1916



61. **WEIDLER, Johann Friedrich**. *Historia astronomiae; sive, De ortu et progressu astronomiae, liber singularis*. Wittemberg: (Ephraim Gottlob Eichsfeld for) Gottlieb Heinrich Schwartz, 1741. ¶ Small 4to. 206x167 mm. [24], 624, [40] pp. Woodcut headpiece. Contemporary vellum boards; contents toned with scattered foxing. Previous ownership inscription partly removed from title. From the astronomical library of Martin Charles Gutzwiller (not marked). Rare. S13849

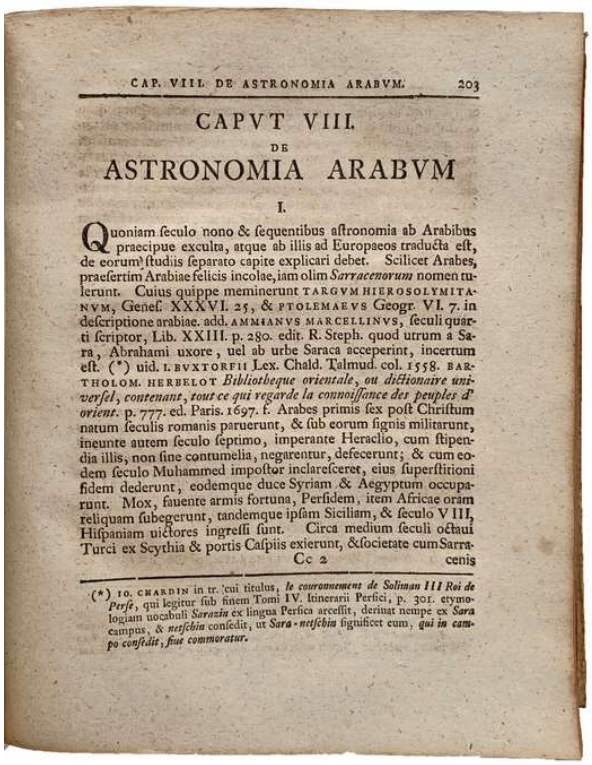
$ 1200

FIRST EDITION of the first comprehensive history of astronomy.

"Weidler's Historia astronomiae sive, De Ortu et Progressu astronomiae, published in 1741, promised to be a more thorough treatment of the history of astronomy, dealing with observations, cosmologies, and astronomical theory as well as giving biographical accounts of astronomers from the beginning og the world down to his own time (the last entry dealing with Christian Ludovic Gersten and the Giessen observatory is dated to 1740). Weidler, a professor of mathematics at Wittenberg University, made astronomical and astro-meteorological observations (mock suns, aurora borealis, etc.) during the last 1720s and the 1730s. In 1732 he was elected to the fellowship of the Royal Society, regularly communicating reports of his observations to its members.

"Weilder's [book] is divided into 16 chapters covering the following topics: (1) the fabulous origins of astronomy, (2) the astronomy of the patriarchs, (3) the Chaldeans and Phoenicians, (4) the ancient Egyptians, (5) the Greeks before the

founding of the 'Alexandrian School', (6) the period from the Alexandrian School to the birth of Christ, (7) the first 8 centuries A.D., (8) the Arabs, (9), the Persians and Tartars, (10) other Orientals (Mongols, Siamese, Chinese, and Americans), (11) the Jews, (12), the middle ages (ninth to fourteenth centuries A.D.), (13) the fifteenth century, (14) the sixteenth century, (15) the seventeenth century, and (16) the eighteenth century. Weidner's arrangement of history into these periods and cultures provide the basic model for several later histories of astronomy including the historical final book of Roger Long's Astronomy and, to a large extent, Pierre Esteve's Histoire Generale et Particuliere de l'Astronomie, despite Esteve's criticism of Weidler.



CAP. VIII. DE ASTRONOMIA ARABVM. 203

CAPVT VIII.

DE

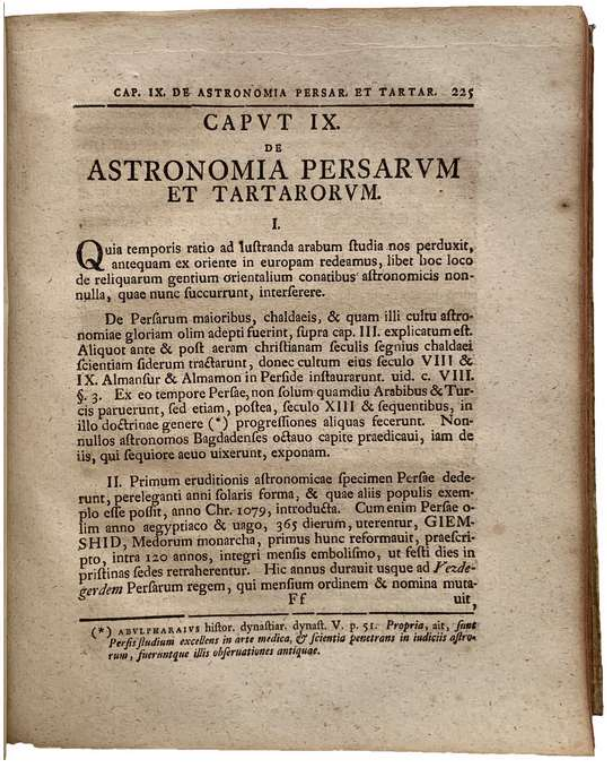
ASTRONOMIA ARABVM

I.

Quoniam ſeculo nono & ſequentibus aſtronomia ab Arabibus praecipue exculta, atque ab illis ad Europaeos traducta eſt, de eorum ſtudiis ſeparato capite explicari debet. Scilicet Arabes, praeſertim Arabiae felicis incolae, iam olim *Sarracenorum* nomen tulerunt. Cuius quippe meminerunt TARGVM HIEROSOLYMITANVM, Geneſ. XXXVI. 25, & PTOLEMAEVS Geogr. VI. 7. in deſcriptione arabiae. add. AMMIANVS MARCELLINVS, ſeculi quarti ſcriptor, Lib. XXIII. p. 280. edit. R. Steph. quod utrum a Sara, Abrahami uxore, uel ab urbe Saraca acceperint, incertum eſt. (*) uid. I. BVXTORFII Lex. Chald. Talmud. col. 1558. BARTHOLOM. HERBELOT *Bibliotheque orientale, ou dictionaire univerſel, contenant, tout ce qui regarde la connoiſſance des peuples d' orient.* p. 777. ed. Paris. 1697. f. Arabes primis ſex poſt Chriſtum natum ſeculis romanis paruerunt, & ſub eorum ſignis militarunt, ineunte autem ſeculo ſeptimo, imperante Heraclio, cum ſtipendia illis, non ſine contumelia, negarentur, defecerunt; & cum eodem ſeculo Muhammed impoſtor inclareſceret, eius ſuperſtitioni fidem dederunt, eodemque duce Syriam & Aegyptum occuparunt. Mox, fauente armis fortuna, Perſidem, item Africae oram reliquam ſubegerunt, tandemque ipſam Siciliam, & ſeculo VIII, Hiſpaniam victores ingreſſi ſunt. Circa medium ſeculi octaui Turci ex Scythia & portis Caſpiis exierunt, & ſocietate cum Sarracenis

Cc 2

(*) IO. CHARDIN in tr. cui titulus, *le couronnement de Soliman III Roi de Perſe*, qui legitur ſub finem Tomi IV. Itinerarii Perſici, p. 301. etymologiam vocabuli *Sarazin* ex lingua Perſica arceſſit, deriuat nempe ex *Sara* campus, & *netſchin* conſedit, ut *Sara-netſchin* ſignificet eum, *qui in campo conſedit, siue commoratur.*



CAP. IX. DE ASTRONOMIA PERSAR. ET TARTAR. 225

CAPVT IX.

DE

ASTRONOMIA PERSARVM ET TARTARORVM.

I.

Quia temporis ratio ad luſtranda arabum ſtudia nos perduxit, antequam ex oriente in europam redeamus, libet hoc loco de reliquarum gentium orientalium conatibus aſtronomicis nonnulla, quae nunc ſuccurrunt, interſerere.

De Perſarum maioribus, chaldaeis, & quam illi cultu aſtronomiae gloriam olim adepti fuerint, ſupra cap. III. explicatum eſt. Aliquot ante & poſt aeram chriſtianam ſeculis ſegnius chaldaei ſcientiam ſiderum tractarunt, donec cultum eius ſeculo VIII & IX. Almanſur & Almamon in Perſide inſtaurarunt. uid. c. VIII. §. 3. Ex eo tempore Perſae, non ſolum quamdiu Arabibus & Turcis paruerunt, ſed etiam, poſtea, ſeculo XIII & ſequentibus, in illo doctrinae genere (*) progreſſiones aliquas fecerunt. Nonnullos aſtronomos Bagdadenſes octauo capite praedicaui, iam de iis, qui ſequiore aeuo uixerunt, exponam.

II. Primum eruditionis aſtronomicae ſpecimen Perſae dederunt, pereleganti anni ſolaris forma, & quae aliis populis exemplo eſſe poſſit, anno Chr. 1079, introducta. Cum enim Perſae olim anno aegyptiaco & uago, 365 dierum, uterentur, GIEMSHID, Medorum monarcha, primus hunc reformauit, praeſcripto, intra 120 annos, integri menſis emboliſmo, ut feſti dies in priſtinas ſedes retraherentur. Hic annus durauit usque ad *Yezdegerdem* Perſarum regem, qui menſium ordinem & nomina mutauit,

Ff

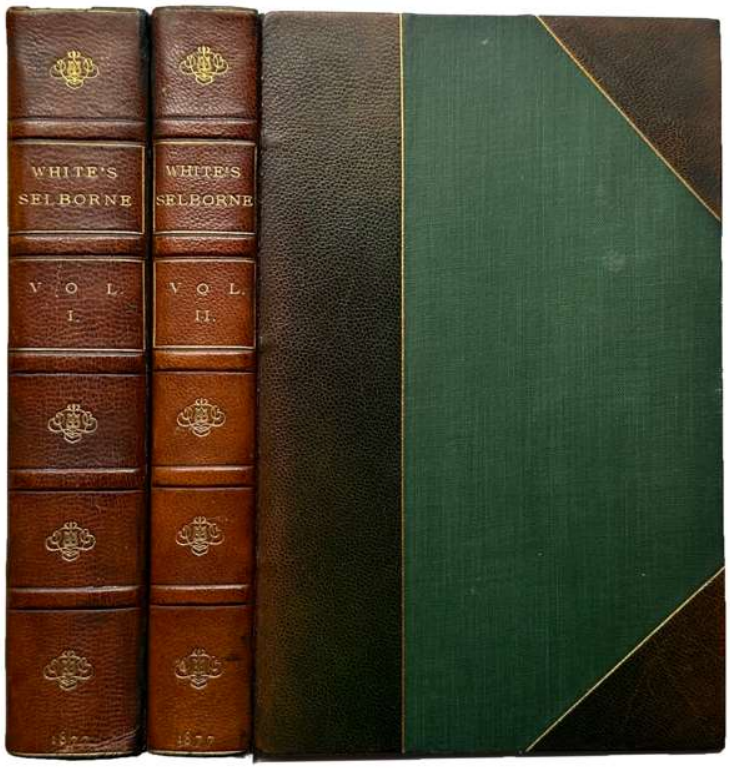
(*) ABVLFARAIVS hiſtor. dynaſtiar. dynaſt. V. p. 51. *Propria*, ait, *fuit Perſis ſtudium excellens in arte medica, & ſcientia penetrans in iudiciis aſtrorum, fuerunque illis obſeruationes antiquae.*

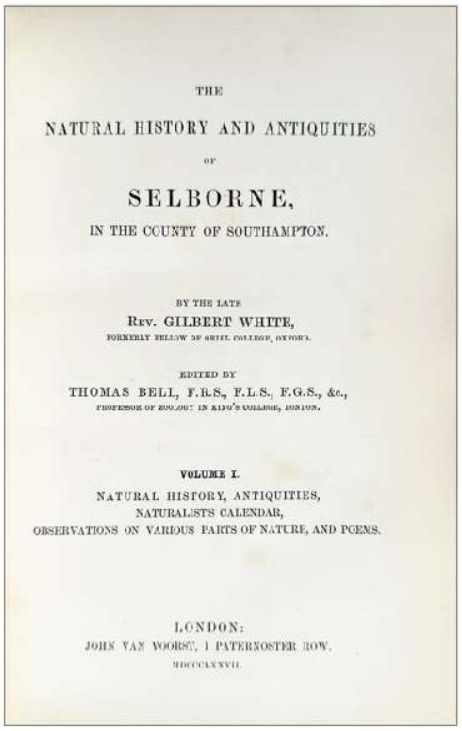
"Although extremely thorough in its coverage of astronomers, listing several hundreds of individuals many of whom are forgotten today, Weidler's book provided only a very superficial description of their astronomy. His approach was primarily bio- and bibliographical, based around reporting the titles and quoting from astronomical works with very little analysis of their content or discussion of their place in the development of astronomy . . . [cites examples of Copenricus and Tycho Brahe, etc.]" – John M. Steele, Ancient Astronomical Observations and the Study of the Moon's Motion (1691-1757), 2012 (p. 47).

PROVENANCE: Martin Charles Gutzwiller (1925–2014) was a Swiss-American physicist, known for his work on field theory, quantum chaos, and complex systems. He completed a Diploma degree from ETH Zurich, where he studied

quantum physics under Wolfgang Pauli. He then went to the University of Kansas and completed a Ph.D. under Max Dresden. After graduation, he worked on microwave engineering for Brown, Boveri & Cie, on geophysics for Shell Oil, and eventually for IBM Research in Switzerland, New York City, and Yorktown Heights, until his retirement in 1993. He also held temporary teaching appointments at Columbia University, ETH Zurich, Paris-Orsay, and Stockholm. He was Vice Chair for the Committee on Mathematical Physics, of the International Union of Pure and Applied Physics, from 1987 to 1993. He joined Yale University as adjunct professor in 1993, retaining the position until his retirement.

□ Houzeau & Lancaster 11.




THE
NATURAL HISTORY AND ANTIQUITIES
OF
SELBORNE,
IN THE COUNTY OF SOUTHAMPTON.

BY THE LATE
Rev. GILBERT WHITE,
FORMERLY FELLOW OF ORIEL COLLEGE, OXFORD.

EDITED BY
THOMAS BELL, F.R.S., F.L.S., F.G.S., &c.,
PROFESSOR OF ZOOLOGY IN KING'S COLLEGE, LONDON.

VOLUME I.
NATURAL HISTORY, ANTIQUITIES,
NATURALISTS CALENDAR,
OBSERVATIONS ON VARIOUS PARTS OF NATURE, AND POEMS.

LONDON:
JOHN VAN VOORST, 1 PATERNOSTER ROW.
MDCCCLXXVII.

62. **WHITE, Rev. Gilbert** (1720-1793); **Thomas BELL** (1792-1880), editor. *The Natural History and Antiquities of Selborne, in the County of Southampton. I: Natural history, Antiquities, Naturalist's Calendar, Observations on various parts of nature, and poems; II: Correspondence, Sermon, Account-book, garden calendar, animals and plants, geology, Roman-British antiquities, etc.* London: John Van Voorst, 1877. ¶ 2 volumes. 8vo. lix, 507, [1]; [vi], 410 pp. Illus., 1 color plate, index; some foxing. Original half dark brown morocco, green cloth panels, gilt rules; gilt-stamped spines with

titles, false bands, top edges gilt, dark green marbled endpapers; some fading to spine, a bit of edge wear to head of vol. I. Ownership signature of Henry C. King. Very good.

$ 125

"The later naturalist Charles Darwin, when asked in 1870 about books that had deeply impressed him in his youth, mentioned White's writings. However, in Darwin's book, *The Formation of Vegetable Mould: Through the Action of Worms*, *with Observations of Their Habits* (1881), there is no acknowledgement of White's earlier work in *The Natural History and Antiquities of Selborne* on the significance of earthworms in creating and maintaining topsoil. It has been argued that Darwin might not have propounded the theory of evolution without White's pioneering fieldwork establishing the importance of close observation."

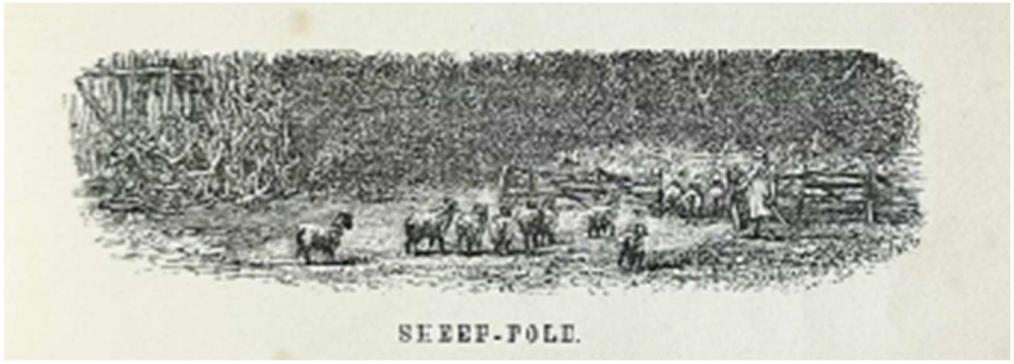
"Rather than studying dead specimens, White observed live birds and animals in their own habitats over many years; creating a 'new kind of zoology, scientific, precise and based on the steady accumulation of detail'. *The Natural History* represents a shift to holistic, evidence-based engagement warmed by empathy. From nearly 40 years of observations, White recognised that birds and animals have inner lives. He based his work on accurate (if haphazard) recording of events, classifying, measuring, analysing data, making deductions from observations, and

experimenting. He was 'one of the first writers to show that it was possible to write of the natural world with a fresh and intensely personal vision without in any way sacrificing precision'. Thus, Richard Mabey quotes White: 'during this lovely weather the congregating flocks of house martins on the Church and tower were very beautiful and very amusing! When they flew off all together from the roof, on any alarm, they quite swarmed in the air. But they soon settled again in heaps on the shingles; where preening their feathers to admit the rays of the sun, they seemed highly to enjoy the warm situation.' White's scientific outlook was coloured by his theology. He did not have grand theories, plan experiments and replicate them as a modern scientist would: he was more freewheeling and, arguably, as a consequence more appealing as a writer." – [Wikip.]

John Millburn wrote of the naturalist Gilbert White's occasional mention of the names of instrument makers in his text, "particularly when he is comparing one with another. He evidently had thermometers by Martin and by Dollond, while a friend had one by Adams." John Millburn, *Benjamin Martin: Supplement*, (2001), p. 45.

Gilbert White was a "parson-naturalist", a pioneering English naturalist, ecologist, and ornithologist. He is best known for his *Natural History and Antiquities of Selborne*.

Thomas Bell was professor of zoology, King's College, London. In his seventieth year Bell retired to *The Wakes*, a house at Selborne, where he took a keen interest in its former resident, the amateur naturalist Gilbert White. In 1877 he published, this set, a new edition of White's book *The Natural History of Selborne*.



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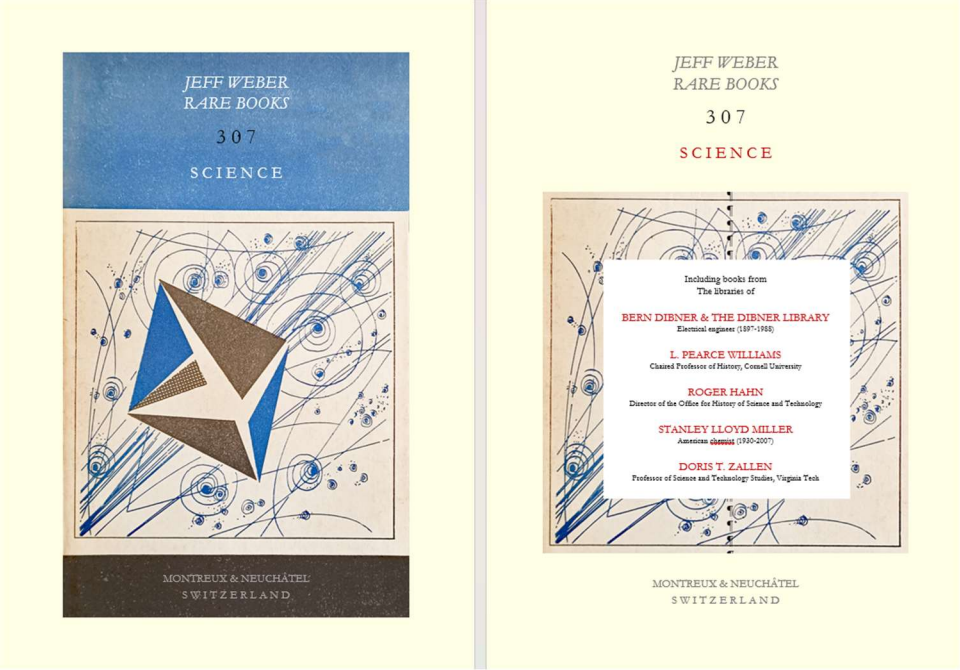

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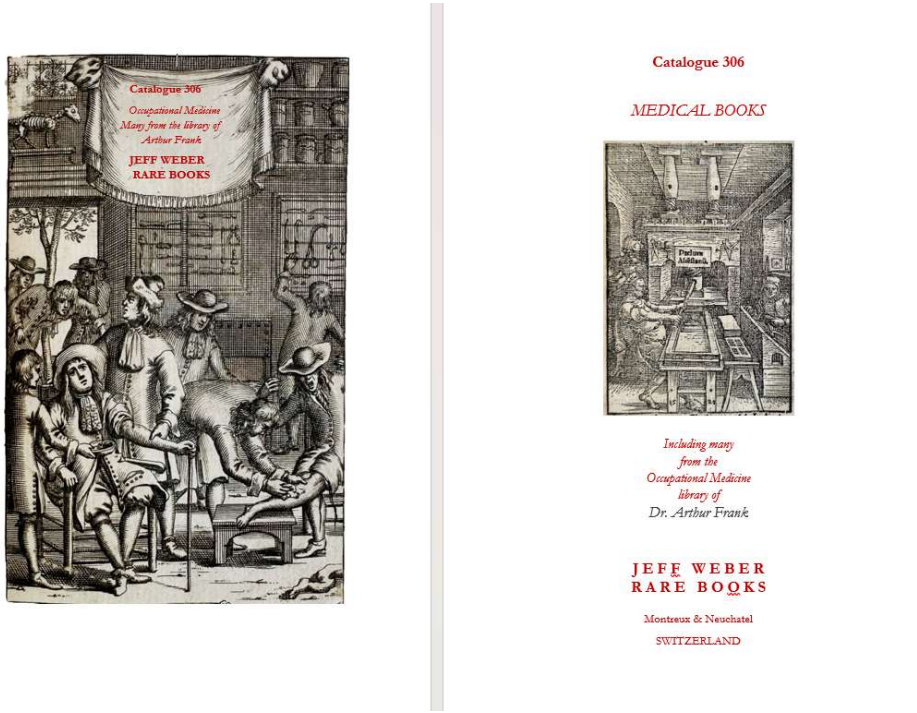

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