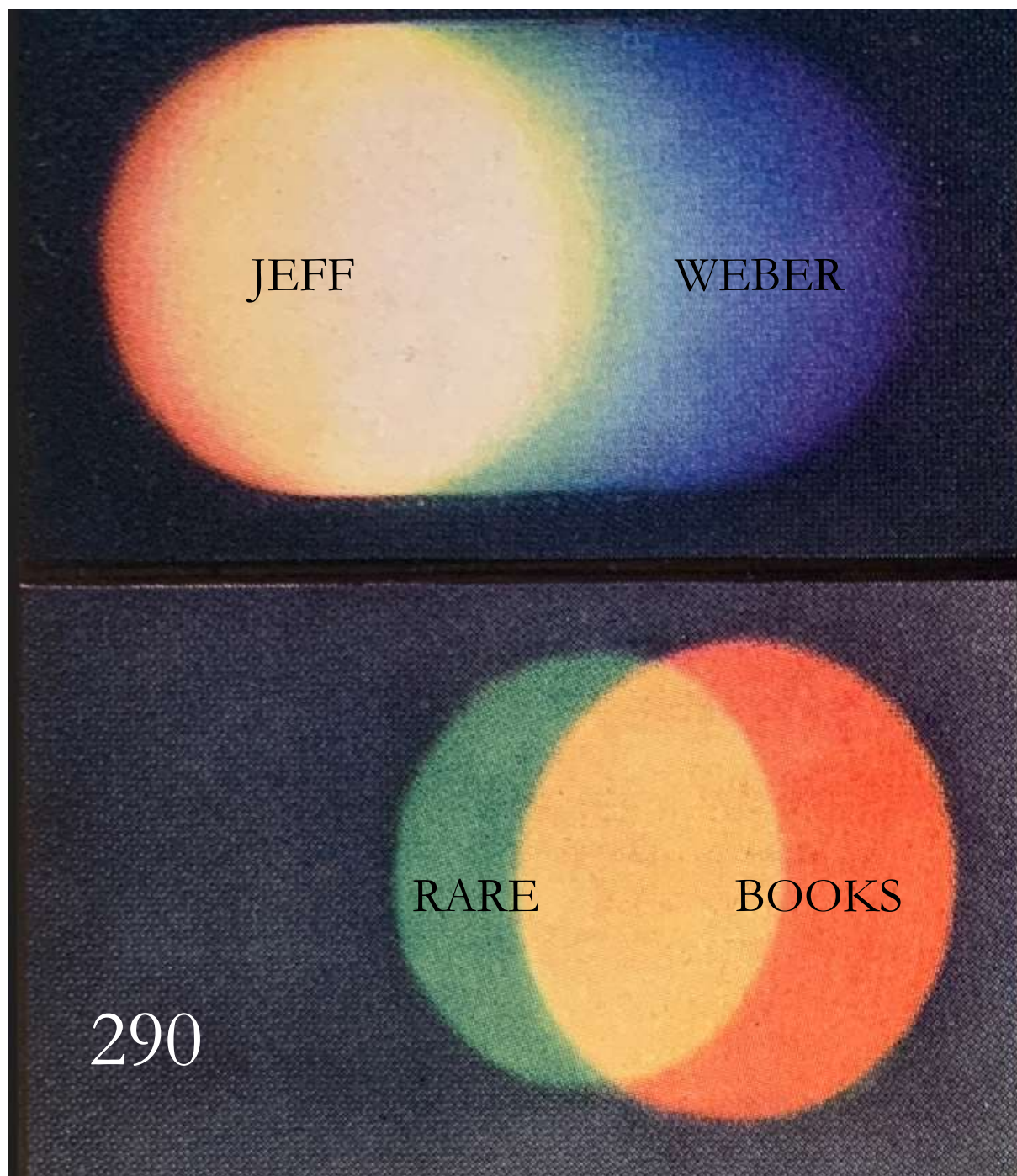


# RECENT ACQUISITIONS IN ASTRONOMY

*Including books from the collection of*

ANDREW FRANKNOI



MONTREUX ☒ SWITZERLAND





CATALOGUE 290

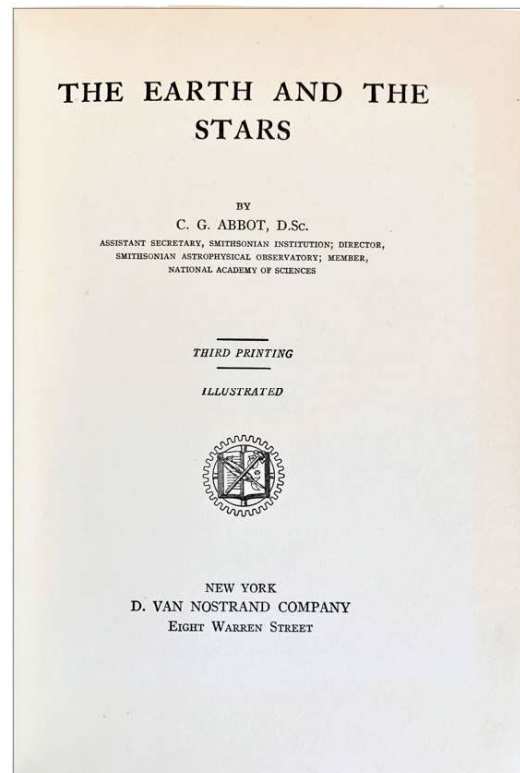
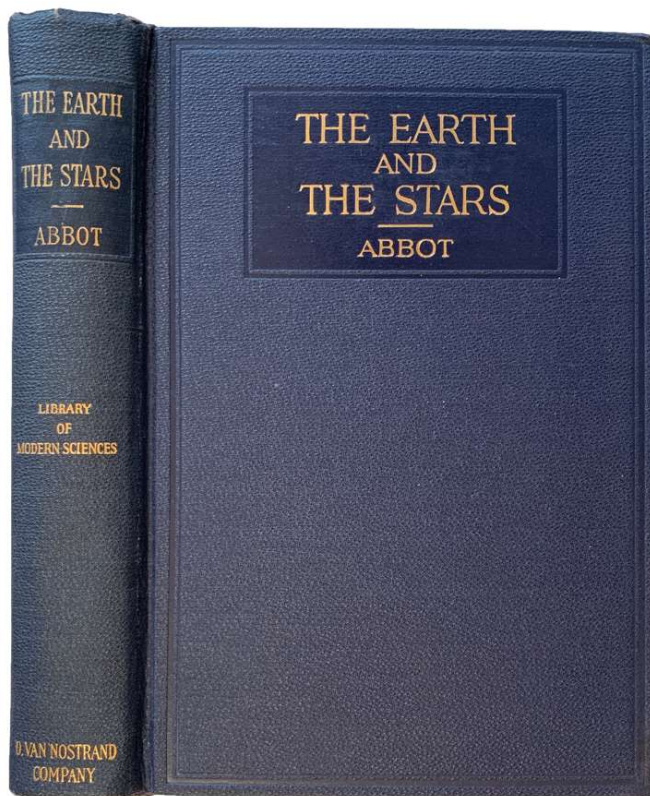
*RECENT*  
*ACQUISITIONS IN*  
*ASTRONOMY*

*Including books from the collection of*  
*ANDREW FRAKNOI*

JEFF WEBER  
RARE BOOKS

MONTREUX    ☒    SWITZERLAND

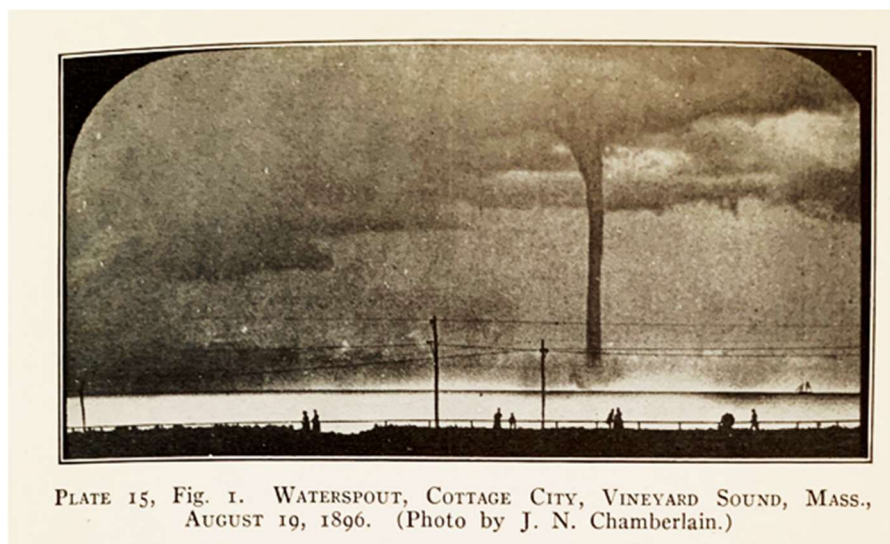


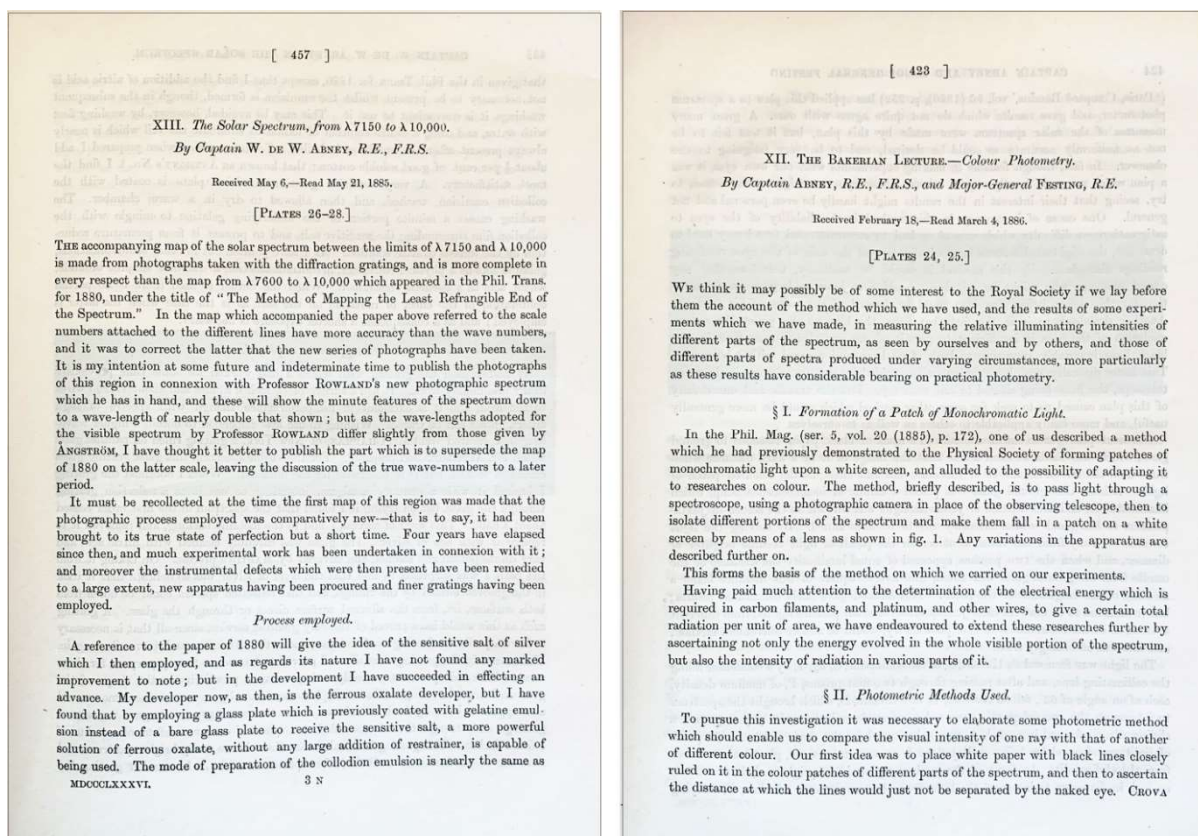


100. **ABBOT, C. G. [Charles Greeley]** (1872-1973). *The Earth and the Stars*. *Third printing*. New York: Van Nostrand, 1927. ¶ 8vo. xi, [1], 264, [2] pp. Frontispiece, 32 plates, 46 figs., index. Original blind- and gilt-stamped navy cloth. FREQUENT PENCIL UNDERLINING. Good. \$13986

\$ 5

Charles Greeley Abbot “was an American astrophysicist and the fifth secretary of the Smithsonian Institution, serving from 1928 until 1944. Abbot went from being director of the Smithsonian Astrophysical Observatory, to becoming Assistant Secretary, and then Secretary of the Smithsonian Institution over the course of his career.” [Wikip.].





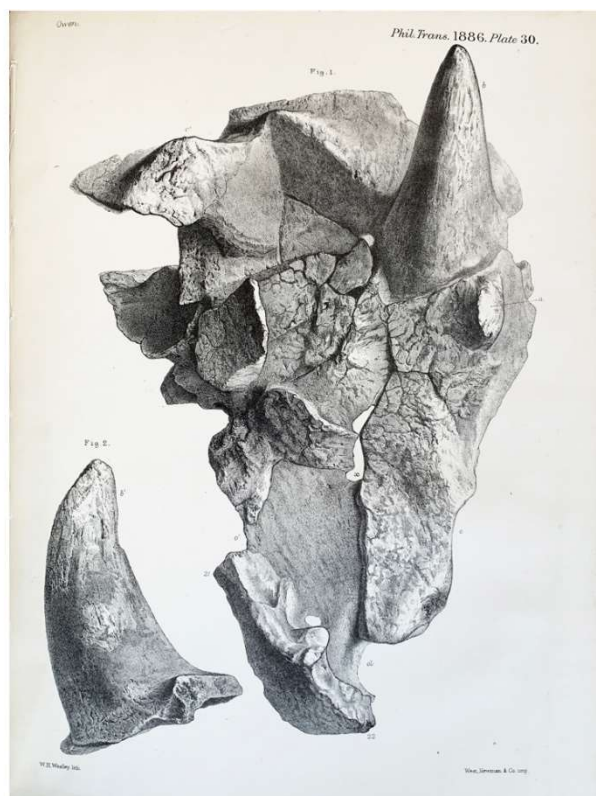
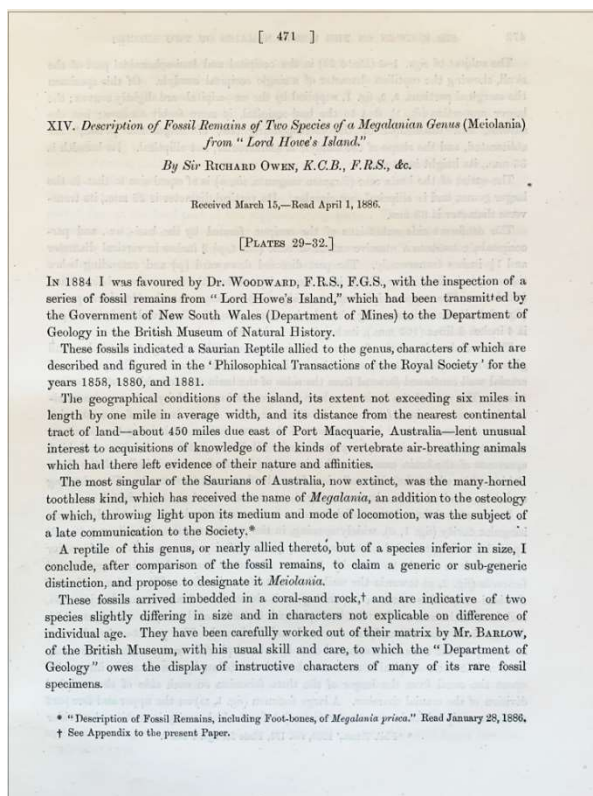
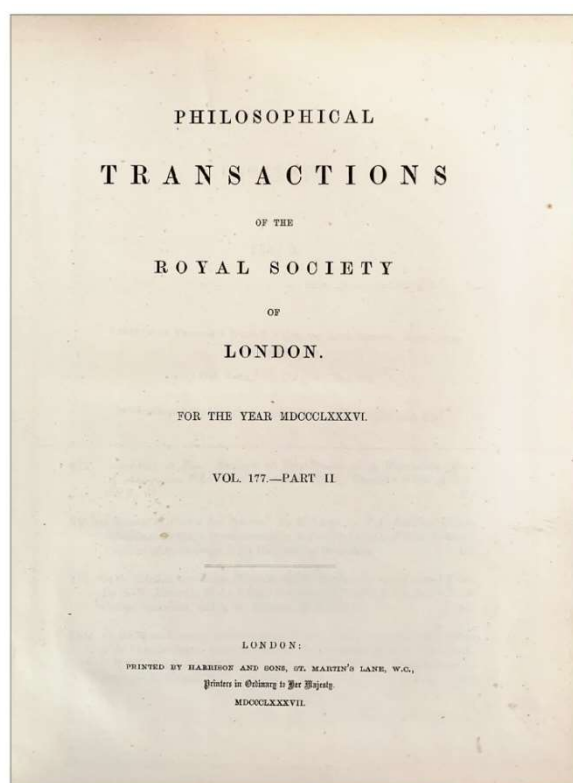
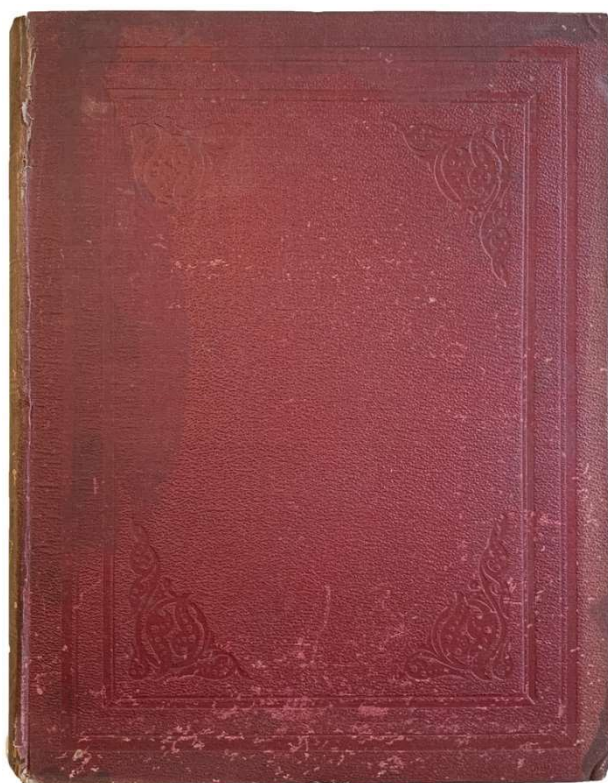
101. **ABNEY, William de Wiveleslie** (1843-1920). *The solar spectrum, from [gamma] 7150 to [gamma] 10,000*. with: **ABNEY & FESTING**. "*The Bakerian Lecture. — Colour Photometry*." In: *Philosophical Transactions of the Royal Society of London*, Volume 177, Part II, 1886. London: Harrison & Sons, 1887. ¶ 309 x 243 mm. 4to. Pages 457-469; 423-456. [Entire volume: iv, [2], vii, [iii], 361-842 pp.] 3 folding engraved plates; 2 folding lithographic plates. Blind-stamped maroon cloth, gilt spine; rubbed, spine ends frayed, head of spine torn. Ex library bookplate of the Association for the Education of Women, Oxford, Nettlehip Library, with chalk number on spine. Good. [S4102]

\$ 170

FIRST EDITION OF THE FIRST PHOTOGRAPHS OF THE SOLAR SPECTRUM IN INFRARED.

"Extending his interests to spectroscopy, Abney was the first to suggest (1877) that stars with rapid axial rotation could be detected by broadened lines in their spectra - an idea later to have wide application. He then devised a red-sensitive emulsion and with it made the first spectroscopic analyses of the structure of organic molecules (1882) and the first photographs of the solar spectrum in the infrared (1887). This was followed by comparative studies of how sunlight is altered in passing through our atmosphere, made at sea level and in the Swiss Alps (1888, 1894)." — *DSB*, I, p. 21.





[101] **ABNEY.** With a paper by Sir Richard Owen, *Description of fossil remains of two species of a Megalanian Genus (*Meiolania*) from :Lord Howe's Island."*

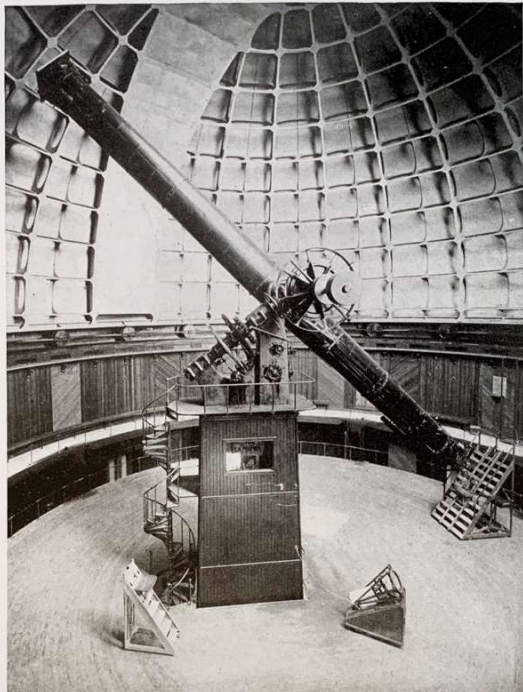
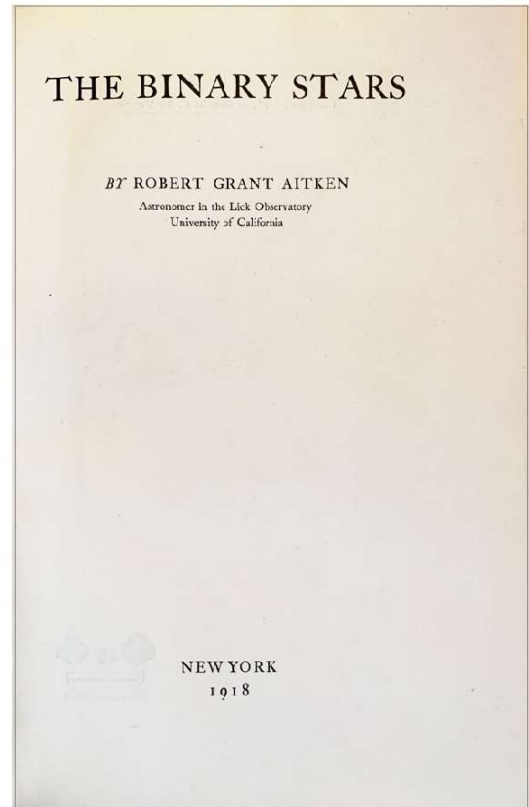
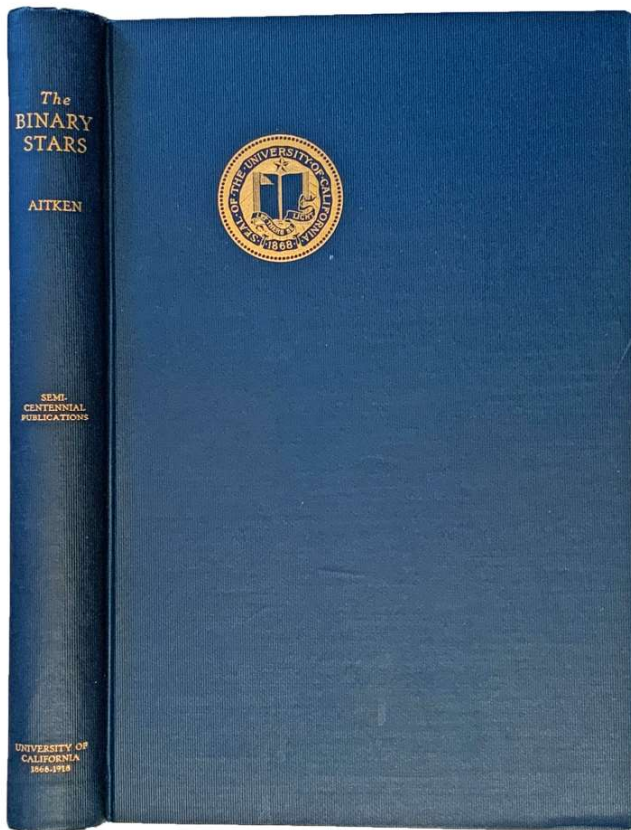


PLATE I. The Thirty-Six-Inch Refractor of the Lick Observatory

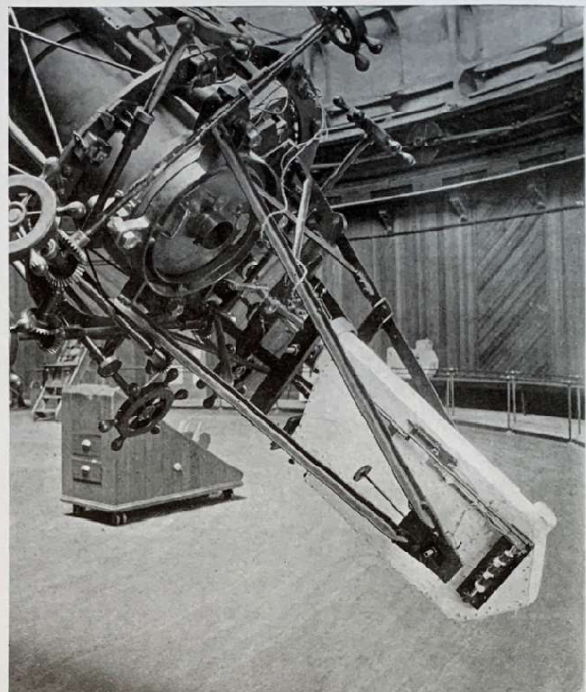


PLATE IV. The Mills Spectrograph of the Lick Observatory

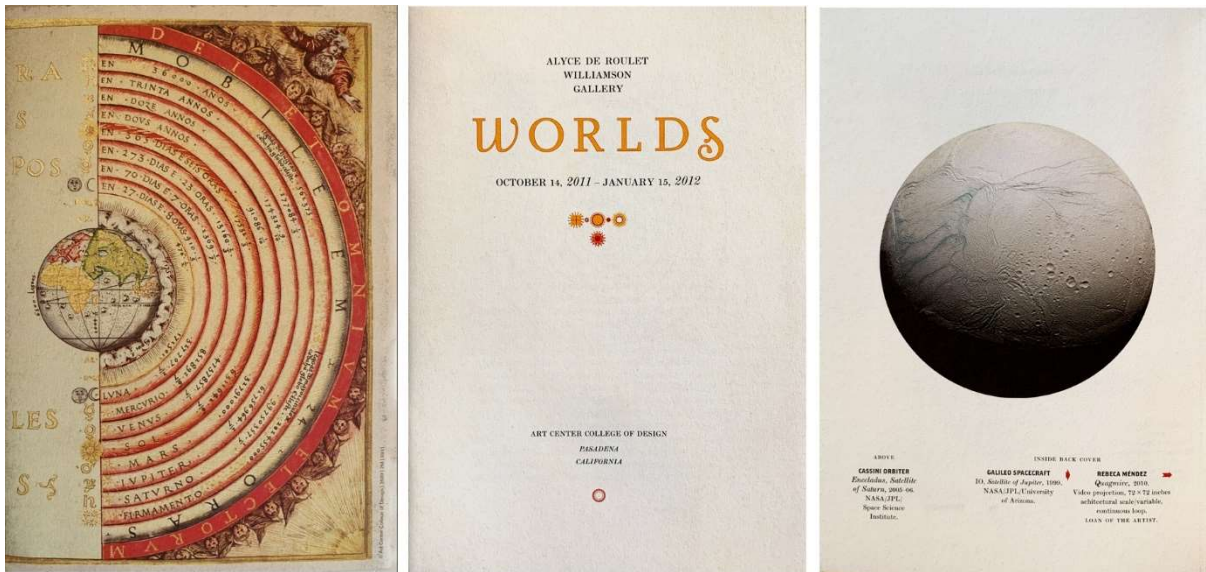


102. **AITKEN, Robert Grant** (1864-1951). *The Binary Stars*. New York: Douglas C. McMurtrie, 1918. ¶ 8vo. xiv, 316 pp. 12 figs., 5 plates, index. Original full gilt-stamped navy cloth. Ownership signature of R.C. Cameron, NASA. Very good. S13987

\$ 45

Aitken “began a systematically study of double stars, measuring their positions and calculating their orbits around one another. From 1899, in collaboration with W. J. Hussey, he methodically created a very large catalog of such stars.” [Wikip.].

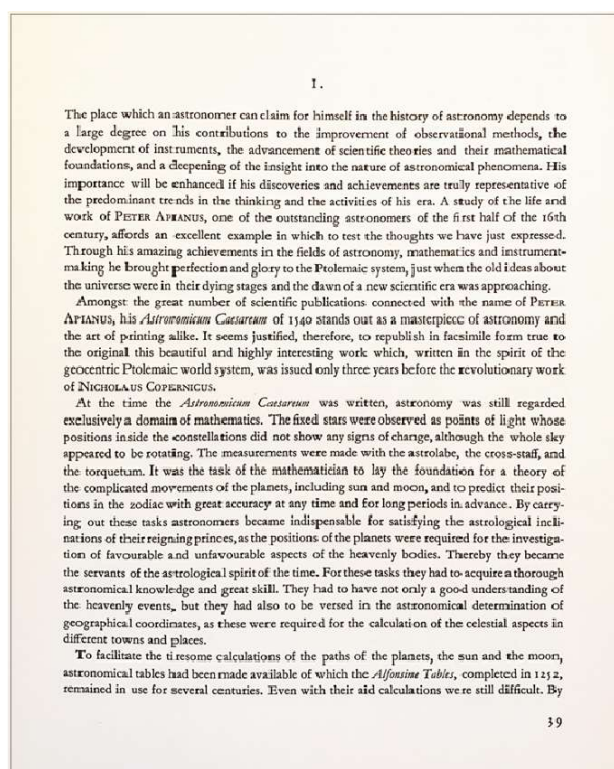
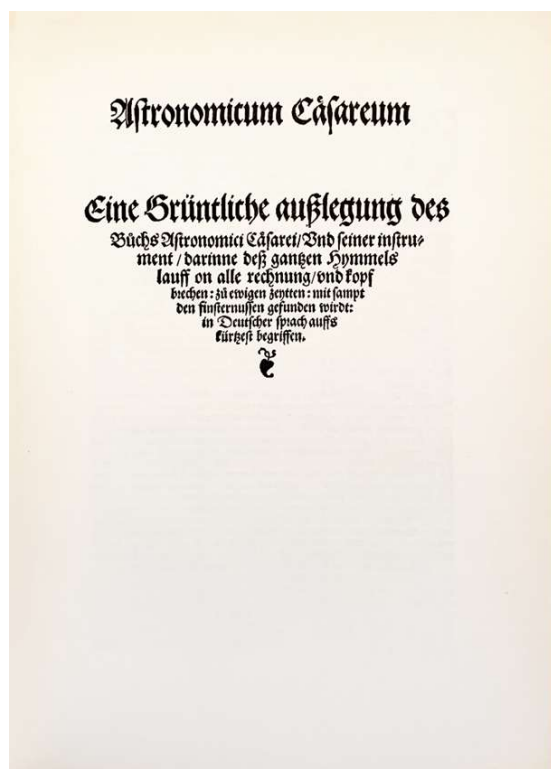
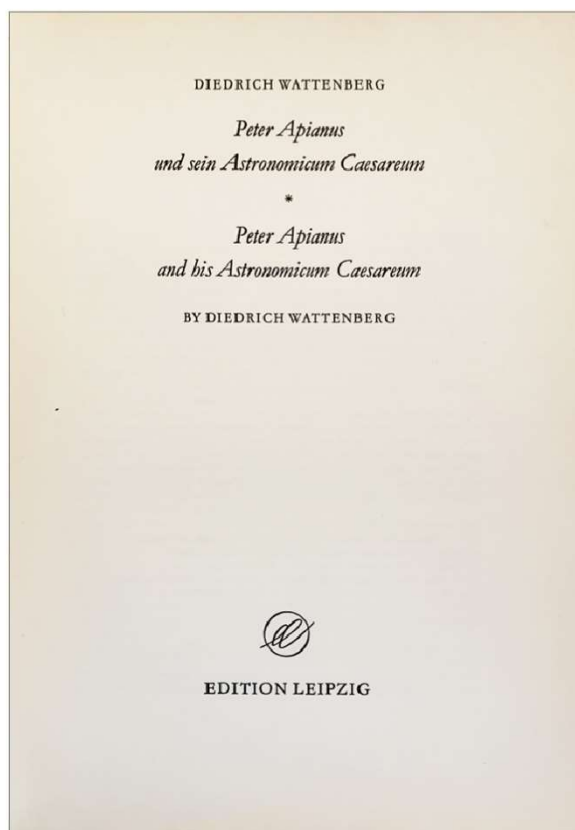
PROVENANCE: Robert Curry Cameron (1925-1972), NASA.



103. **Alyce de Roulet Williamson Gallery, Pasadena.** *Worlds. October 14, 2011-January 15, 2012*. Pasadena: Art Center College of Design, 2011. ¶ 7x5 inches. 19, [1] pp. Illustrated. Printed wrappers (showing facs. of 1811 Herschel imprint on upper cover; back: Bartolomeu Velho, 1568). Very good. S13988

\$ 7





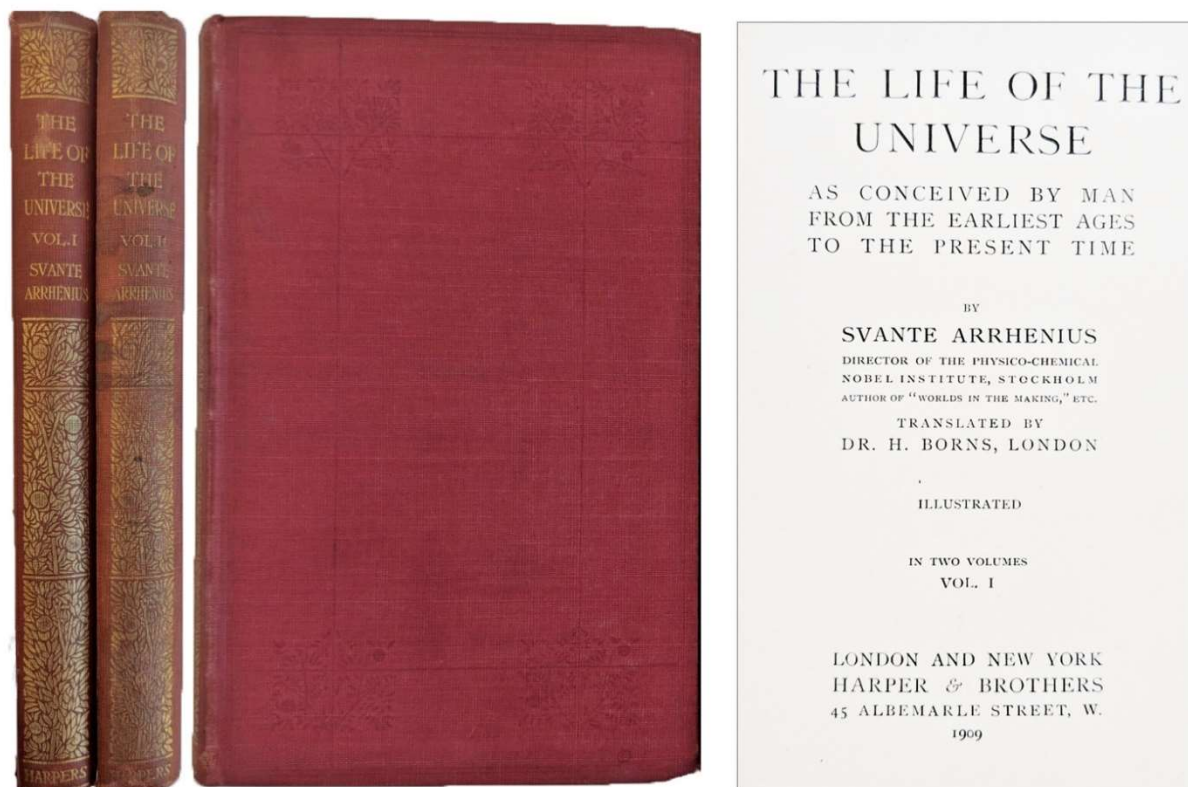


104. **APIANUS [APIAN]** (1495-1552); **Diedrich WATTENBERG** (1909-1996). *Peter Apianus und sein Astronomicum Caesareum; Peter Apianus and his Astronomicum Caesareum*. Leipzig: Edition Leipzig, 1967. ¶ 4to. 71, [1] pp. + [17] ff. Facs. Text in German and English. Original brown cloth-backed decorative boards, paper cover title label; rubbed. Formerly from the reference library of Zeitlin & Ver Brugge Booksellers. Good. S13989

\$ 45

Translation by Dr. G. Archenhold. This is the companion commentary volume to the facsimile of the Apianus' *Astronomicum Caesarium*, issued in 750 copies.

Dieser Band gehört zum Exemplar nr. 186 des Faksimileausgabe des „*Astronomicum Caesarium*“. Die Gesamtauflage dieser num[m]erierten Faksimileausgabe beträgt 750 Exemplare. Ihr liegt das Original (Sign. Math. Fol. P. 38) des Landesbibliothek Gotha zugrunde. Die Exemplare 1-200 wurden nach dem in der Bayerischen Staatsbibliothek befindlichen Original (Sign. Rar. 819) vollständig koloriert.

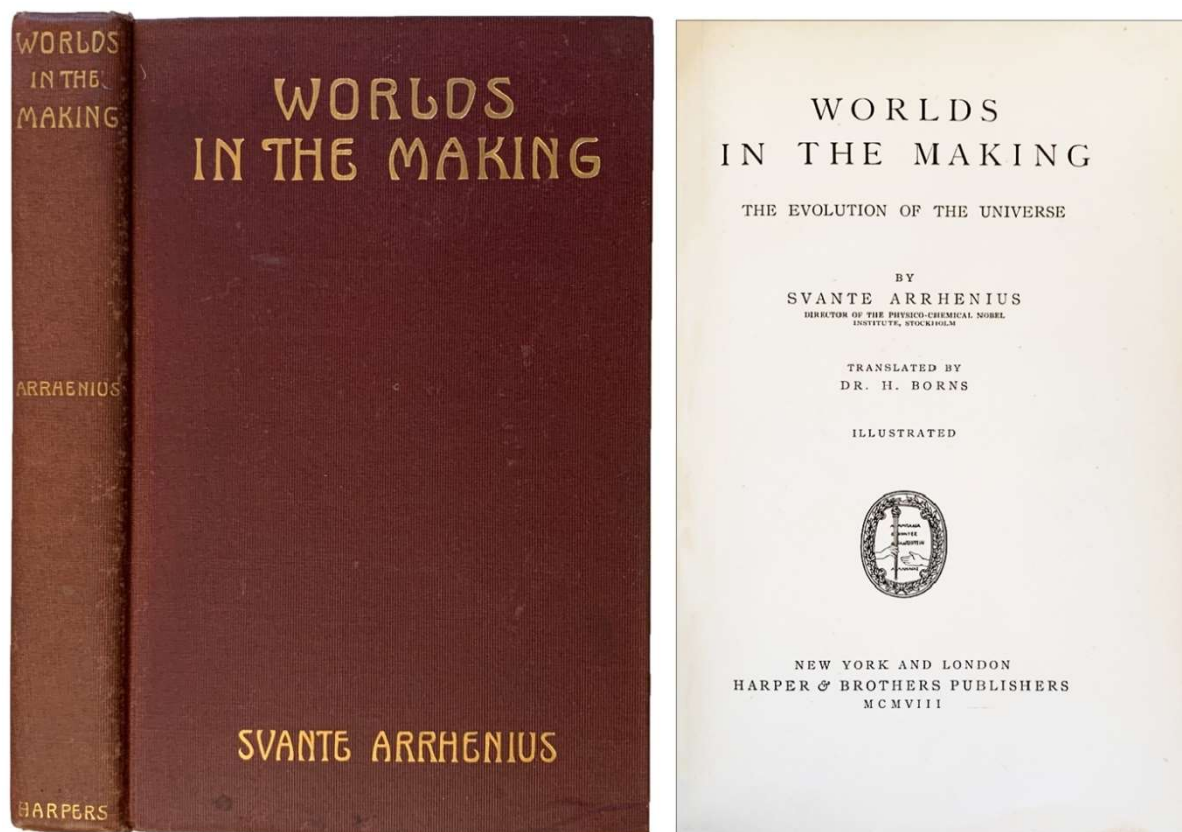


105. **ARRHENIUS, Svante** (1859-1927). *The Life of the Universe. As Conceived by Man from the Earliest Ages to the Present time. Translated by Dr. H. Borns. In 2 volumes*. London and New York: Harper & Brothers, 1909. ¶ Series: *Harper's Library of Living Thought*. 2 volumes. 8vo. xv, [1], 123, [3]; ix, [2], [125]-267, [5] pp. Half title, 28 figs., index. Original brick red blind- and gilt-stamped cloth, top edge gilt; spine faded. Very good. RW1008

\$ 55

The 1903 Nobel Prize for Chemistry was awarded to Svante Arrhenius “in recognition of the extraordinary services he has rendered to the advancement of chemistry by his electrolytic theory of dissociation.”

Contents range from “Cosmogonies of Primitive Races” to “Dawn of the Modern Age: Multiplicity of the Inhabited Worlds.” to “From Newton to Laplace: Mechanics and Cosmogony in the Solar System” to “The Conception of Infinity in Cosmogony.”



106. **ARRHENIUS, Svante** (1859-1927). *Worlds in the Making; the evolution of the universe. Translated by Dr. H. Borns.* New York & London: Harper & Brothers, 1908. ¶ 8vo. xiii, [1], 229, [1] pp. 60 illustrations. Original maroon gilt-stamped cloth; rubbed, spine bottom a bit worn, some spotting on top edge. Ownership signature of James G. Berryhill, 1908. Very good. S13990

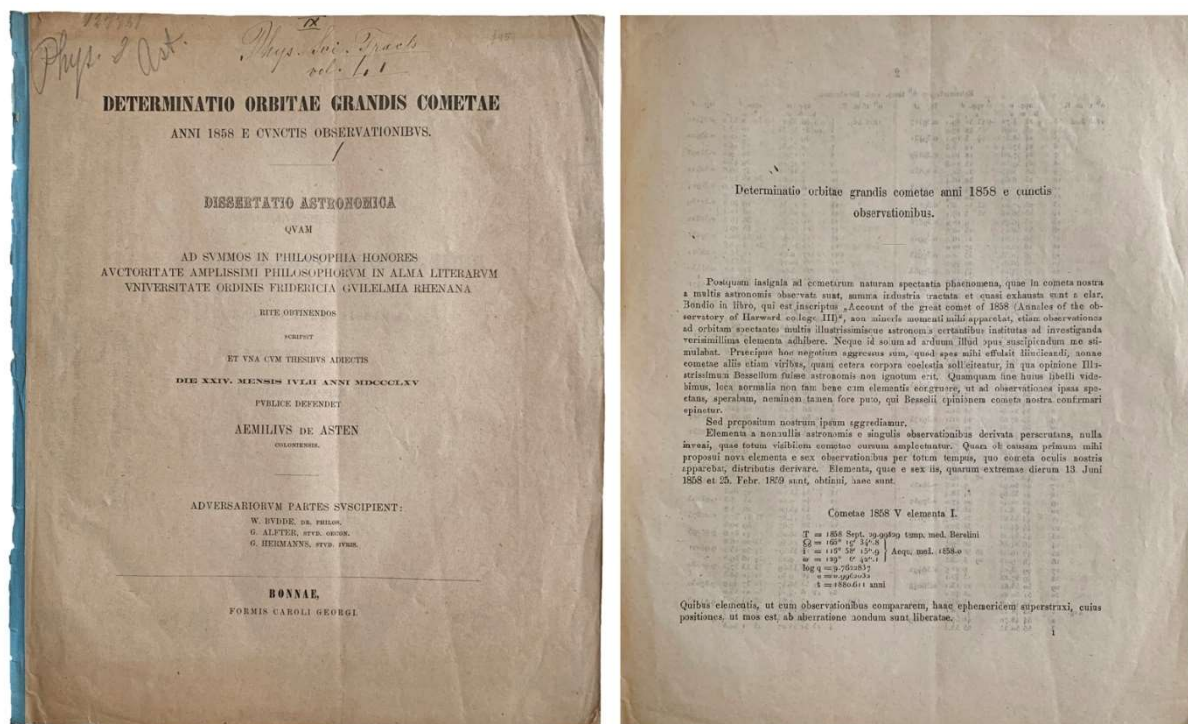
\$ 42

First American edition. Arrhenius “later wrote *Världarnas utveckling* (1906) (German: *Das Werden der Welten* [1907], English: *Worlds in the Making* [1908]) directed at a general audience, where he suggested that the human emission of CO<sub>2</sub> would be strong enough to prevent the world from entering a new ice age, and that a warmer earth would be needed to feed the rapidly increasing population:

“To a certain extent the temperature of the earth’s surface, as we shall presently see, is conditioned by the properties of the atmosphere surrounding it, and particularly by the permeability of the latter for the rays of heat.” (p. 46).



PROVENANCE: James G. Berryhill (1852-1936), born in Iowa City and attended the State University of Iowa, earning a degree from the university's Law Dept. In 1877 he began practicing law in Des Moines with George F. Henry as Berryhill & Henry. He served as Representative in the 21st and 22nd General Assemblies, Iowa. In 1896 he ran unsuccessfully against incumbent J. A. T. Hull for a seat in the U.S. Congress representing the 7th district.



107. [Comets] **ASTEN, Emilio von** (fl.1843-1878). *Determinatio orbitae grandis cometae anni 1858 e cunctis observationibus. Dissertatio astronomica.* . . . Bonn: Carl Georgi, 1858. ¶ 4to. [iv], 16, [2] pp. Tables. Self-wraps. Ms. notations on top cover. Very good. [S6263]

\$ 25

Asten's dissertation (how young was he!?). He later wrote, *Resultate aus Otto von Struve's Beobachtungen der Uranustrabanten* (1872). The present work is dedicated to Friedrich Wilhelm August Argelander (1799-1875), who became professor of astronomy at the Prussian University of Bonn in 1836. Among Argelander's students and assistants were Eduard Schonfeld, Adalbert Krueger, Leopold Kronecker, and Franz Woepcke.



108. **BAADÉ, Walter; Geoffrey Ronald BURBIDGE** (1925-2010); **Fred HOYLE** (1915-2001). (all of Mount Wilson Observatory); **Eleanor Margaret BURBIDGE** (1919-2020); **Robert Frederick CHRISTY** (1916-2012); **William Alfred FOWLER** (1911-1995) (all of Kellogg Radiation Laboratory, Cal Tech, Pasadena). *Supernovae and Californium 254\**. [offprint] Publications of the Astronomical Society of the Pacific, Vol. 68, No. 403, p.296. [5] pp. Self-wraps. Rubber-stamp of Norman Harold Horowitz. Fine. S13991

\$ 25

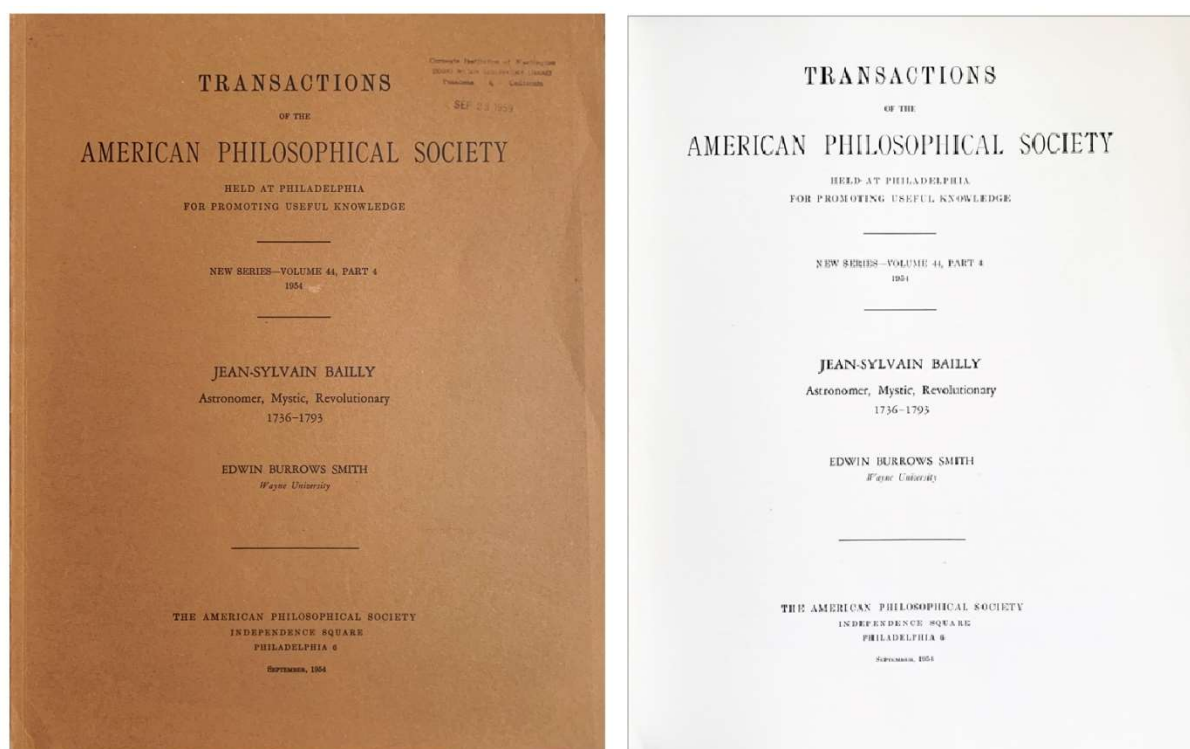
In 1944 Hoyle met Walter Baade, “one of the greatest observational astrophysicists of the 20th century.” Baade taught him that a supernova is a nuclear explosion triggered by stellar collapse: “Maybe a star is like a nuclear weapon!” was how Baade put it. [Cern]. Fowler was an American nuclear physicist, later astrophysicist, who, with Subrahmanyan Chandrasekhar, won the 1983 Nobel Prize in Physics. Eleanor Margaret Burbidge, FRS was a British-American observational astronomer and astrophysicist. In the 1950s, she was one of the founders of stellar nucleosynthesis and was first author of the influential B<sup>2</sup>FH paper.

Californium is a radioactive chemical element with the symbol Cf and atomic number 98. The element was first synthesized in 1950 at Lawrence Berkeley National Laboratory (then the University of California Radiation Laboratory), by

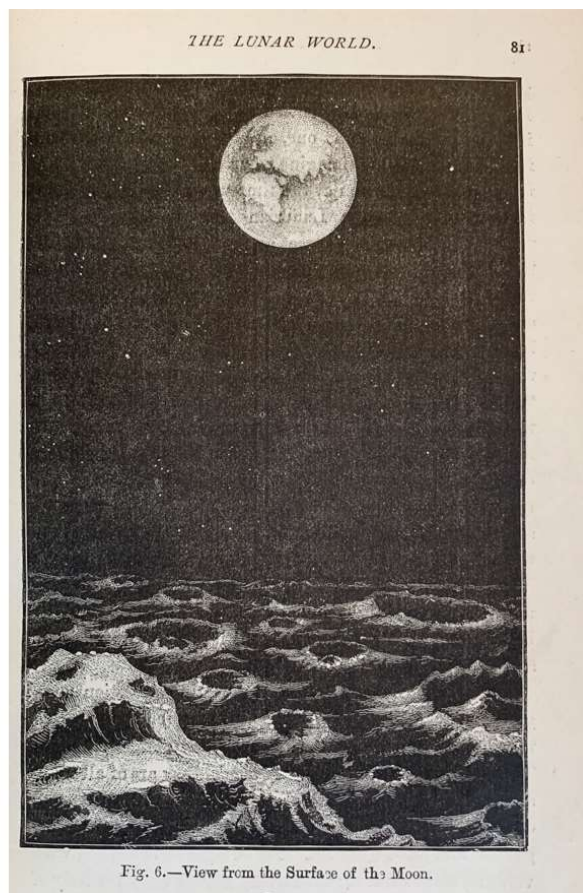
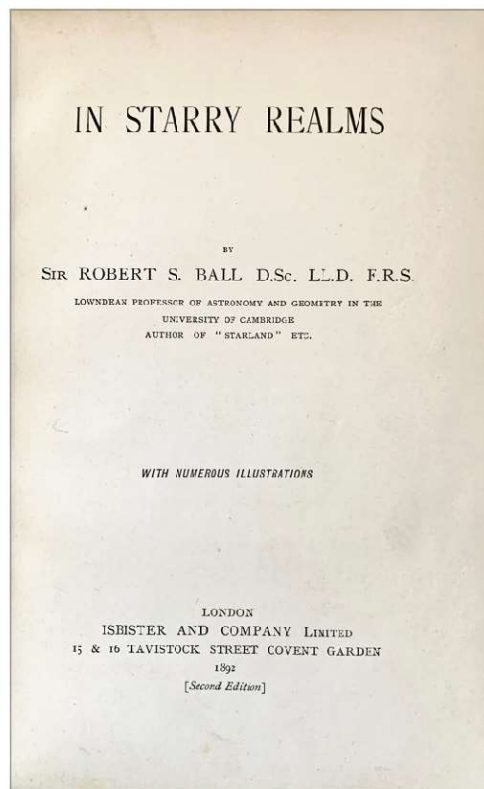
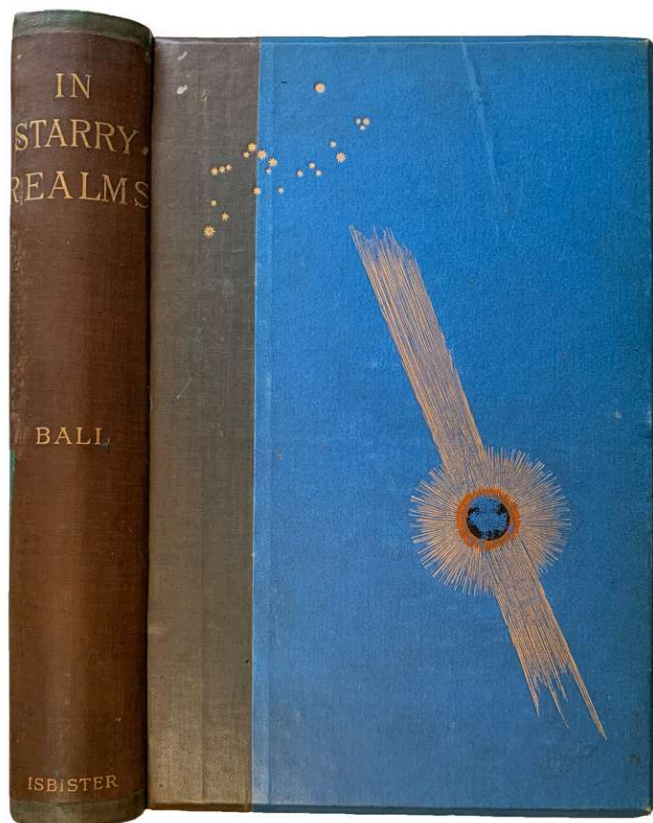


bombarding curium with alpha particles (helium-4 ions). It is an actinide element, the sixth transuranium element to be synthesized, and has the second-highest atomic mass of all elements that have been produced in amounts large enough to see with the naked eye (after einsteinium). The element was named after the university and the U.S. state of California. [Wikip.].

PROVENANCE: From the collection of Norman Harold Horowitz (1915-2005) was a geneticist at Caltech who achieved national fame as the scientist who devised experiments to determine whether life might exist on Mars.



109. [BAILLY] SMITH, Edwin Burrows. “*Jean-Sylvain Bailly; astronomer, mystic, revolutionary, 1736-1793.*” In: *Transactions of the American Philosophical Society* held at Philadelphia for Promoting Useful Knowledge, New Series, Vol. 44, Part 4, 1954. Philadelphia: American Philosophical Society, 1954. ¶ 4to. [ii], 427-538 pp. Frontis. port., bibliog., index. Original printed wrappers. Ex library rubber stamp on top cover. Fine. [S6720] \$ 20



[110] Ball

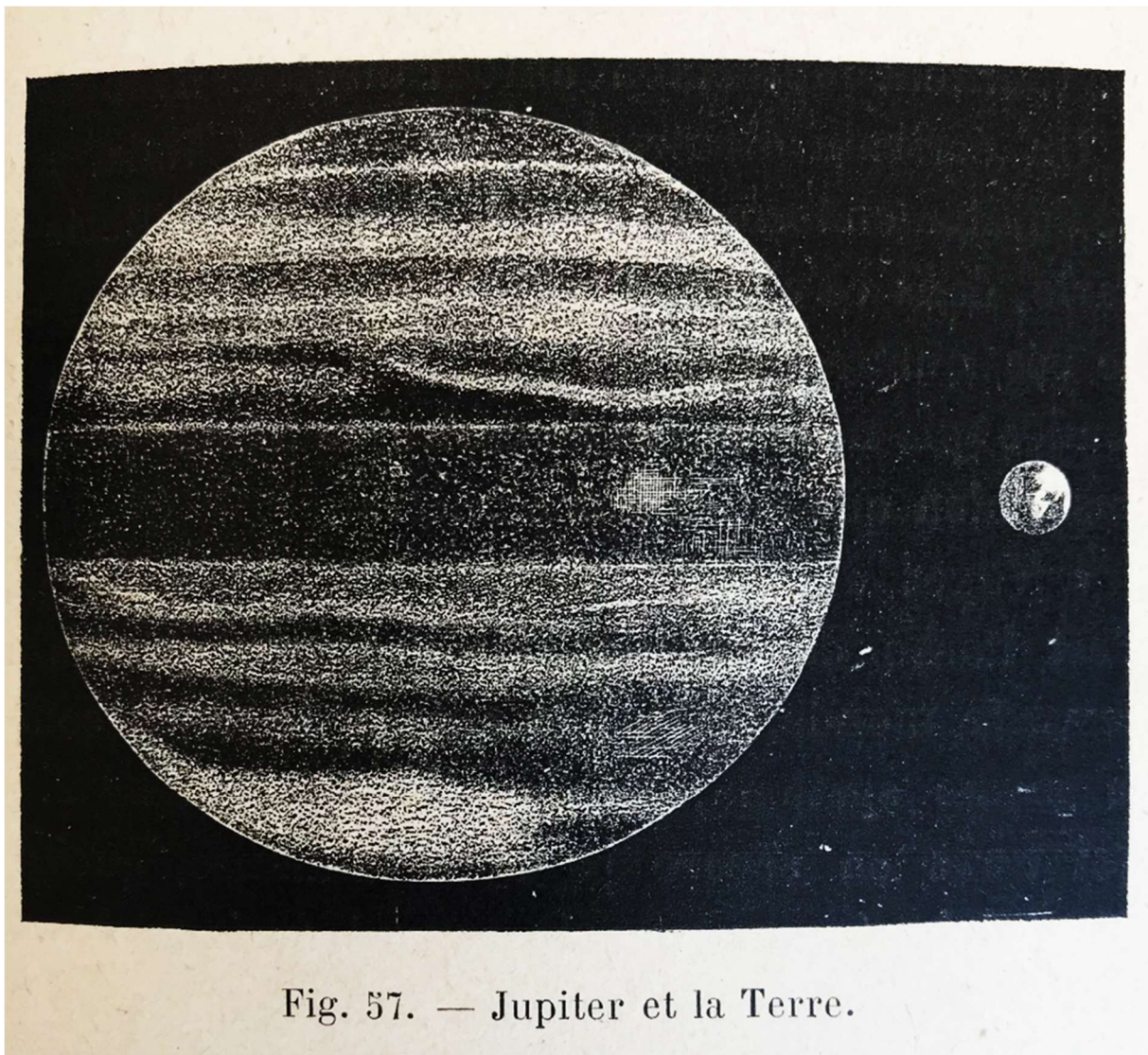


110. **BALL, Robert S.** (1840-1913). *In Starry Realms*. London: Isbister, 1892. ¶  
8vo. x, 371, [3] pp. Frontispiece, 21 figures, index. Original full two-tone  
cloth in black and blue with gilt- and red stamped star on upper cover and  
blind-stamped publisher's device on lower cover, beveled edges, all edges  
gilt; rubbed, corners showing, rebaked with original spine laid down, later  
endleaves. Very good. S13992

\$ 25

First edition. A general guide to the Solar System planets, Moon, stars, and more.

Sir Robert Stawell Ball, F.R.S., was Royal Astronomer of Ireland at Dunsink  
Observatory. He gave a vast number of public lectures on astronomy and science.



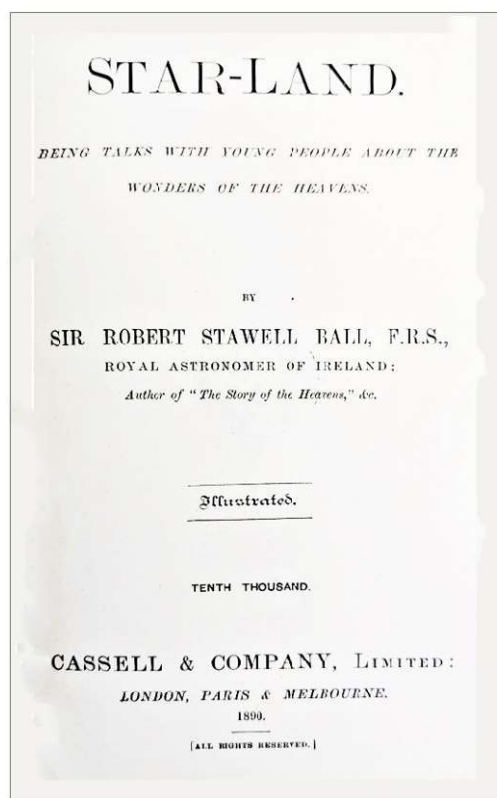
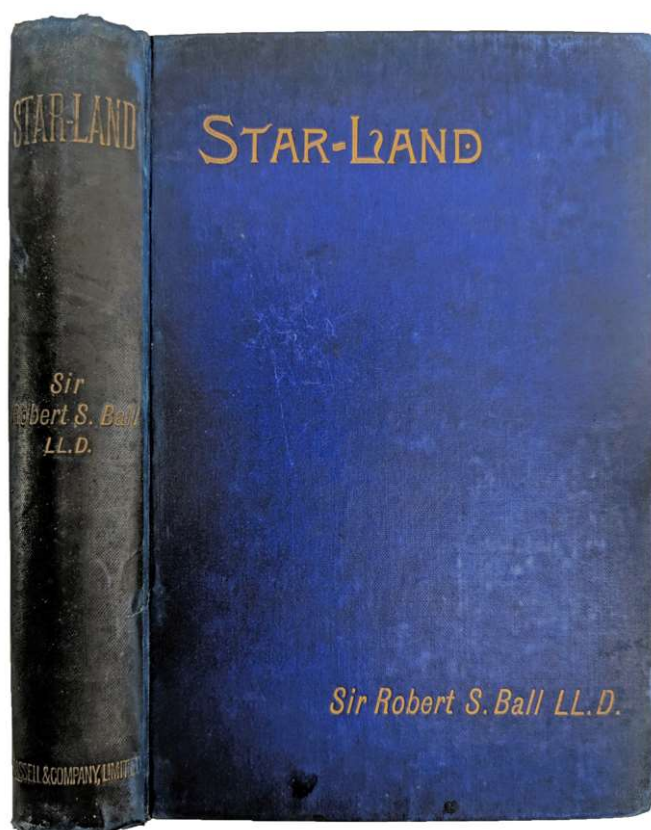
[146] FLAMMARION. *Les Merveilles Célestes*.





A JUVENILE LECTURE AT THE ROYAL INSTITUTION.

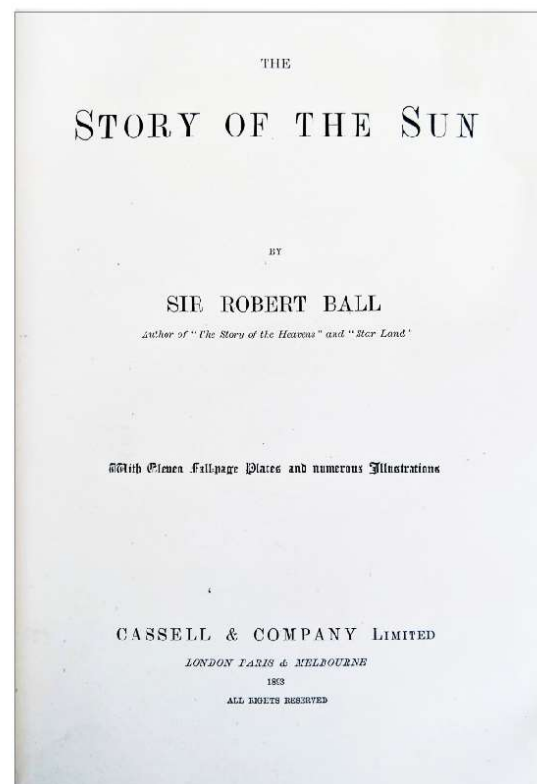
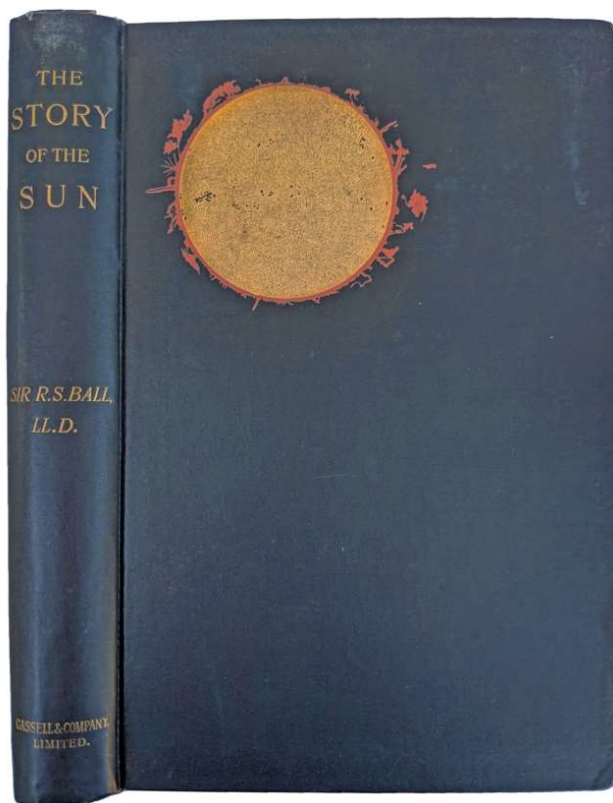
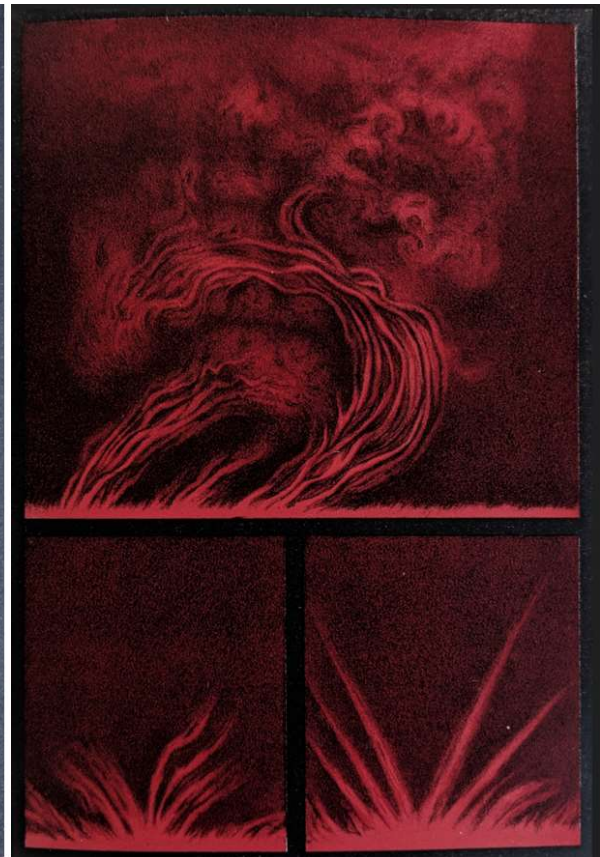




111. **BALL, Sir Robert Stawell** (1840-1913). *Star-Land: Being Talks with Young People about the Wonders of the Heavens. Tenth thousand.* London: Cassell, 1890. ¶ 8vo. [x], 376, [16] pp. 92 figs. Blue gilt-stamped cloth; binding loose, soiled, rubbed. Gift inscription dated 1891; ownership signature of Henry Poulter, 30th October 1926. [RW1015]

\$ 20

“It has long been the custom at the Royal Institution of Great Britain to provide each Christmastide a course of Lectures specially addressed to a juvenile audience. On two occasions, namely, in 1881 and in 1887, the Managers entrusted this honourable duty to me. The second course was in the main a repetition of the first; and on my notes and recollections of both the present little volume has been founded” – from the preface.



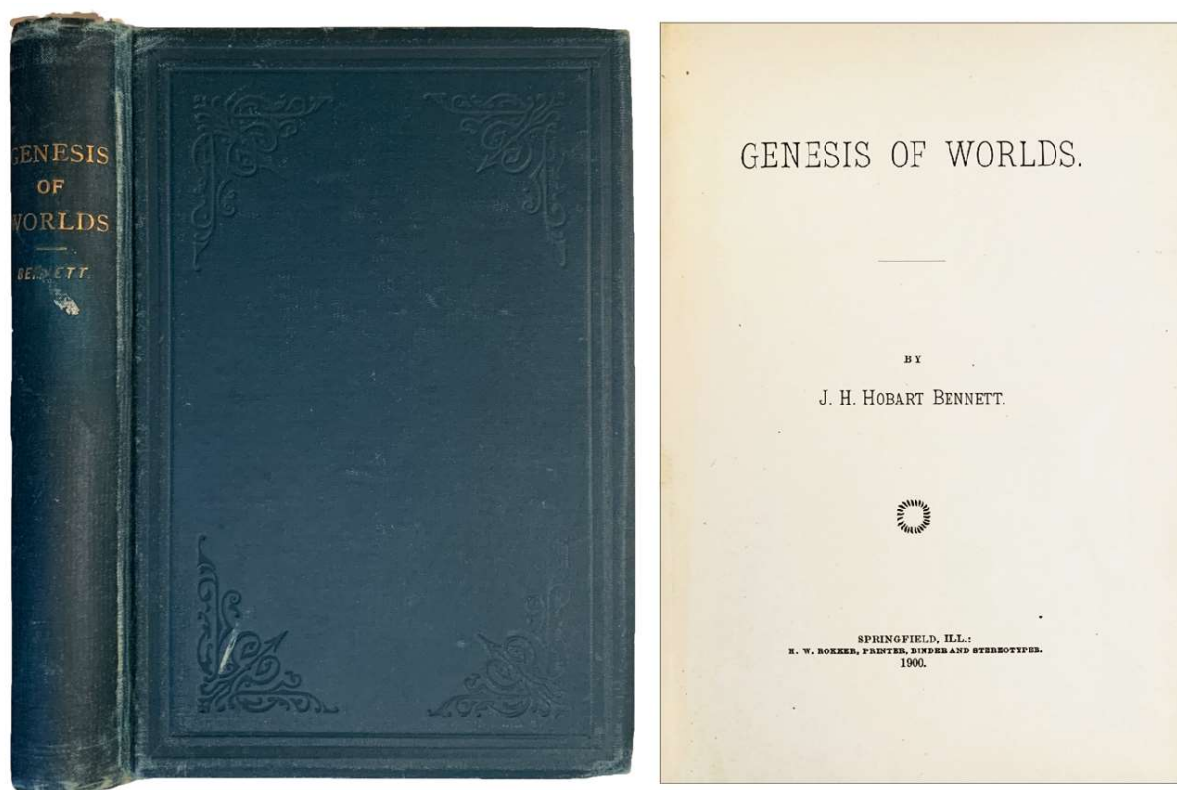
[112] Ball, Sun



112. **BALL, Robert Stawell** (1840-1913). *The Story of the Sun*. London: Cassell, 1893. ¶ 8vo. xii, 376, [18] pp. 11 chromolithographic plates (incl. frontis.), 81 figs.; waterstains to upper corners of early pages. Black gilt-stamped pictorial cloth, top edge gilt. Good. [RW1016]

\$ 40

First edition. Well-illustrated and beautifully illustrated text on solar science as it was understood in the late 19th century.

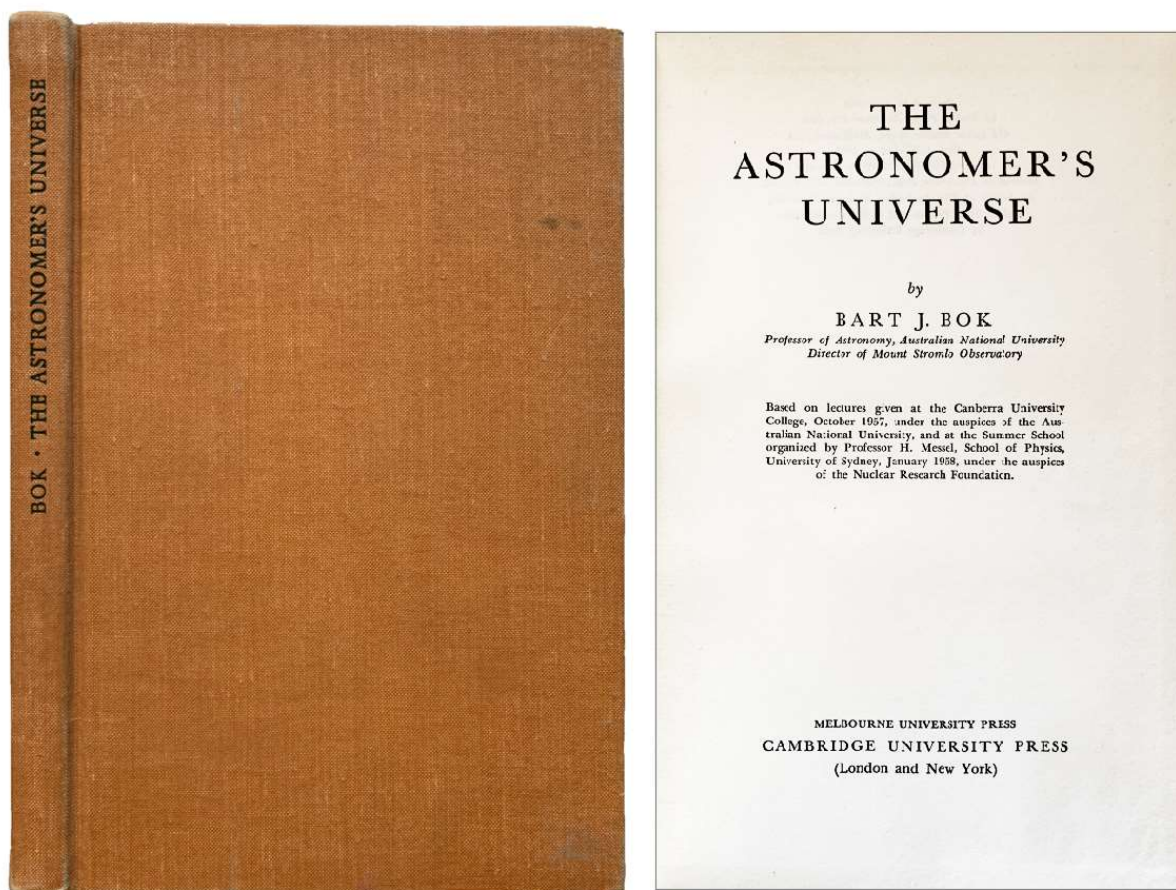


113. **BENNETT, J. H. Hobart**. *Genesis of Worlds*. Springfield, IL: H. W. Rokker, 1900. ¶ 8vo. xvi, 345, [1] pp. Errata slip. Original blind- and gilt-stamped dark green cloth; rubbed, inner joint strengthened with kozo. Very good. [SJ13483]

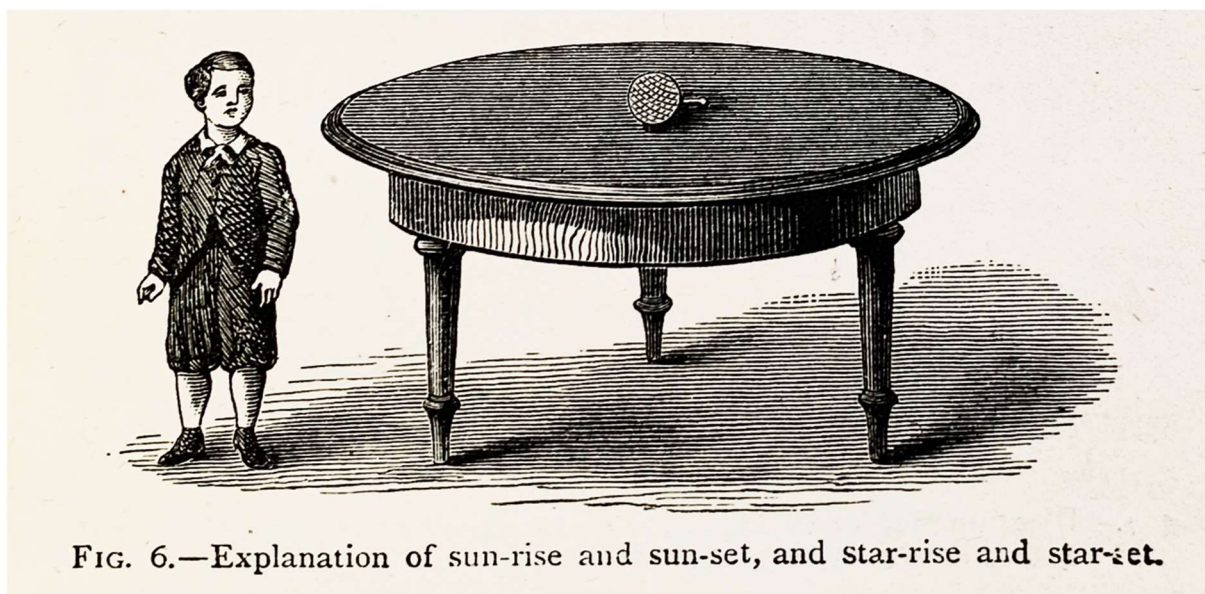
\$ 30

“This work . . . is the product of a mind deeply interested in the problems of cosmogony and apparently ready to accept the demonstrations of science, but yet still under the dominance of the traditional anthropic mode of thought.” -- [Review] *Journal of Geology*, Volume 8, Number 1 | Jan. - Feb., 1900.

CONTENTS: Nebular Hypothesis -- the Sun; Comets; Zodiacal Light; Transmutation of the Earth's Crust; Elevations -- Volcanoes; Generations of Stars; Dissolution of Worlds; Intelligencies -- Their Interests and Destinies.



114. **BOK, Bart Jan** (1906-1983). *The Astronomer's Universe*. London & New York: Cambridge University Press; Melbourne University Press, 1959. ¶ Reprinted. 8vo. xi, [1], 107, [1] pp. 16 plates, 7 figs., index. Original tan cloth stamped in black. Very good. S13993 \$ 5



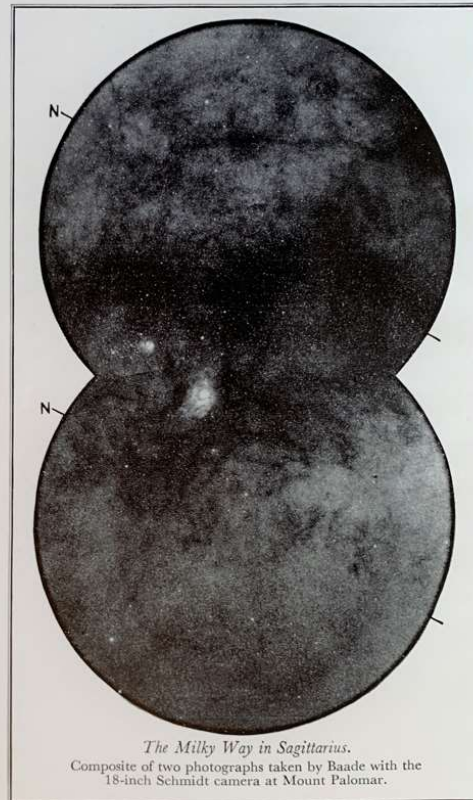
[171] LOCKYER





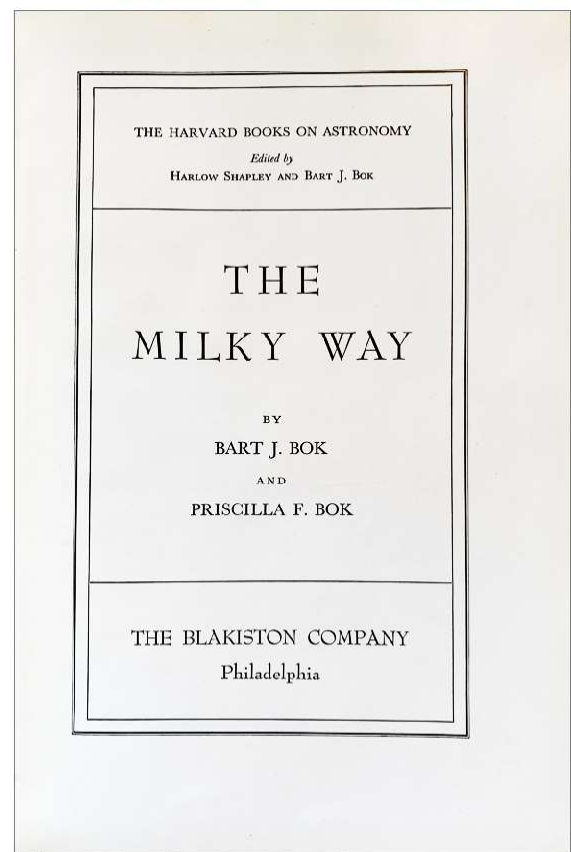
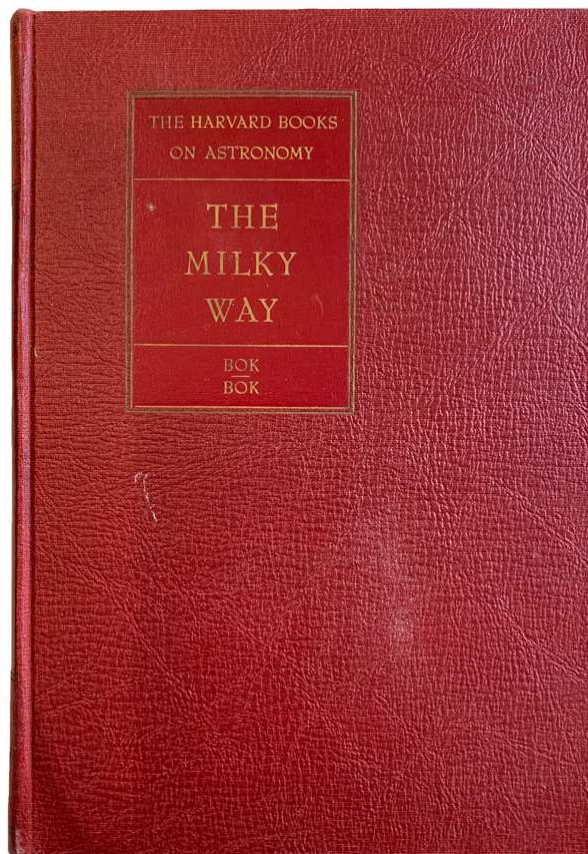
Fig. 67.—The Region of the Orion Nebula.

Stars and nebulae in Orion photographed by Tabor with the 10-inch Ross camera of the Cook Observatory. \*



The Milky Way in Sagittarius.

Composite of two photographs taken by Baade with the 18-inch Schmidt camera at Mount Palomar.



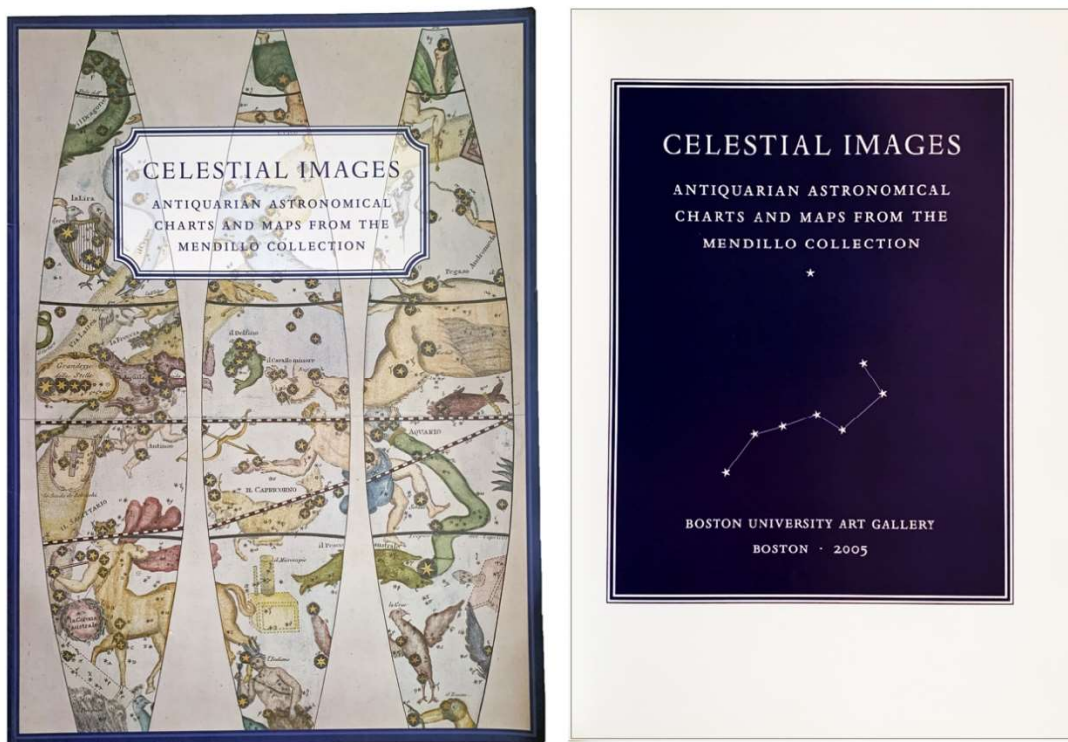
115. **BOK, Bart Jan** (1906-1983); **Priscilla F. BOK.** *The Milky Way*. Philadelphia: Blakiston, 1941. ¶ Series: Harvard Books on Astronomy. 8vo. [vi], 204 pp. Frontis., 92 figs., index, WITH THE 2 STAR MAPS INSERTED IN REAR POCKET; pencil marginalia and underlining and 3 ½ pages of pencil notes following the index. Red gilt-stamped cloth. Ownership name written-over in black marking pen. Very good (but noting the penciling). SCARCE. S13994

\$ 28

First edition. Bok is best known for his work on the structure and evolution of the Milky Way galaxy. This work helped to popularize the Milky Way, achieving five editions.

The Boks worked jointly on this book: “Priscilla and I were working on the writing of the book on the Milky Way, and she had a little room upstairs where she did all her writing. We lived in Lexington at the time. The cleaning woman would say to her, “Upstairs you go, you’ve gotta go to work, don’t just sit here and talk to me.” And she worked very hard at it, and in the beginning we had eight chapters in the book. We agreed that I would write four chapters and she would write four chapters, and that we loved each other dearly, no problems. Then, after we had gone through this for about five or six months and the writing was getting under way we said, “Now, you take my chapters, I’ll take yours, now we get a better homogeneous book.” Well, Priscilla stood one day in front of the fireplace, saying, “If you want to change things that way, my part can go in the fireplace right now.” She didn’t do it. But that was really the most critical time that we ever had in our married life, trying to meld these two times four chapters into eight chapters. But I think it worked out, and later on we did much better. We had fun about it. But I tell you, the writing of a joint book is not always easy, if you’ve got strong feelings about it.”





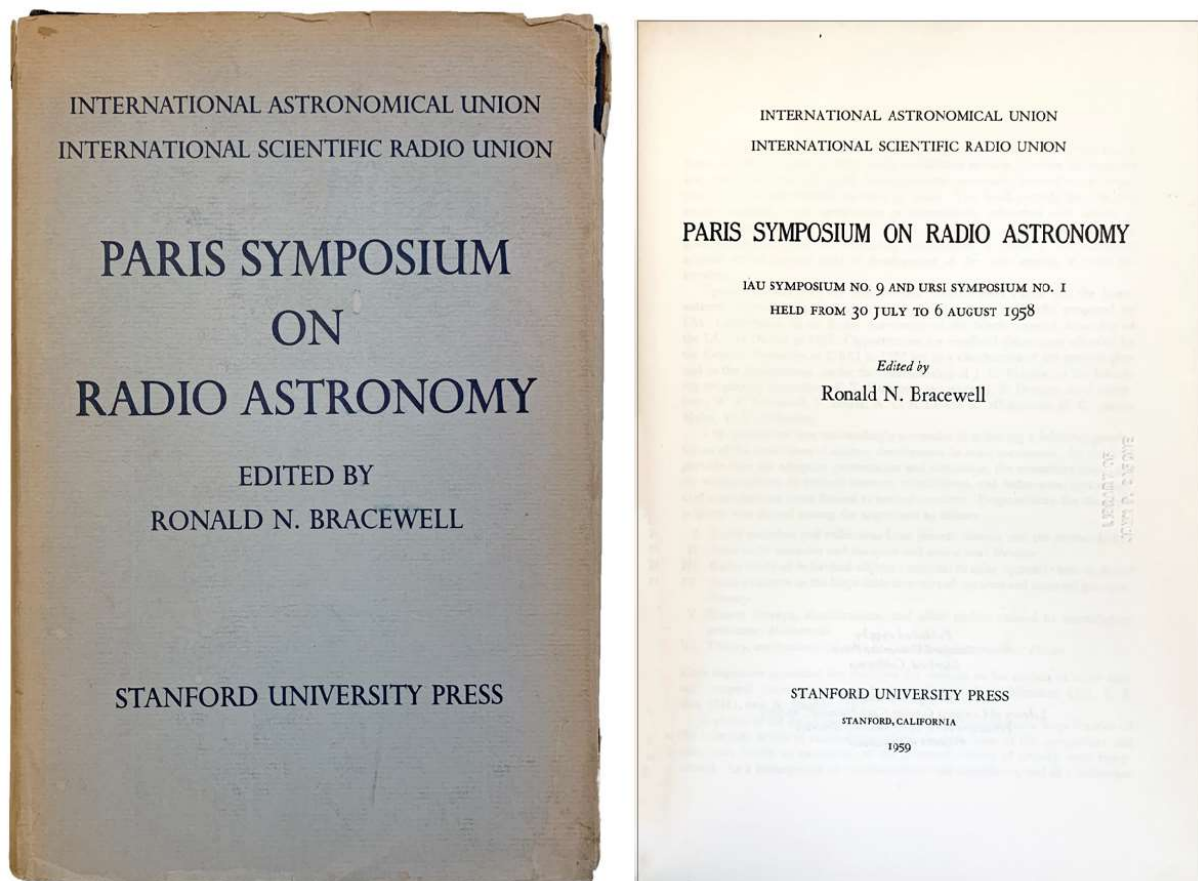
116. **Boston University; Michael MENDILLO; Patricia M. BURNHAM; Deborah Jean WARNER.** *Celestial images: antiquarian astronomical charts and maps from the Mendillo Collection.* Boston: Boston University Art Gallery, 2005. ¶ 4to. 87, [1] pp. Color illus. Printed wrappers. Very good+. [S13995] ISBN: 9781881450221

\$ 25

*Celestial Images* celebrates the Golden Age of astronomical charts. Illustrations of cosmologies and heavenly phenomena entered an innovative phase at the time of the Renaissance, when the invention of printing improved the means of disseminating scientific knowledge and advances in astronomy revealed new information to be portrayed. This fortuitous conjunction engendered printed astronomical charts of surprising accuracy and delicate beauty. Assembled here from the Mendillo Collection of Antiquarian Astronomical Charts and Maps are over eighty examples of some of the finest celestial cartography created. There are star charts (maps of the constellations and the full celestial sphere), charts of planetary systems (cosmologies), and a smaller third category, charts of celestial phenomena (such as nebulae, comets, and eclipses). Together, they pay homage to the time when simple systems explained the universe and humankind held friendly commerce with the skies.

CONTENTS: Introduction / Michael Mendillo; Celestial images: an overview / Patricia M. Burnham; Star charts: their lore and meaning / Deborah Jean Warner; The function of artistic form in the study of the stars / Samuel Y. Edgerton.

Michael Mendillo is professor of astronomy at Boston University.



117. **BRACEWELL, Ronald N.**, editor. *International Astronomical Union International Scientific Radio Union. Paris symposium on radio astronomy. IAU symposium no. 9 and URSI symposium no. 1 held from 30 July to 6 August 1958. Edited by Ronald N. Bracewell.* Stanford; Stanford University Press, 1959. ¶ 8vo. xii, 612 pp. Numerous figs. and diagrams, index. Cloth, dust-jacket; jacket edges worn, spine faded. Blind-stamp ownership mark of John P. Capone [?]; stamp of Everett H. Hurlburt. [S2587]

\$ 30

An early work studying current work on radio astronomy. Treats moon reflections, radio emissions from Jupiter, radio stars, etc.

A full table of contents is being shown on my website (until sold).

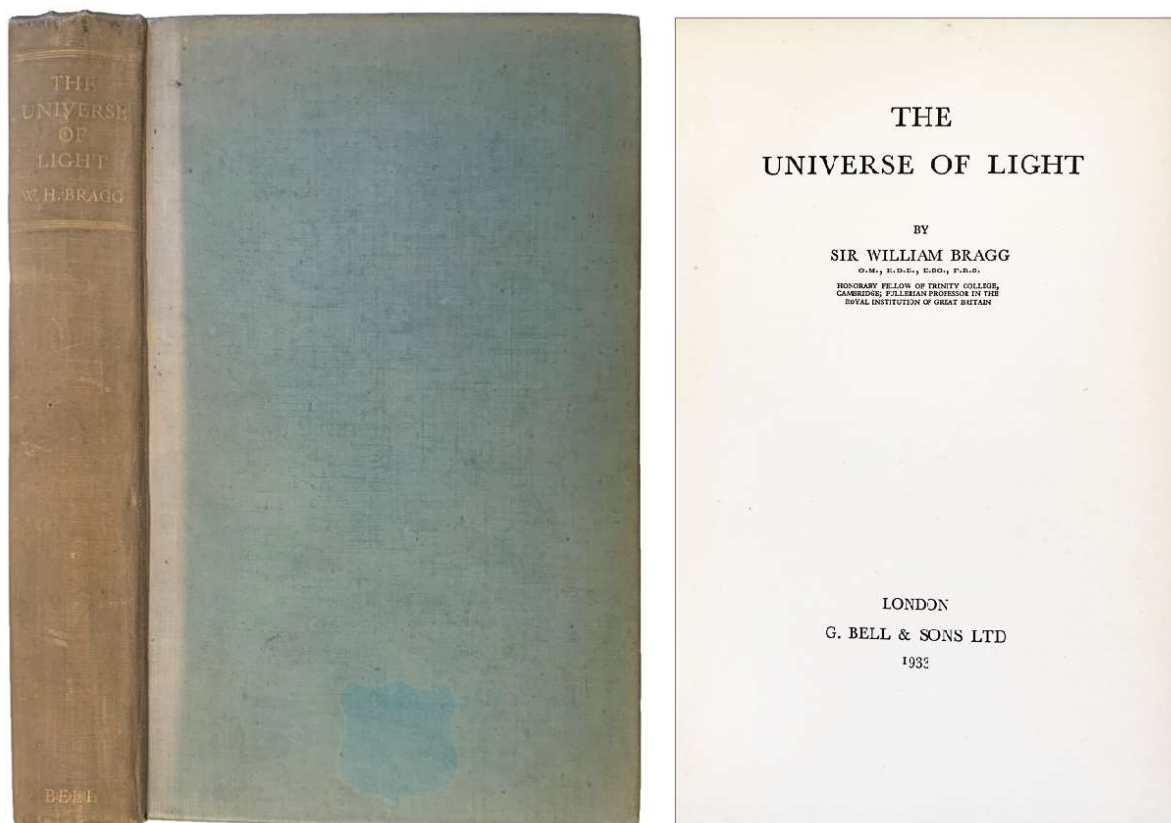
PROVENANCE: Everett Harrington Hurlburt (1910-1987), astronomer and physicist, was born in Cleveland, Ohio. He graduated from Western Reserve University with a B.A. in physics in 1933, followed by an M.A. from Harvard University in 1934 and a PhD from Ohio State University in 1940. He has worked as a physicist for the U.S. Naval Research



Laboratory (1942-1947); in the Microwave Standards Section of the National Bureau of Standards (1947-1950); in the Electromagnetic Division of the Naval Ordnance Laboratory (1951-1959); in the Electronics Branch of the Office of Naval Research (1959-1963); and as program director for the Astronomy Section of the National Science Foundation (1963-1970).



[118] Bragg



118. **BRAGG, Sir William** (1862-1942). *The Universe of Light*. London: G. Bell & Sons, 1933. ¶ 8vo. x, [2], 283, [1] pp. 26 plates (2 in color), 110 figures, index. Turquoise gilt-stamped cloth; spine faded, dust-soiled. Ownership signature of J. Fraser Nicol (d.1989). Very good. S13996

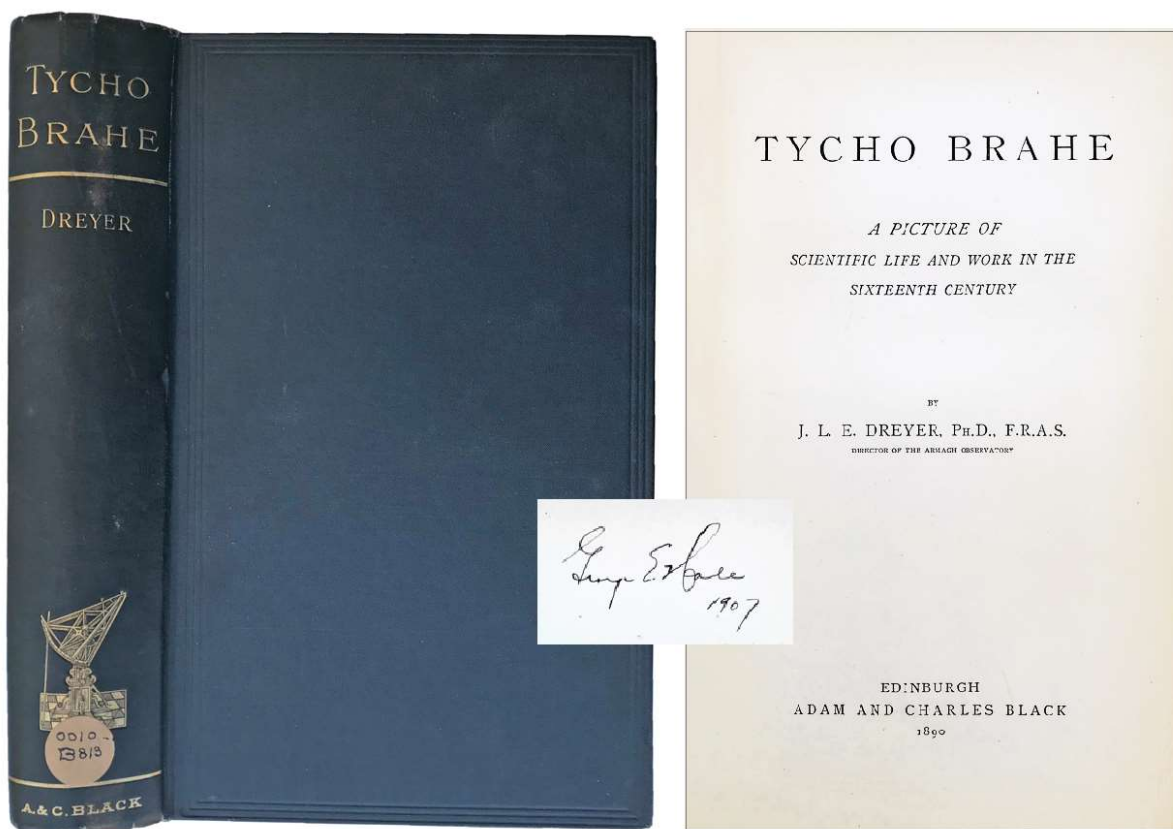
\$ 18

Bragg was joint winner with his son, Lawrence Bragg, of the Nobel Prize in Physics in 1915: "For their services in the analysis of crystal structure by means of X-ray".

PROVENANCE: J. Fraser Nicol was a British parapsychologist who carried out statistical experiments in ESP and psychokinesis.

**NOTE:** The cover art for this catalogue is an image from this volume.





*George E. Hale's copy, signed*

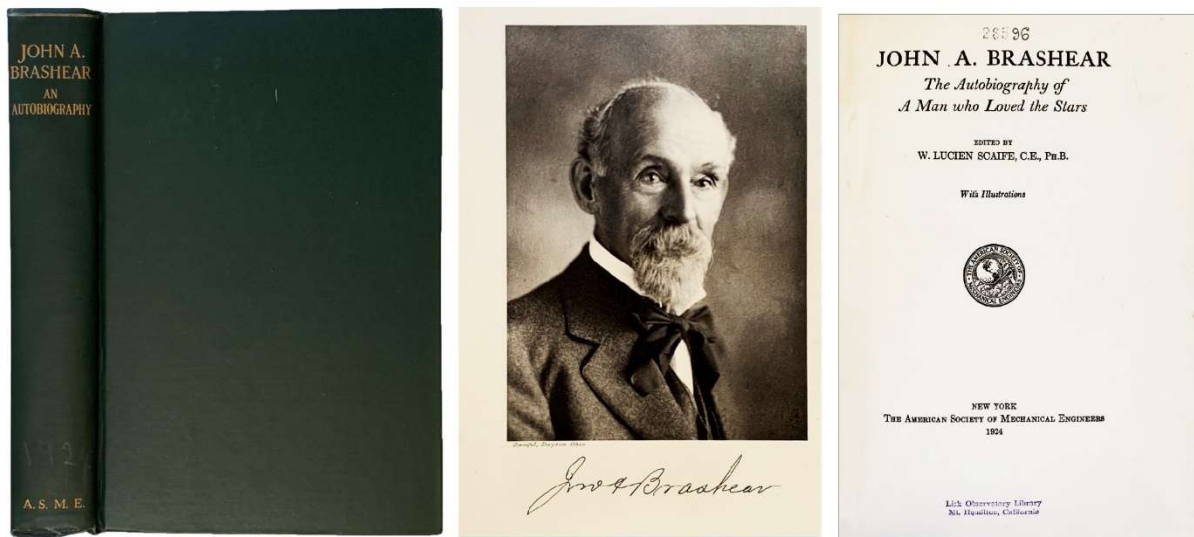
119. [BRAHE, Tycho (1546-1601)] DREYER, John Louis Emil (1952-1926). *Tycho Brahe; a picture of scientific life and work in the sixteenth century*. Edinburgh: Adam and Charles Black, 1890. ¶ 8vo. xvi, 405, [3] pp. Frontispiece, 4 plates, index, errata. Original navy blind- and gilt-stamped cloth. Small call no. label on spine. Embossed stamp of the Carnegie Institute, Mt. Wilson Observatory; SIGNED BY former owner, astronomer GEORGE E. HALE, 1907. Very good copy. [S13689]

\$ 850

First edition, INSCRIBED BY THE AUTHOR TO ASTRONOMER GEORGE ELLERY HALE. "The best single treatment of Tycho's life and work" -- C. Doris Hellman, *DSB*, vol. II, p. 415.

Dreyer, born in Copenhagen, studied astronomy under professional mentors for whom he worked in Parsontown, Ireland, Dunsink at Trinity College, Dublin, under Sir Robert Stawell Ball. From this point his career takes him to Armagh Observatory where he becomes its Director. Dreyer edited the 15 volumes collected works of Brahe. He won the Gold Medal of the Royal Astronomical Society in 1916 and served as the society's president from 1923 until 1925.

PROVENANCE: George E. Hale (1868-1938), his copy, Hale being the foremost astrophysicist of his day, was also director of the Mount Wilson Observatory.

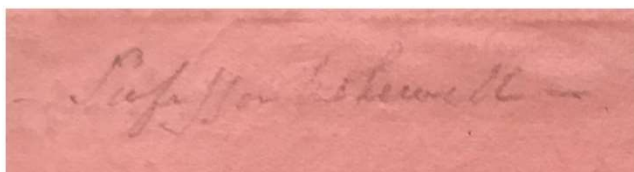
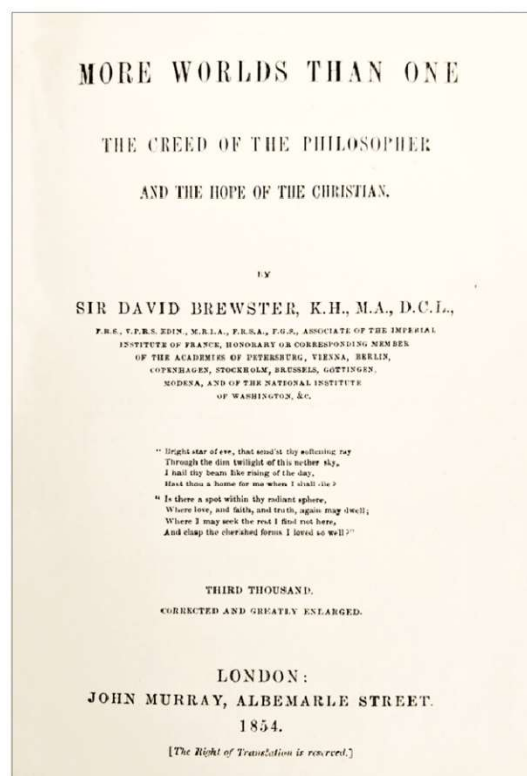
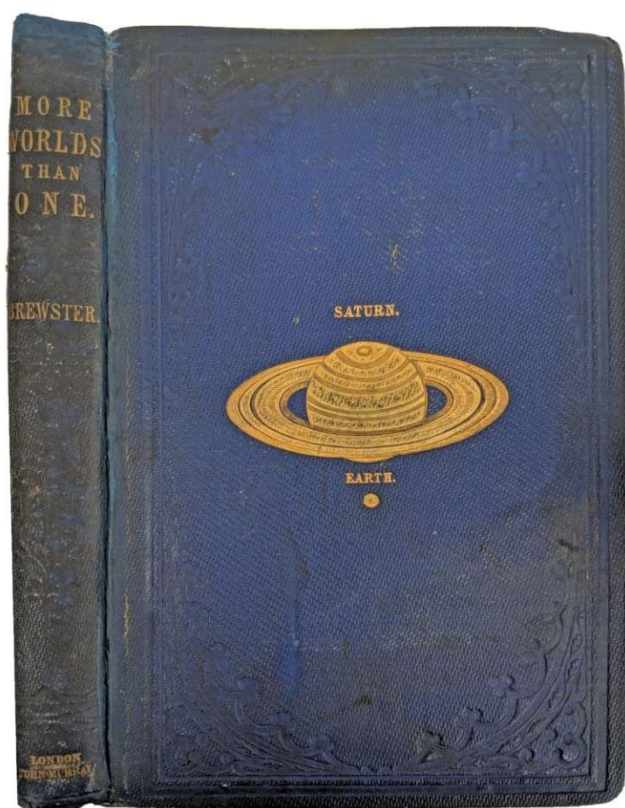


120. **BRASHEAR, John Alfred** (1840-1920); **SCAIFE, William Lucien** (ed.). *John A. Brashear: The Autobiography of a Man who Loved the Stars. With Illustrations.* New York: The American Society of Mechanical Engineers, 1924. ¶ 8vo. xxii, 262 pp. Gravure frontis. port. of Brashear with facsimile autograph and tissue guard, 21 plates, index. Green cloth, gilt-stamped spine title, t.e.g. Small rubber-stamp on title of the Lick Observatory Library, Mt. Hamilton, California, with additional 5-digit number placed above the title. Very good. S13997

\$ 20

“Ambrose Swasey was an American mechanical engineer, inventor, entrepreneur, manager, astronomer, and philanthropist. With Worcester R. Warner he co-founded the Warner & Swasey Company... In addition to army ordinance contracts, the firm of Warner & Swasey became notable for their work on astronomical observatories and equipment. They realized that obtaining contracts to build large astronomical observatories would provide publicity for their company. In 1885 Swasey completed work at McCormick Observatory on the 45-foot dome, which was the largest in the world, and had a unique, 3 shutter design. In 1887 Swasey built the mount for the 36-inch refracting telescope at Lick Observatory. In 1898 he manufactured a dividing engine for the U.S. Naval Observatory that was used to make the meridian circles. Both the building and dome of the Dominion Astrophysical Observatory were made by Warner and Swasey Co. Other observatory telescopes and components were built by the company at the Kenwood Observatory, Yerkes Observatory, Argentina National Observatory, and the Case Institute Observatory. From 1904 until 1905 he was the president of the American Society of Mechanical Engineers.” [Wikip.].





121. **BREWSTER, Sir David** (1781-1868). *More Worlds than One; The Creed of the Philosopher and the Hope of the Christian*. London: John Murray, 1854. ¶ Sm. 8vo. vii, [1], 262, 32 pp. Original blue blind- and gilt- stamped cloth; joints reinforced. Inscribed, lightly, "Professor Whewell" in his characteristic handwriting. Very good. **WHEWELL'S COPY OF BREWSTER'S REFUTATION OF HIS OWN WORK.** [RW1023]

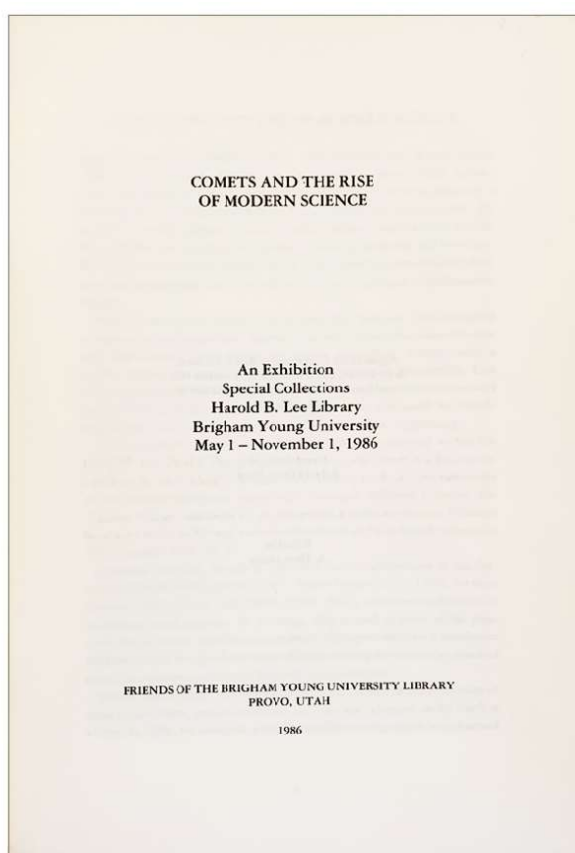
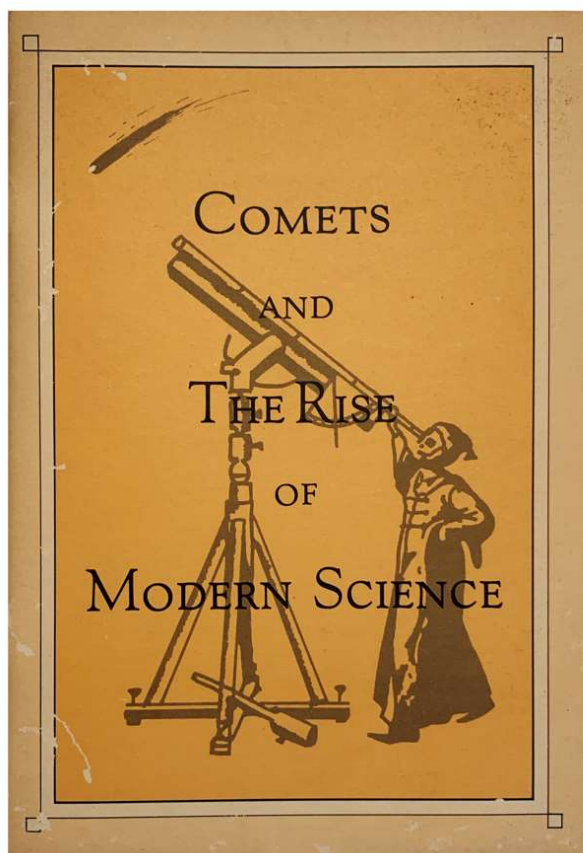
\$ 500

First edition. Brewster was a Scottish polymath principally interested in optics (he invented the kaleidoscope) and mathematics, though he was also a noted astronomer and historian of science. This book was intended as a rebuttal to what Brewster perceived to be religious obstructionism in the realm of astronomy, and more broadly to argue that the earth is not the only inhabited planet in the universe. "In the course of his long life the Scottish physicist David Brewster wrote copiously about the plurality of worlds. *More Worlds than One* (1854), perhaps his strongest statement on the question, was written as an answer to William Whewell's, *On the Plurality of Worlds* (1853), which argued that life was a privilege of the Earth." – Miguel de Asúa, *Journal of Astronomical History and Heritage*, 9(1); 83-92 (2006).

PROVENANCE: William Whewell (1794-1866) was an English scientist and philosopher, and the author of “*On the Plurality Worlds*” (1853), in which he argued that earth was probably the only inhabited planet in the universe. Brewster’s disdain for Whewell’s ideas is evident from his remarks in the preface, during which he describes the process of writing *More Worlds than One* largely as a result of an aborted attempt to review Whewell’s, *On the Plurality of Worlds* for the *North British Review*. He found Whewell’s theories so distasteful that he immediately set out to refute them.

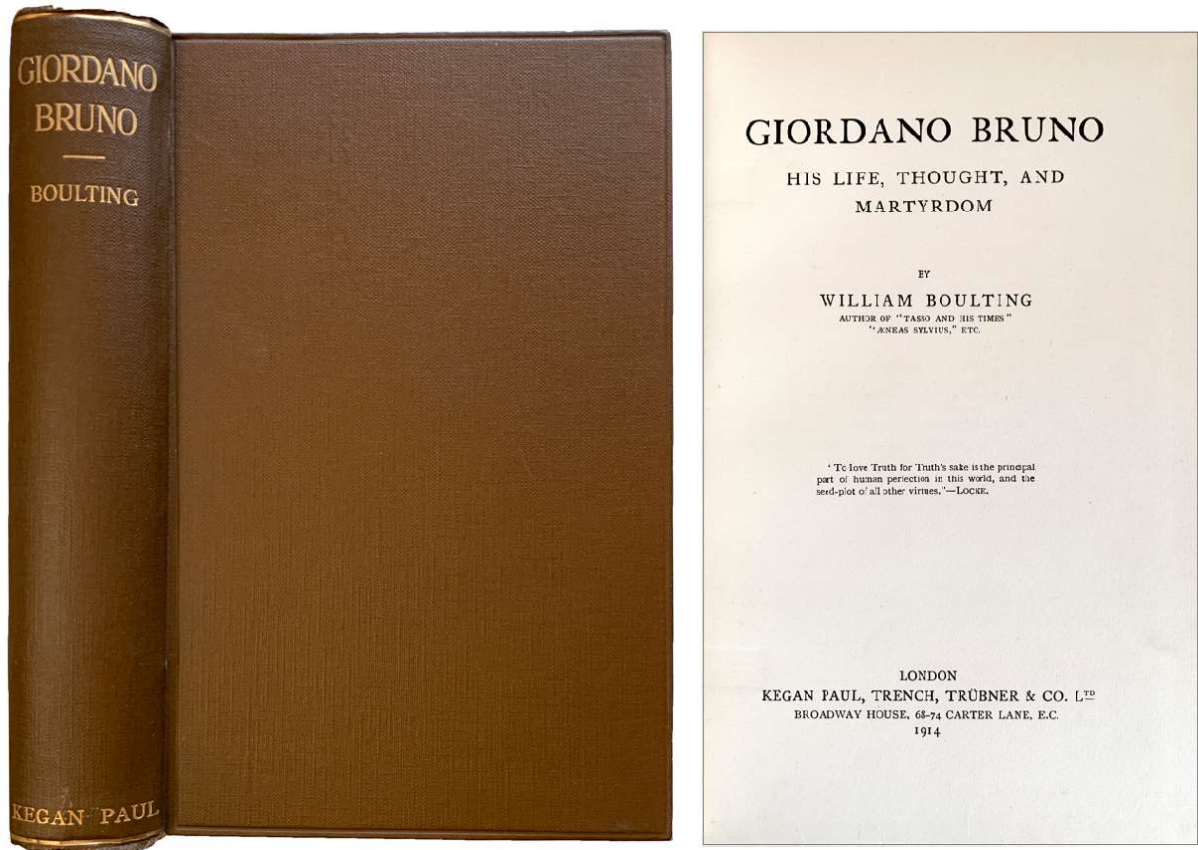
*affectionately yours*  
*Whewell*

Whewell’s handwriting in this book compares well with a published specimen of his handwritten signature and greeting [see above]. Note the connected ‘Wh’ with the curved aspect of the ‘h’, and more...



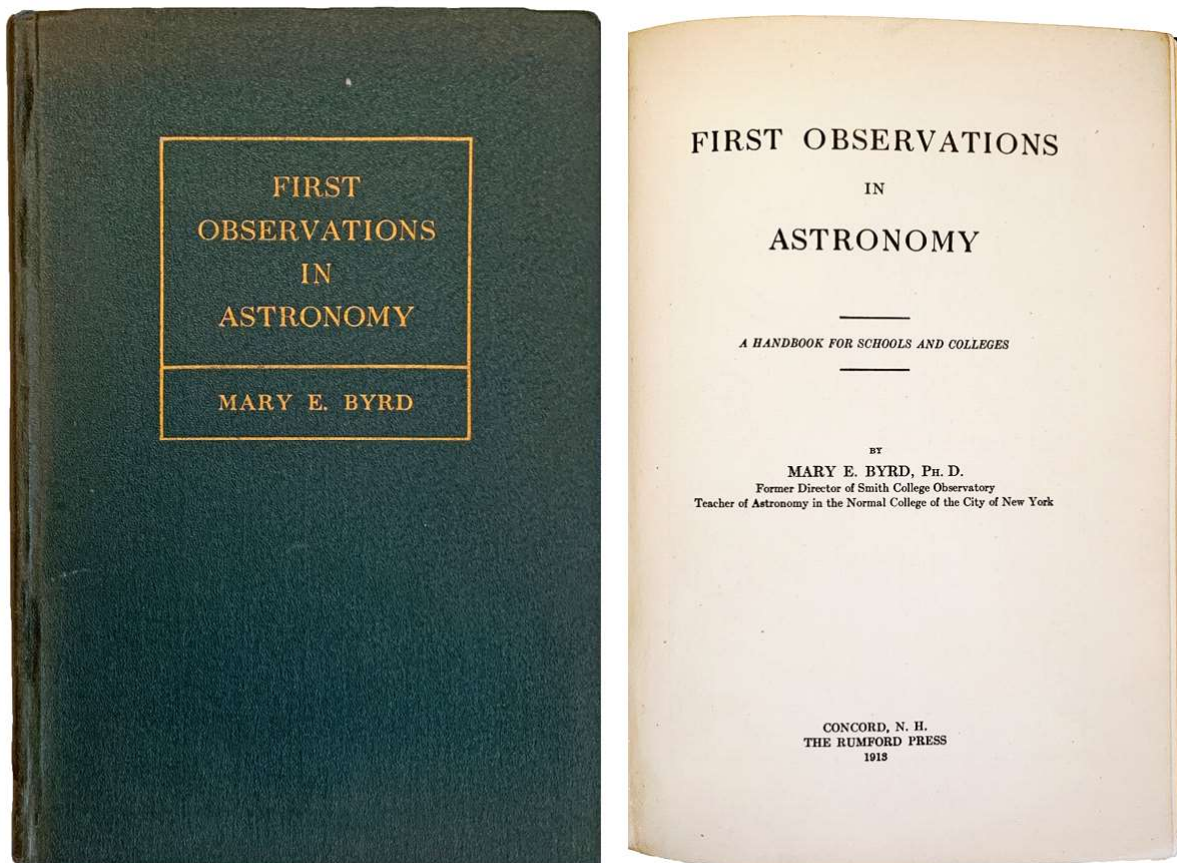


122. **Brigham Young University Libraries.** *Comets and the rise of modern science. An exhibition Special Collections Harold B. Lee Library, Brigham Young University, May 1-November 1, 1986.* Provo, UT: Friends of the Brigham Young University Library, 1986. ¶ 8vo. 38 pp. 10 illus. Printed wrappers; freckling. Good. S13998 \$ 10



123. **[BRUNO, Giordano (1548-1600)] William BOULTING.** *Giordano Bruno, his life, thought, and martyrdom.* London: Kegan Paul, Trench, Trübner, 1914. ¶ 8vo. viii, 315, [1] pp. Index. Original brown blind- and gilt-stamped cloth; a tad rubbed. Very good. \$ 95

Bruno, who was martyred for his beliefs and his “sharp tongue”, was “known for his cosmological theories, which conceptually extended to include the then novel Copernican model. He proposed that the stars were distant suns surrounded by their own planets, and he raised the possibility that these planets might foster life of their own, a cosmological position known as cosmic pluralism. He also insisted that the universe is infinite and could have no “center.” [Wikip.]. [S13999]



124. **BYRD, Mary E.** (1849-1934). *First Observations in Astronomy. A handbook for schools and colleges.* Concord, N.H.: The Rumford Press, 1913. ¶ 8vo. xi, [1], 126 pp. Frontis., 15 figs., index. Original dark green gilt-stamped cloth. Ownership inscription of Leland Erskin Cunningham. Very good. [\$14000]

\$ 15

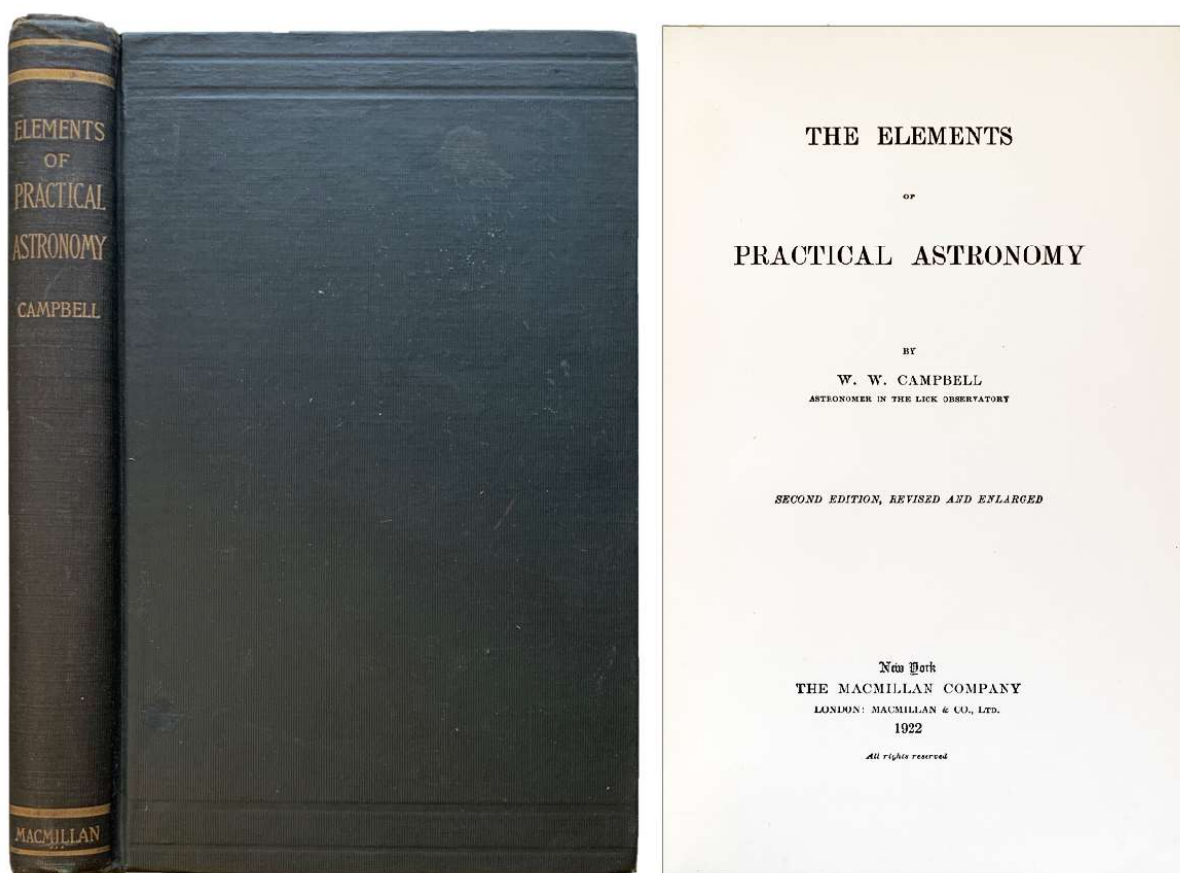
Byrd was a pioneering woman astronomer and teacher of astronomy.

Mary Emma Byrd was an American educator and is considered a pioneer astronomy teacher at college level. "In 1883 she became the First Assistant at the Godsell Observatory at Carleton College, and in 1887 she was appointed Director of the Smith College Observatory and professor of astronomy."

PROVENANCE: Leland Erskin Cunningham (1904-1989), Wiscasset, Maine, was an American astronomer.

See: Bailey, Martha J., "Byrd, Mary Emma (1849-1934), astronomer". In *American women in science, a biographical dictionary*. Santa Barbara, Calif., ABC-CLIO, 1994. p. 46.

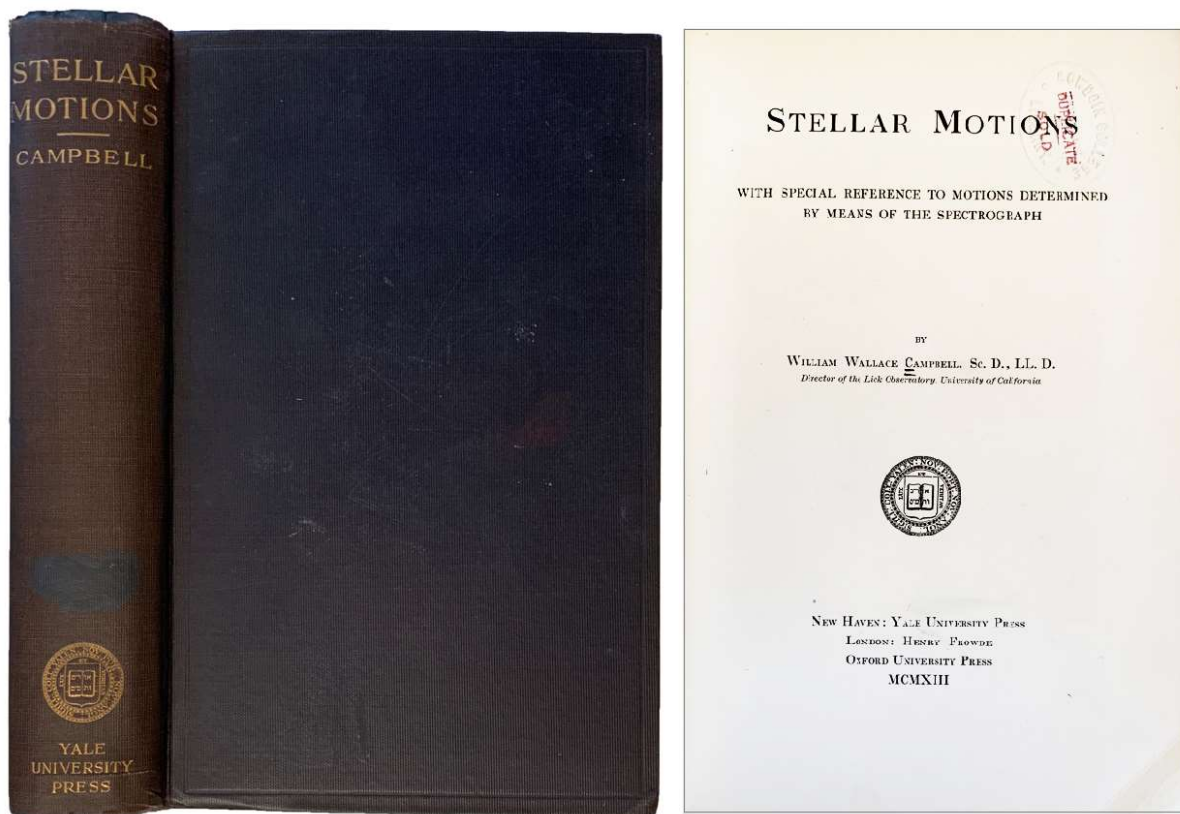




125. **CAMPBELL, William Wallace** (1862-1938). *The Elements of Practical Astronomy. Second edition, revised and enlarged.* New York: Macmillan, 1922. ¶ 8vo. xii, 264 pp. 28 figs., index. Original dark green blind- and gilt-stamped cloth. Very good. [S14001]

\$ 20

William Wallace Campbell was an American astronomer specializing in spectroscopy and served as director of Lick Observatory from 1901 to 1930.



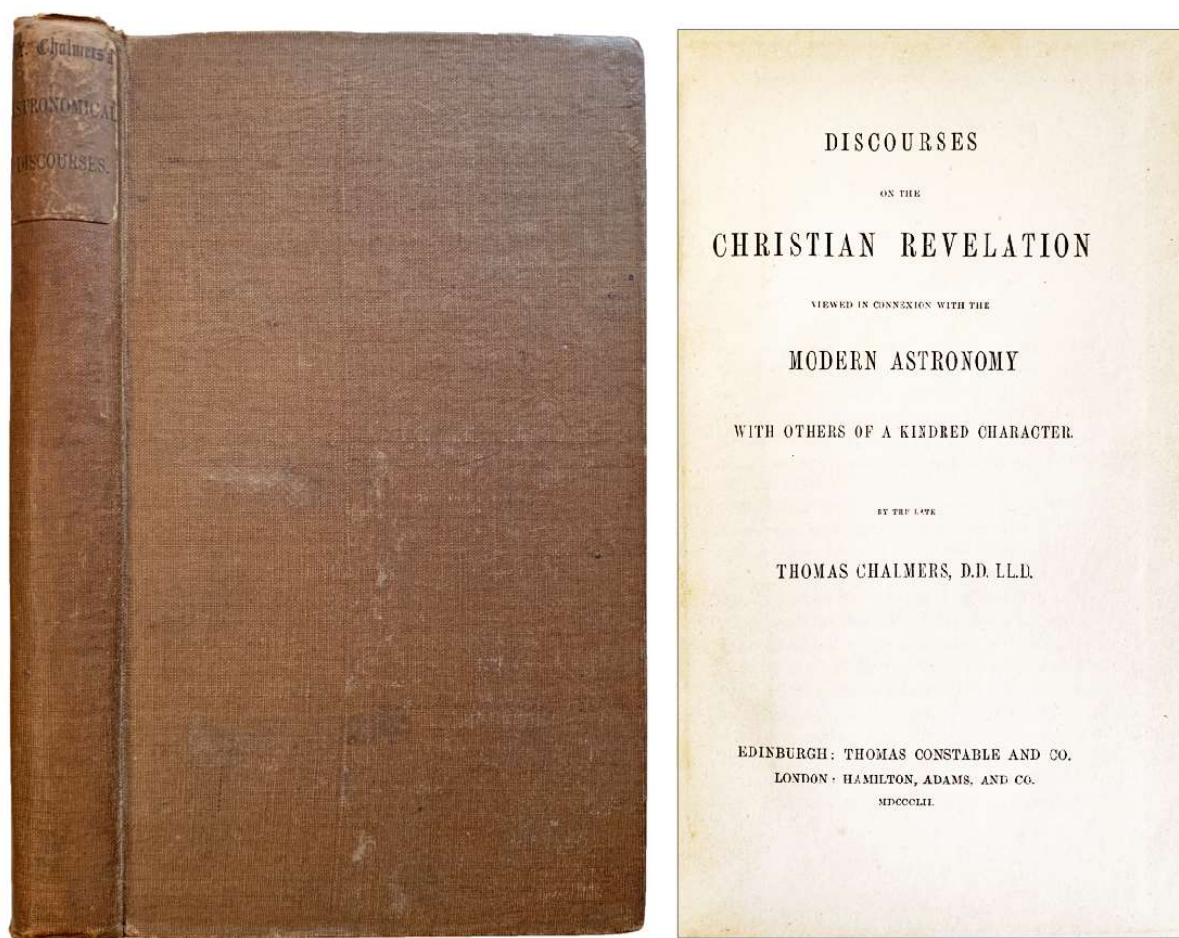
126. **CAMPBELL, William Wallace** (1862-1938). *Stellar Motions, with special reference to motions determined by means of the spectrograph*. New Haven: Yale University Press, 1913. ¶ 8vo. x, [4], 328 pp. Frontispiece portrait, plates, figs., tables, index. Original blind- and gilt-stamped navy blue cloth. Ex-library rubber-stamps (including on fore-edge), bookplate(s), rear pocket. Title embossed, duplicate rubber-stamp, and two ink marks under author's last name. Very good. [S14002]

\$ 20

“The contents of this book formed the Silliman Lectures in Yale University for the academic years 1909-1910.” “Numerous modifications of an entirely minor character have been made in the manuscript ...” – Preface.

William Wallace Campbell was an American astronomer specializing in spectroscopy and served as director of Lick Observatory from 1901 to 1930.



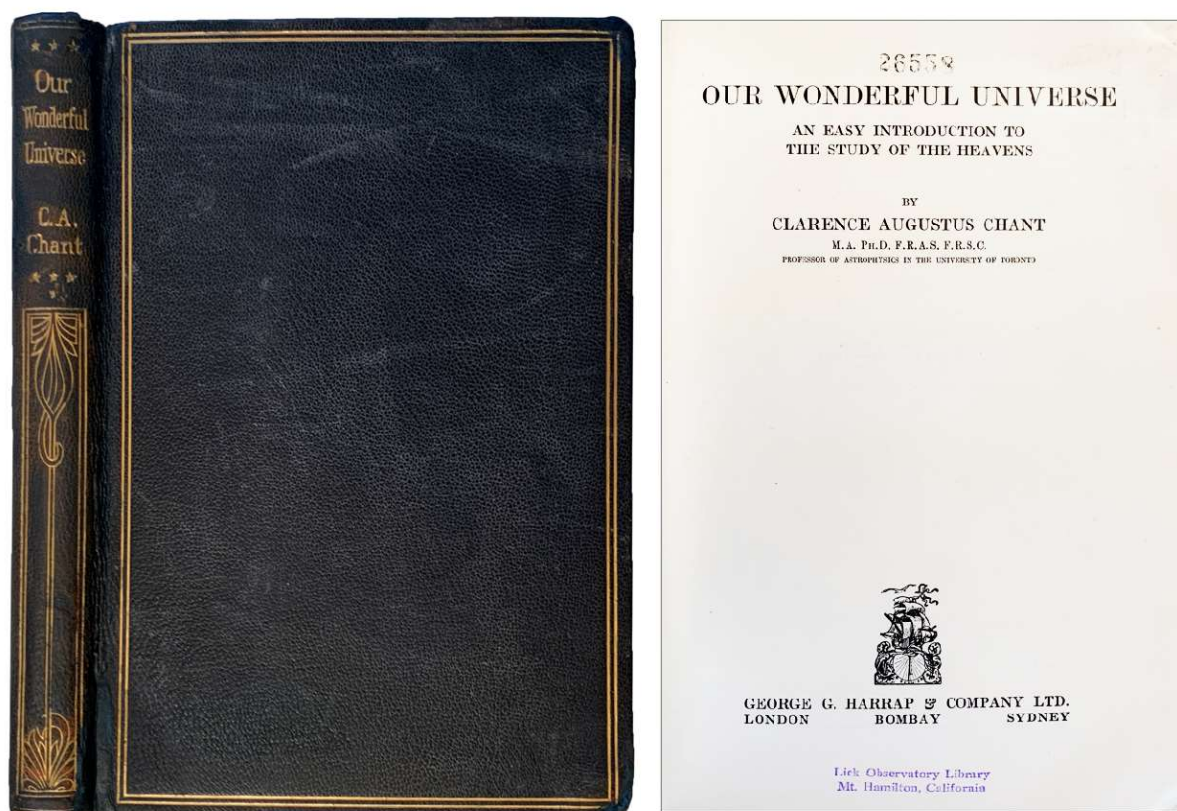


127. **CHALMERS, Thomas** (1780-1847). *Discourses on the Christian Revelation viewed in connexion with the modern astronomy with others of a kindred character*. Edinburgh: Thomas Constable; London: Hamilton, Adams, 1852. ¶ Two parts in 1. Small 8vo. xiii, [1], (15)-352 pp. Original brown cloth, printed paper spine label; label is darkened, some light wear to extremities. Ownership signature of William Ogilby, Kilcatten [House, Claudy, Ireland], 1854. Very good. Scarce. [SJ13490]

\$ 45

The religious viewpoint of God's universe.

**PROVENANCE:** William Ogilby FRAS FLS FZS FGS MRJA (1805–1873) was an Irish-born zoologist who was at the forefront of classification and naming of animal species in the 1830s and served as Secretary of the Zoological Society of London from 1839 to 1847. He removed to Ireland during the Great Famine and later built the grand but architecturally dismal Altinaghree Castle. [Wikip.] Ogilby was honorary secretary of the Zoological Society of London from 1839 to 1846.



*Inscribed Deluxe copy from the Author*

128. **CHANT, Clarence Augustus** (1865-1956). *Our Wonderful Universe; an easy introduction to the study of the heavens*. London: George G. Harrap, 1928. ¶ Small 8vo. 191, [1] pp. Frontis., 136 figs., index. Original full gilt-stamped navy blue morocco, t.e.g.; neat kozo repairs to corners and joint. INSCRIBED BY THE AUTHOR "To Worcester R. Warner with the compliments of the author ... recalling a pleasant visit to Hillholm [New York], December 26, 1928." Very good. [S14003]

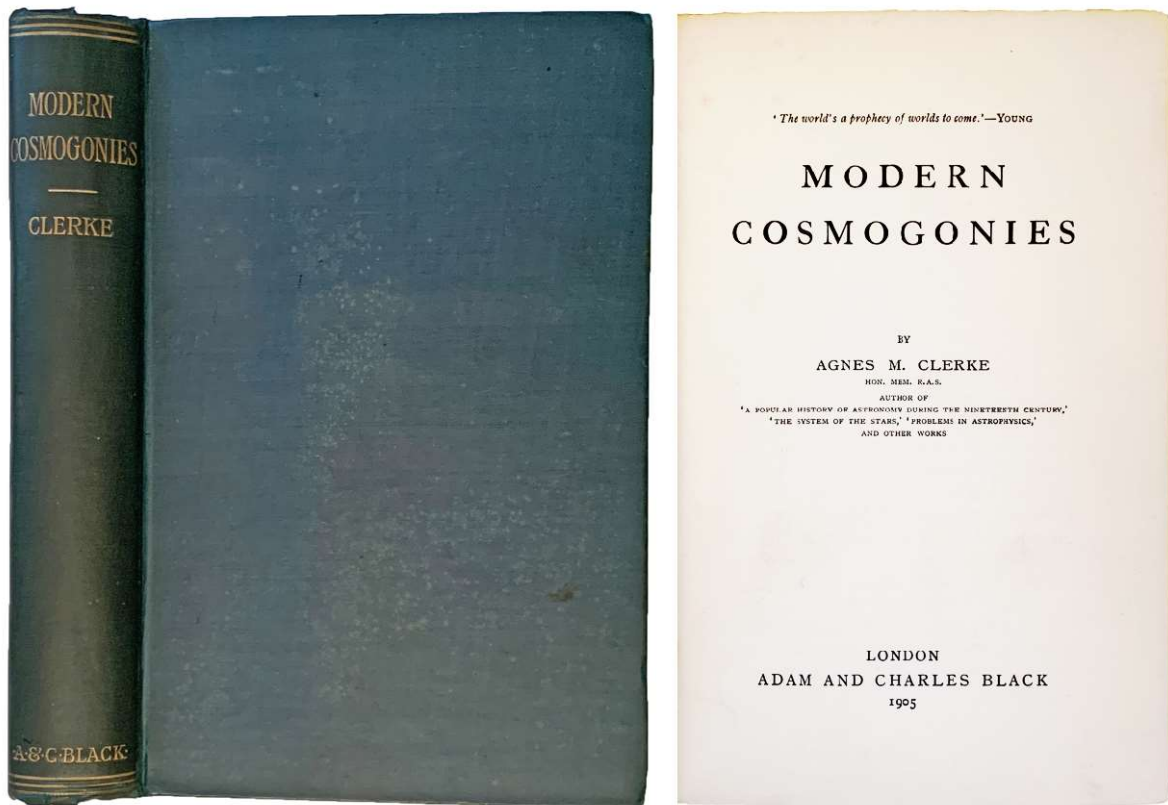
\$ 50

This book was normally issued in cloth. This copy is a deluxe form with a full morocco leather binding, top edge gilt.

Clarence Augustus Chant was a Canadian astronomer and physicist.

PROVENANCE: Worcester Reed Warner (1846-1929), was a founder of *Warner & Swasey Co.* and inventor of telescopes.





129. **CLERKE, Agnes M.** (1842-1907). *Modern Cosmogonies*. London: Adam and Charles Black, 1905. ¶ 8vo. vii, [1], 287, [1] pp. Index. Original steel-blue gilt-stamped cloth. Bookplate of Arthur E. Covington, Ottawa, Canada. [S14004]

\$ 20

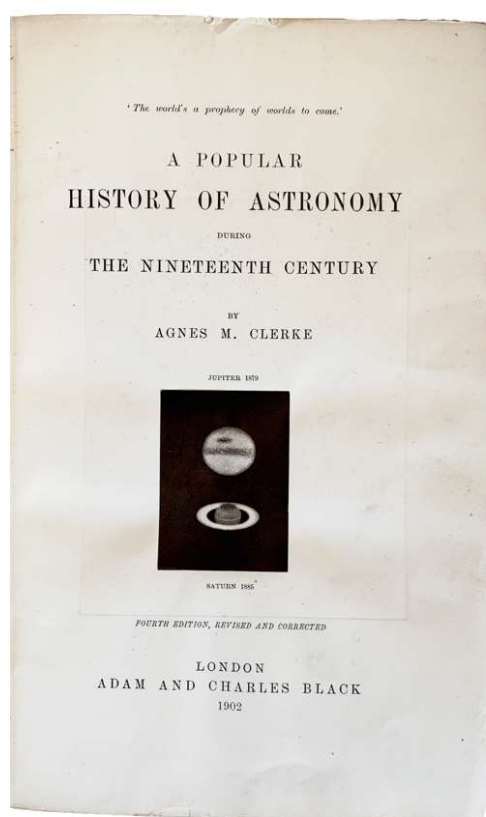
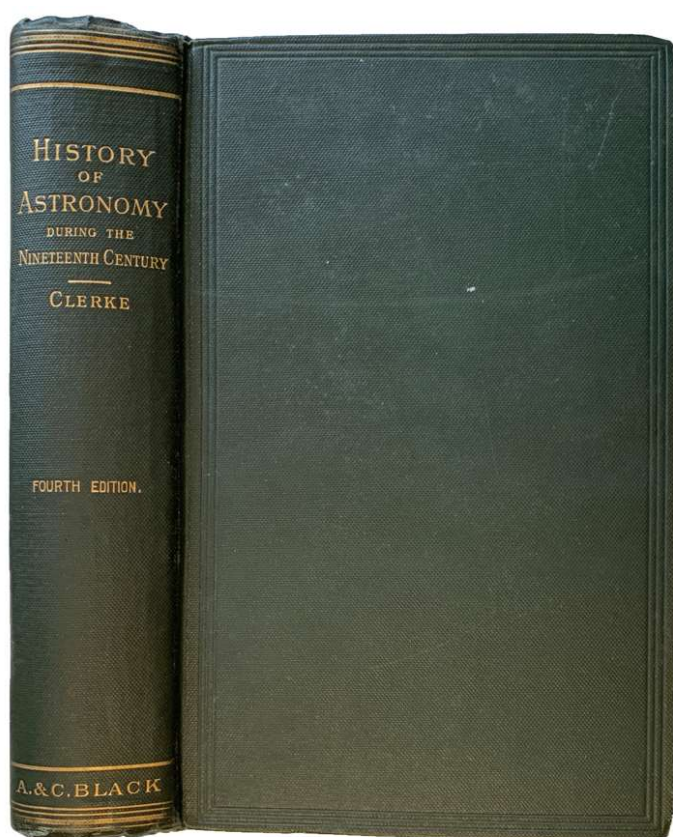
First edition. Clerke's writings on physical astronomy were very important and well respected.

CONTENTS: From Thales To Kant; The Nebular Hypothesis; Criticisms of the Nebular Hypothesis ;The Nebular Hypothesis varied and improved; Tidal friction as an agent in cosmogony; The fission of rotating globes; World-building out of meteorites; Cosmogony in the twentieth century; Protyle: What is it?; Universal forces; The inevitable ether; The forms of nebulae; The procession of suns; Our own system; Remnants and survivals; Life as the outcome; Index.

PROVENANCE: Arthur Edwin Covington (1913-2001) was a Canadian physicist who made the first radio astronomy measurements in Canada.

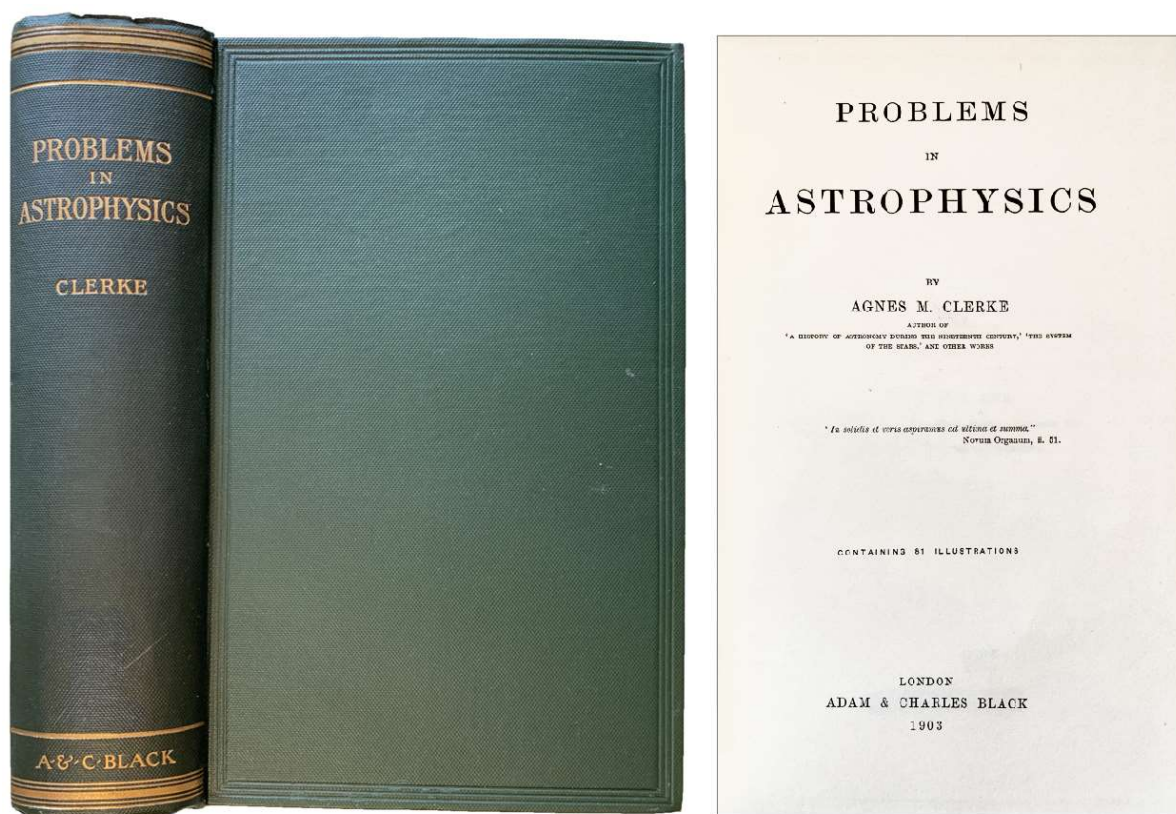


[130]



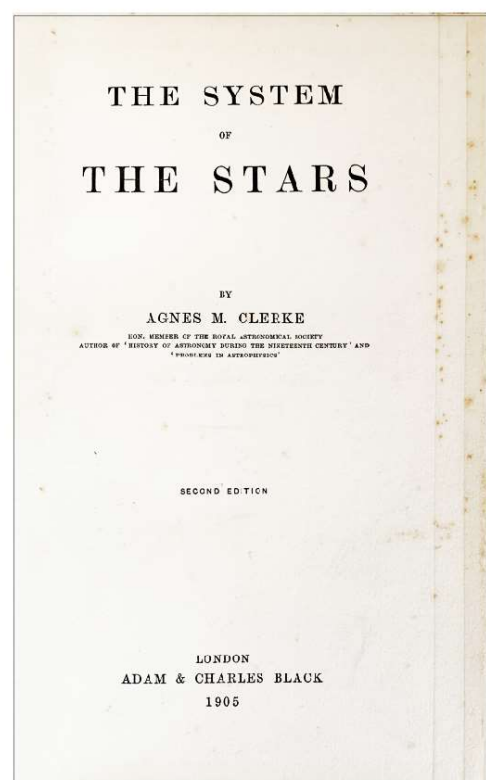
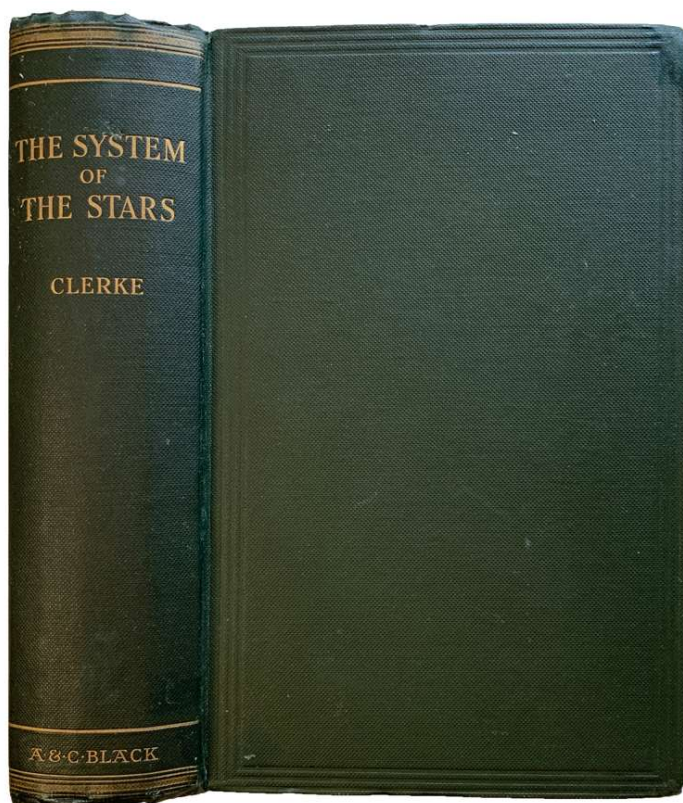
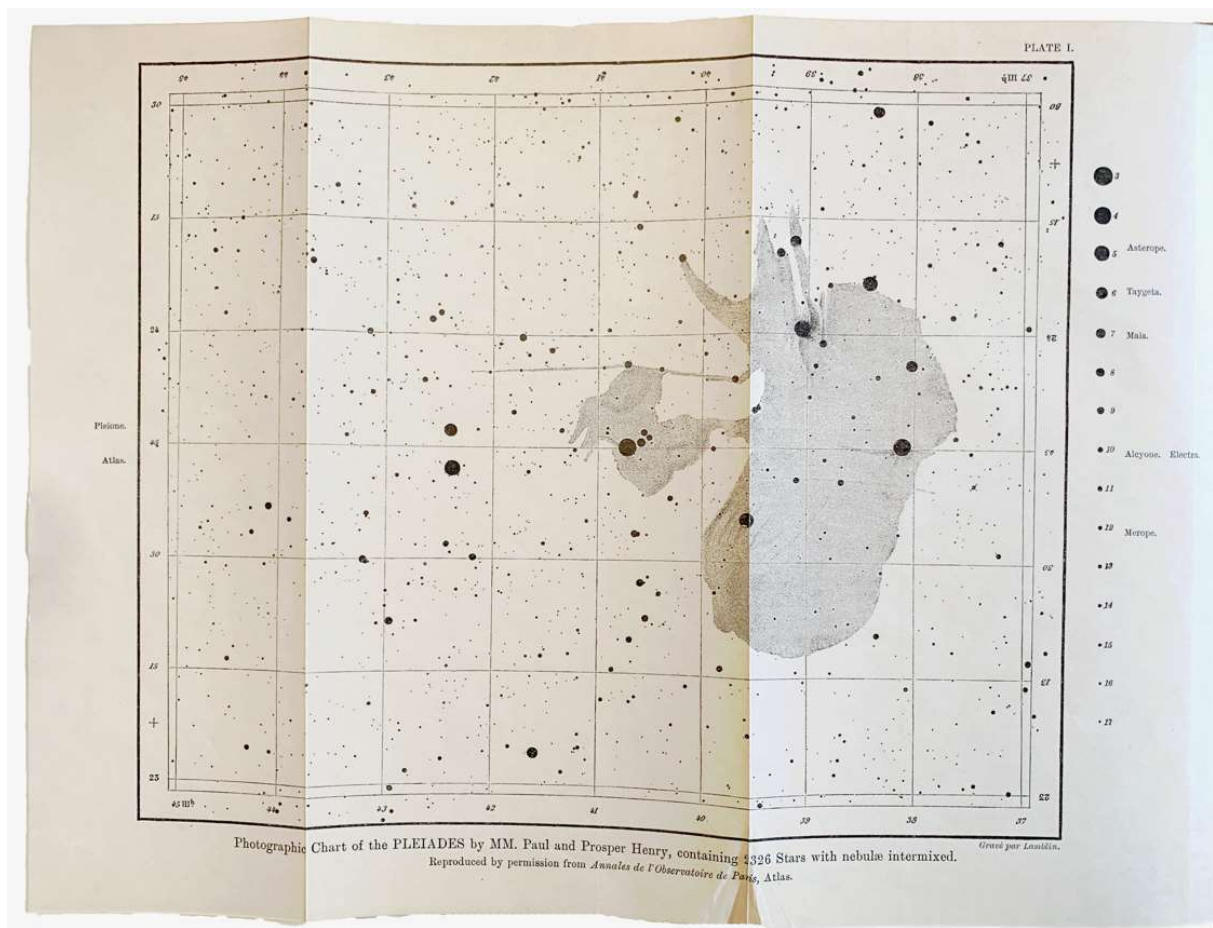


130. **CLERKE, Agnes M.** (1842-1907). *A Popular History of Astronomy during the nineteenth century. Fourth edition, revised and corrected.* London: Adam and Charles Black, 1902. ¶ At head of title: 'The world's a prophecy of worlds to come.' 8vo. xv, [3], 489, [3] pp. Original mounted photographs for the frontispiece and the title-vignette, 6 plates, index; occasional light foxing, frontispiece torn at upper margin (does not affect the photo image). Original dark green blind- and gilt-stamped cloth. Very good. [S14005] \$ 50



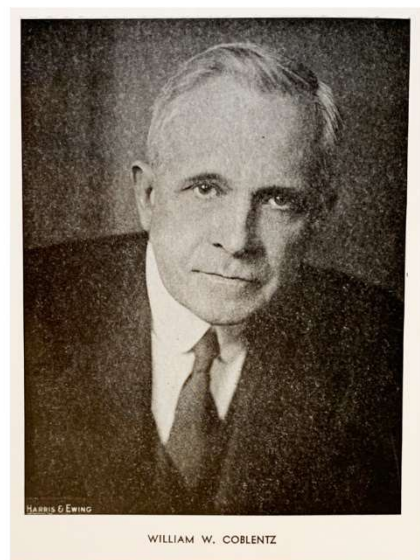
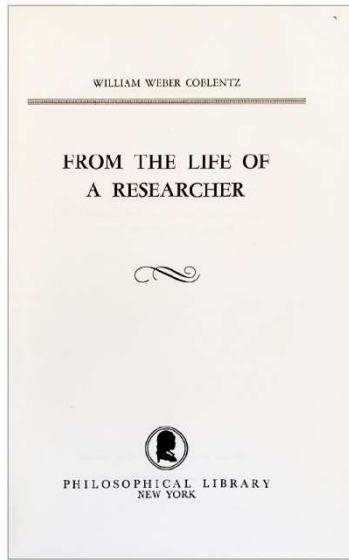
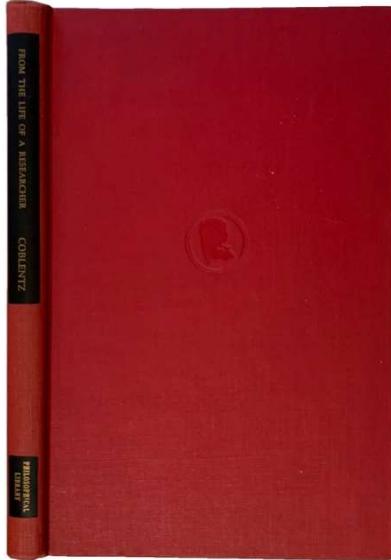
131. **CLERKE, Agnes M.** (1842-1907). *Problems in Astrophysics.* London: Adam & Charles Black, 1903. ¶ 8vo. xvi, 567, [1] pp. 31 plates, 50 figures, index; small rubber-stamp on title recto. Original blind- and gilt-stamped dark green cloth; spine library call number neatly painted-over. Bookplates of Pauline Fore Moffitt (UC Berkeley, General Library), and James K. Moffit, 1903. Nice copy. \$ 50

PROVENANCE: James Kennedy Moffitt (1865-1955), former Chairman of the Crocker First National Bank, and served as Vice-President of the Astronomical Society of the Pacific. [S14006]





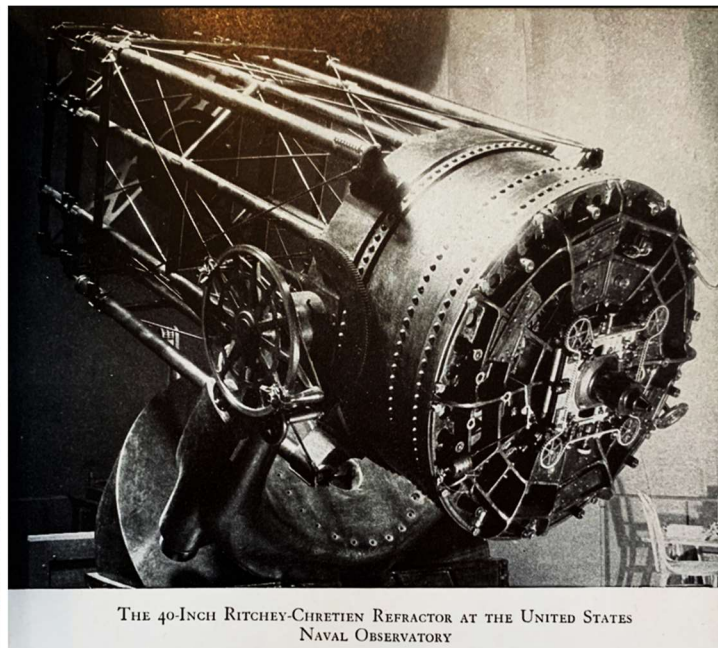
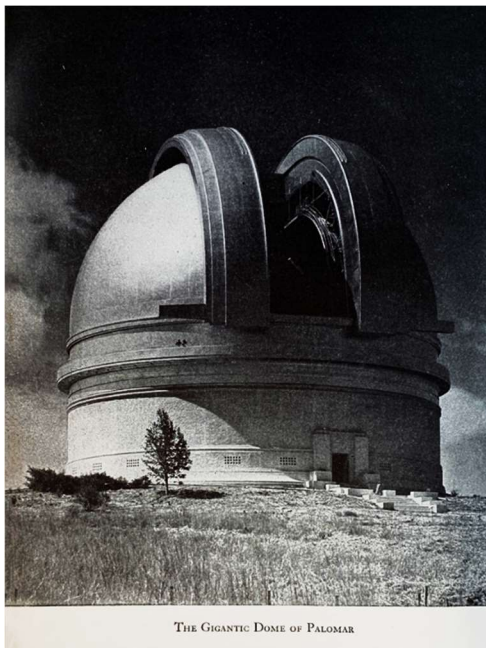
132. **CLERKE, Agnes M.** (1842-1907). *The System of the Stars. Second edition.* London: Adam & Charles Black, 1905. ¶ 8vo. xvi, 403, [1] pp. 38 figs., 20 plates (including the folding frontispiece), index; foxed. Original blind- and gilt-stamped dark green cloth. Very good. [S14007] \$ 45



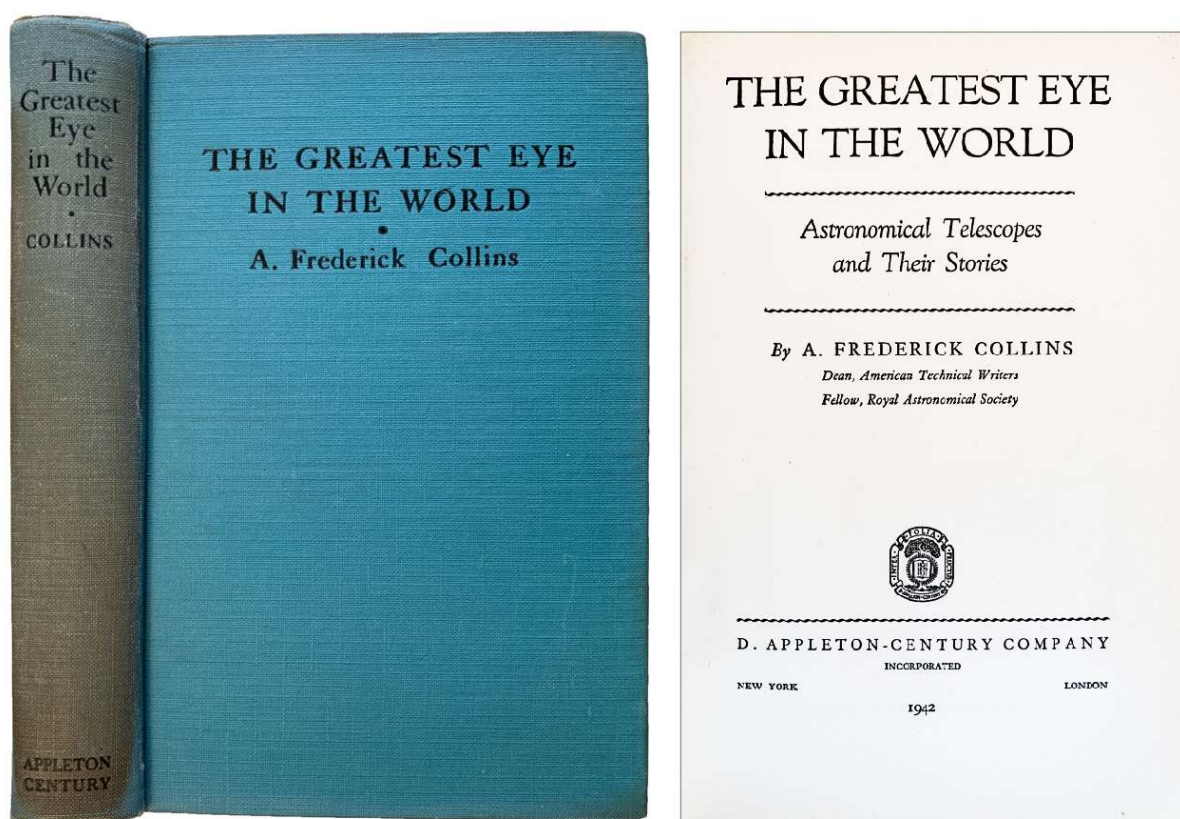
133. **COBLENTZ, William Weber** (1873-1962). *From the Life of a Researcher.* New York: Philosophical Library, 1951. ¶ 8vo. xi, [5], 238 pp. Frontis., figs., index. Original red cloth, black spine title with gilt-stamping. Former ink ownership inscription. Very good. [S14008]

\$ 10

William Weber Coblentz was an American physicist notable for his contributions to infrared radiometry and spectroscopy. [Wikip.].



[134]

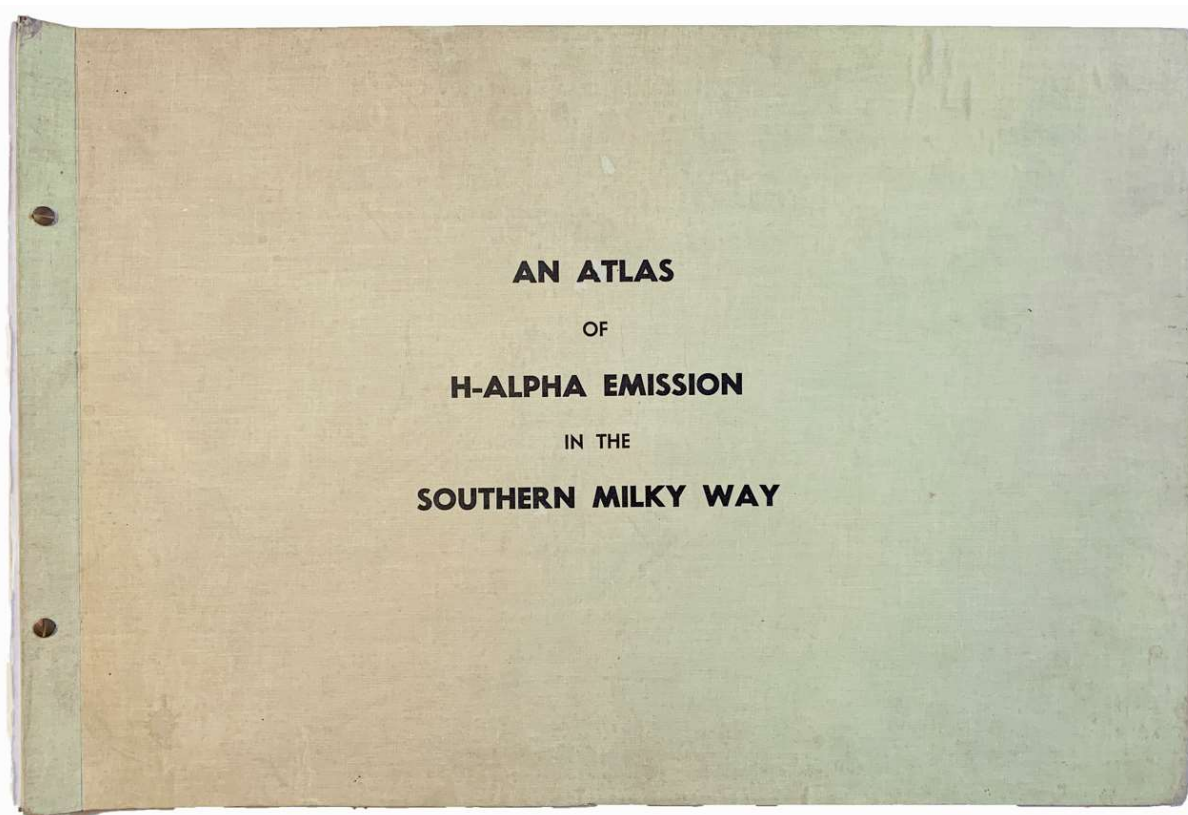


134. **COLLINS, A. Frederick [Archie]** (1869-1952). *The Greatest Eye in the World; astronomical telescopes and their stories*. New York: D. Appleton, 1942. ¶ 8vo. xviii, [2], 266 pp. Frontispiece plate, 51 numbered figs., 25 photo illus., index. Original black-stamped turquoise cloth. Ownership signature of A.B. Moulton, New York. This copy was clearly in a fire at one time and the book retains some smoke markings, particularly to the fore-edges and the 'blown'-in smoke marks on the endleaves. Good. Surprisingly scarce. [S14009]

\$ 12.95

Gives histories of some of the most important American and British observatories: Royal Observatory at Greenwich, the US Naval Observatory, Harvard College, Yale, Lowell Observatory, Lick Observatory, Yerkes Observatory, Mount Wilson Observatory, and Palomar Observatory.





[135] *Southern Milky Way*

*Mount Stromlo Observatory Photographs of the Southern Milky Way*

135. **Commonwealth Observatory (Australia); Alexander William RODGERS** (1932-1997). *An Atlas of H-Alpha Emission in the Southern Milky Way*. Canberra: Mount Stromlo Observatory, 1960. ¶  
Large Atlas folio [41 x 61 cm]. [2] ff. 5 plates with facing printed identification charts. Beige cloth, with screw-fasteners. Very good. Rare. [S14010]

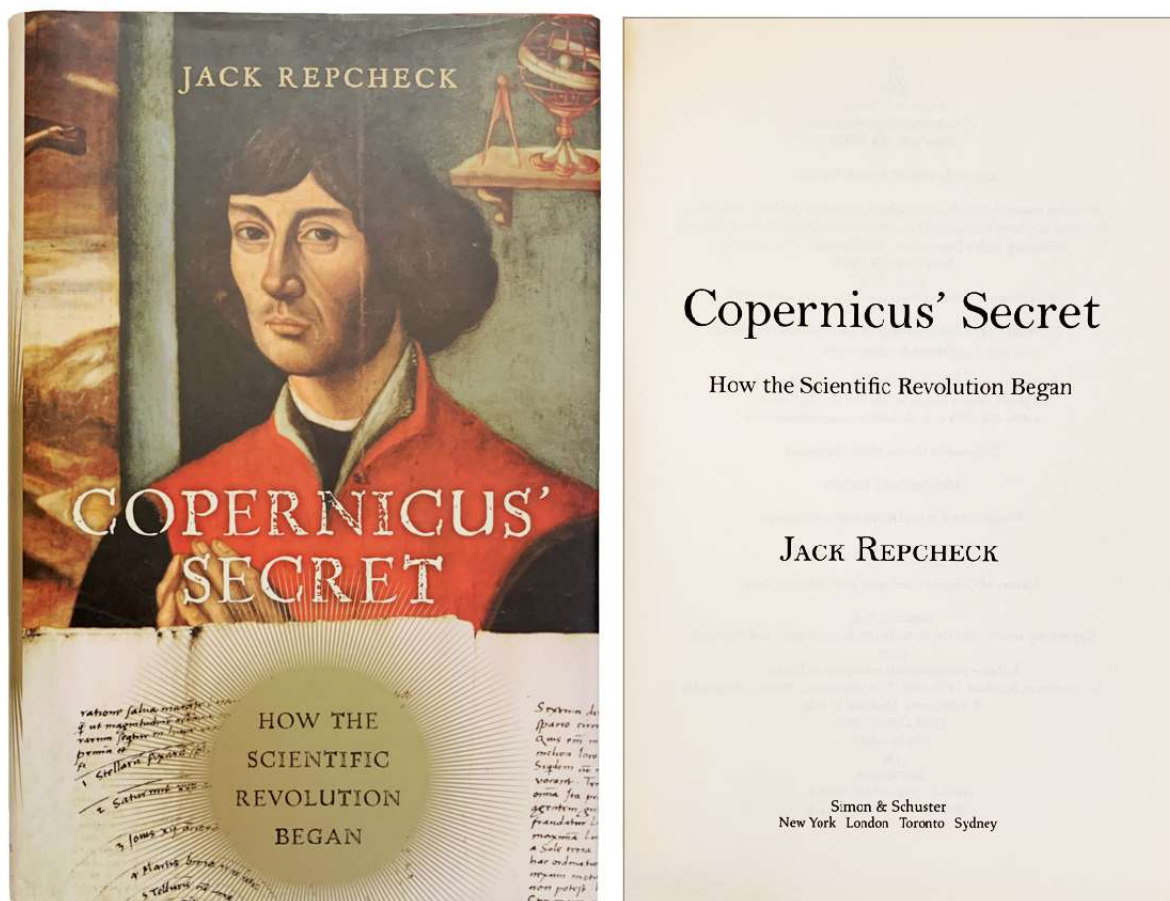
\$ 195

Co-authors: Colin T. Campbell, John Bartlett Whiteoak, H.H. Bailey, V.O. Hunt. Bart J. Bok was director of the Mount Stromlo Observatory at the time of this publication.

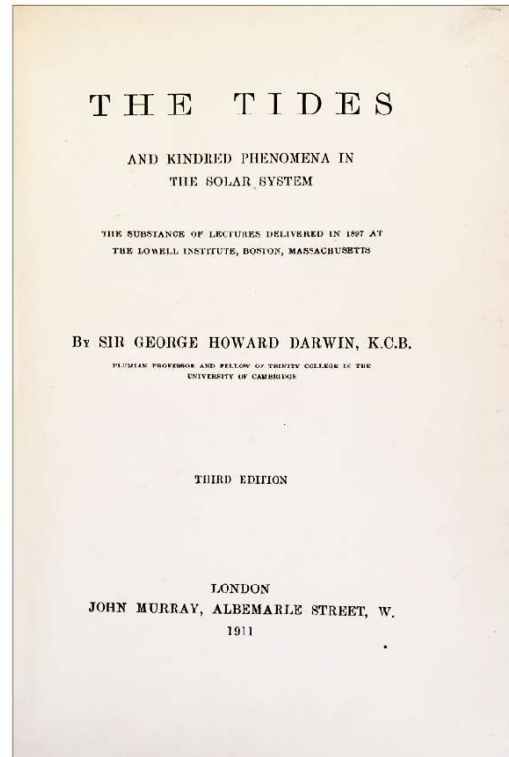
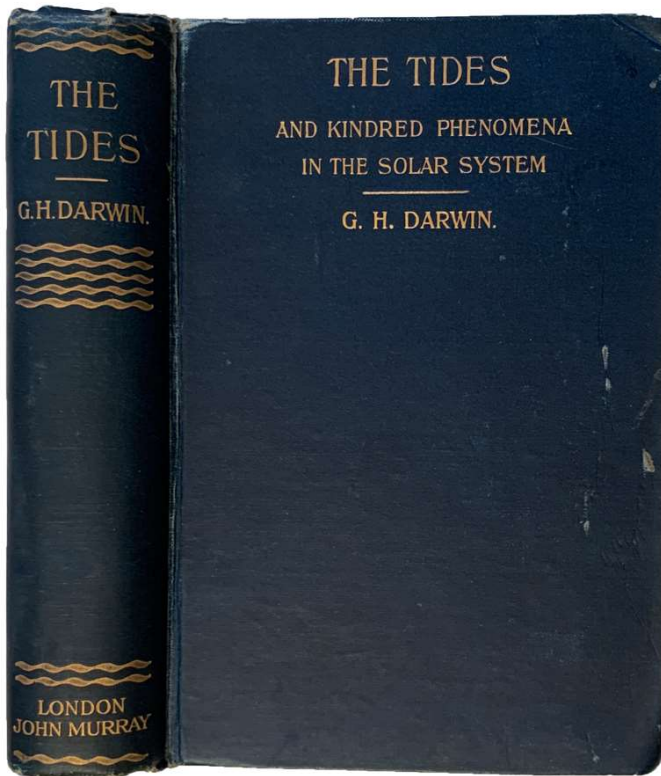
“The Atlas of the Southern Milky Way represents in every way a community effort at Mount Stromlo Observatory.” The images were taken with an 8-inch Schmidt camera. “The first basic set of photographs was put into operation at Mount Stromlo by Dr. Rodgers and Mr. Campbell, and the repeats that were necessary later on were taken by Mr. Whiteoak. The difficult tasks of preparation of the prints, fitting them into five mosaics, and the preparation of the identification charts, were handled by Mr. Whiteoak, Mr. Hunt, and Miss. Bailey.” [Bok].

Alexander W. Rodgers was Director of Mount Stromlo and Siding Spring Observatories 1987-1992.





136. [COPERNICUS] REPCHECK, Jack. *Copernicus' Secret: How the Scientific Revolution Began*. New York: Simon & Schuster, 2007. ¶  
 8vo. xvi, 239, [1] pp. Figs., index. Hardcover, dust-jacket. [S14011]  
 ISBN 10: 074328951X \$ 5

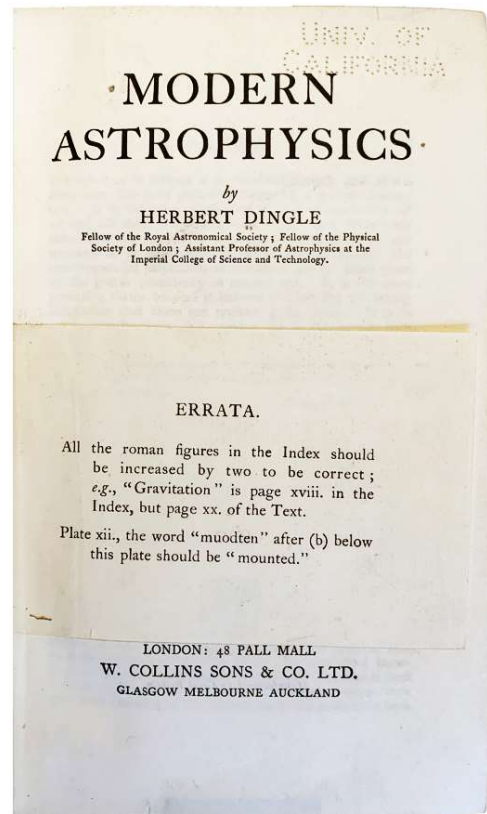
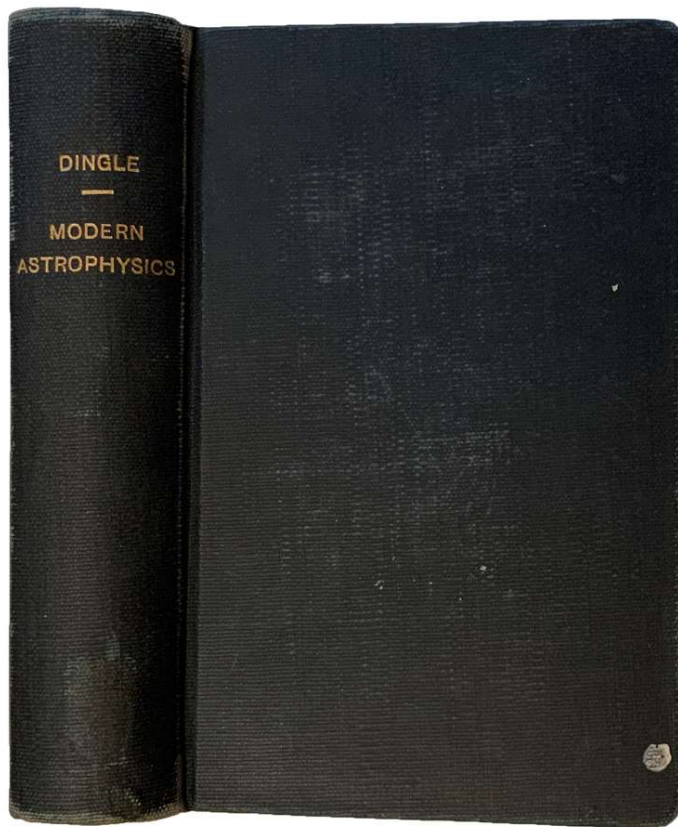


137. **DARWIN, Sir George Howard** (1845-1912). *The Tides and Kindred Phenomena in the Solar System; the substance of lectures delivered in 1897 at the Lowell Institute, Boston, Massachusetts. Third edition.* London: John Murray, 1911. ¶ 8vo. 24, 437, [1] pp. 48 figs., index; **HEAVY UNDERLINING** (nearly every page), lacks front free endpaper. Original gilt-stamped navy cloth; extremities worn. As is. [S14012]

\$ 10

Originally written for the *Britannica* and issued as a book in 1899.

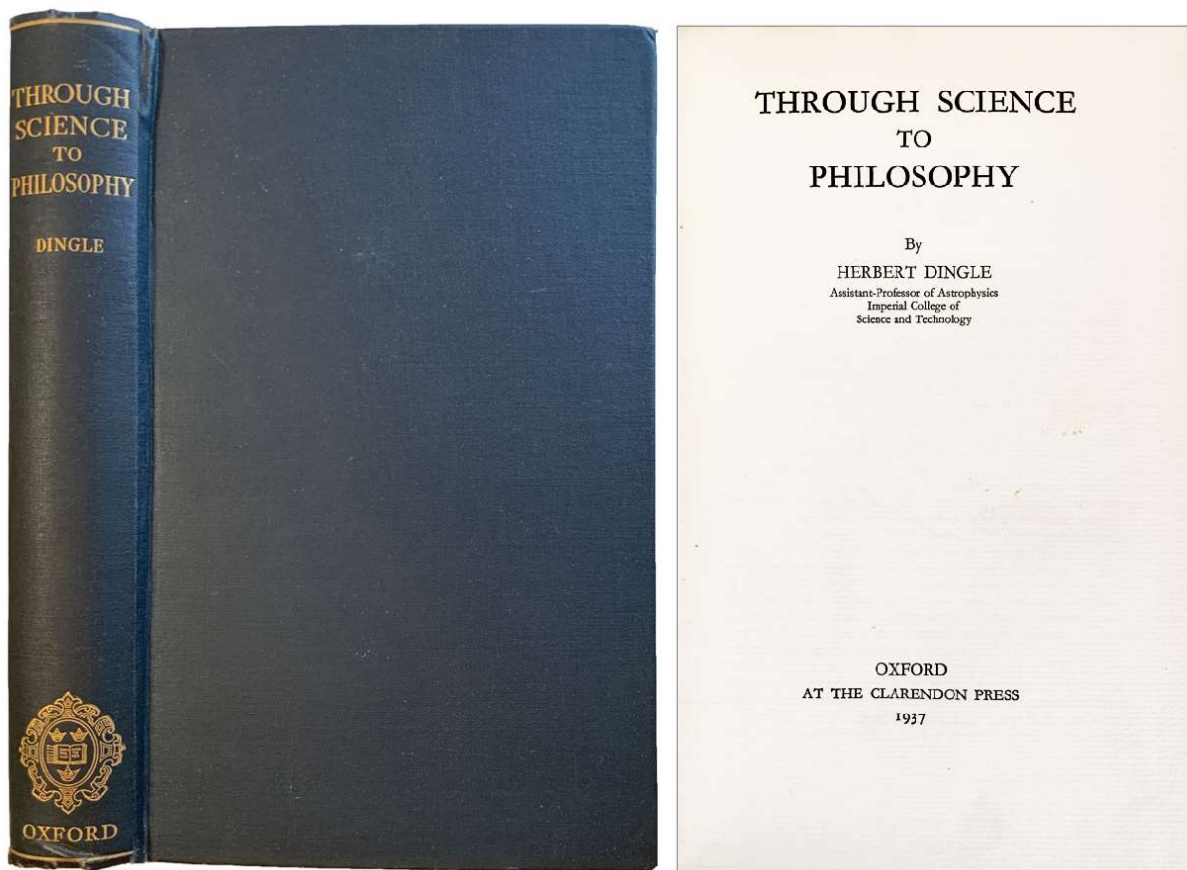




138. **DINGLE, Herbert** (1890-1978). *Modern Astrophysics*. London: W. Collins Sons & co., 1924. ¶ 8vo. xxviii, 420 pp. 332 figs., 46 plates, index; every plate is perforated with UCB ownership marks. Errata slip mounted at title. Rebound in navy blue cloth, gilt spine title; rubbed. Ex-library perforated stamps, bookplate, etc. Pencil notes. Good. [S14013]

\$ 5

First edition. Herbert Dingle, English physicist and philosopher of science, served as president of the Royal Astronomical Society from 1951 to 1953.

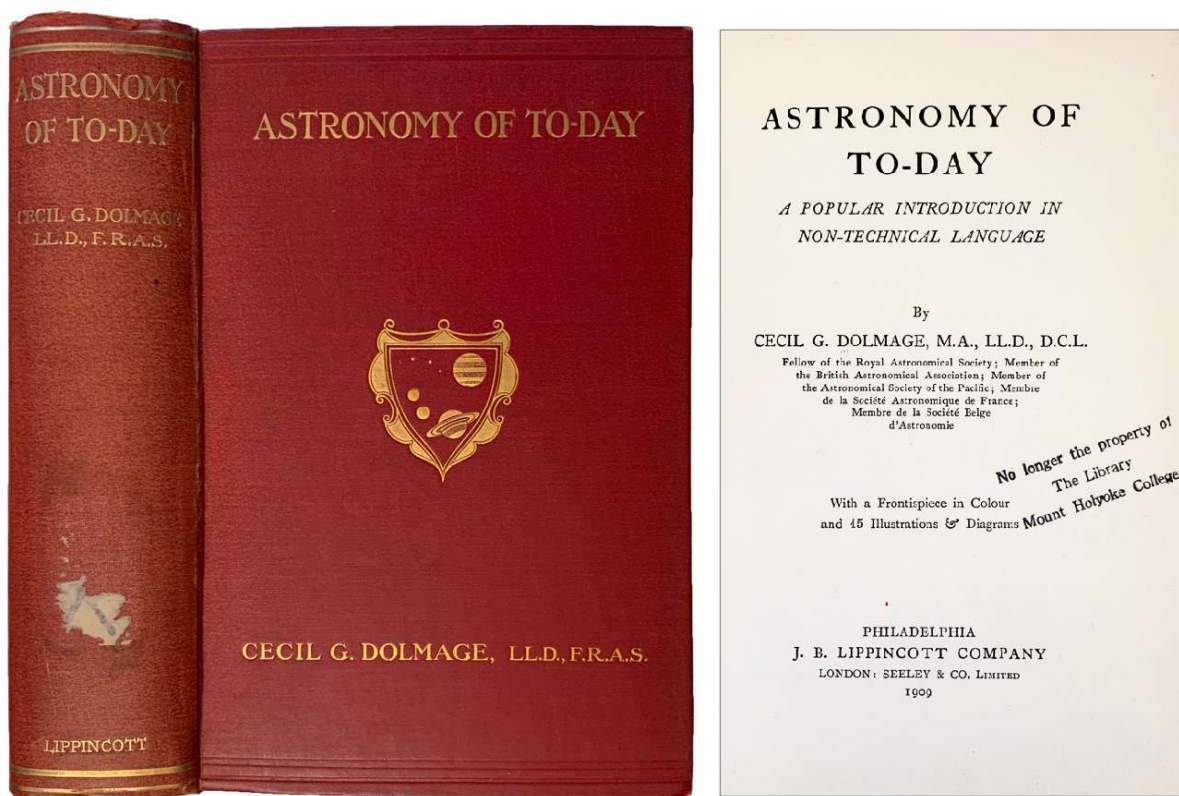


139. **DINGLE, Herbert** (1890-1978). *Through Science to Philosophy*. Oxford: Clarendon Press, 1937. ¶ 8vo. vi, [2], 363, [1] pp. 14 figs., index. Original full black gilt-stamped cloth. **HEAVY PENCILING THROUGHOUT**, and highly critical of this work. [S14014]

\$ 10

Someone, who did not sign his (or her) name to the penciled notes within this volume, was highly critical of Dingle's thesis.

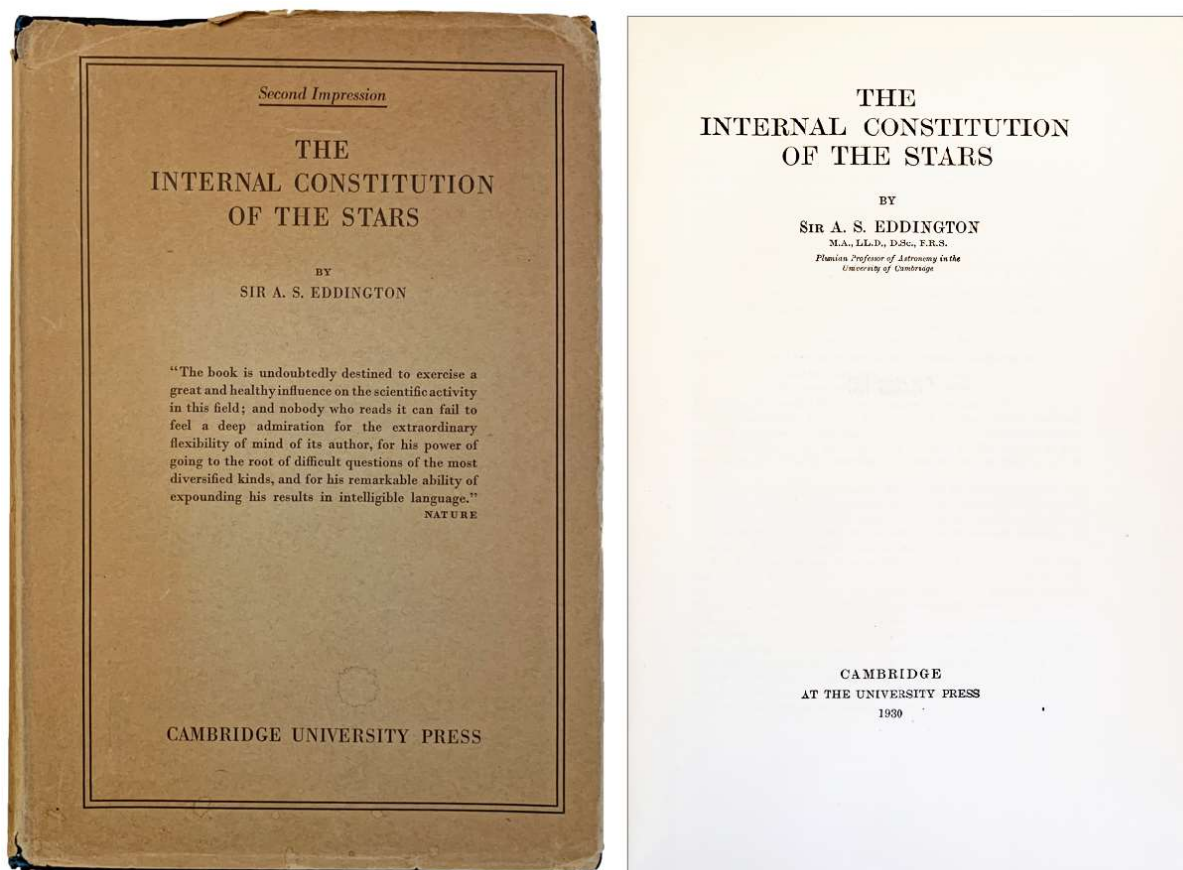




140. **DOLMAGE, Cecil G., L.L.D., F.R.A.S.** *Astronomy of To-day; A popular introduction in non-technical language.* Philadelphia: J. B. Lippincott. 1909. ¶ 8vo. xvi, 363 pp. With color frontispiece, 24 plates, 20 diagrams, index; frontis. & pl. XIII reattached, plates are embossed, edges worn. Original blind- and gilt-stamped red cloth; rubbed, remnant of former spine label showing (ex-library). With ex-library embossed & rubber-stamp on title and related bookplate (withdrawn). Ink ownership name of Norman Sperling, 1981. Good. [S14015]

\$ 10

PROVENANCE: Norman Sperling (b.1947) is an author, editor, publisher, teacher, and telescope designer. He studied at Michigan State University and the history of science at UC Berkeley. He taught astronomy and related courses at UCSF and CSU Hayward.



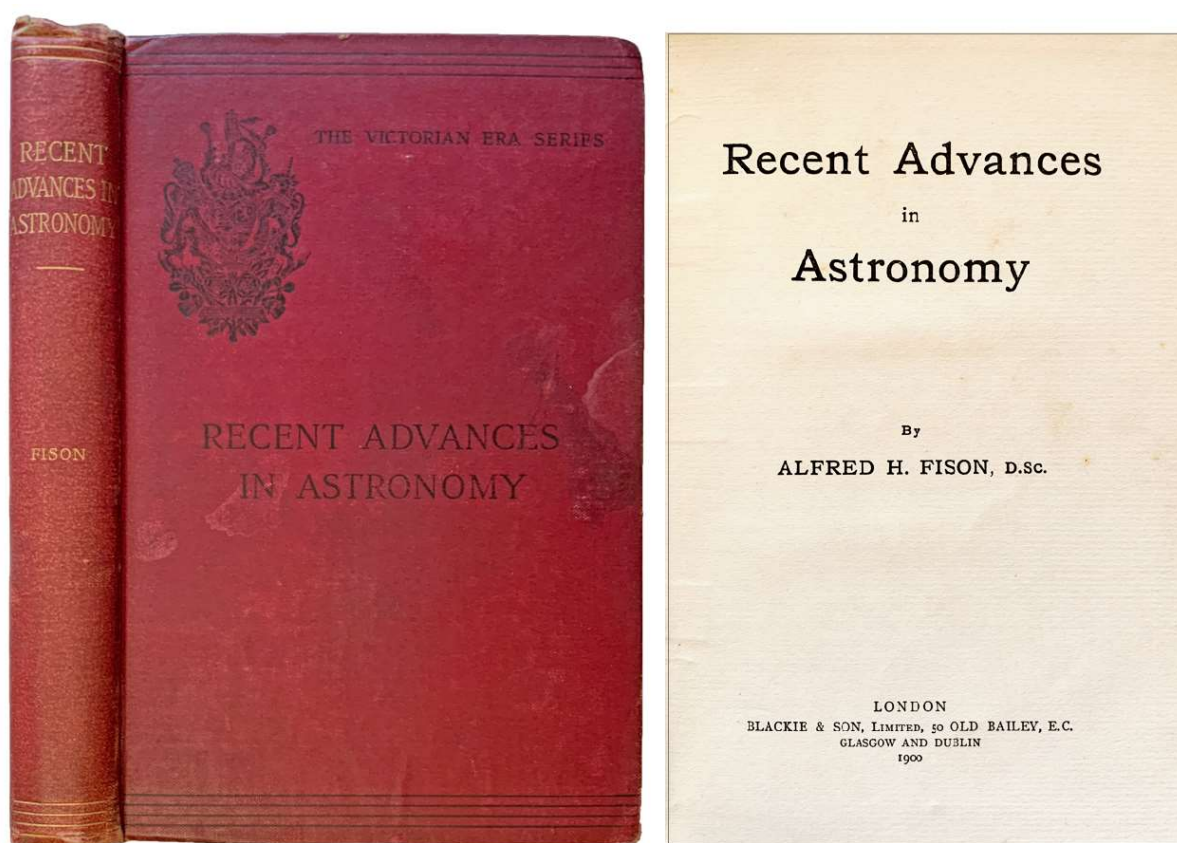
141. **EDDINGTON, Sir Arthur Stanley** (1882-1944). *The Internal Constitution of the Stars*. Cambridge: University Press, 1930. ¶ Tall 8vo. x, 407, [1] pp. Index. Original silver-stamped navy cloth, dust-jacket; upper corner bumped, jacket extremities are worn. With the rubber-stamp ownership mark of Leland E. Cunningham. VERY RARE IN JACKET. [S14016]

\$ 300

Second impression (first issued in 1926). Eddington was a pioneer of astrophysics and made significant contributions to our understanding of stars. His book, *The Internal Constitution of the Stars*, was a major landmark in the development of modern theoretical astrophysics. Not only did Eddington effectively create the discipline of the structure, constitution, and the evolution of the stars, but he also recognized and established the basic elements of our present understanding of the subject. The influence of the book is indicated by the remark by astronomer Henry Norris Russell (1877-1957), whose career was associated with Princeton University, "This volume has every claim to be regarded as a masterpiece of the first rank". [1945].

PROVENANCE: Leland Erskin Cunningham (1904-1989), Wiscasset, Maine, was an American astronomer.



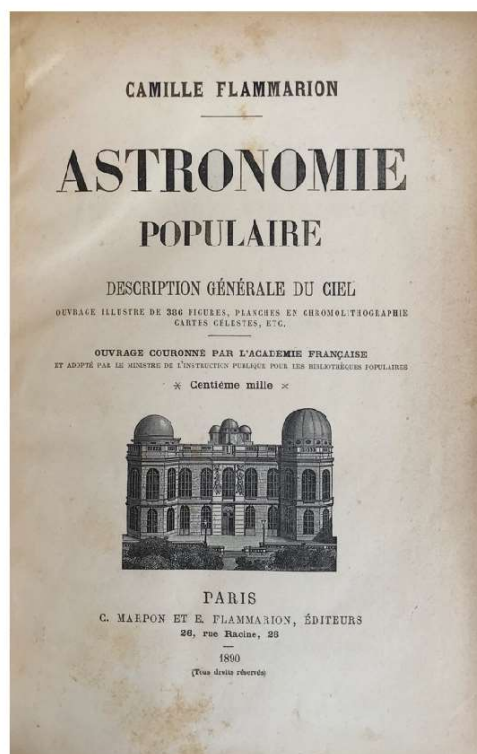
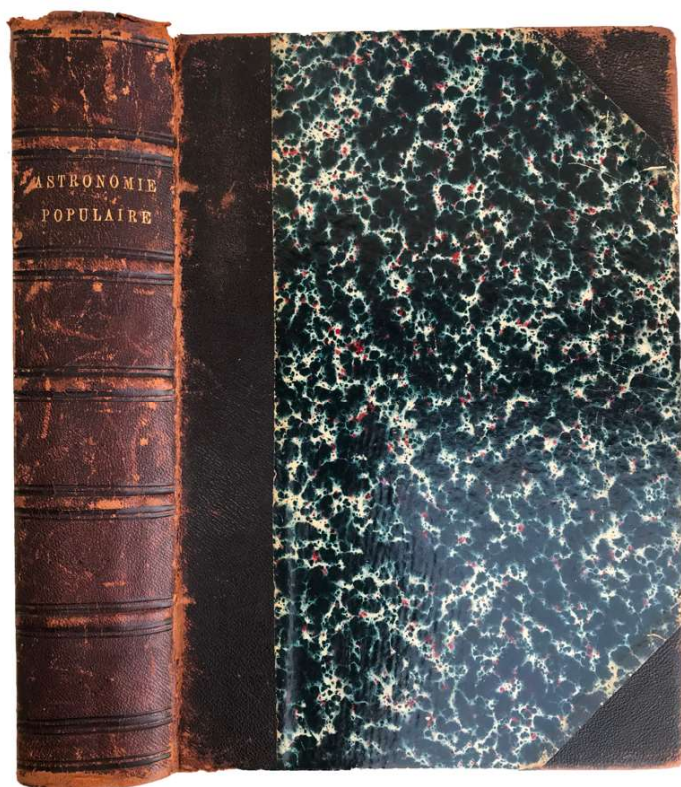


142. **FISON, Alfred H.** *Recent Advances in Astronomy*. London: Blackie & Son, 1900. ¶ Series: *The Victorian Era*. Small 8vo. vi, [2], 242, [2] pp. 12 figs., index. Original dark red, black- and gilt-stamped cloth; rubbed, corners showing. Very good. [S14017] \$ 13.95



[143] Flammarion

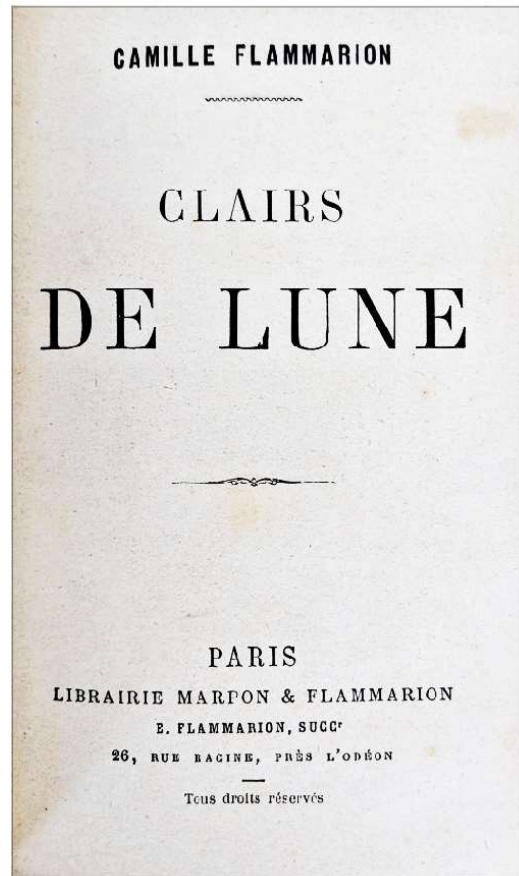
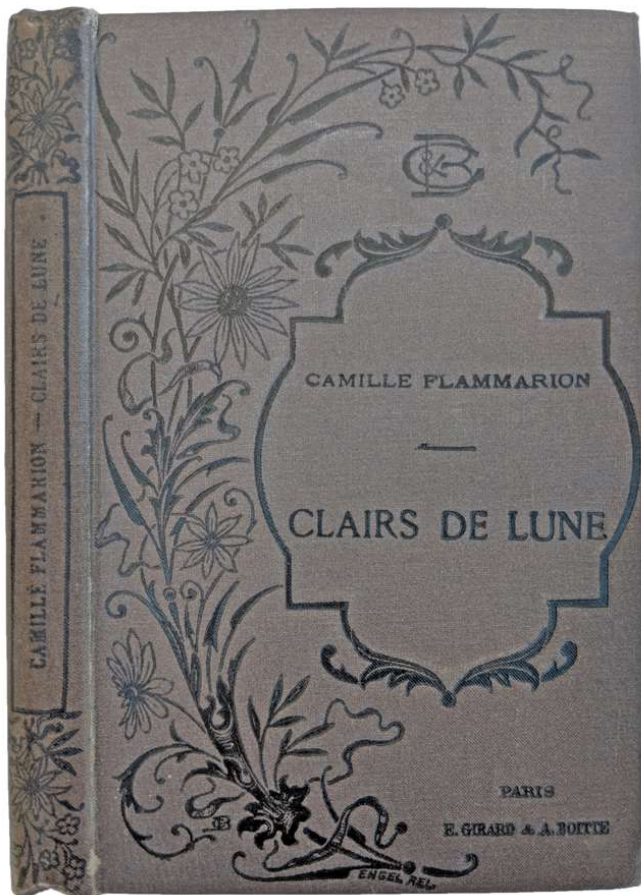




143. **FLAMMARION, Camille** (1842-1925). *Astronomie Populaire ; Description Générale du Ciel*. Paris : C. Marpon et E. Flammarion, 1890. ¶ 8vo. [viii], 867, [1] pp. Color frontis. (chromolithographic plate of the solar flares), 385 figures and engravings, 6 color plates, folding map of the moon; foxed. Contemporary quarter gilt-stamped morocco, marbled boards. Very good. RW1057

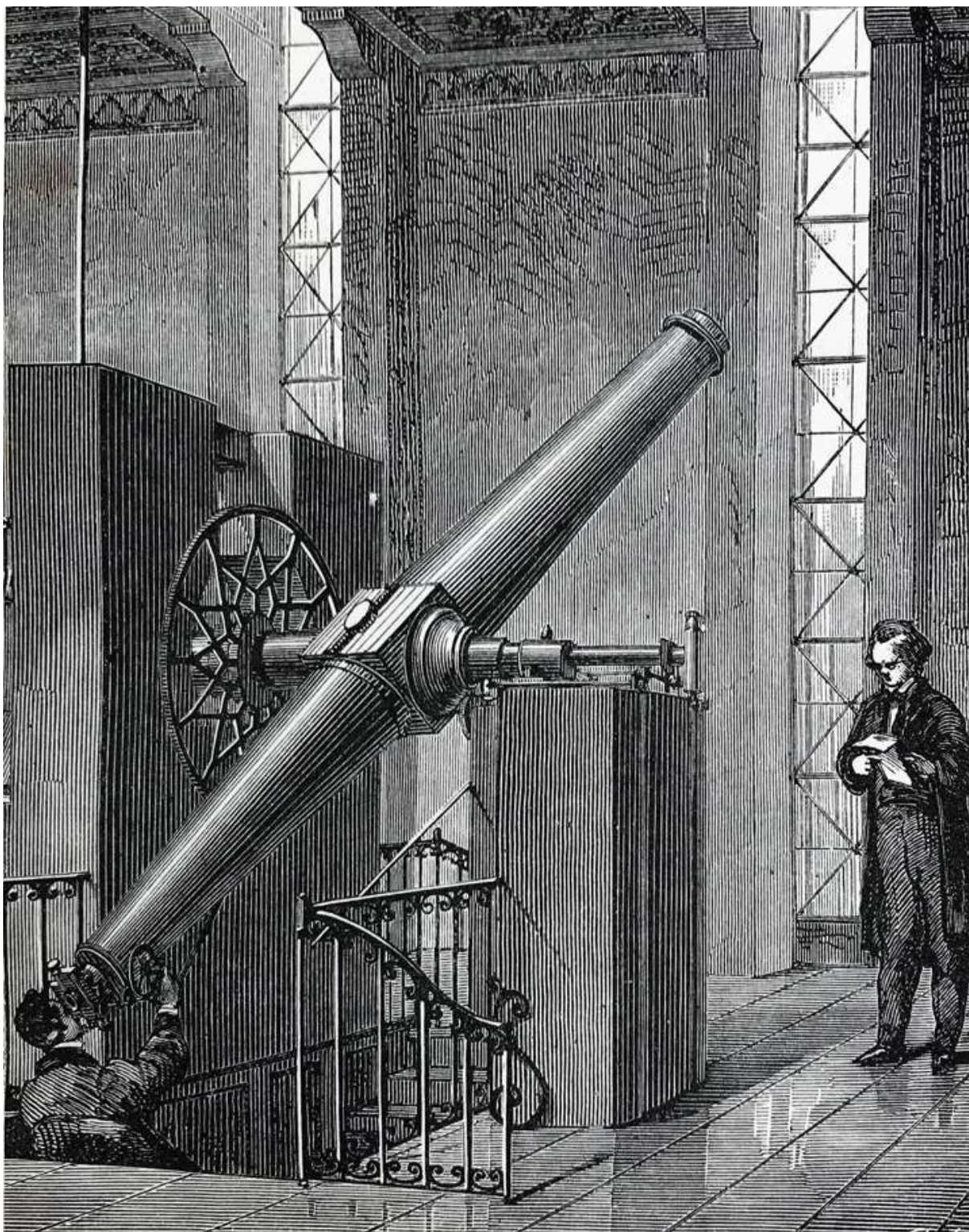
\$ 125

This is a detailed study of the Sun, Moon, planets, and comets. The two chromolithographic plates by Th. Dupuy & sons, of the Moon are beautifully drawn (between pp. 186-187).



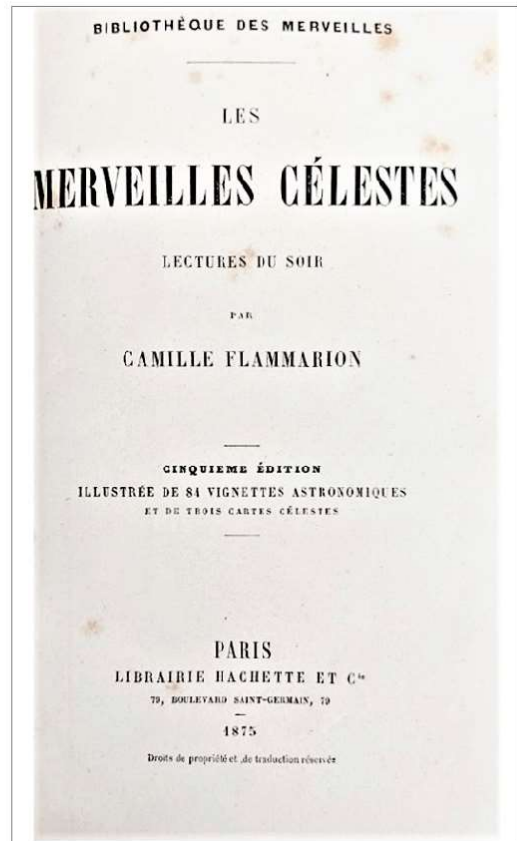
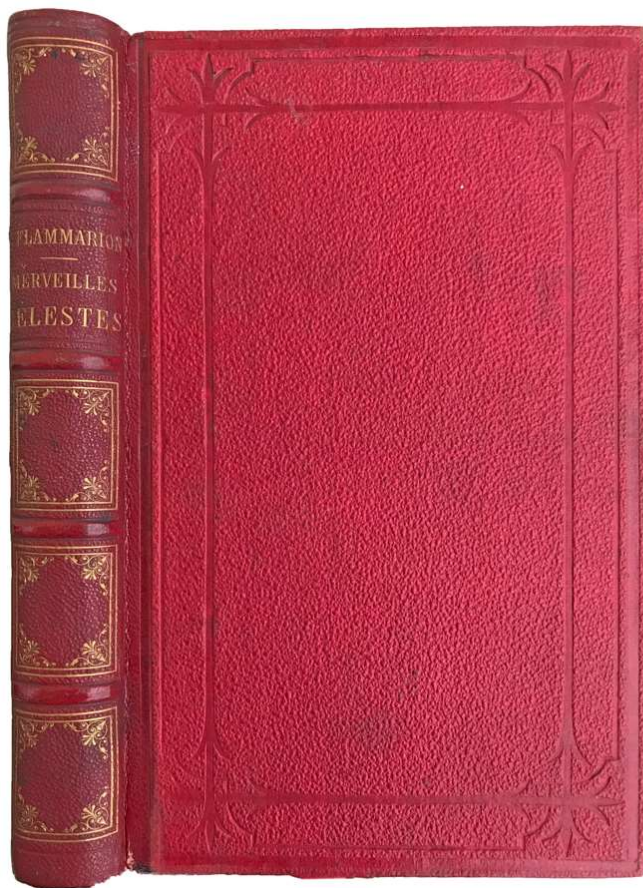
144. **FLAMMARION, Camille** (1842-1925). *Clairs de Lune*. Paris: Marpon & Flammarion, [ca.1880s]. ¶ Sm. 8vo. [4], 298, [2] pp. Some foxing. Original black-stamped pictorial mauve cloth, signed by Engel [binder]. Near fine. RW1061 \$ 50





[145] Flammarion

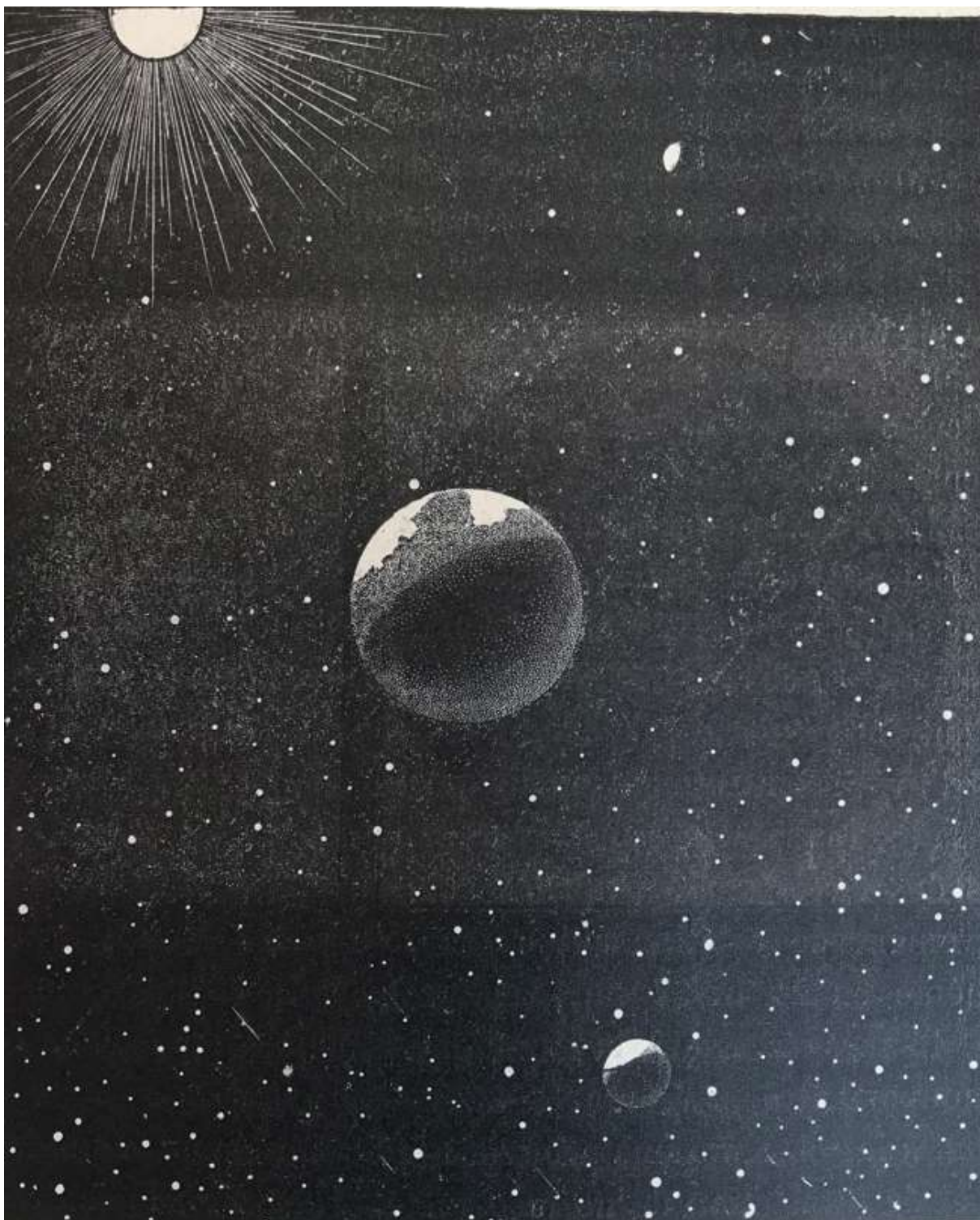




145. **FLAMMARION, Camille** (1842-1925). *Les Merveilles Célestes ; Lectures du Soir*. Paris: Hachette, 1875. ¶ Sm. 8vo. viii, 373, [1] pp. [note: some pages misnumbered]. 3 celestial maps, 84 engravings; lightly foxed. Contemporary quarter crimson gilt-stamped leather, brick-red blind-stamped cloth, raised bands. Prize bookplate : “Ecole professionnelle Loritz. Année 1876; Prix de Bonne Conduite . . . Le Directeur, Tabellion.” Near fine. RW1068

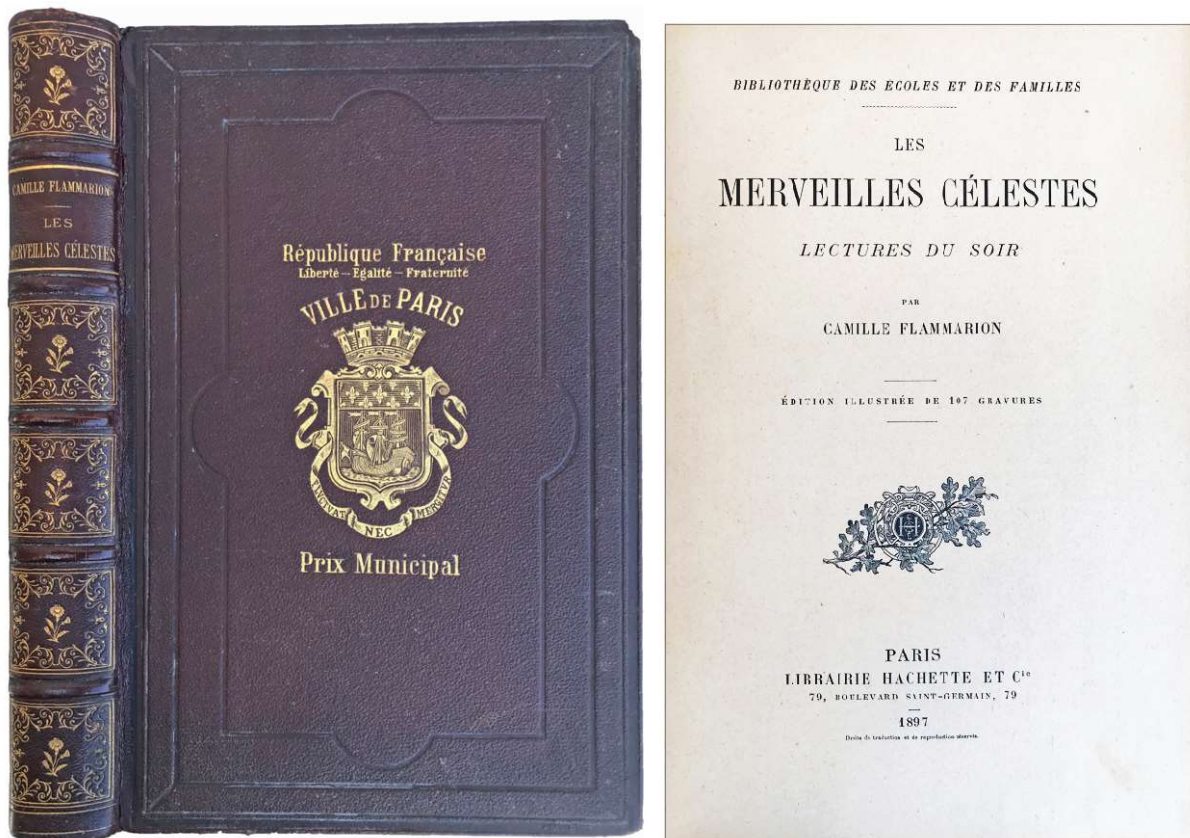
\$ 75

Fifth edition. An introduction to astronomy by one of the great popular science writers of the late 19th century, with chapters on “The Milky Way”, “Saturn”, “Jupiter”, “The Comets”, etc.



[146] Flammarion



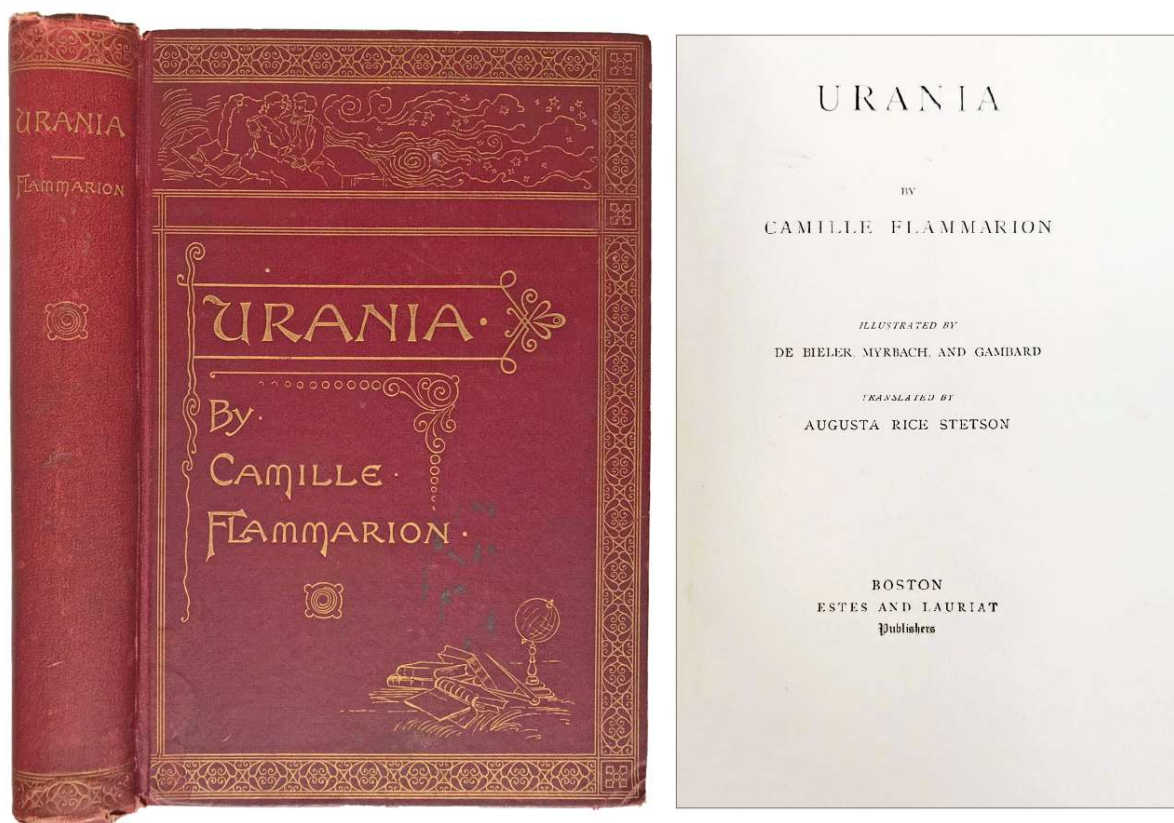


146. **FLAMMARION, Camille** (1842-1925). *Les Merveilles Célestes ; Lectures du Soir*. Paris: Hachette, 1897. ¶ 8vo. viii, 313, [3] pp. 107 engravings; paper browned. Contemporary quarter brown blind- and gilt-stamped morocco, brown blind- and gilt-stamped cloth, raised bands, a.e.g. Very good (in a beautiful binding). RW1069 \$ 200



“He had taught her to know the universe” [147]

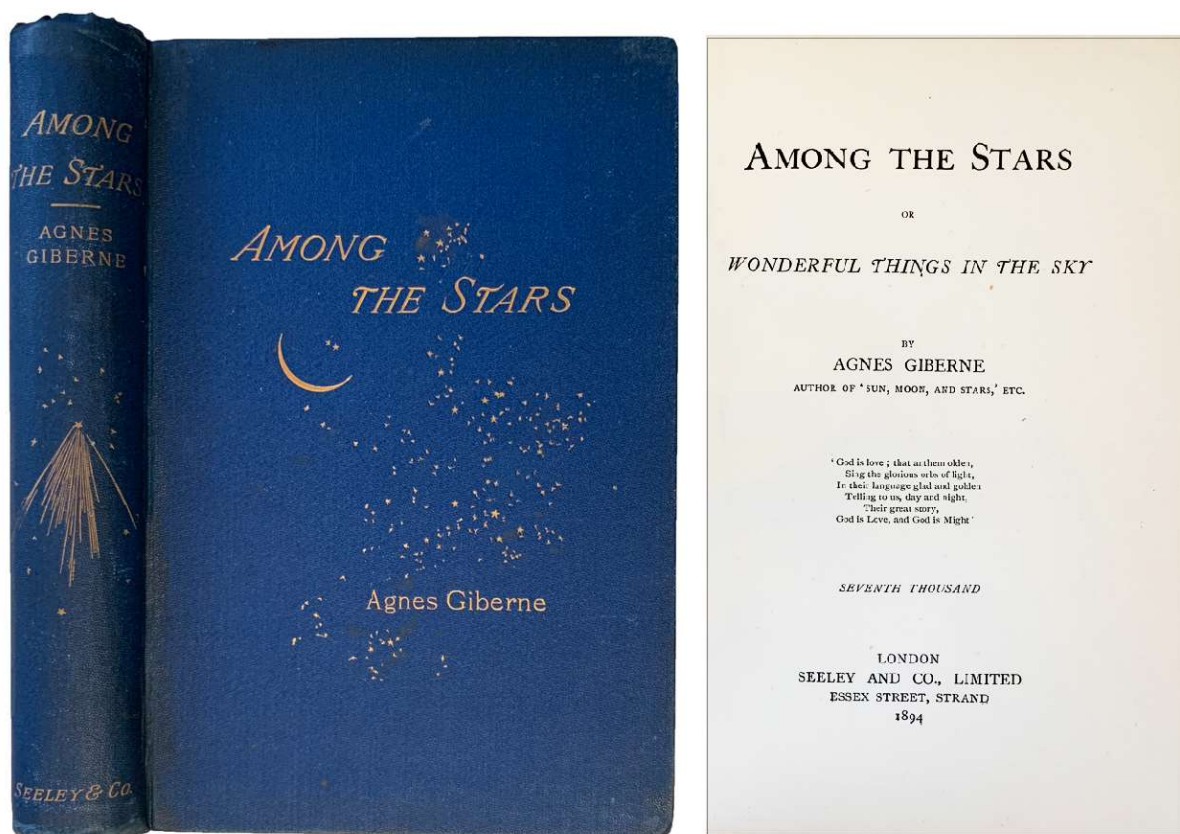




147. **FLAMMARION, Camille** (1842-1925). *Urania*. Boston: Estes and Lauriat, 1890. ¶ 8vo. 314 pp. Illustrations. Original burgundy gilt-stamped cloth, top edge gilt; rubbed. Inscribed: "Presented to Mrs. May Belle Vail by her nephew & Stepson E. Morris Vail, Christmas 1895." Very good. RW1074

\$ 35

Illustrated by De Bieler, Myrbach, and Gambard. Translated by Augusta Rice Stetson. Provenance: E. Morris Vail (1872-), the son of Fannie & John D. Vail.

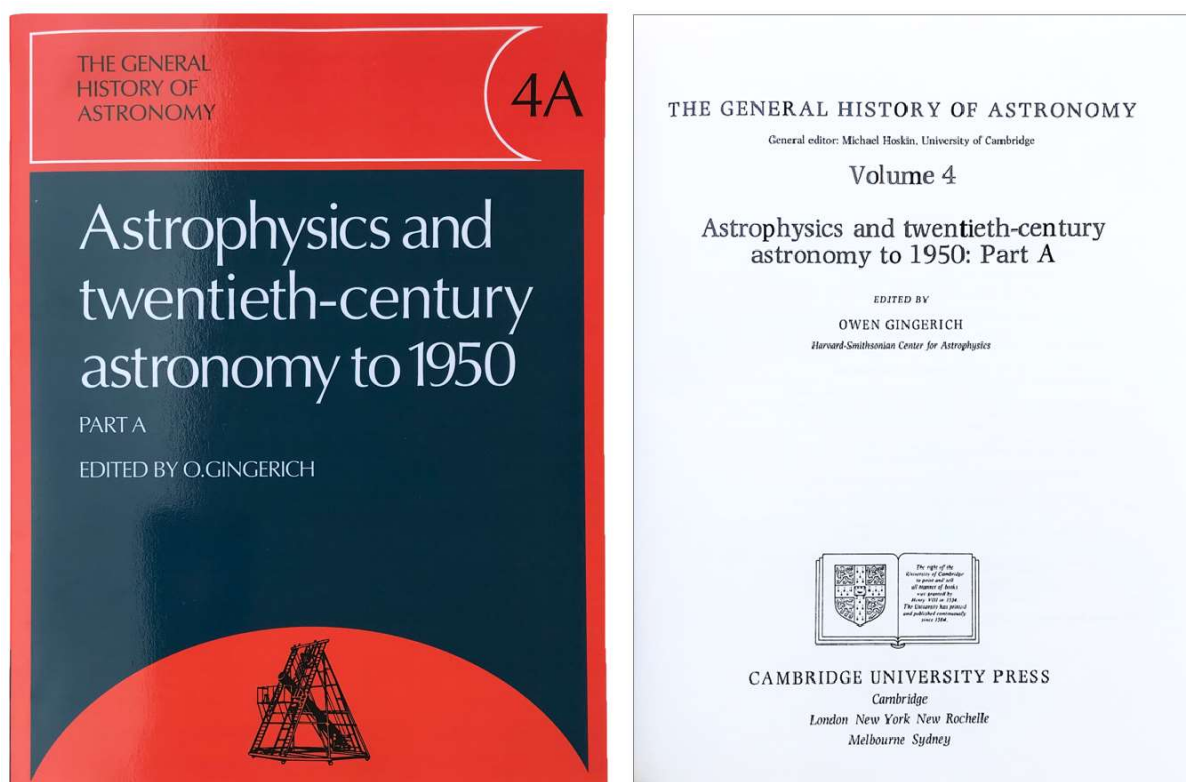


148. **GIBERNE, Agnes** (1845-1939). *Among the Stars or wonderful things in the sky. Seventh thousand.* London: Seeley, 1894. ¶ Small 8vo. viii, 310, [2] pp. Frontispiece, 15 color-tinted plates (drawn by the author). Original blue gilt-stamped cloth; inner joints reinforced with kozo, extremities also neatly mended. Very good. [S14018] \$ 15

Giberne is best remembered for her books popularizing science, written for youngsters.

**NOTE:** Title-page to this catalogue is illustrated from this book.

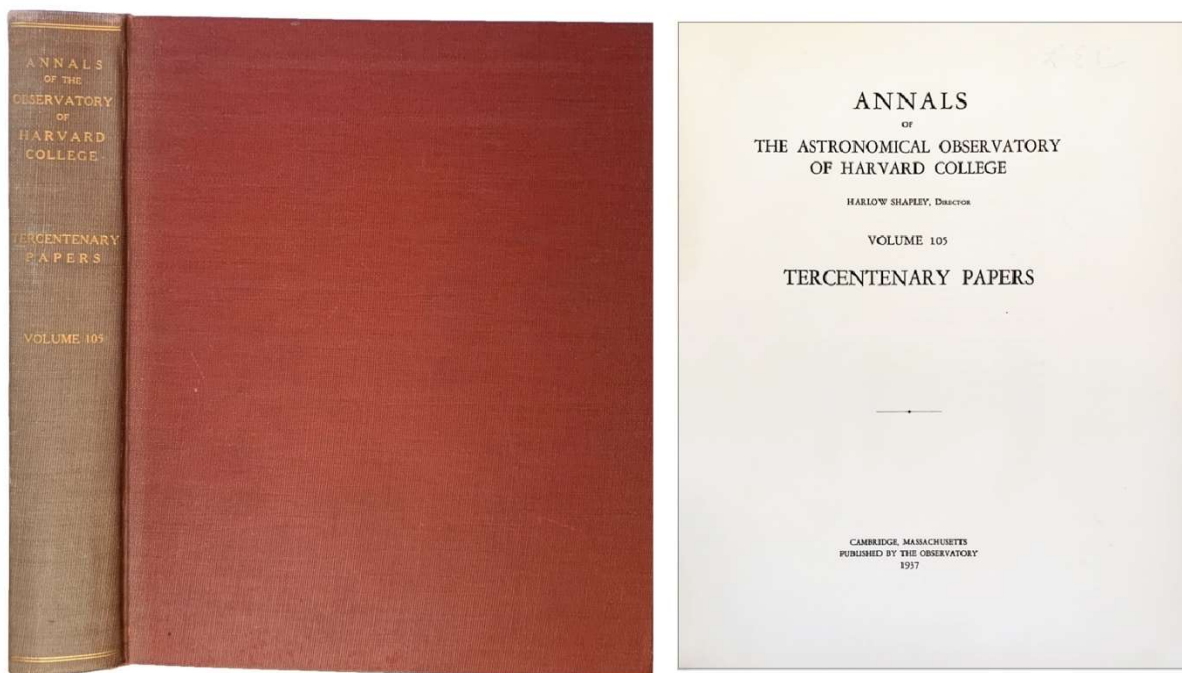
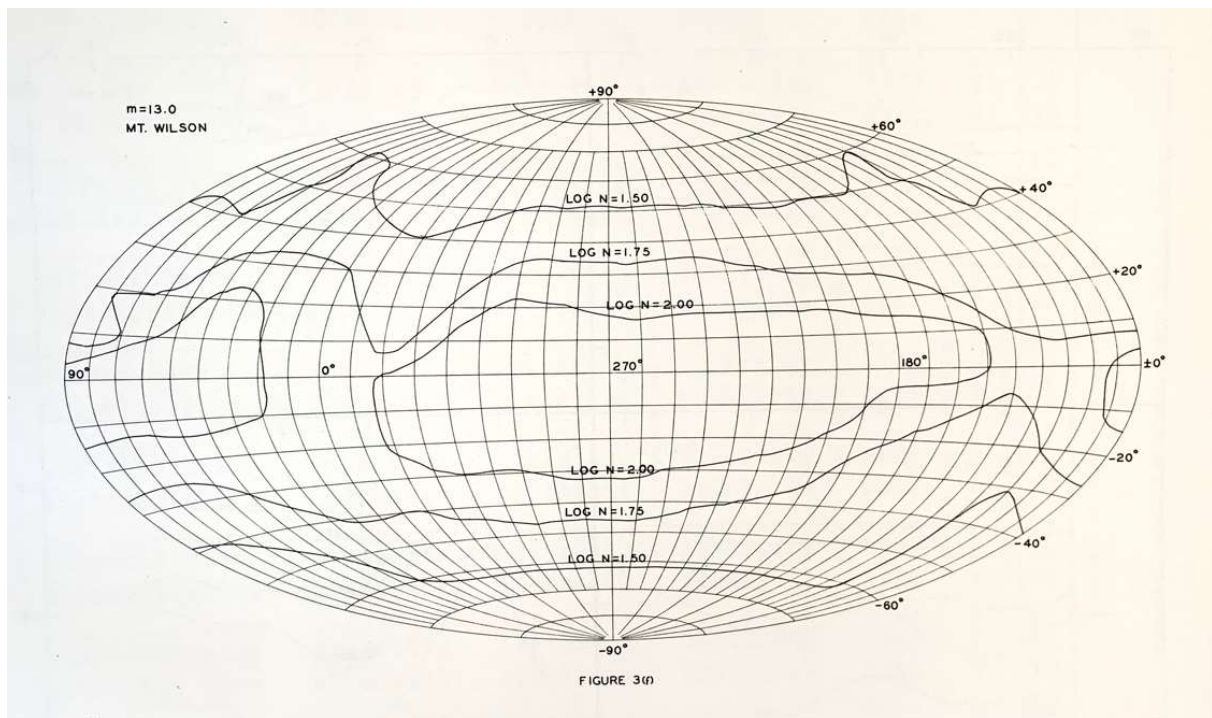




149. **GINGERICH, Owen** (editor). *The General History of Astronomy: Astrophysics and twentieth-century astronomy to 1950. Part A*. Cambridge: Cambridge University Press, 1984. ¶ Royal 8vo. x, [2], 198, Aviii, Ivi pp. [A=appendix; I=Index]. Illustrated. Red & navy blue, black, printed wrappers. Includes Roy Porter's Review [offprint]. Near fine. S13558

\$ 35

“Volume 4 of *The General History of Astronomy*, originally published in 1984, concerns the birth of modern astrophysics in the nineteenth century, the growth of astronomical institutions to around 1920, and the development of instrumentation. The volume commences in the 1850s, with the first astronomical applications of photography and spectral analysis. It closes in the 1950s, before the explosive growth made possible by new electronic devices and computers. In Part A, there are eleven chapters, written by an international panel of eighteen authors, on subjects such as observatories, large telescopes, astronomy in the southern hemisphere, and early radio astronomy. Intended for general readership, this book formed part of an in-depth synthesis of the development of astronomy from the earliest times.”



150. **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

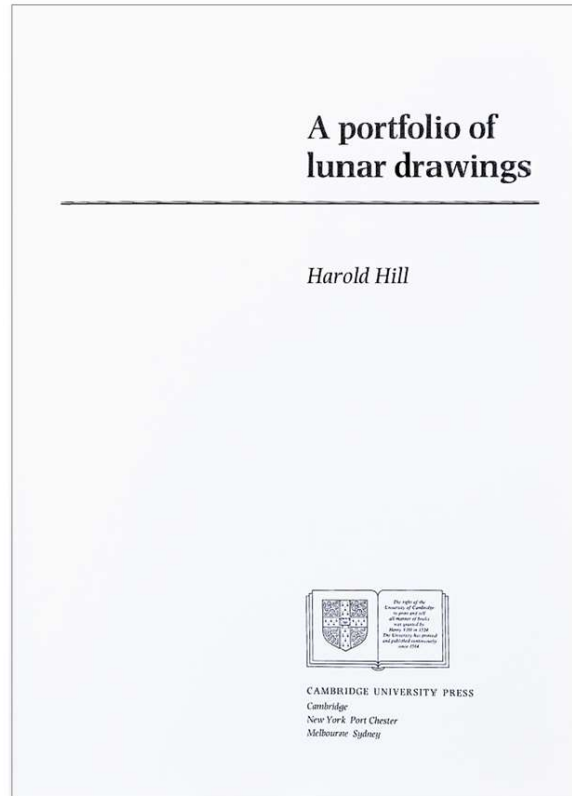
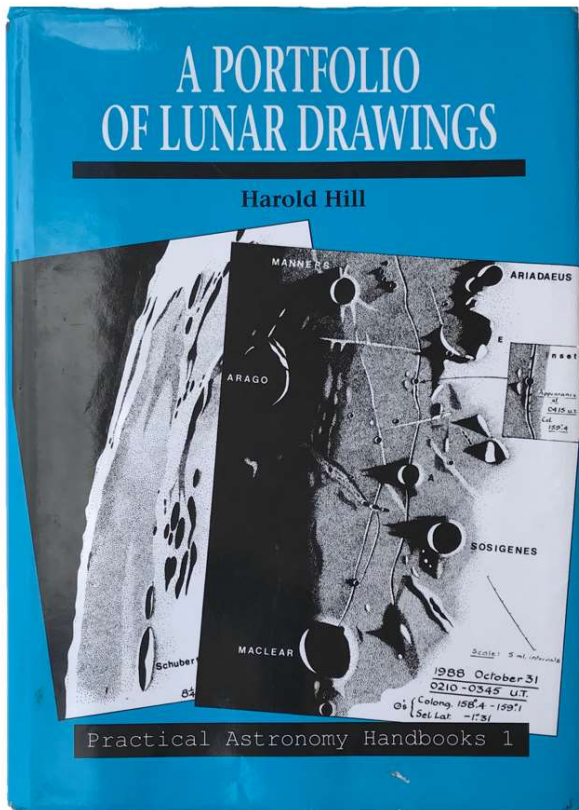
With 32 papers for this *Tercentenary* volume. This is Leland Cunningham's copy, a co-author, with Fred L. Whipple (1906-2004), A DEFINITIVE ORBIT OF APOLLO (REINMUTH OBJECT, 1932 HA), paper 29.

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.

PROVENANCE: Leland Erskin Cunningham (1904-1989), Wiscasset, Maine, was an American astronomer.

See: Women at the Harvard College Observatory, Wolbach Library.



Harold Hill  
Harold Hill

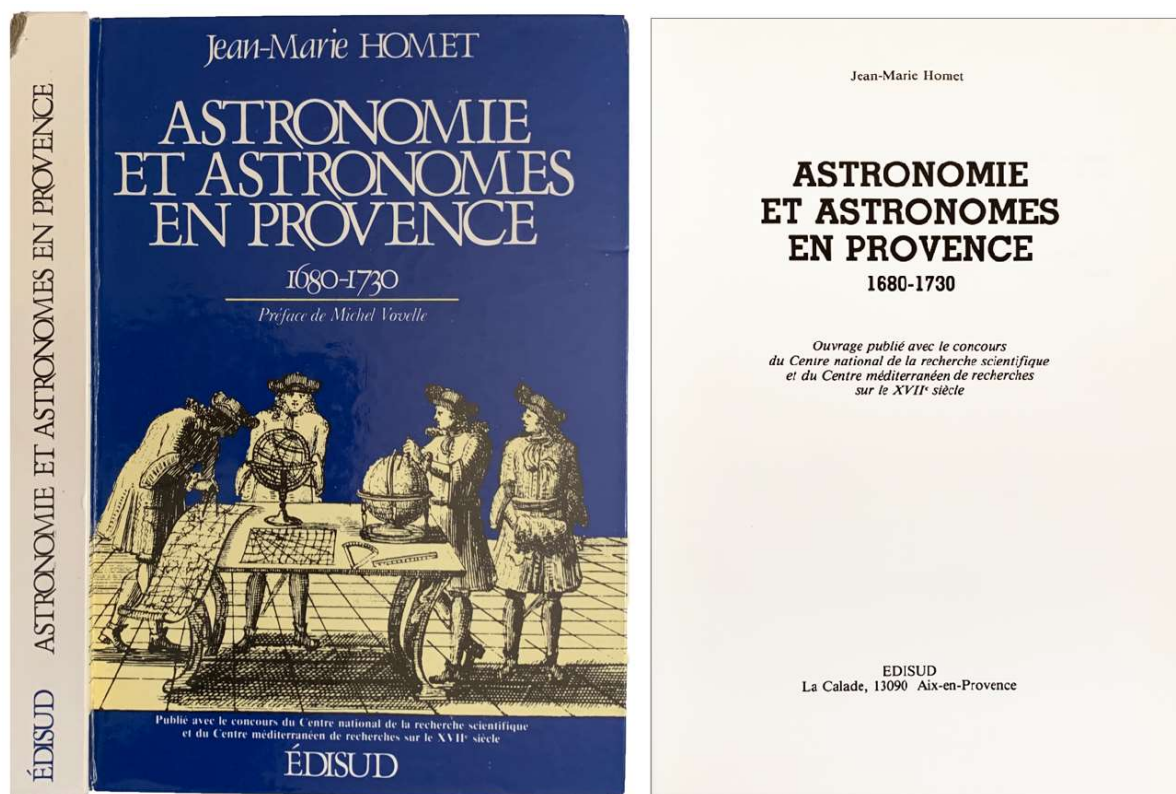
151. **HILL, Harold.** *A Portfolio of Lunar Drawings*. Cambridge: Cambridge University Press, 1991. ¶ 4to. xxiv, 240 pp. Illustrated throughout. Blue cloth, dust-jacket; jacket gently worn (1 tear on rear). WITH A LENGTHY TYPED, SIGNED LETTER FROM THE AUTHOR, 18 July 1991. Very good. [S13561]

\$ 75

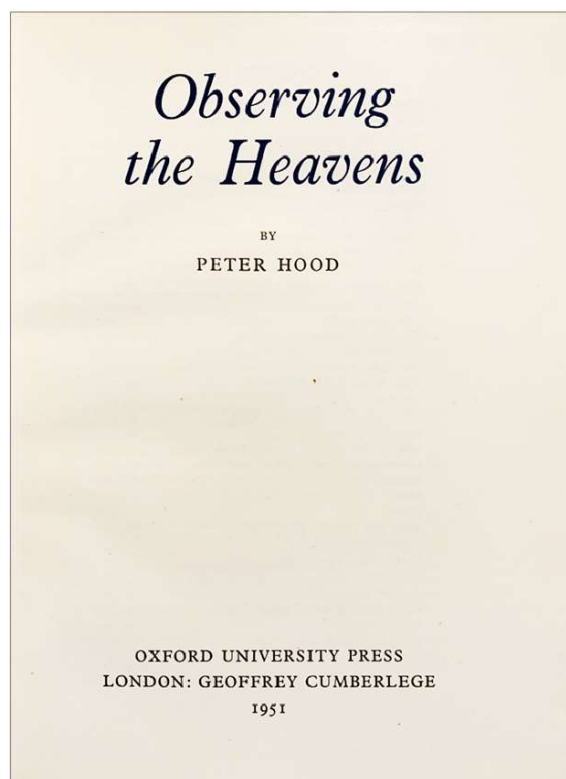
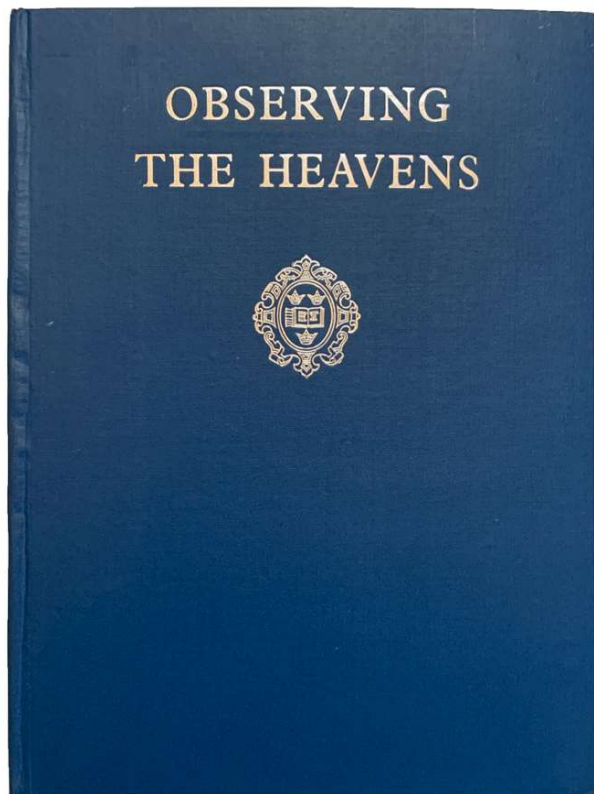
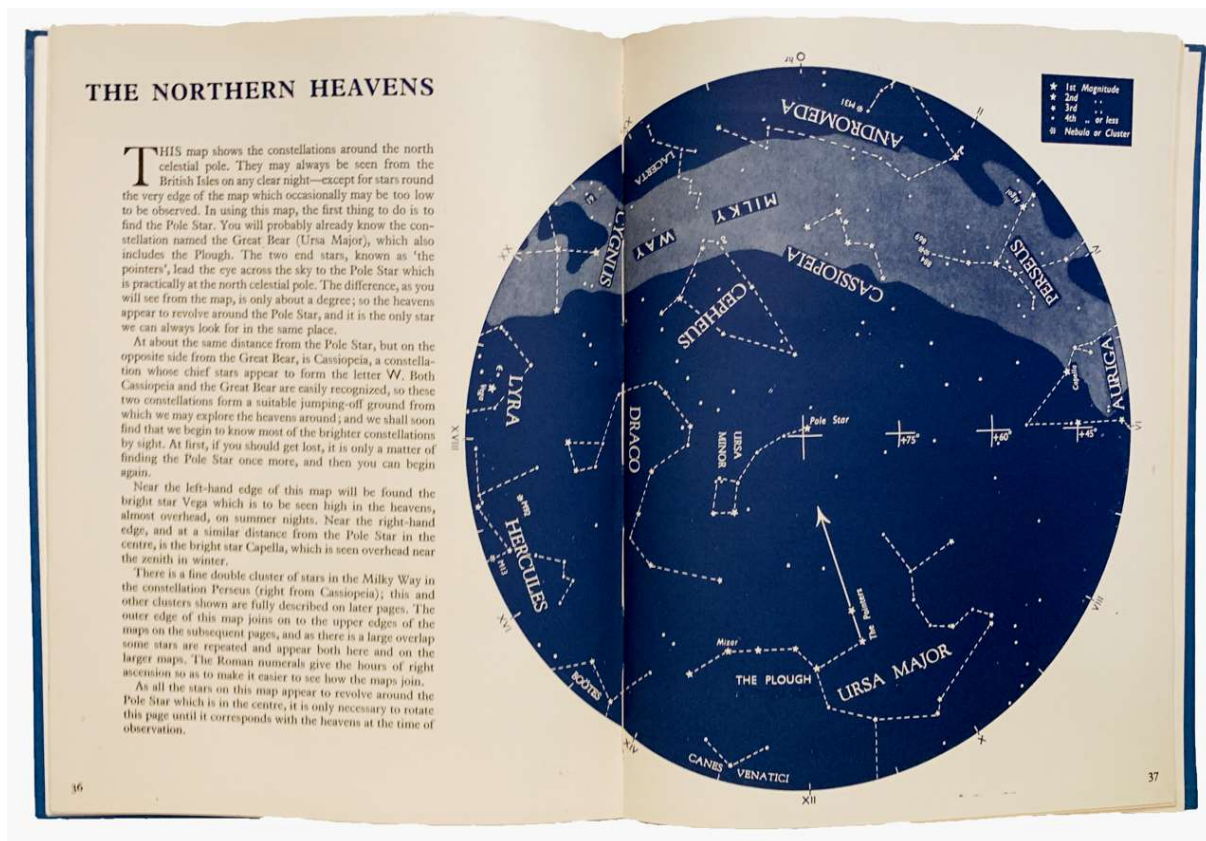
First edition. "Harold Hill's lunar portfolio is a unique collection of drawings now published for the first time. Each illustration is supplemented with notes made at the time of observation. Astronomical drawing still has an important place alongside photography in the same way that photography has not supplanted the artist in the fields of botany and ornithology, for example. Indeed, since astronomical images tend to shimmer because of turbulence in the Earth's atmosphere, drawings constructed by an artist who takes advantage of the fleeting moments of perfect vision are often more detailed than photographs. No one can fail to be impressed by the beauty and artistry of this work and, to the initiated, the accuracy and attention to detail is remarkable. This is a book for astronomers, amateur and professional alike, and for those who would simply like to know more about the moon." [CUP]. REVIEW: '... Hill combines artistry with accuracy, a rare combination! ... This book will appeal greatly to all lunar observers.' Journal



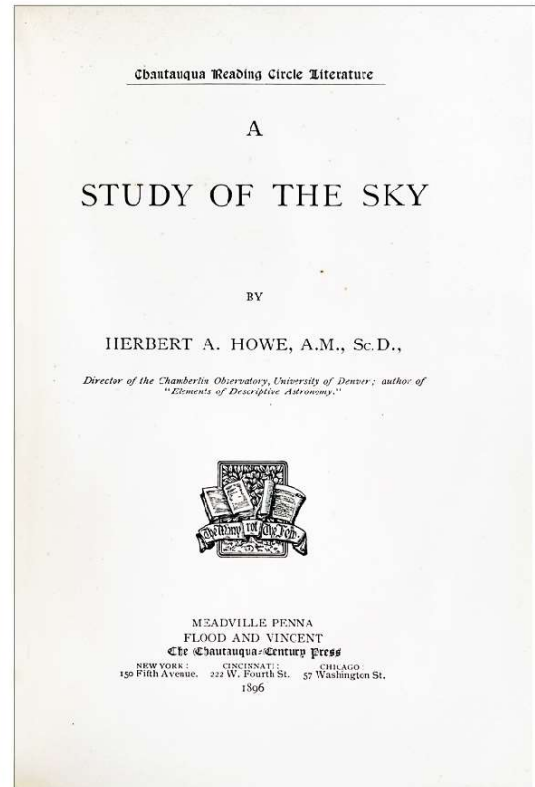
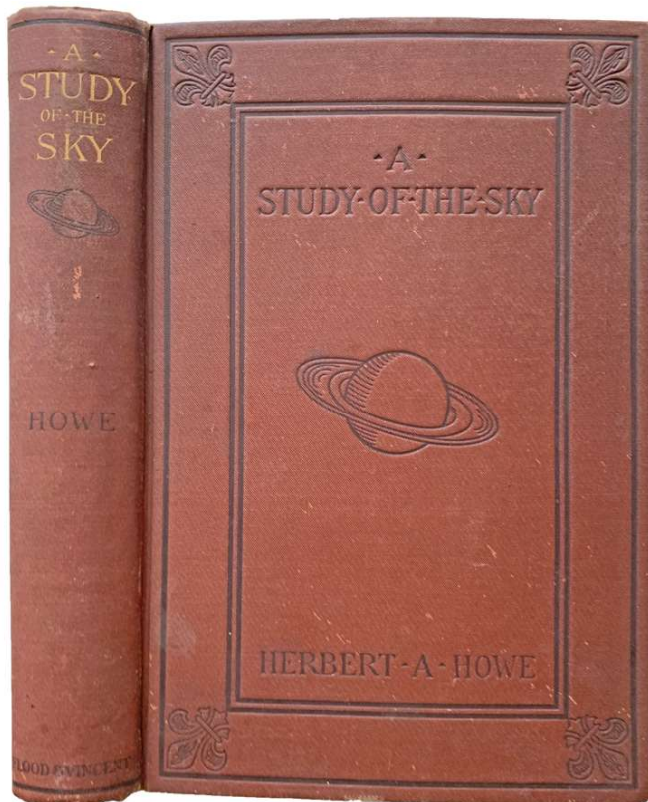
of the British Astronomical Association. This work was also, [later, in 2003], issued in paperback; this is the hardcover first edition.



152. **HOMET, Jean-Marie.** *Astronomie et Astronomes en Provence 1680-1730.* Aix-en-Provence: Edisud, 1982. ¶ Tall 8vo. 298 pp. Numerous illustrations; minor pencil marginalia (by Professor Dr. Roger Hahn). Pictorial blue & white boards; back spine head scuffed/worn, paper-clip impression. Generally, very good. [S11676] \$ 17



153. **HOOD, Peter.** *Observing the heavens.* London: Oxford University Press & Geoffrey Cumberlege, 1951. ¶ Series: Oxford Visual Series. 234 x 175 mm. 8vo. Color frontis., illus., maps. Blue cloth. Very good. [S0982] \$ 12.50

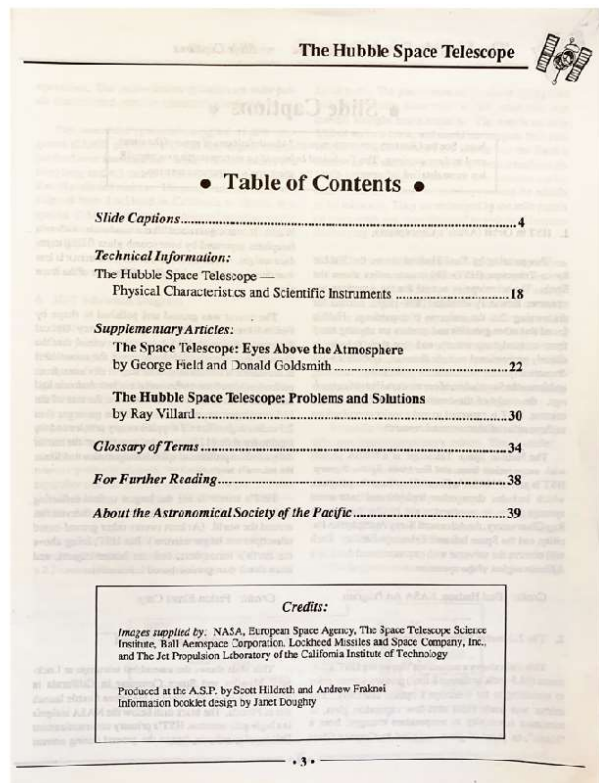
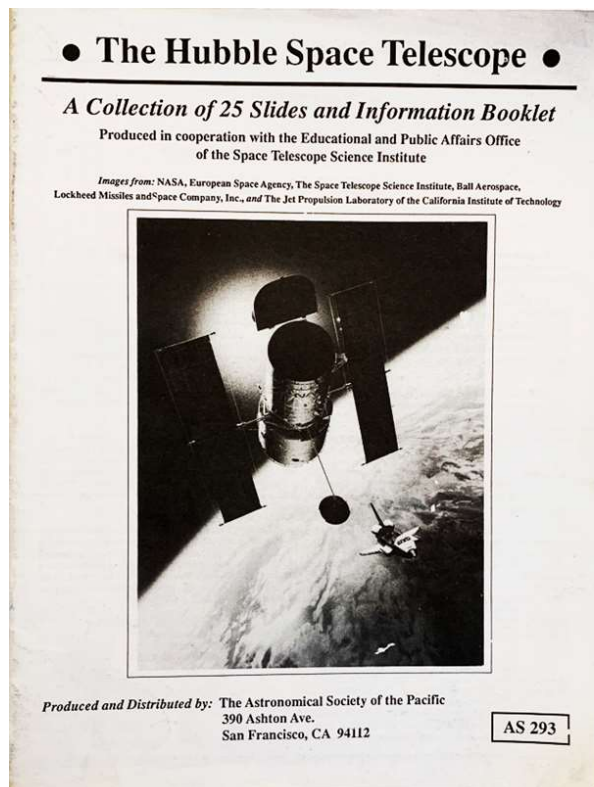


154. **HOWE, Herbert A. [Alonzo]** (1858-1926). *A Study of the Sky*. Meadville, Pa.: The Chautauqua-Century Press, 1896. ¶ Series: Chautauqua Reading Circle Literature. First edition. 12mo. xii, (15)-340 pp. Frontispiece, 144 illustrations, index. Original brown black and gilt-stamped cloth; rubbed. Ownership signature of John C.[?] Thomas (Montgomery Street, S.F. [San Francisco], 1896). Very good. [S11769]

\$ 20

Howe was with the University of Denver for 46 years and earned an international reputation for his work in astronomy and mathematics. “In 1888, the university received a gift of \$50,000 from Humphrey Chamberlin, an amateur astronomer, which Howe used to fund an observatory. Construction began in 1889, based around a 20 in (0.5 m) aperture lens that Howe purchased from Alvin Clarke & Sons. At the time of assembly, the refractor telescope was the fifth largest instrument of its kind in the United States. Howe was named director of the Chamberlin Observatory [Denver] in 1892”. [Wikip.]

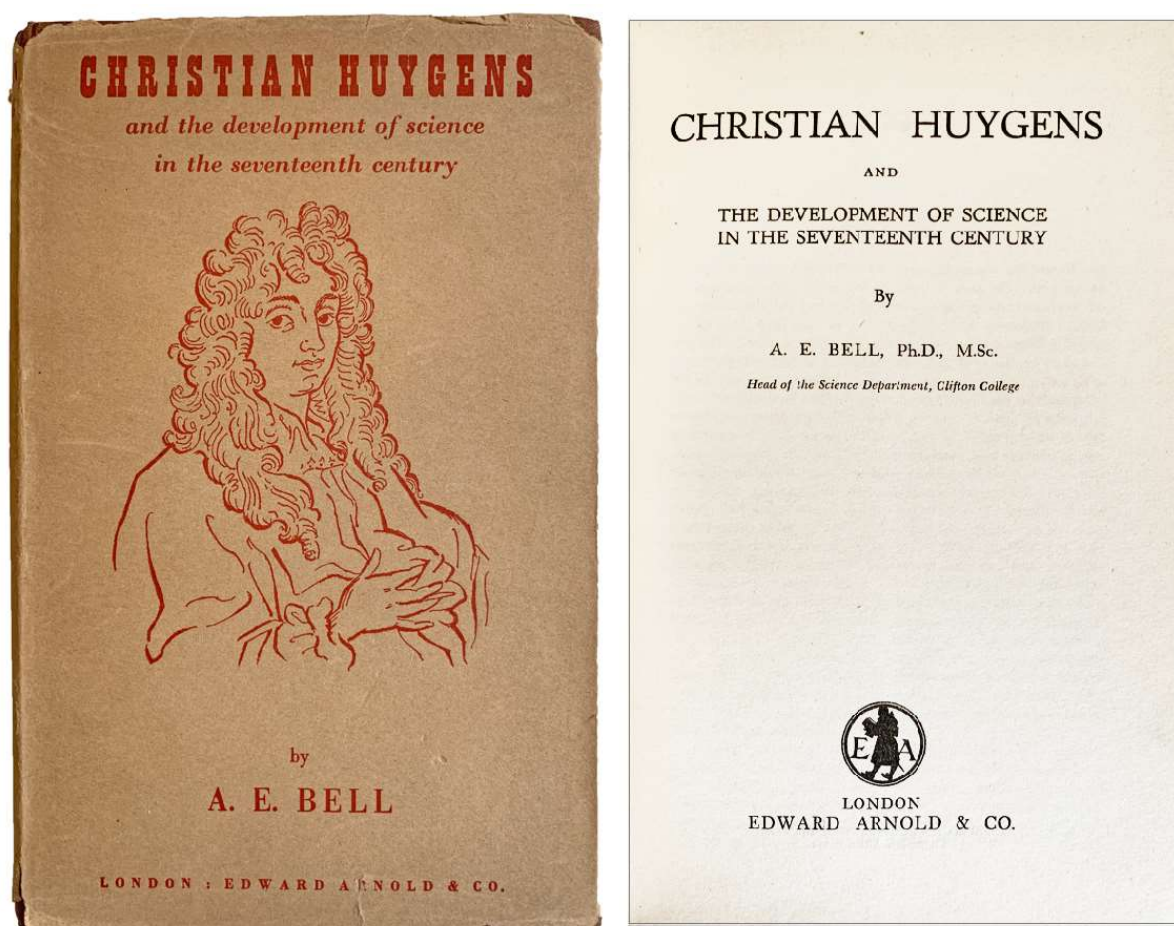




155. [Hubble Space Telescope] Astronomical Society of the Pacific. *The Hubble Space Telescope*. . . . San Francisco: Astronomical Society of the Pacific, 1990. ¶ 4to. 39 pp. Figs., glossary, bibliog. Pictorial wrappers; lower corner bumped. Very good. [S5979]

\$ 10

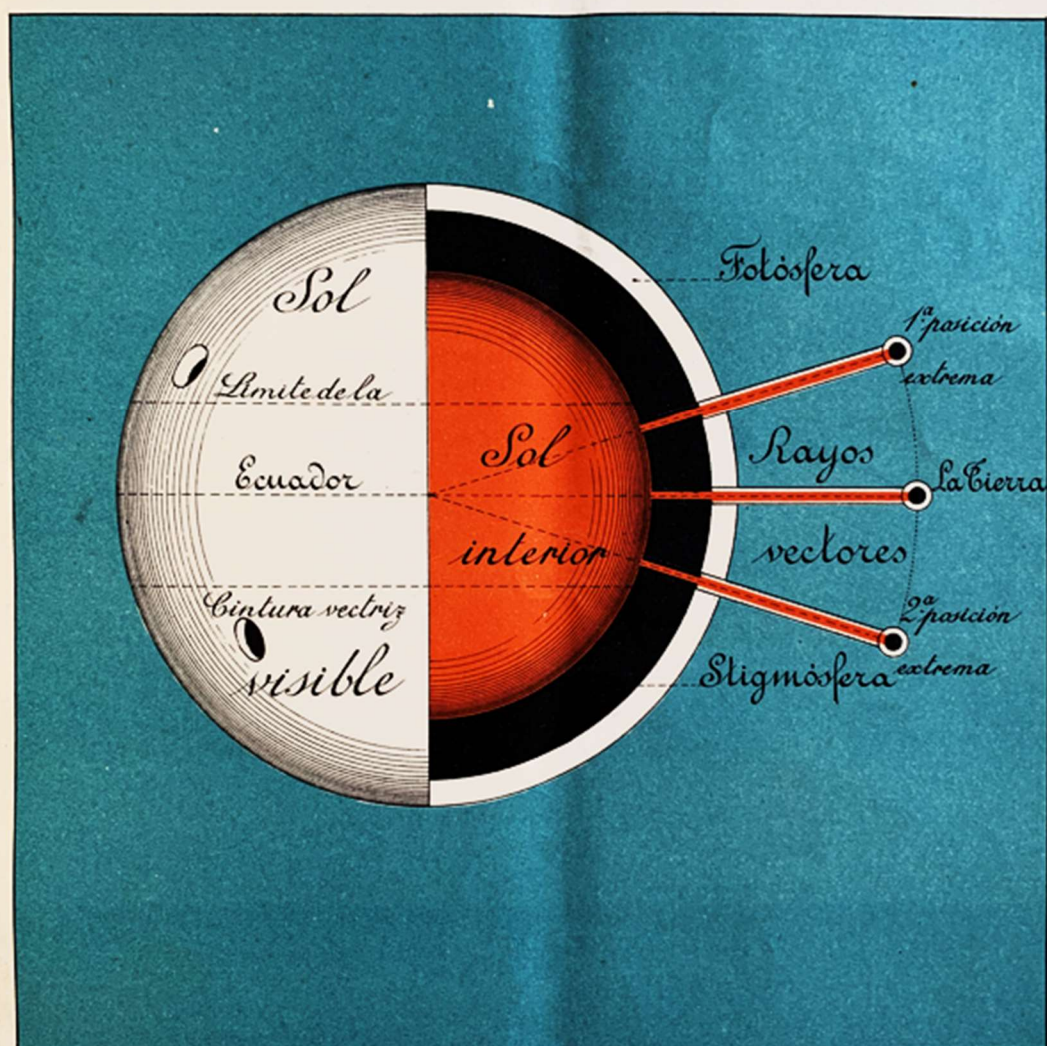
Three articles and a glossary present technical data on the Hubble Space Telescope.



156. [HUYGENS, Christian (1629-1695)] A.E. [Arthur] BELL.  
*Christian Huygens and the development of science in the seventeenth century.*  
 London: Edward Arnold, 1947. ¶ 8vo. 220 pp. Frontispiece  
 portrait, 6 plates, index; some offsetting to endleaves. Original  
 cloth, dust-jacket; jacket edge worn. Bookseller label: S. [Samuel]  
 Orlinick [ca.1907-1979], Scientific Library Service, NY. Very good.  
 \$ 35

[S14020]

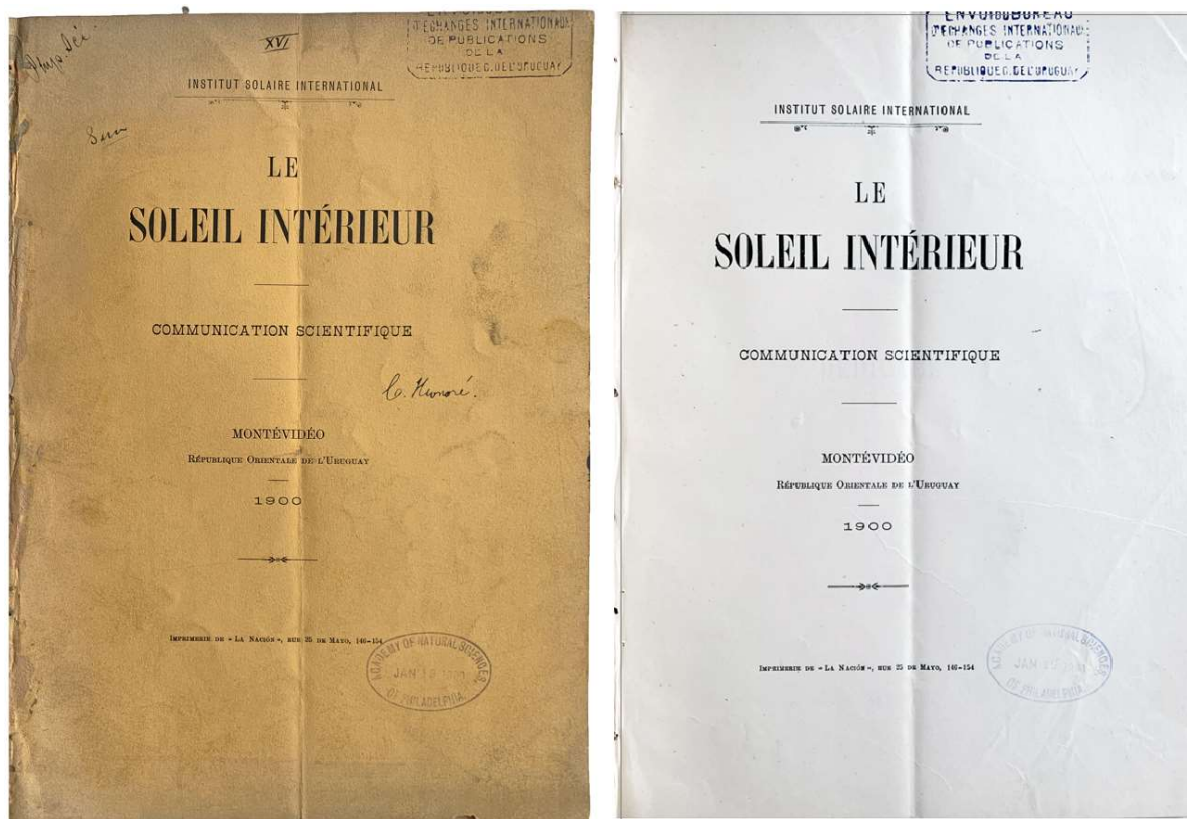
## *El Sol interior*



*Corte esquemático*

[157] *Le soleil intérieur*

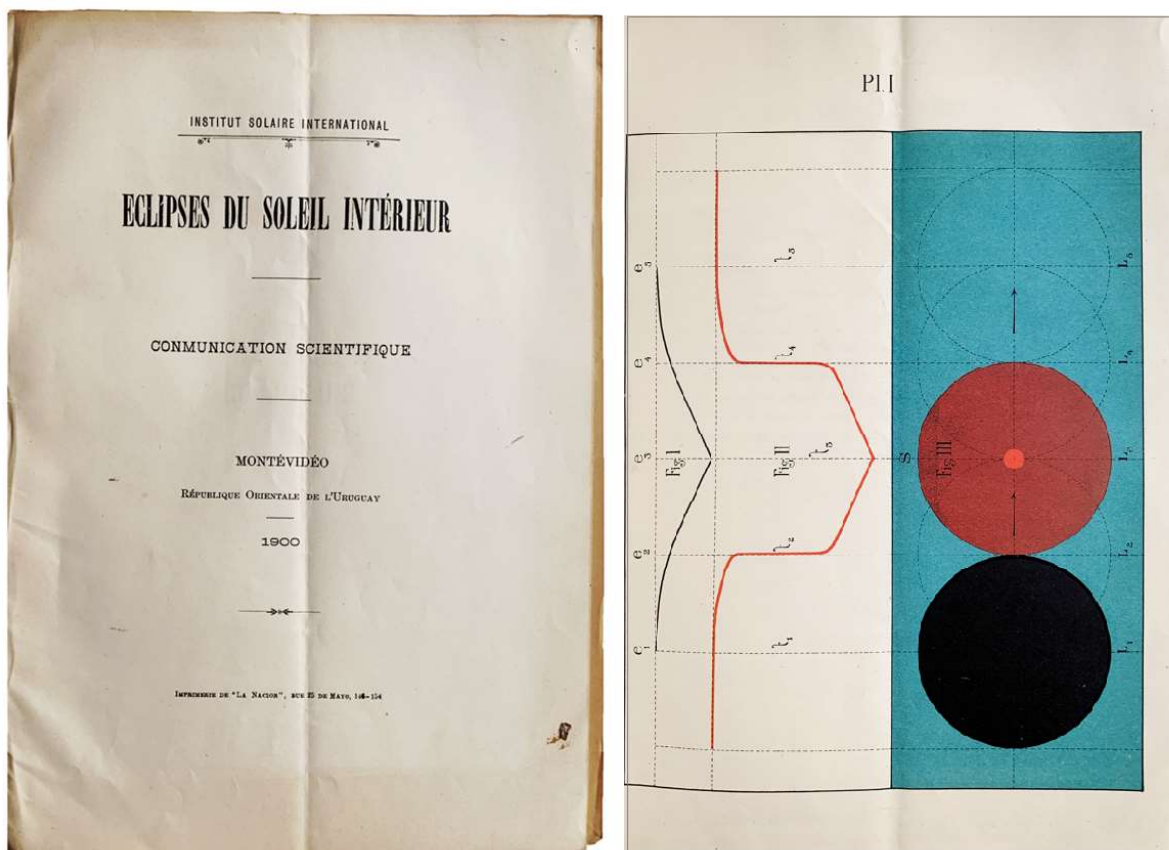




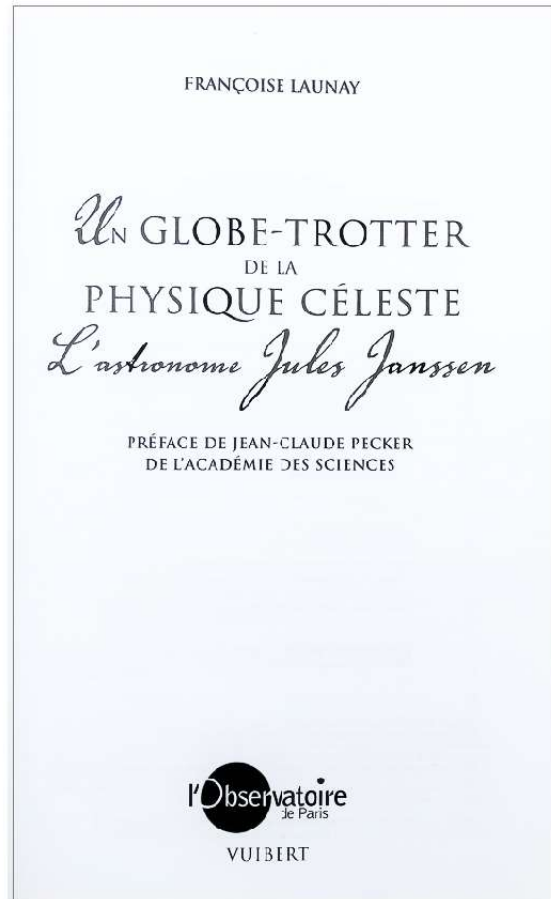
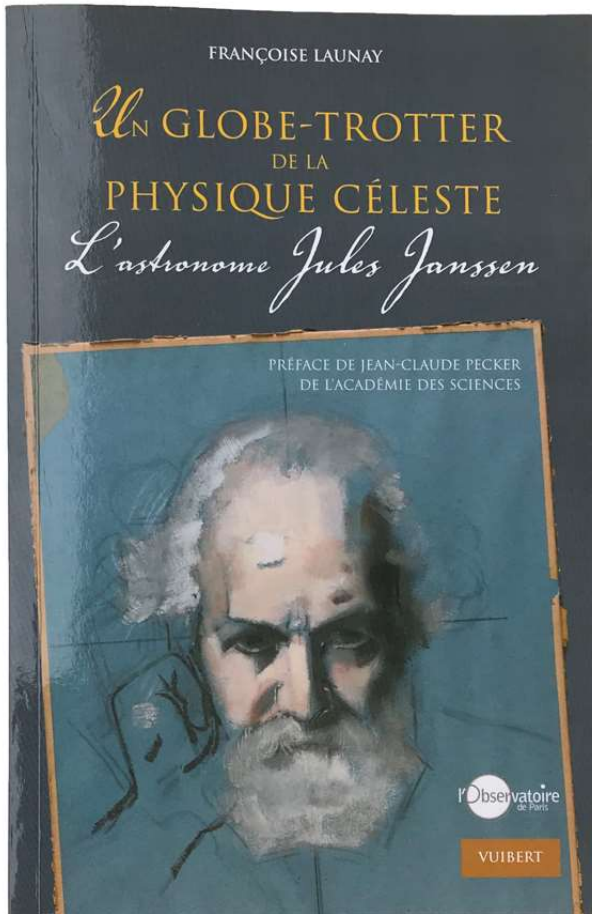
157. **Institut Solaire International.** *“Le soleil intérieur. Communication scientifique.”* Offprint from: La Nación, 25 May, 1900. Montevideo: République Orientale de l’Uruguay, 1900. ¶ Tall 8vo. 26, [6] pp. 1 color plate. Original yellow printed wrappers. Ex library rubber stamps on top cover and title, ms. notations on top cover. Signature of C. Honoré [?] on cover. Very good. [S5983]

\$ 45

Study of the interior of the Sun.



158. **Institut Solaire International.** "*Eclipses du soleil intérieur. Communication scientifique.*" Offprint from: La Nación, 25 May, 1900. Montevideo: République Orientale de l'Uruguay, 1900. ¶ Tall 8vo. 15, [3] pp. 1 color plate. Dis-bound. Good. [S5984] \$ 18

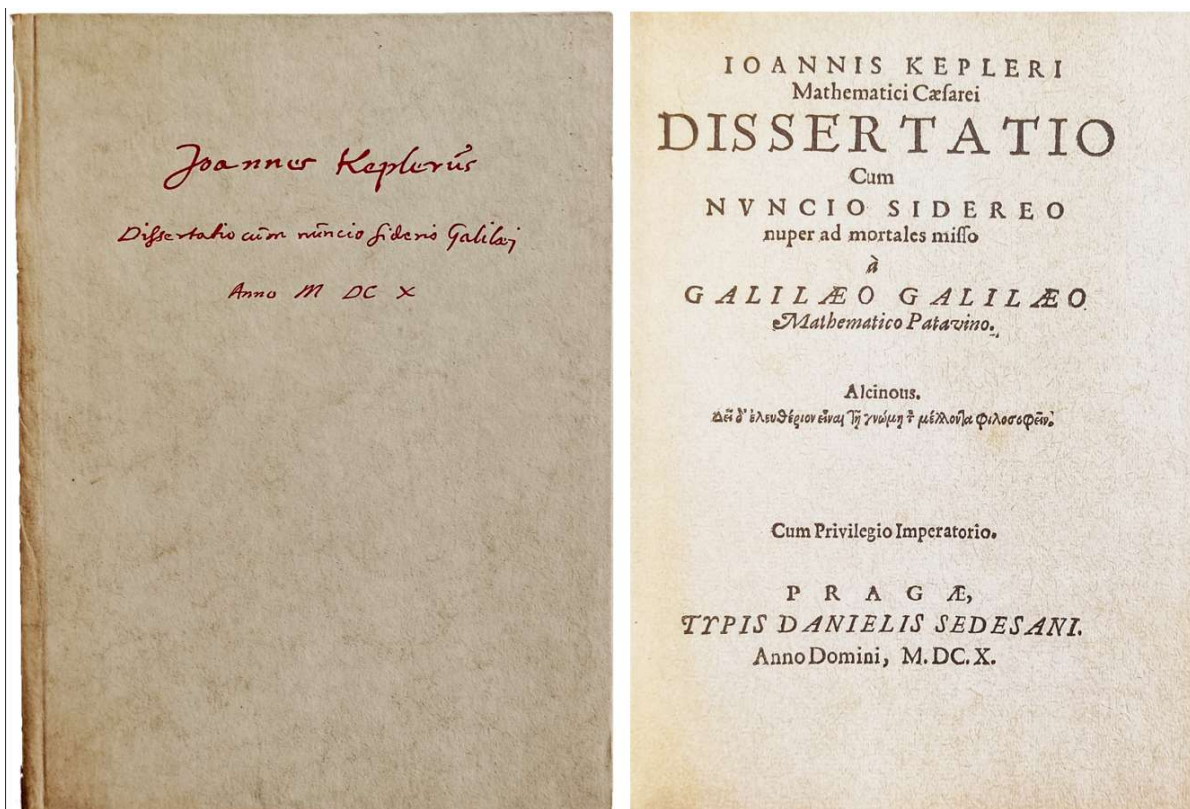


159. [JANSSEN, Jules (1824-1907)] **Françoise LAUNAY**. *Un Globe-Trotter de la physique céleste. L'astronome Jules Janssen*. Paris: Vuibert, 2008. ¶ 8vo. 281, [1] pp. Gray pictorial wrappers. Near fine. S13565

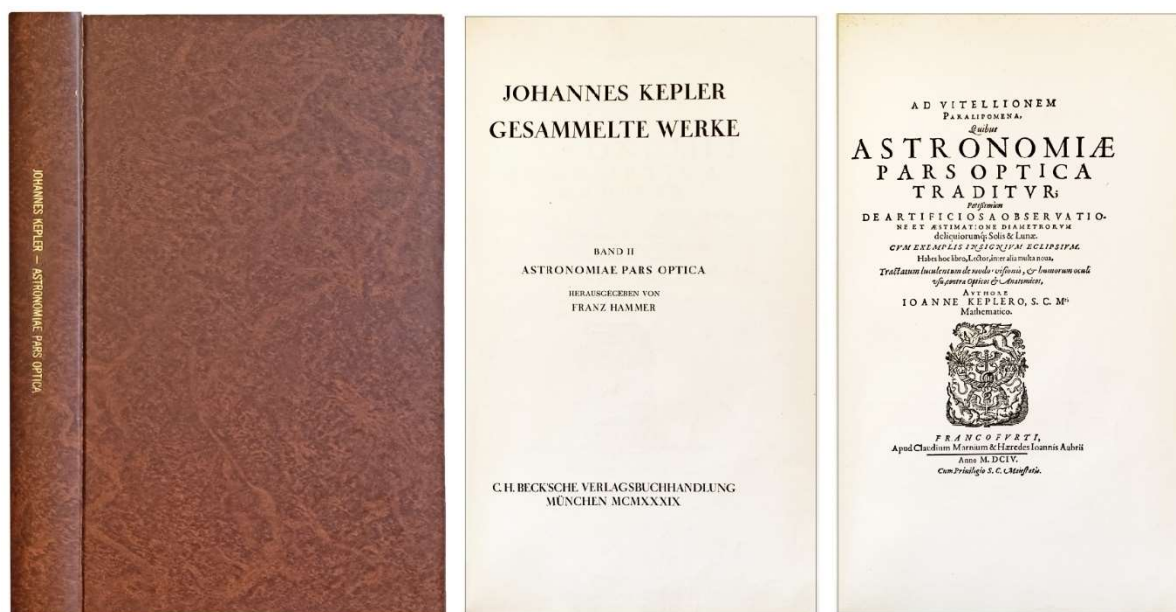
\$ 18

“Pierre Jules Cesar Janssen, also known as Jules Janssen, was a French astronomer who, along with English scientist Joseph Norman Lockyer, is credited with discovering the gaseous nature of the solar chromosphere, and with some justification, the element helium.” [Wikip.].





160. **KEPLER, Johannes** (1571-1630). [2 works] *Dissertatio cum Nuncio Sidereo nuper ad mortales misso a Galilaeo Galilaeo . . . Cum privilegio Imperatorio*. Pragae: Danielis Sedesani, 1610. München: Poerschke & Weiner, n.d. [1964]. Small 4to. [6], 34, [2] pp. Latin text.  
**Accompanied by:** *Des kaiserliches Mathematikers Johannes Kepler Unterredung mit dem Sternenboten*. [Freiburg im Breisgau : H.F. Schulz in Kommission, 1964]. ¶ Small 4to. 39, [1] pp. German text.  
 Wrappers. Very good. [S14021] \$ 25

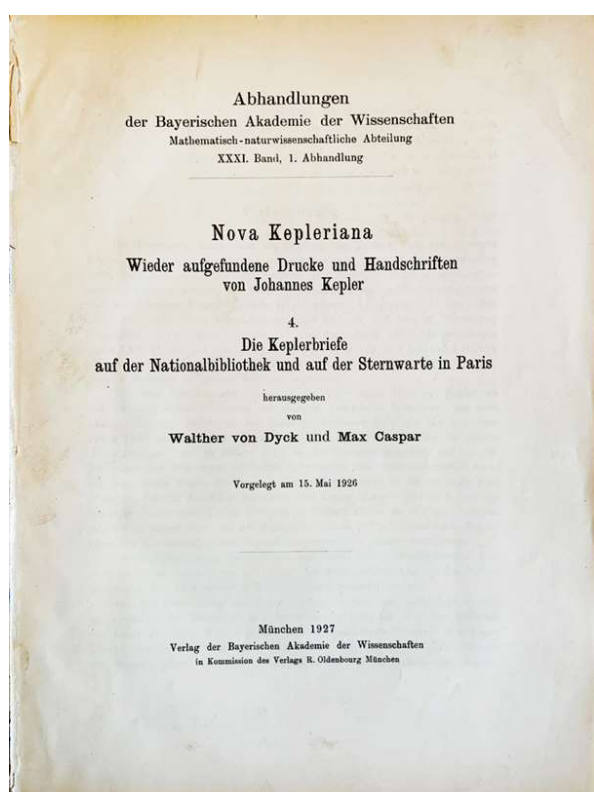


161. **KEPLER, Johannes** (1571-1630); **Franz HAMMER** (1898-1969). *Johannes Kepler: Gesammelte Werke, Band II: ASTRONOMIAE PARS OPTICA. Herausgegeben von Franz Hammer.* Munich: C. H. Beck'sche, 1939. ¶ 4to. 465 pp. Fold-out table, index. Brown paper-backed boards, gilt-stamped spine; outer front cover starting to crack at spine edge. Ownership signature. Very good. S10525  
\$ 100

Franz Hammer was a German mathematician, librarian and historian of science.

In 1934, Hammer met the Kepler researchers Max Caspar and Walther von Dyck, who were preparing a complete new edition of the works of the astronomer Johannes Kepler to replace the 19th-century edition of Christian von Frisch. A commission was set up at the Bavarian Academy of Sciences for this purpose in 1935. Hammer worked for this company, first as an employee (a branch office at the Württemberg State Library next to the headquarters in Munich) and also with personal responsibility for individual volumes, then after Caspar's death in 1956 as scientific director of the edition and the 1960 newly established edition Research center Weil der Stadt of the Commission for the publication of the works of Johannes Kepler, which he set up after moving to Kepler's birthplace. Hammer supervised the edition until 1969 and published the following volumes from the 26-volume edition of Kepler's works.

This part offered here is the second volume of the collected works of Kepler, being the *Astronomiae Pars Optica* [1604]. The work “explores the properties of light, applying the ideas of reflection and refraction to explain astronomical phenomena, such as the size of astronomical bodies and the nature of eclipses. It also investigates the workings of light with regard to pinhole cameras and the human eye. In his explanation of vision, Kepler was the first to recognize the importance of the retina and the inversion of images within the eye, and the first to explain how eyeglasses, in use for over three centuries, actually worked.” [Louise Cowan, Univ. of Reading Library]. Kepler’s understanding optics led to inventing his own telescope in 1611.



Übersicht des Inhalts.

**Nova Kepleriana, 4.**

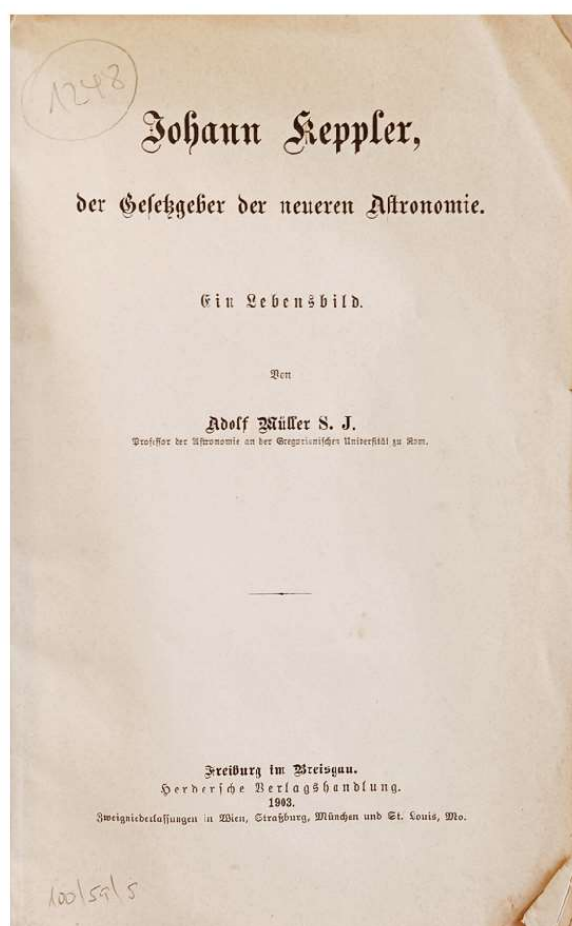
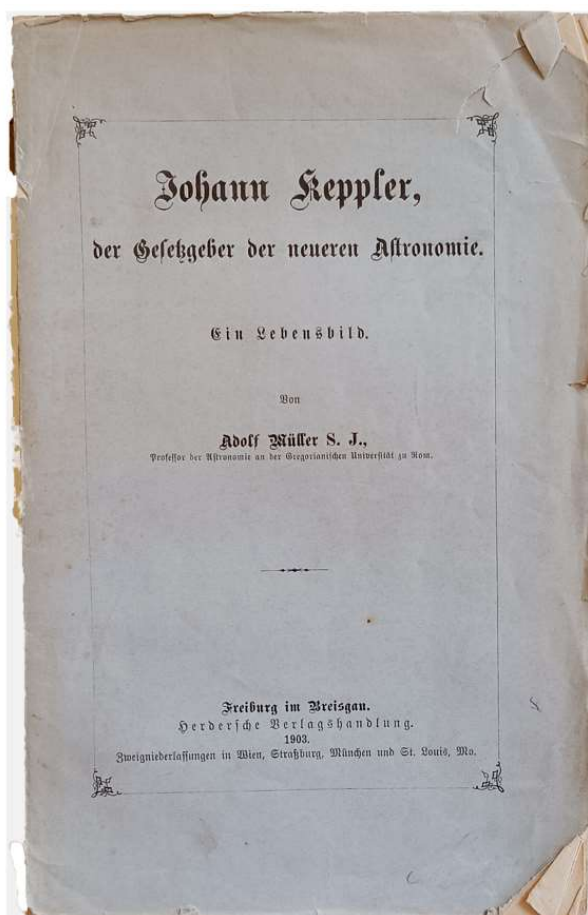
Die Keplerbriefe auf der Nationalbibliothek und auf der Sternwarte in Paris.

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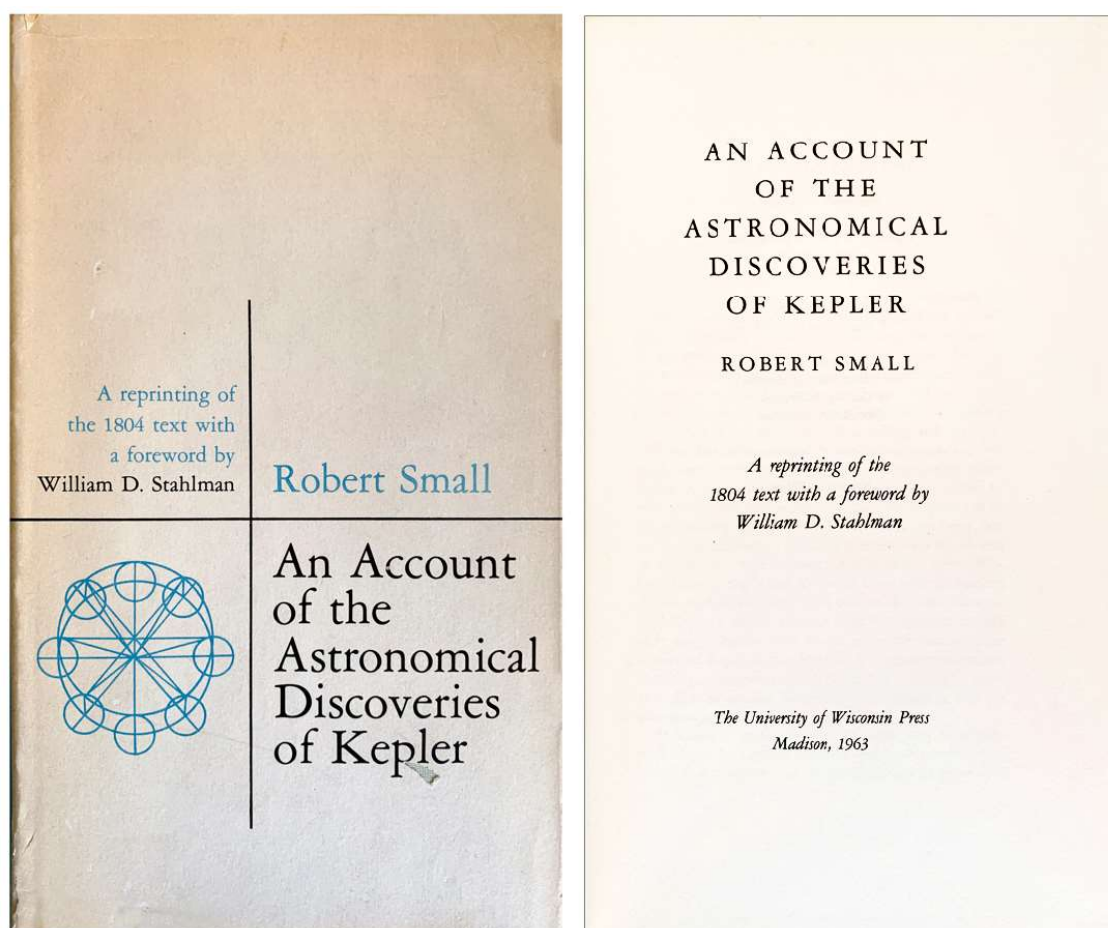
Abb. d. math.-naturw. Abt. XXXI. Bd. 1. Abb. 16

162. [KEPLER, Johannes (1571-1630)] DYCK, Walther von, & Max CASPAR, editors. *Nova Kepleriana; Wieder aufgefundenen Drucke und Handschriften von Johannes Kepler. 4. Die Keplerbriefe auf der Nationalbibliothek und auf der Sternwarte in Paris.* Munich: Bayerischen Akademie, 1927. ¶ Series: *Bayerischen Akademie der Wissenschaften*. 4to. 114 pp. Disbound. Scarce. [S3585] \$ 50





163. [KEPLER, Johannes (1571-1630)] MULLER, Adolf (b.1853).  
*Johann Keppler, der Gesetzgeber der neueren Astronomie. Ein Lebensbild.*  
 Freiburg im Breisgau, Vienna, Strassburg, Munich, St. Louis (MO):  
 Herdersche, 1903. ¶ 235 x 150 mm. 8vo. viii, 186, [ads, 2] pp.  
 Index. Original printed lavender wrappers; edges chipped, worn,  
 else very good. [S4213] \$ 50



164. [KEPLER, Johannes (1571-1630)] **Robert SMALL** (1732–1808). *An Account of the Astronomical Discoveries of Kepler*. Madison: University of Wisconsin Press, 1963. ¶ Reprint. 8vo. xii, 386 pp. Index. Grey cloth, gilt-stamped spine, dust jacket; jacket slightly torn with minor discoloration. Ownership signature. Very good. [S10528]

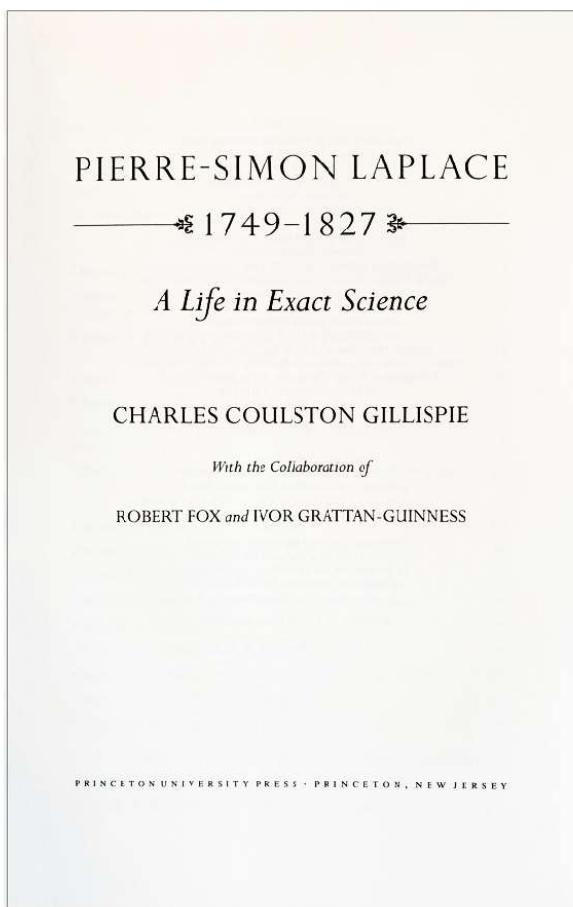
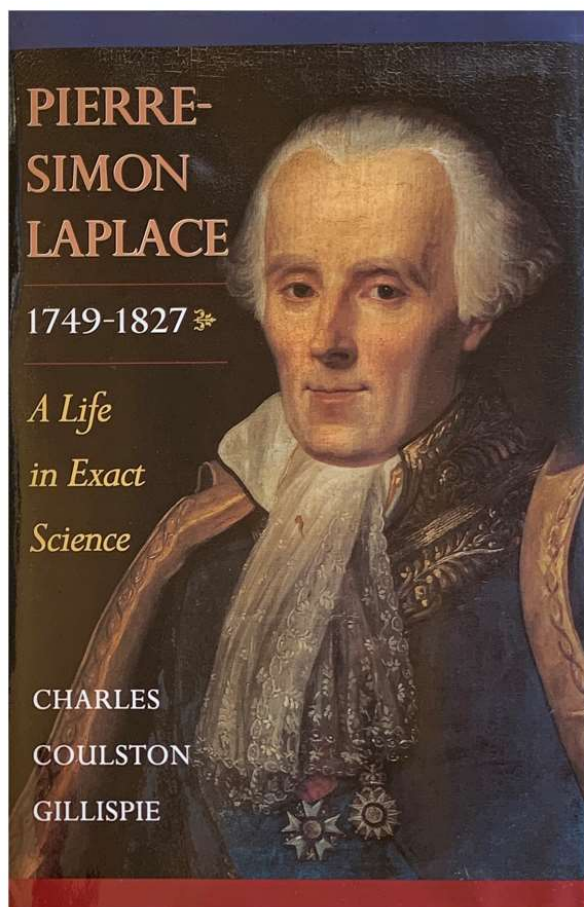
\$ 20

Robert Small FRSE (1732–1808) was a Scottish minister who served as Moderator of the General Assembly of the Church of Scotland in 1791. He was keenly interested in mathematics and astronomy and was a founder member of the Royal Society of Edinburgh. In 1804 he published an explanation of Kepler's laws of planetary motion.

165. [LAPLACE, Pierre-Simon (1749-1827)] **GILLISPIE, Charles Coulston** (1918-2015). *Pierre-Simon Laplace, 1749-1827: A Life in Exact Science*. Princeton: Princeton University Press, 1997. ¶ 8vo. xii, 322, [2] pp. 8 figs., index. Blue cloth, dust-jacket. Nice copy. [S14022] ISBN 10: 0691011850

\$ 45

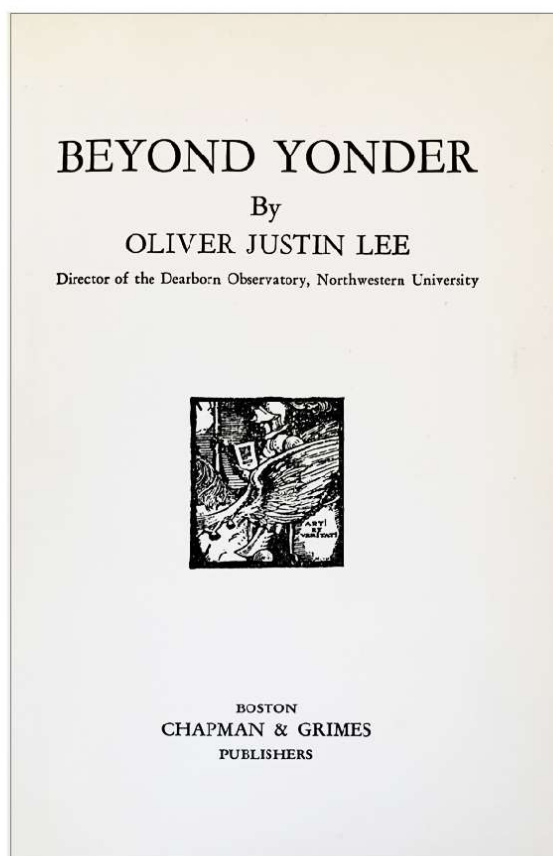
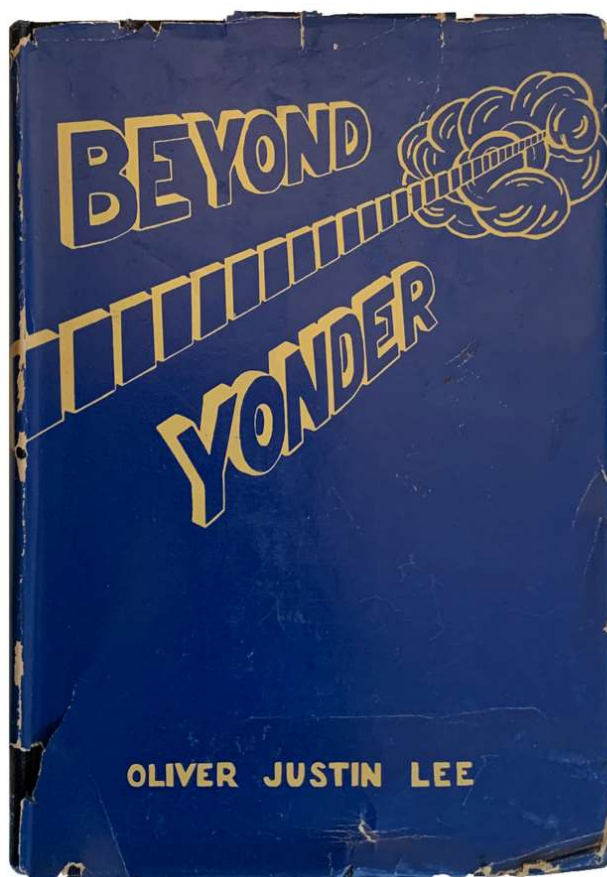
Pierre-Simon Laplace was among the most influential scientists in history. Often referred to as the lawgiver of French science, he is known for his technical contributions to exact science, for the philosophical point of view he developed in the presentation of his work, and for the leading part he took in forming the modern discipline of mathematical physics. His two most famous treatises were the five-volume *Traité de mécanique céleste* (1799-1825) and *Théorie analytique des probabilités* (1812). In the former he demonstrated mathematically the stability of the solar system in service to the universal Newtonian law of gravity. In the latter he developed probability from a set of miscellaneous problems concerning games, averages, mortality, and insurance risks into the branch of mathematics that permitted the quantification of estimates of error and the drawing of statistical inferences, wherever data warranted, in social, medical, and juridical matters, as well as in the physical sciences. This book traces the development of Laplace's research program and of his participation in the Academy of Science during the last decades of the Old Regime into the early years of the French Revolution. A scientific biography by Charles Gillispie comprises the major portion of the book. Robert Fox contributes an account of Laplace's attempt to form a school of young physicists who would extend the Newtonian model from astronomy to physics, and Ivor Grattan-Guinness summarizes the history of the scientist's most important single mathematical contribution, the Laplace Transform. – Jacket.





“Gillispie’s distinguished biography is a magisterial survey of one of the most influential scientists of the past two centuries. It is also a history of science at its most challenging.” — William R. Shea, *Nature*.

Charles Coulston Gillispie was a grand American historian of science. He was the Dayton-Stockton Professor of History of Science, Emeritus at Princeton University. He was editor of the *Dictionary of Scientific Biography* (16 vols.).

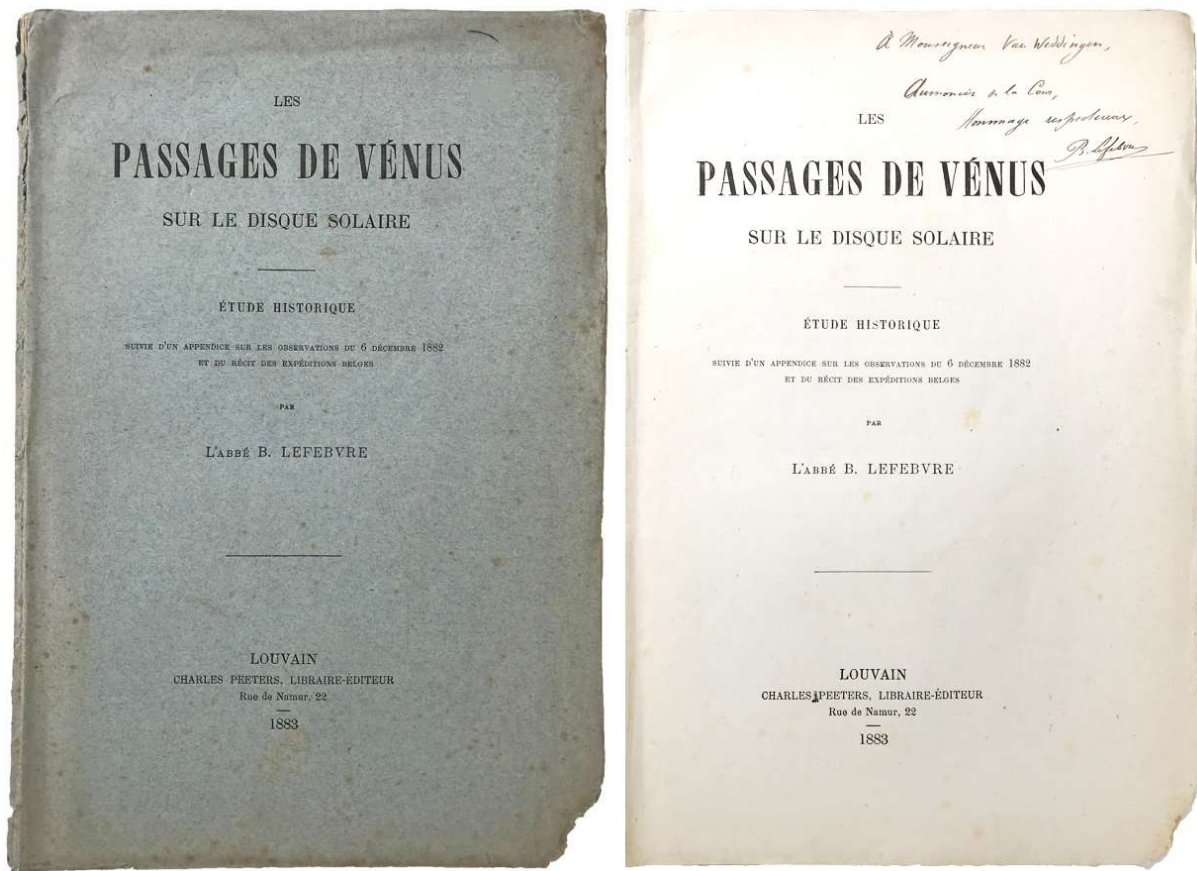


166. **LEE, Oliver Justin** (1881-1964). *Beyond Yonder*. Boston: Chapman & Grimes, 1939. ¶ Small 8vo. 169, [1] pp. Frontispiece, 13 plates, figures. Navy silver-stamped cloth, just-jacket; jacket well worn. Bookplate of Harold E. Walters. Very good. [S14023]

\$ 10

Oliver Justin Lee came to Northwestern University in 1928 as an assistant astronomer at the Dearborn Observatory. He became Chair of the Department of Astronomy in 1929, and served as Director of the Dearborn Observatory from 1931 until his retirement in 1947. Lee published many articles describing his discoveries of stellar parallaxes and solar eclipses. One of his outstanding achievements was the classification and charting of 44,000 stars of the faint-red type in the skies of the northern hemisphere. He also studied the planetoid Eros in an effort to measure the mass of the moon and the distance from the sun to the

earth. In 1947 he became Professor Emeritus at Northwestern and moved to Santa Cruz, California. There he led an active life substitute teaching and writing until his death on January 13, 1964.



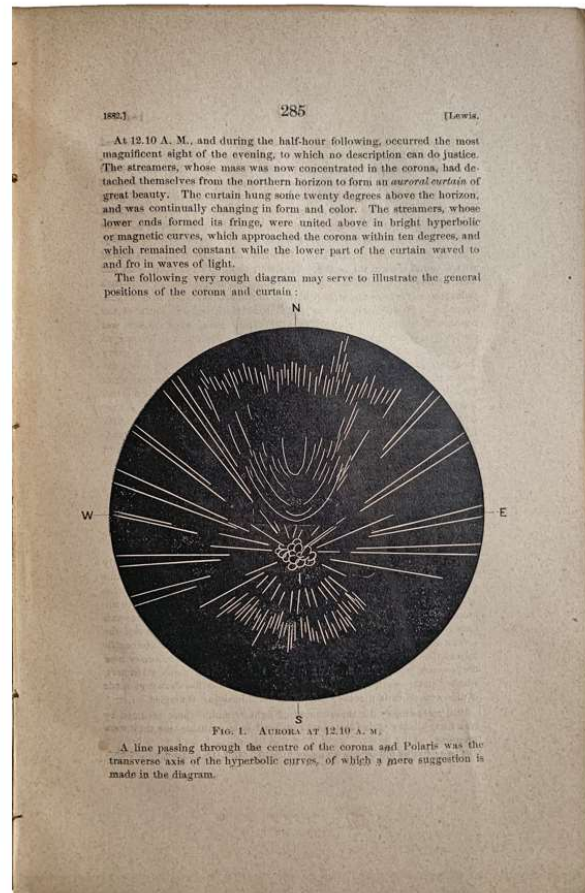
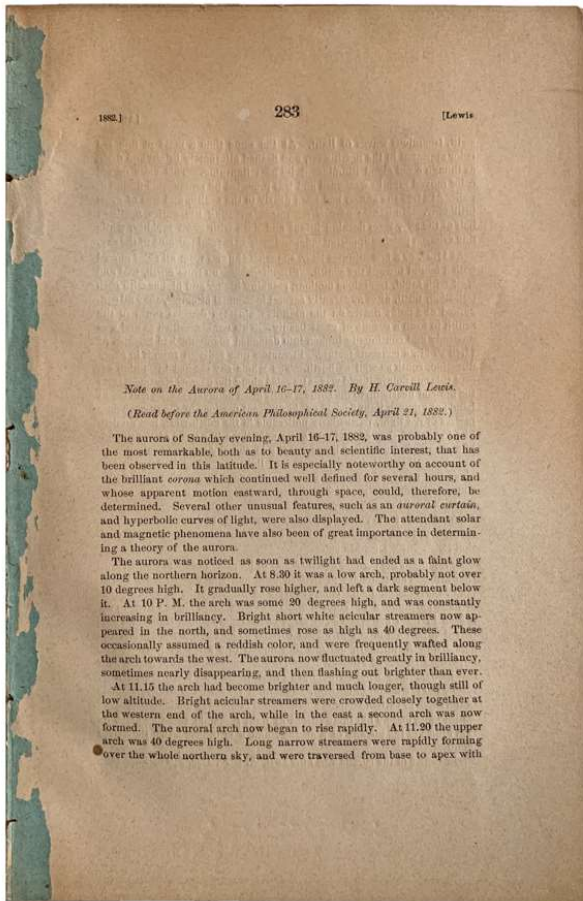
167. **LEFEBVRE, Bruno** [Jesuit]. *Les passages de Venus sur le disque solaire. Etude historique suivie d'un appendice sur les observations du 6 Décembre 1882 et du récit des expéditions Belges.* Louvain: Charles Peeters, 1883. ¶ 8vo. [ii], 70 pp. Stained. Original printed wrappers; covers foxed, outer margins stained, spine chipped, lower corner rodent damaged, inner hinges cracked. PRESENTATION COPY INSCRIBED BY THE AUTHOR to Monseigneur Van Weddingen on title. Good. S13571

\$ 70

FIRST EDITION of this important review of the history of Venus transit observations and the Belgian transit expeditions of 1882. Bruno Lefebvre must have been associated with the Université catholique de Louvain.

PROVENANCE: Aloïs Van Weddingen (1841-1890).

☐ Houzeau & Lancaster 12336.

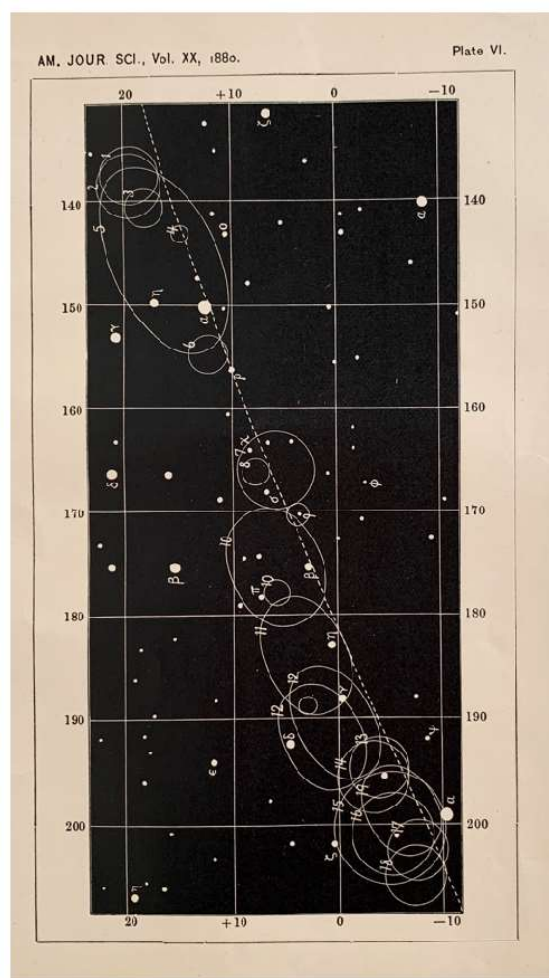
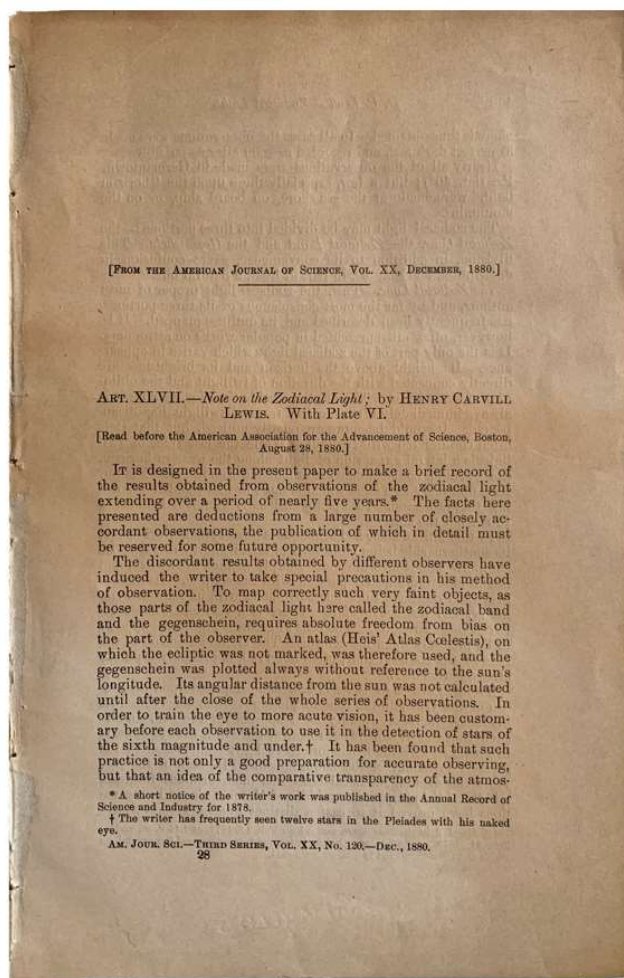


168. LEWIS, Henry Carvill (1853-1888). [Offprint] “**Note on the aurora of April 16-17, 1882.**” From the *APS Transactions*. [Philadelphia]: American Philosophical Society, 1882. ¶ 8vo. 283-291 pp. 3 figs., 1 photograph of the sun mounted at page 291 with ms. note “Sun, April 17, 1882” on verso. Dis-bound. Very good. S6335

\$ 40

Read before the *American Philosophical Society* and reprinted from its *Transactions*.

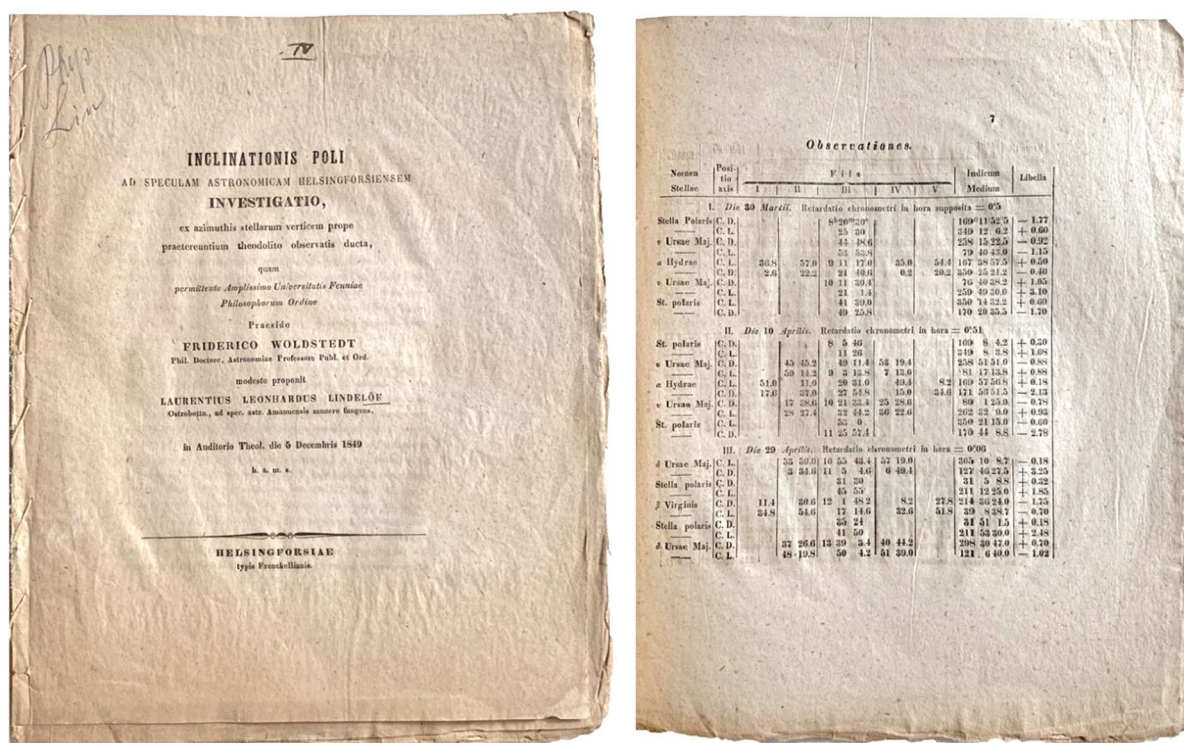




169. LEWIS, Henry Carvill (1853-1888). "*Note on the zodiacal light.*" Offprint from: *American Journal of Science*, Third Series, Vol. XX, December, 1880. ¶ 8vo. (437)-445. 1 plate. Dis-bound. Very good. S6333

\$ 10

FIRST SEPARATE EDITION. "Quick description, but containing the essential appearances of the phenomenon in all its parts." « Description rapide, mais contenant les apparences essentielles du phénomène dans toutes des parties. » - Houzeau & Lancaster, II, col. 771.



170. **LINDELOF, Lorentz Leonard** (1827-1908). *Inclinationis poli ad speculam astronomicam Helsingforsensem investigatio, ex azimuthis stellarum verticem prope praetereuntium theodolito observatis ducta.* ... Helsingfors: Frenckel, 1849. ¶ 4to. [ii], 18 pp. Tables. Self-wraps. Ex library ms. notations on top cover. Very good. S6336

\$ 40

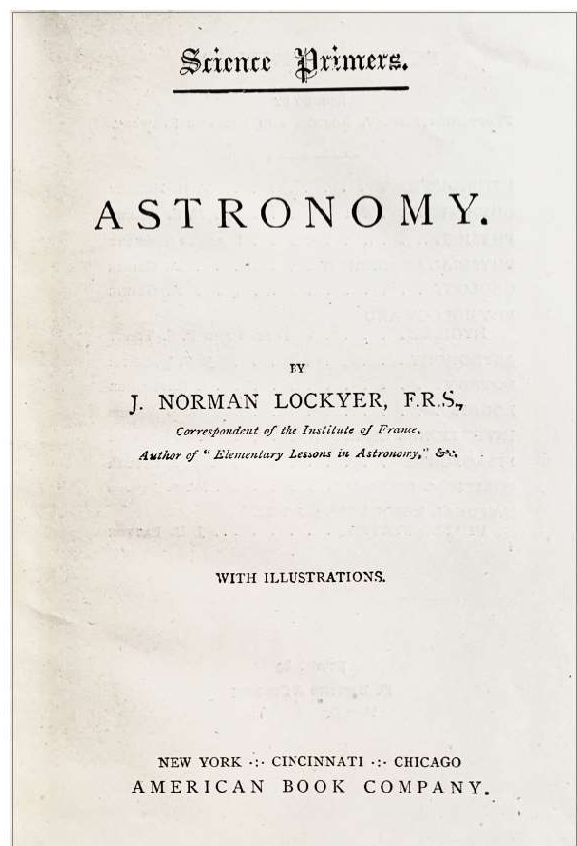
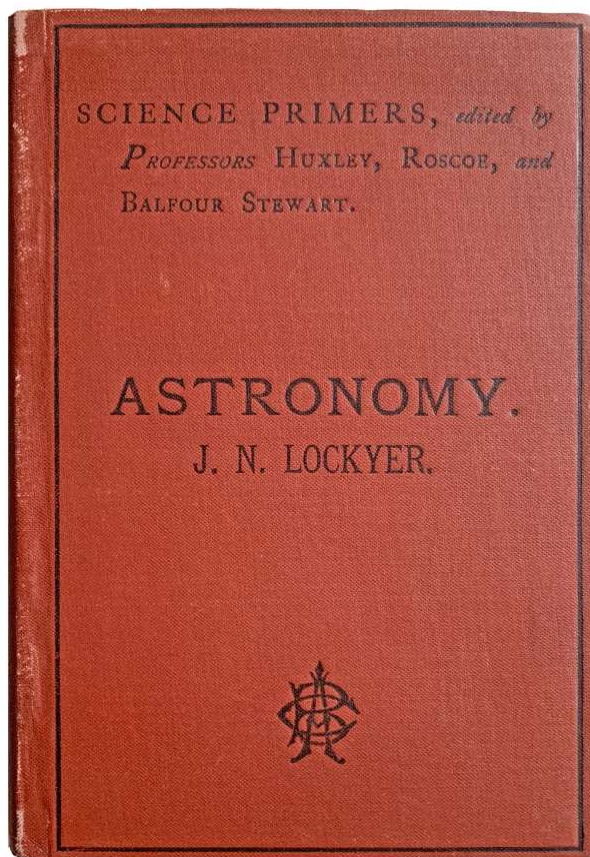
FIRST EDITION. "An investigation of the inclination of the pole at the Helsingfors astronomical observatory, taken from the azimuths of the stars observed by the theodolite passing near the top." [Hopefully a fair translation of the title.] Published in Helsinki, Finland.

Lorentz Lindelof, mathematician, was professor in Helsingfors from 1857 to 1874.





A lunar crater



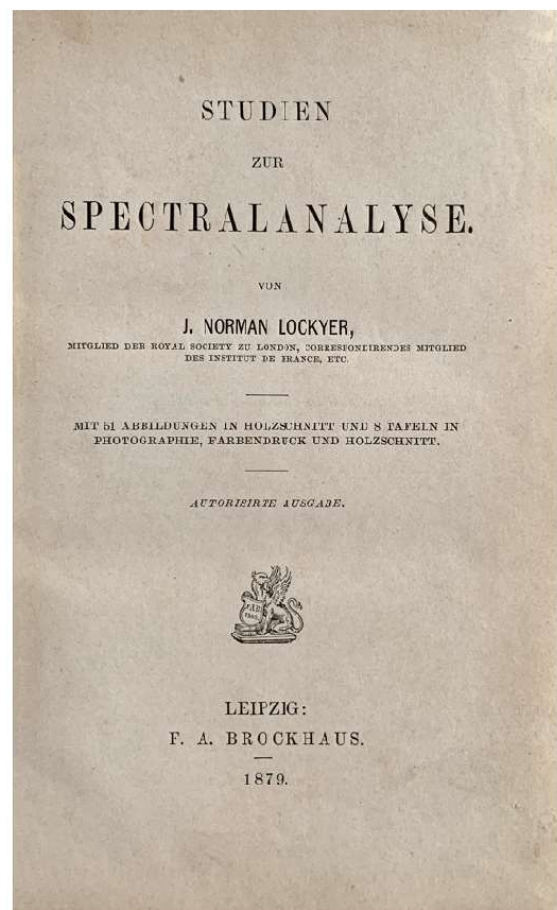


171. **LOCKYER, J. Norman** (1836-1920). *Astronomy*. New York: American Book Co., [n.d.]. ¶ Series: Science Primers. Sm. 8vo. 120 pp. 2 plates, 48 figs. Original brick colored cloth stamped in black. Bookplate of John B. MacHarg, 1896. S3588

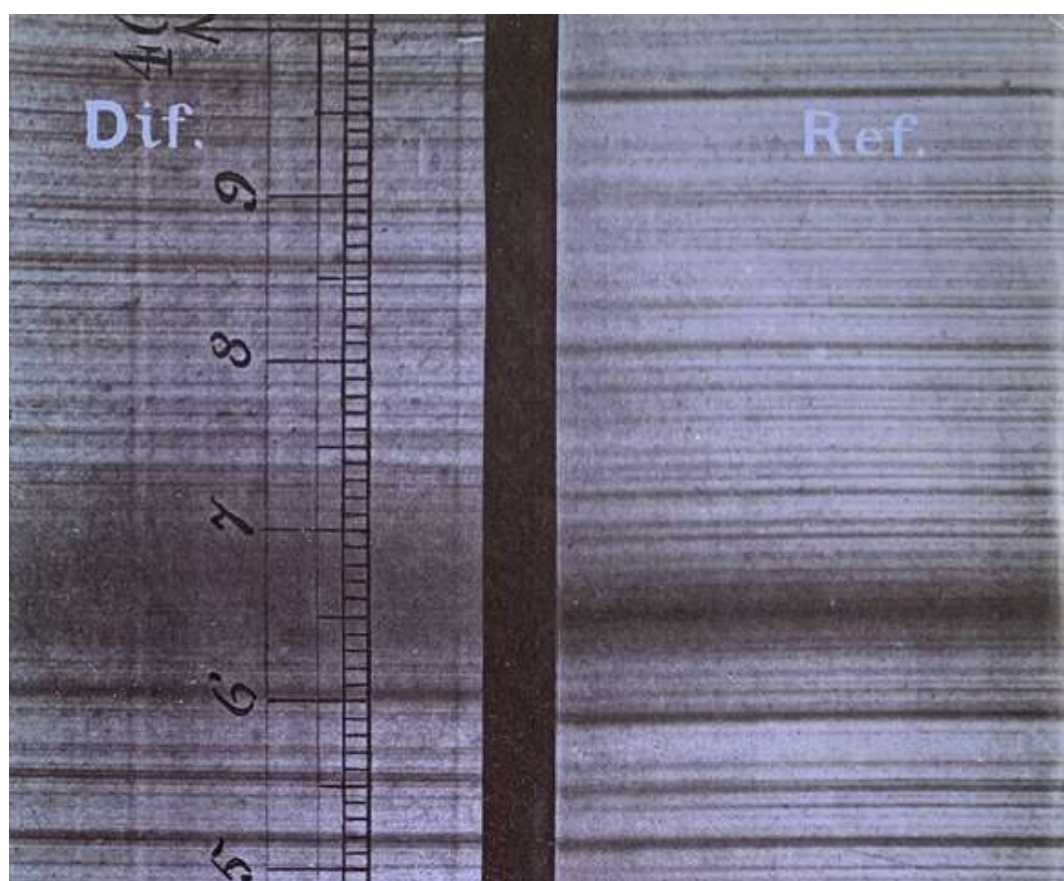
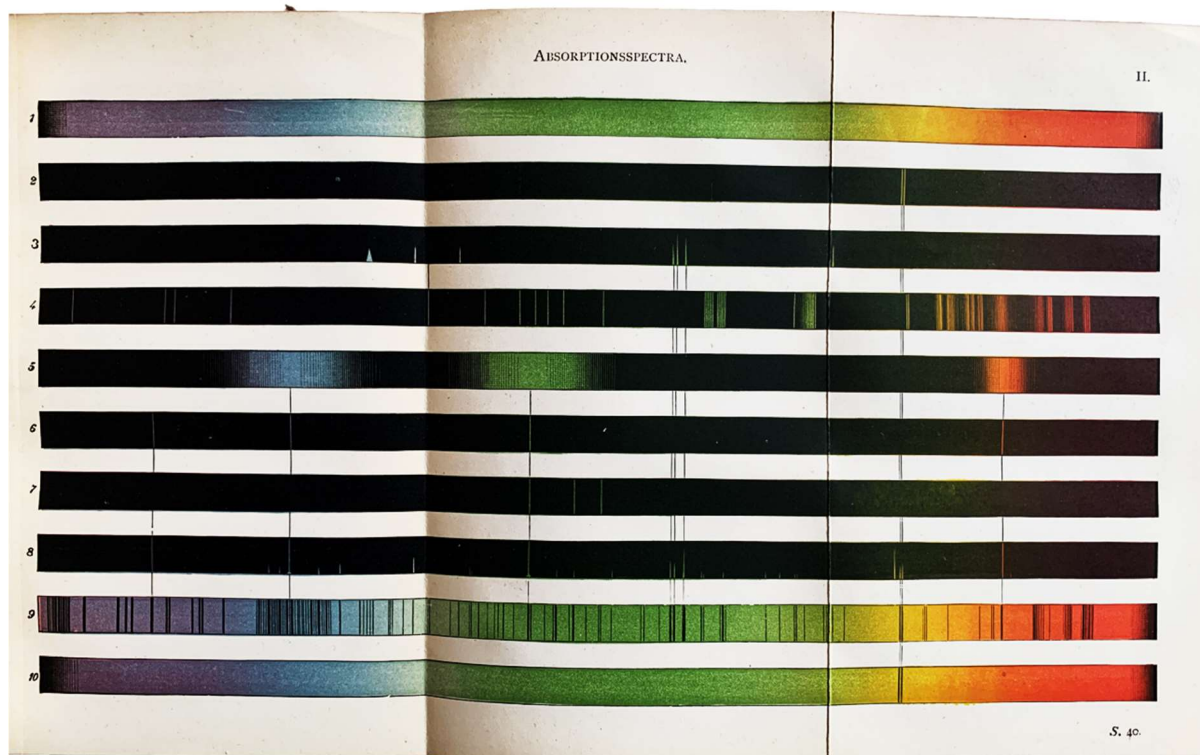
\$ 25

PROVENANCE: John Brainard MacHarg (1823-1899) was with Lawrence College.

Sir Joseph Norman Lockyer, KCB FRS, was an English scientist and astronomer. Lockyer is credited with discovering the gas helium along with Pierre Janssen. He also is remembered for being the founder and first editor of the journal *Nature*.



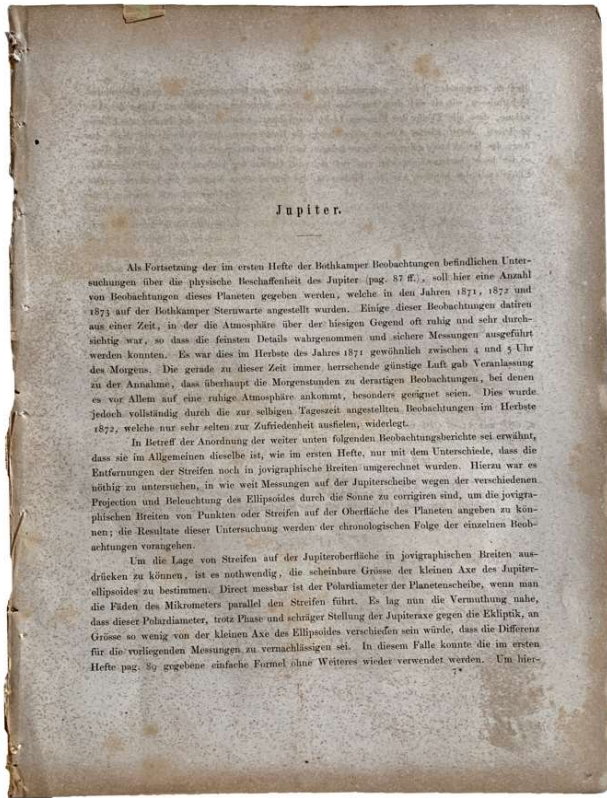
[172] Lockyer



[172] Lockyer



172. **LOCKYER, J. Norman** (1836-1920). *Studien zur Spectralanalyse*. Leipzig: F. A. Brockhaus, 1879. ¶ Sm. 8vo. x, 231 pp. 8 photographic plates (2 folding, 1 of which is full color), 51 figs., index. Original cloth-backed German marbled boards; heavily rubbed. Scarce. S3589 \$ 40



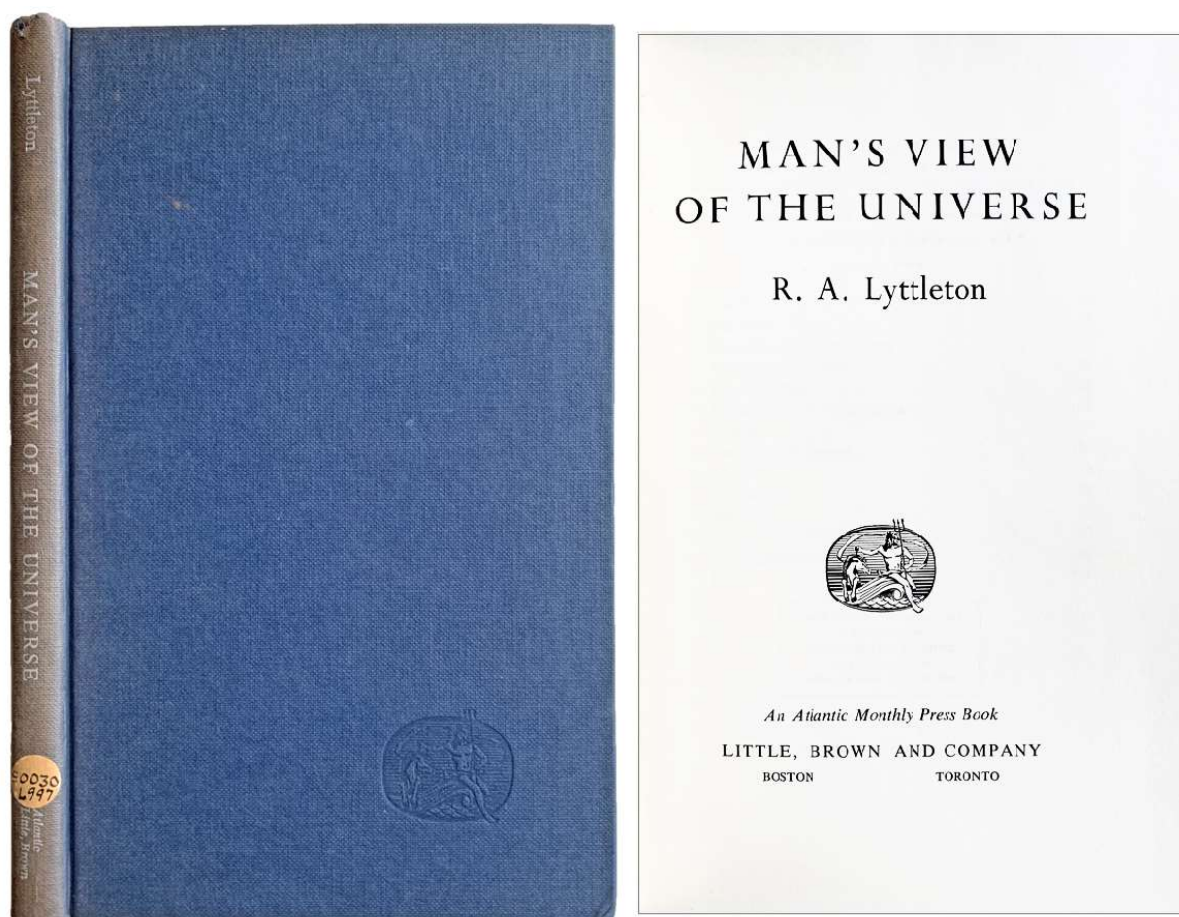
173. **LOHSE, W. Oswald** (1845-1915). “*Jupiter.*” Extracted from: *Beobachtungen angestellt auf der Sternwarte des Kammerherrn von Bulow zu Bothkamp*, Volume 2, herausgegeben von Dr. H.C. Vogel. Leipzig: Wilhelm Engelmann, 1873. ¶ 4to. (51)-117 pp. With folding “Circular” plate, 5 tinted lithographic plates by Druck v. F. M. Strassberger of Leipzig (showing 58 of 60 views of Jupiter) [the plates are numbered [8]-12], 21 figures; Circular plate torn, with loss to lower section of plate, the final leaf unfortunately has 2 JUPITER IMAGES CLIPPED AWAY [MISSING], some foxing or browning. Otherwise complete. German text. Disbound. Good. S13139

\$ 25

The publication featured sections on the spectra, Sun, Jupiter, Venus, and Mercury. The present offering is the “Jupiter” section.

Wilhelm Oswald Lohse, German astronomer, first worked at the private Bothkamp Observatory, followed by the Potsdam Astrophysical Observatory in 1874, becoming its Chief Astronomer at the time of his death. His main work involved the investigation of the surface features of Mars and Jupiter.

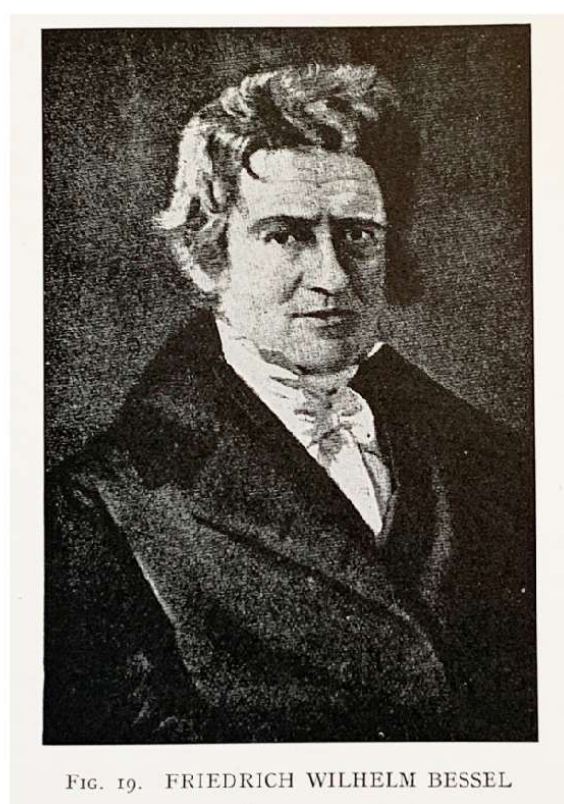
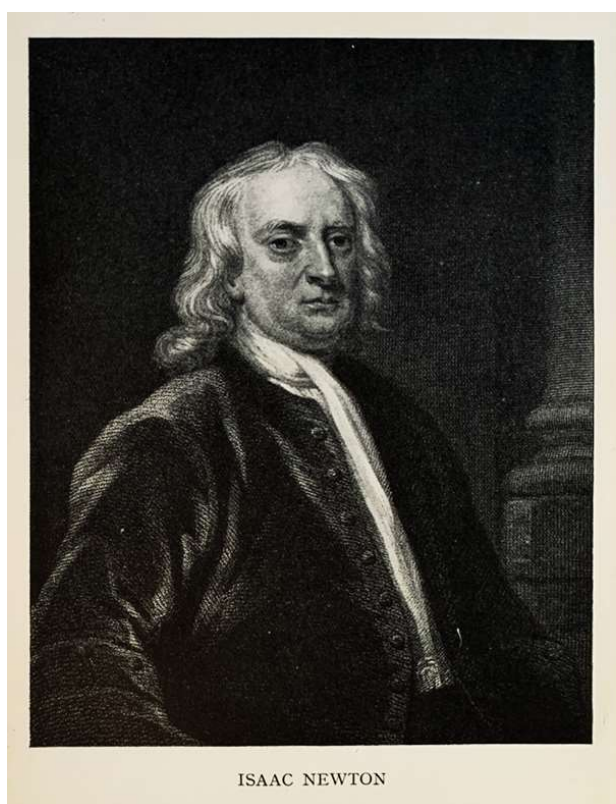
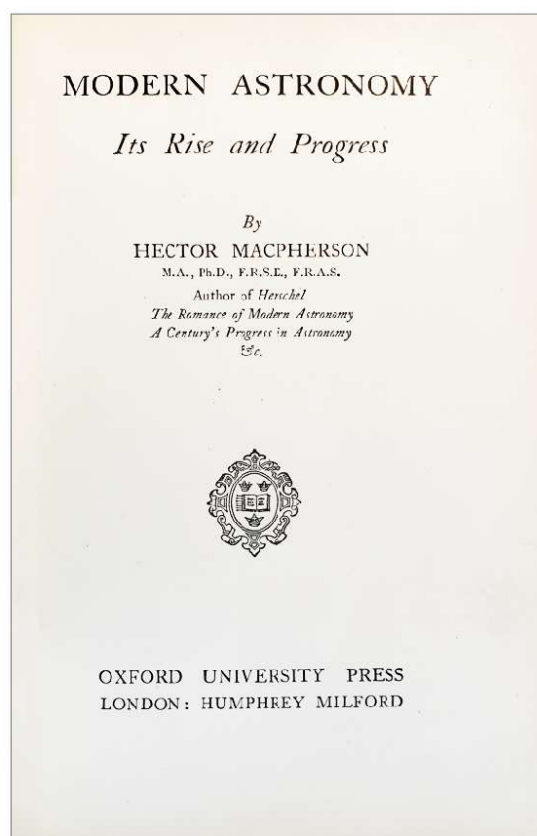
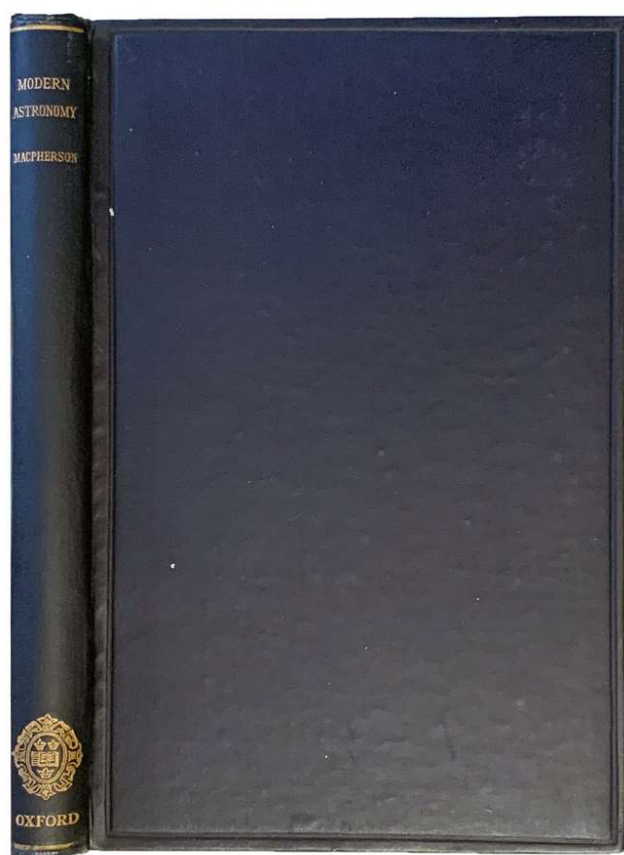




174. **LYTTLETON, Raymond Arthur**, FRS (1911-1995). *Man's View of the Universe*. Boston: Little, Brown, 1961. ¶ 8vo. 108 pp. Illus., diagr., index. Blue cloth; spine faded, small paper spine label. With Carnegie Mount Wilson Observatory blind-stamp. [S1354]

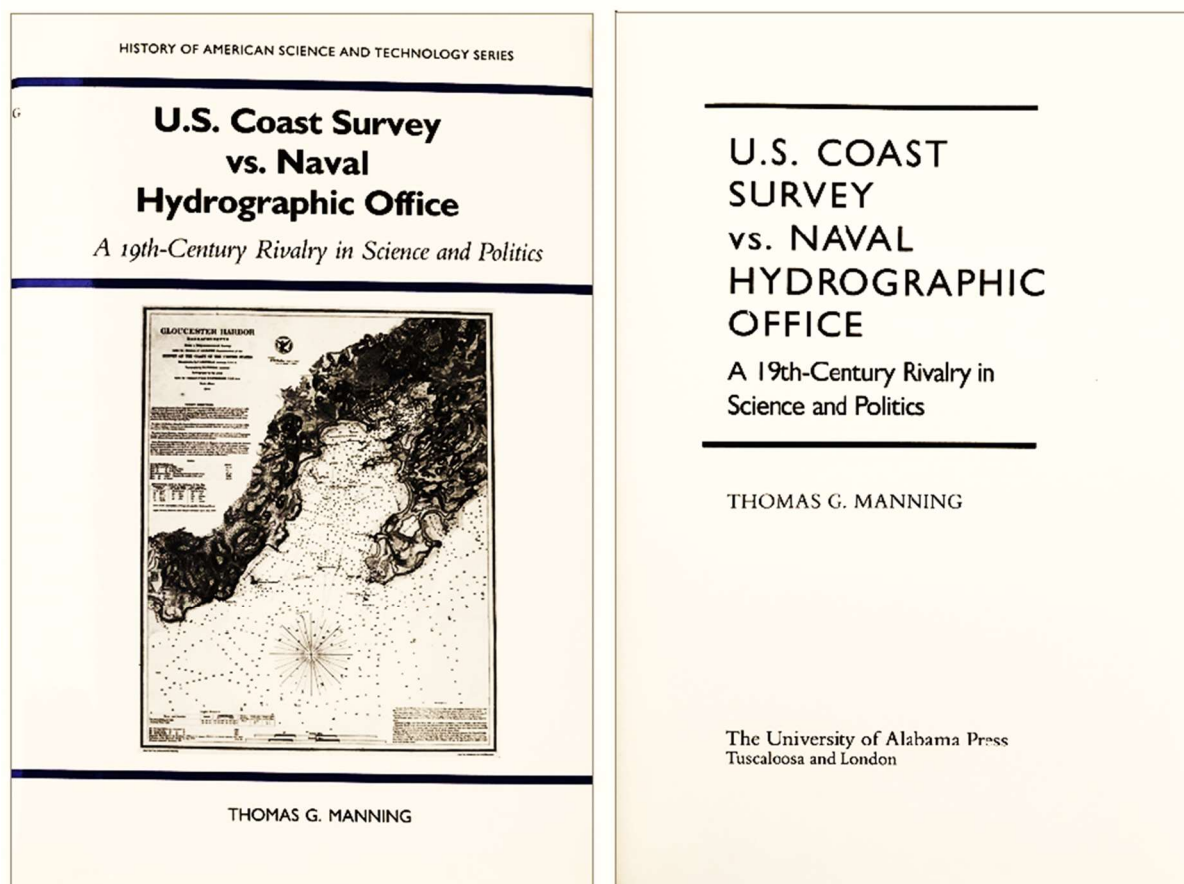
\$ 15

Lyttleton was elected a Fellow of the Royal Society in 1955. His application citation read: "Distinguished for his work in astronomy. Author of numerous papers on the origin and early history of the Solar System, notably his modifications of the collision theory. Showed from work of Cartan that fission of a planet by rotation would give two independent bodies, and consequently that the fission theory of binary stars is untenable (*The Stability of Rotating Liquid Masses*, 1953). Author (with F. Hoyle) of numerous papers on the astronomical effects of accretion, and (with H. Bondi) of two on the transmission of the tidal friction couple to the Earth's core and on the behaviour of the core during precessions. Author of a striking new theory of comets. (*The Comets and their Origin*, 1953). He won the Royal Society Royal Medal in 1965 "In recognition of his distinguished contributions to astronomy, particularly for his work on the dynamical stability of galaxies."



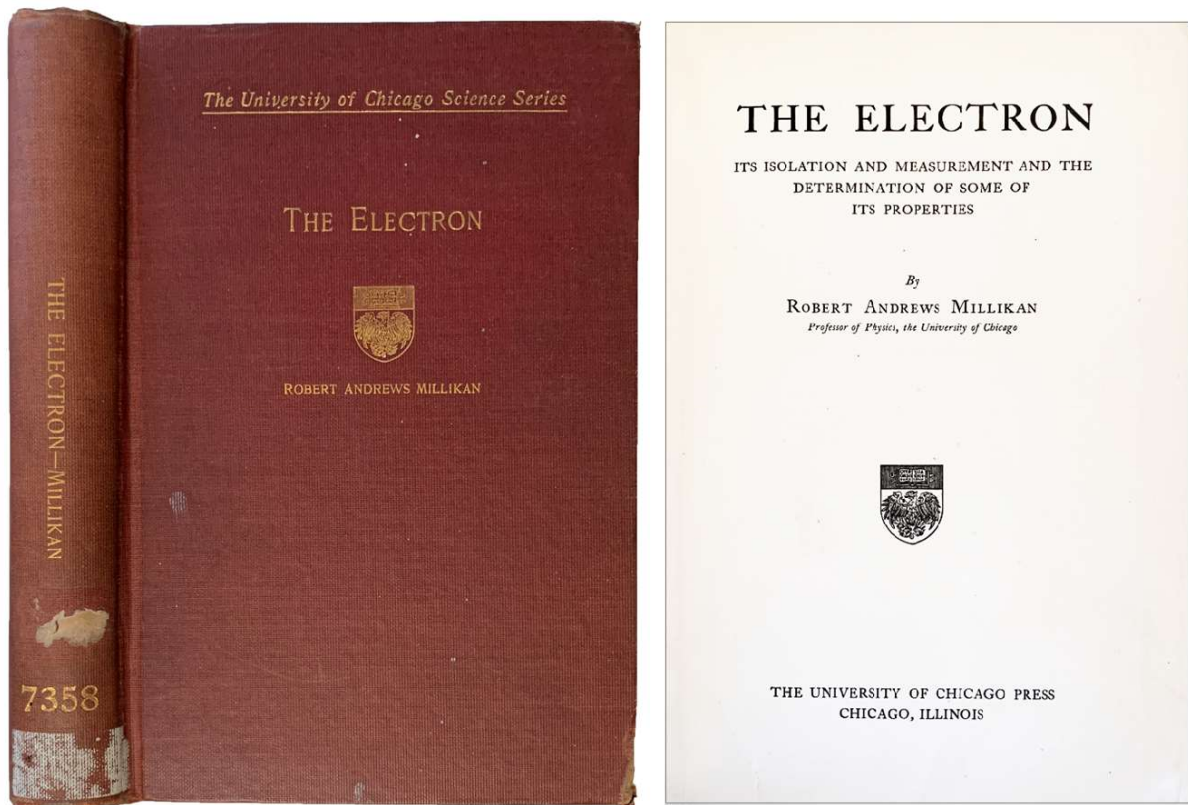
[175] MacPherson

175. **MACPHERSON, Hector Copland**, FRAS FRSE (1888-1956).  
*Modern Astronomy; its rise and progress*. London: Oxford University Press, 1928. ¶ Second impression (first issued in 1926). Small 8vo. [xii], 196 pp. Frontispiece portrait (Newton), 25 figures, index. Original blind- and gilt-stamped navy cloth. Very good. \$ 18  
 [S14024]



176. **MANNING, Thomas G.** *U.S. Coast Survey vs. Naval Hydrographic Office; A 19th-Century Rivalry in Science and Politics*. Tuscaloosa & London: University of Alabama Press, 1988. ¶ Series: *History of American Science and Technology*. 8vo. xii, [2], 202 pp. Index. Gray cloth, dust-jacket. Near fine. S13575 \$ 5.95



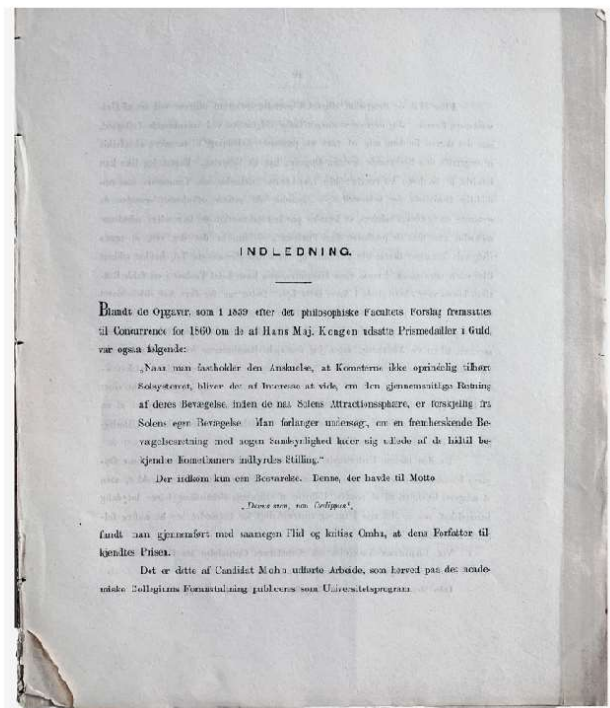
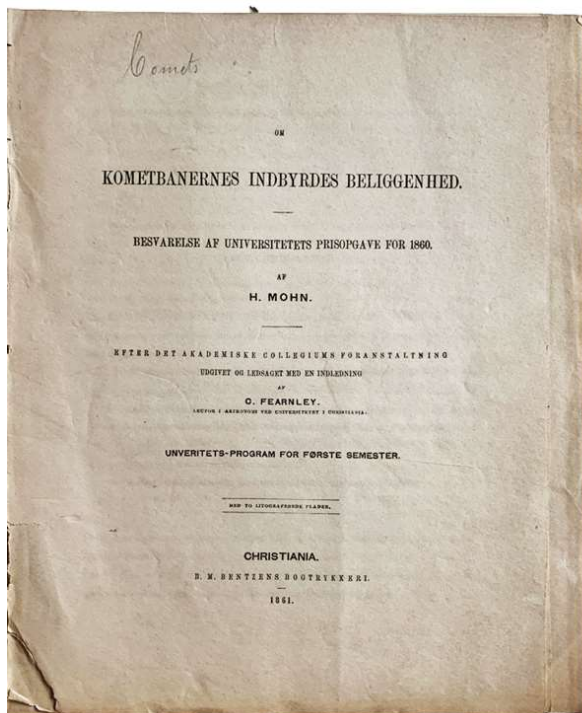
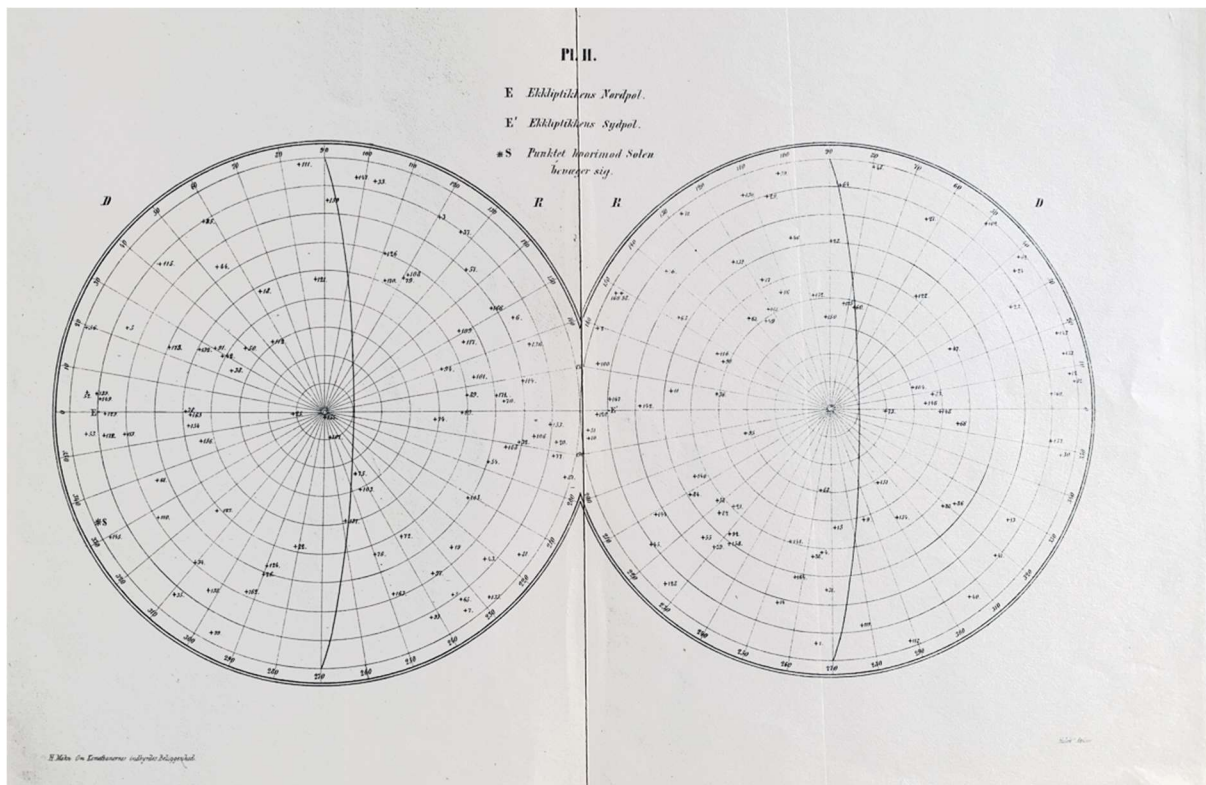


177. **MILLIKAN, Robert Andrews** (1868-1953). *The Electron; Its Isolation and Measurement and the Determination of Some of its Properties*. Chicago: University of Chicago Press, 1917. ¶ Small 8vo. xii, 268, [2] pp. 5 photographic plates, figs., tables, index. Maroon gilt-stamped cloth; spine with old white tape marks. Ex-library copy with rubber stamping. Good. [S14025]

\$ 50

First edition. The brilliant American physicist Robert Millikan greatly advanced our understanding of the electron and “developed the oil-droplet method of observation, a classic example of elegant experimentation.” Wasson p. 701.

He was awarded the 1923 Nobel Prize for Physics for his work on the elementary charge of electricity and on the photoelectric effect. Wasson, *Nobel Prize Winners*; DSB IX.

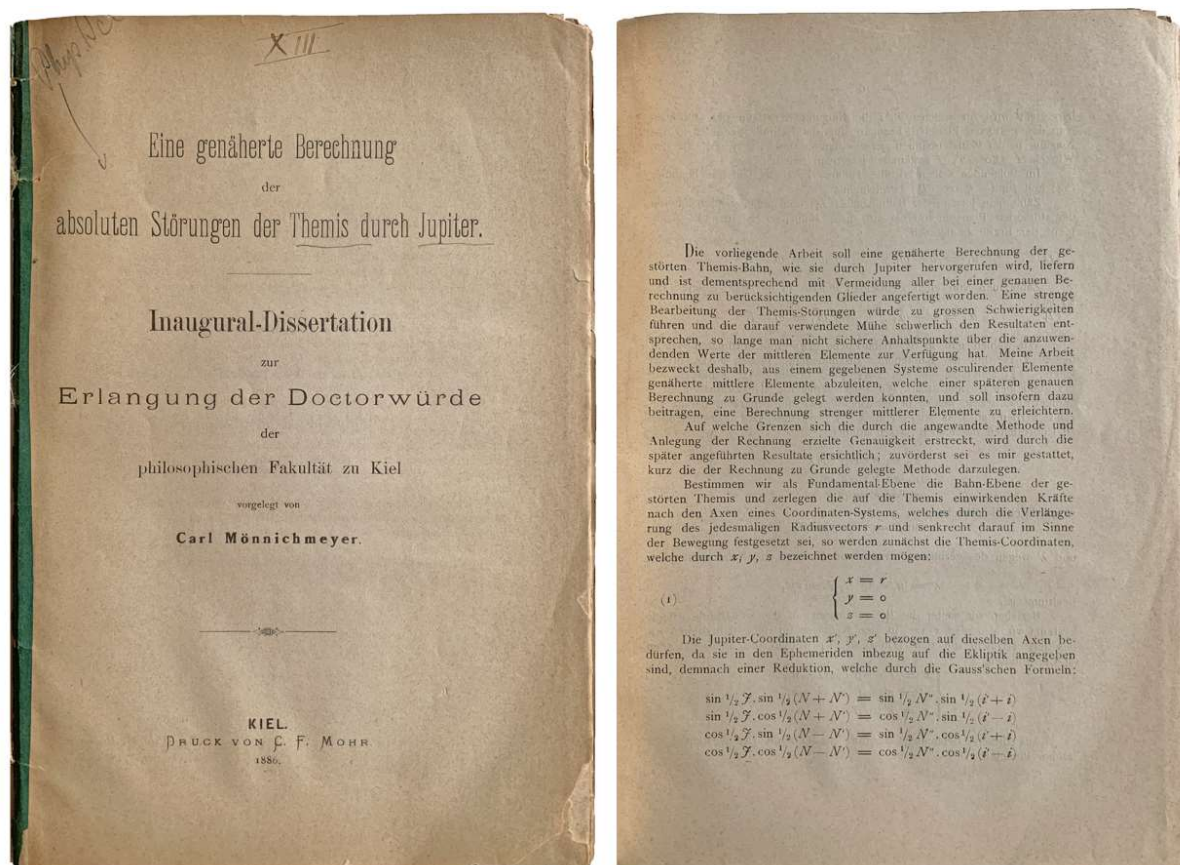


178. **MOHN, Henrik** (1835-1916). *Om kometbanernes indbyrdes beliggenhed. Besvarelse af Universitetets Prisopgave for 1860* ... Christiania: B. M. Bentzens, 1861. ¶ 4to. viii, 52 pp. 8 tables, 2 folding plates, Printed wrappers; top cover loose. Ms. notation on top cover. Very good. [S6371]

\$ 35



FIRST EDITION. "Mohn became interested in science during his first year at the University of Christiania, where in 1858 he received his master's degree in mineralogy. Soon afterward he wrote a prize essay on the position of cometary orbits and became assistant professor of astronomy. In 1866 he was appointed director of the new Norwegian Meteorological Institute, which under his guidance grew into an important organization with 50 stations all over the country. From 1866 to 1913 he occupied the first chair of meteorology at the University of Christiania." *DSB*, IX, pp. 442-443.

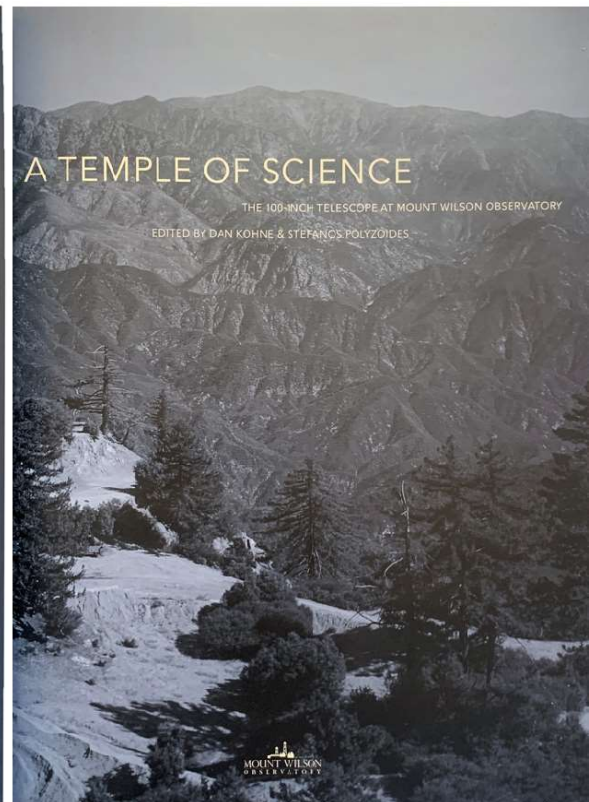
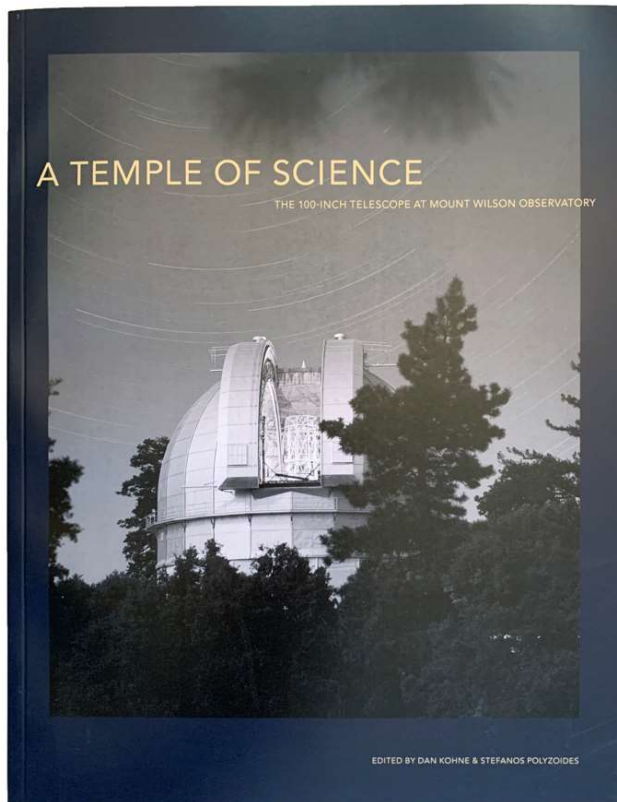


179. **MONNICHMEYER, Carl** (b. 1860). *Eine genäherte Berechnung der absoluten Störungen der Themis durch Jupiter. Inaugural-Dissertation.* . . .  
Kiel: C. F. Mohr, 1886. ¶ 8vo. 32 pp. Tables. Self-wraps; dis-bound, extremities chipped. Very good. [S6814]

\$ 20

An approximate calculation of the absolute perturbations of [the satellite] Themis by Jupiter. Inaugural dissertation.

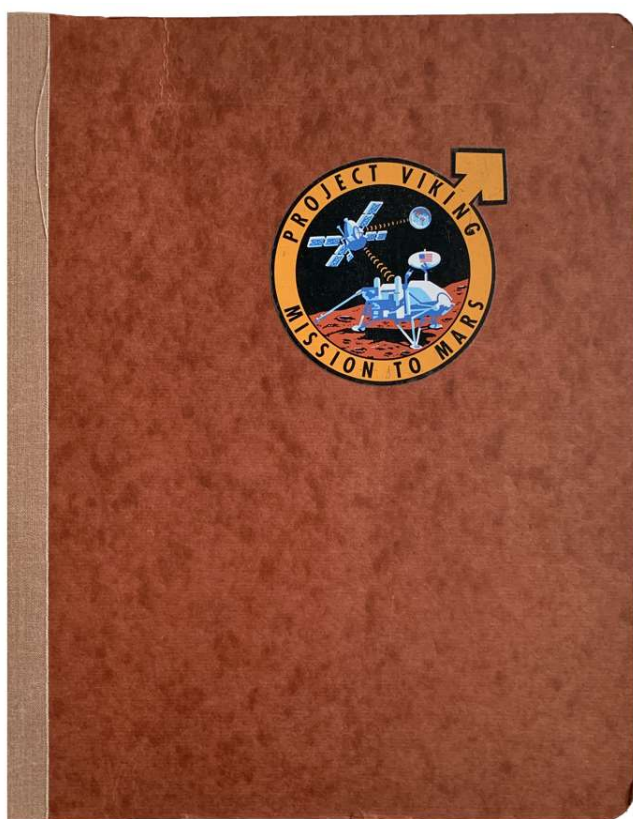
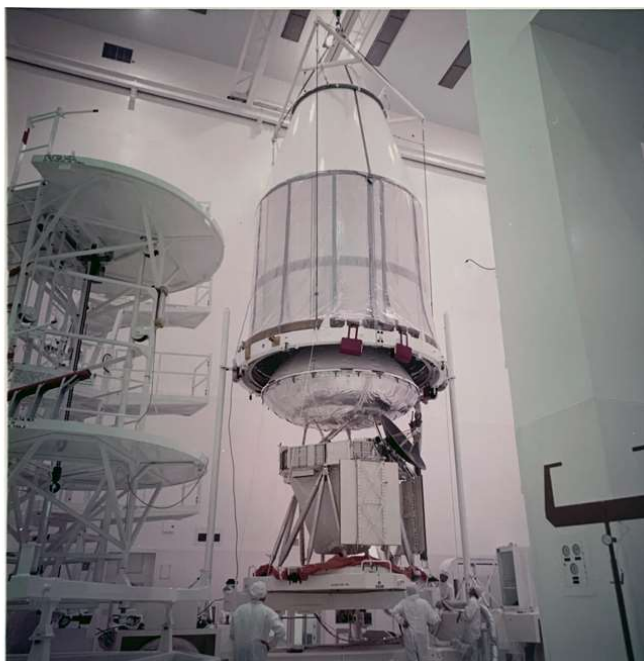




180. [Mount Wilson Observatory] KOHNE, Dan; Stefanos POLYZOIDES (eds.). *A Temple of Science, the 100-inch telescope at Mount Wilson Observatory*. San Marino: Mount Wilson, 2018. ¶ 4to. xi, [1], 67, [1] pp. Illus. Printed wrappers. New. [S14026]

\$ 12.95

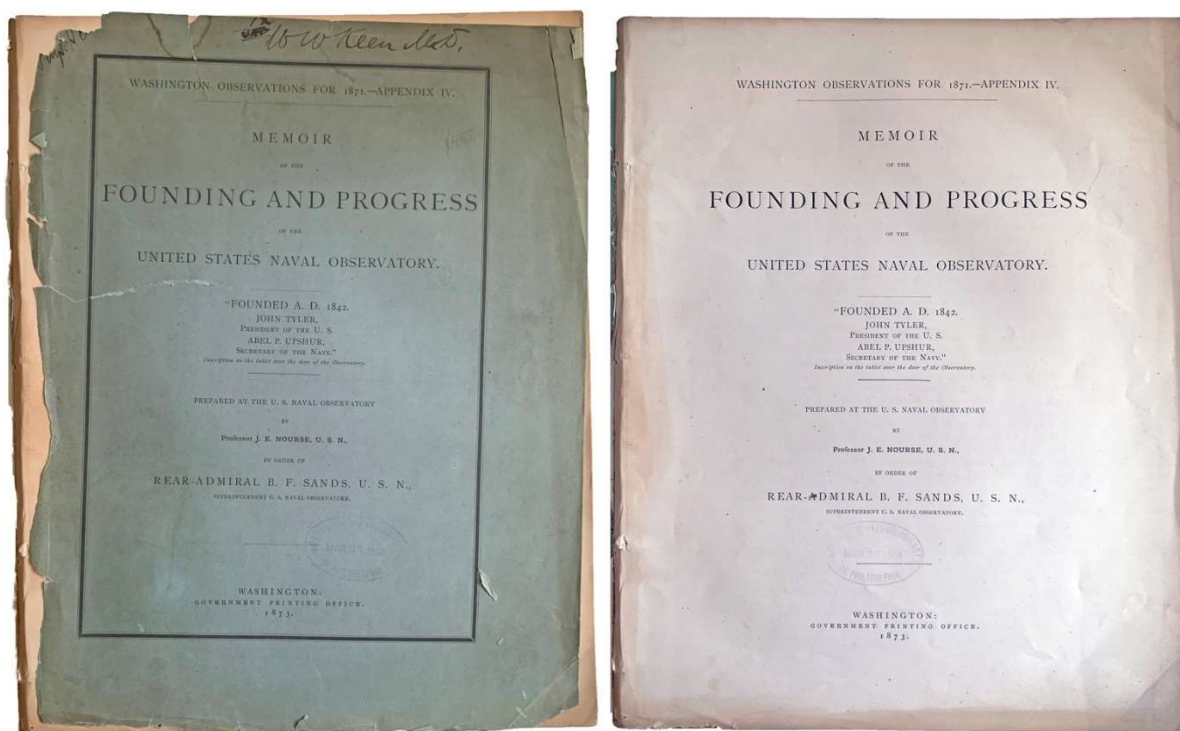
Includes a series of pictures of the original architectural drawings of the Wilson observatory.



181. [Viking Mission] NASA. *Viking Press Kit*. (Washington, D.C.): NASA, 1975. ¶ 4to. iii, 120 pp. 4 large color photos of the rocket and Viking Lander, illus., tables. Cloth backed binder, illustrated cover label. FINE. [S8163]

\$ 100

The official pre-launch Viking Mission press kit with 4 stunning color photos of the Lander and the rocket designed to take it to Mars.



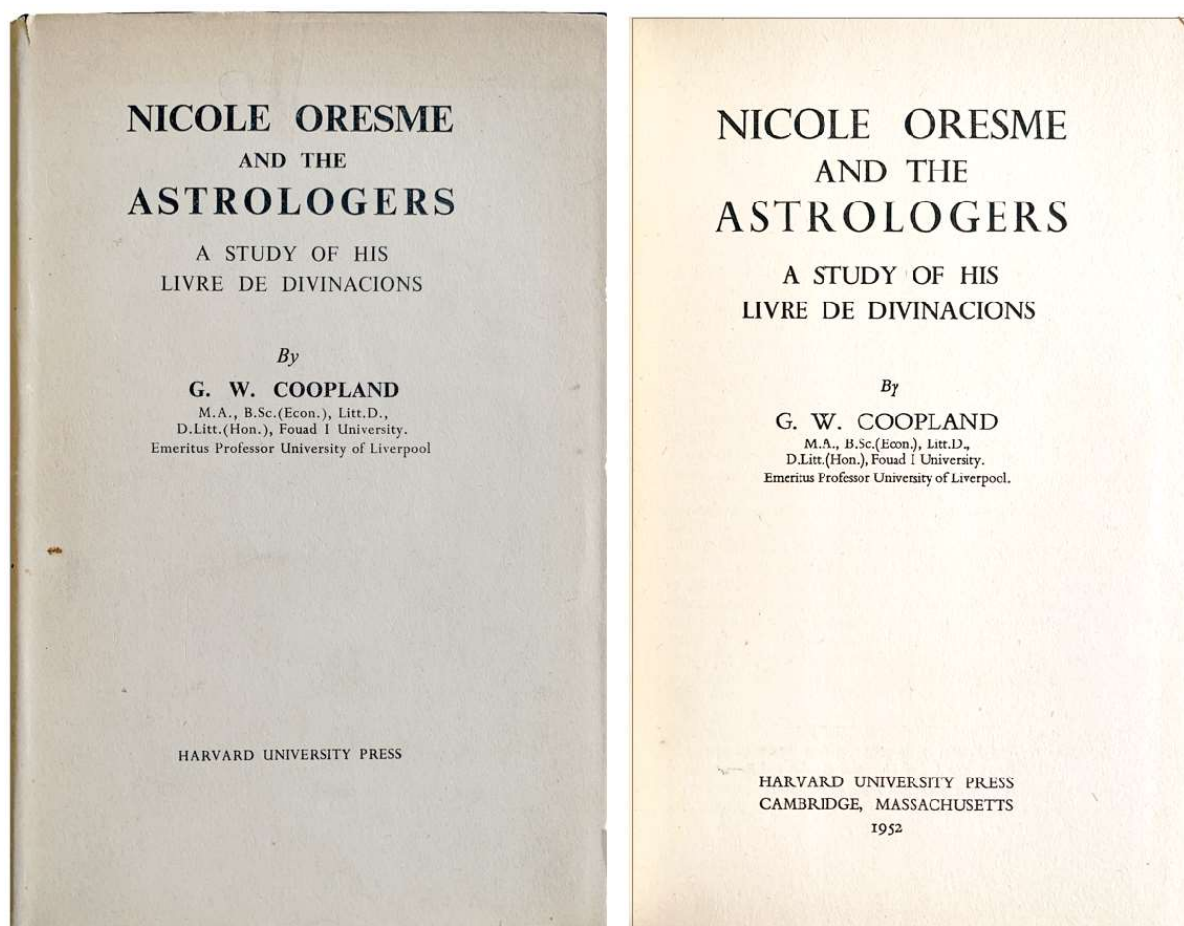
182. **NOURSE, J. E. [Joseph Everett]** (1819-1889). *Memoir of the founding progress of the United States Naval Observatory. . .* Washington, D.C.: Government Printing Office, 1873. ¶ Series: Washington Observations for 1871, Appendix IV. 4to. 52 pp. Tables. Original printed wrappers; top cover off, extremities chipped. Ownership signature of W. W. Keen, M.D. on top cover. Ex library rubber stamps on to cover and title. Good. S6374

\$ 22

Joseph Everett Nourse also wrote and edited works relating to the arctic, the Suez canal, and exploration of both Arctic and Antarctic continents.

PROVENANCE: William Williams Keen (1837-1932), professor of surgery at Jefferson Medical College, Philadelphia, was a pioneer in linear craniotomy, one of the first in the United States to use x-rays in surgical diagnosis, and the first successfully to operate for meningioma.



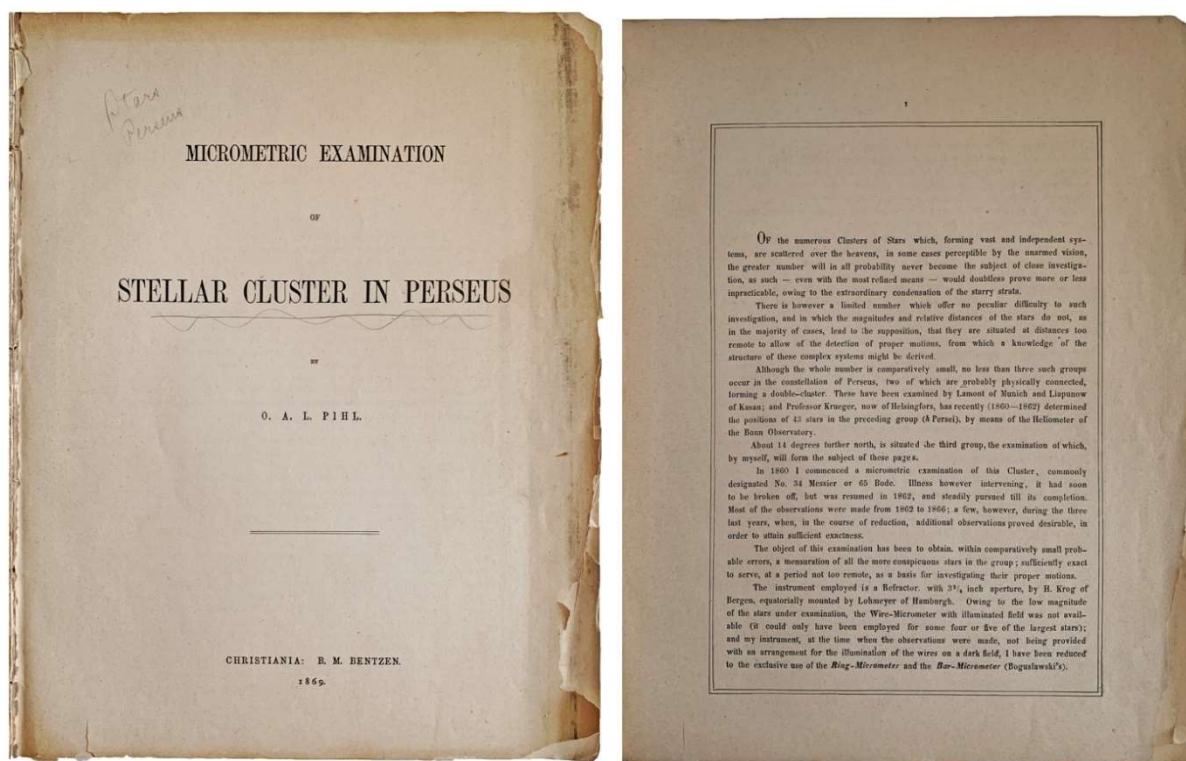


183. [ORESME, Nicole (ca. 1320/1325–1382)] COOPLAND, G. W. (1875-1975). *Nicole Oresme and the Astrologers: A Study of His Livre De Divinacions*. Cambridge: Harvard University Press, 1952. ¶ 8vo. vii, 221, [1] pp. French and English on opposite pages. Cloth, dust-jacket. Ownership signatures of William D. Stahlman and David Lindberg. Very good. [S14027]

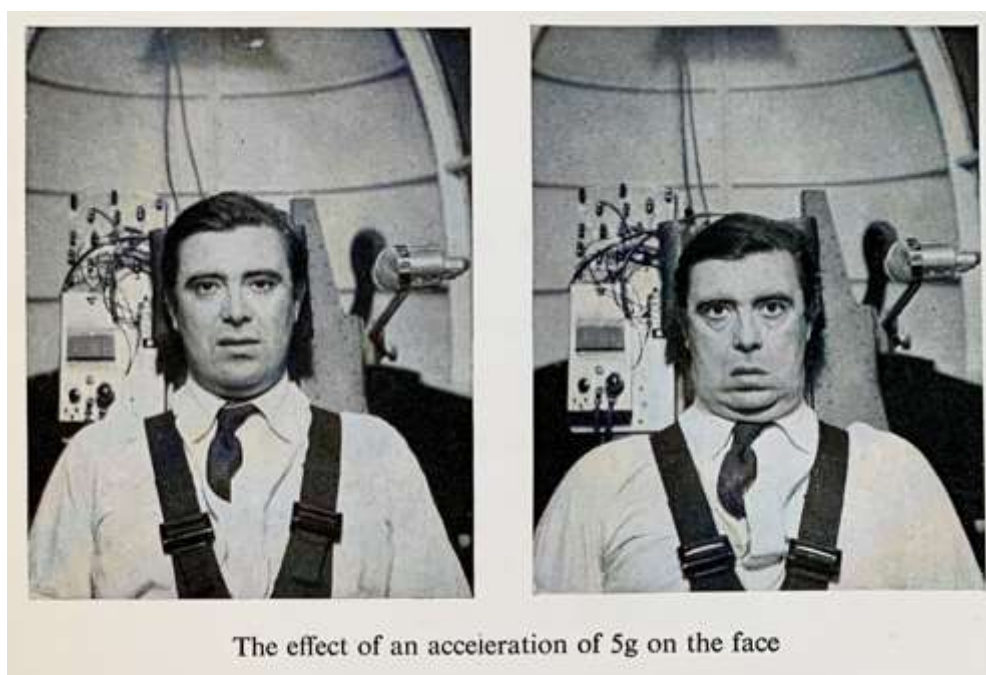
\$ 25

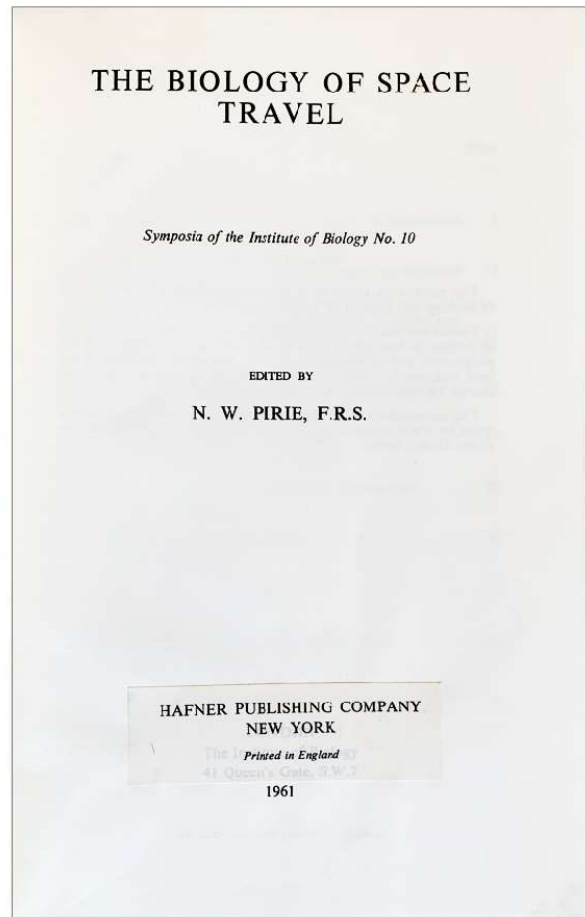
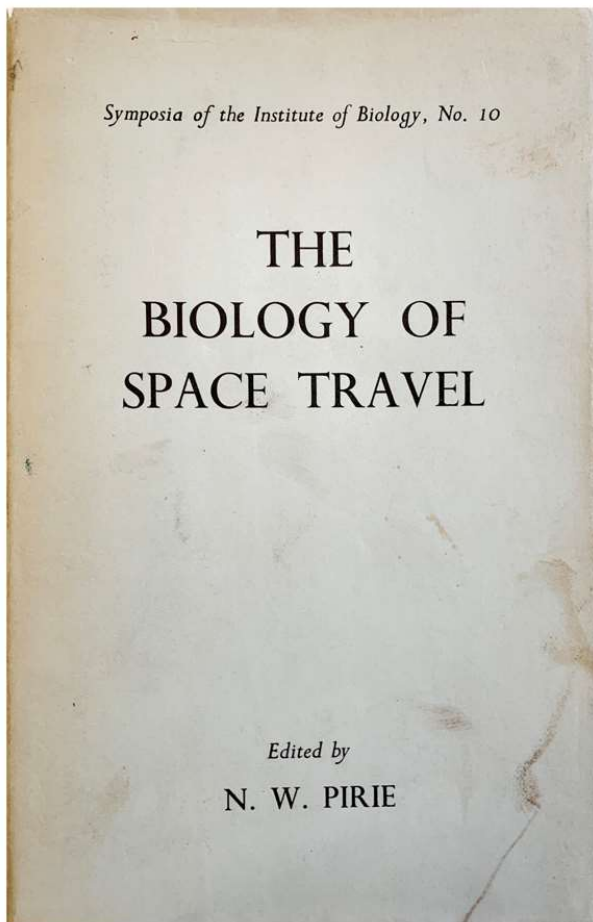
First translation into English. Oresme's critique of astrology.

PROVENANCE: William Duane Stahlman (1923-1975), an astronomy scholar, author, and critic. The second is that of David C. Lindberg (1935-2015), a historian of science and recipient of the Sarton medal for lifetime achievement in that field.



184. **PIHL, Olaf Andreas Lowald** (1822-1895). *Micrometric examination of stellar cluster in Perseus*. Christiania: B. M. Bentzen, 1869. ¶ 4to. 42 pp. Tables, 2 folding plates. Dis-bound; edges brittle and chipped. Ms. notation on top cover. AS IS. [S6378] \$ 20



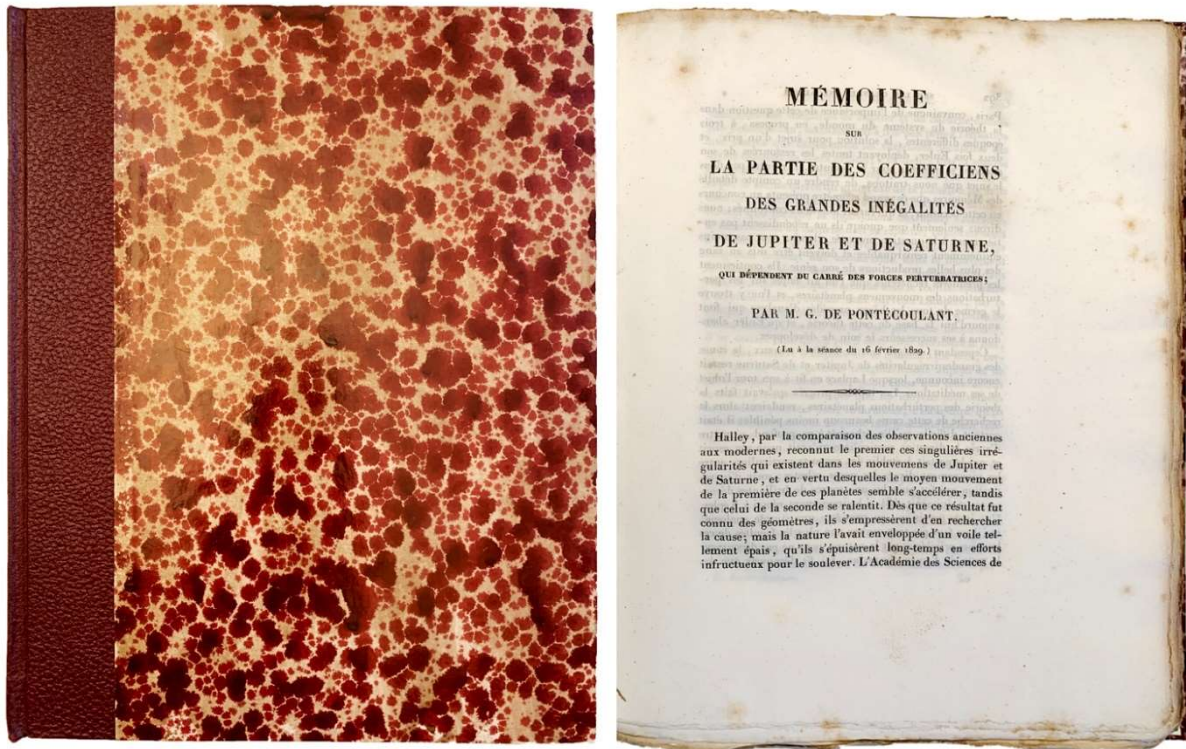


185. **PIRIE, N. W.**, editor. *The biology of space travel*. New York: Hafner, 1961. ¶ Series: *Symposia of the Institute of Biology*, No. 10. 222 x 145 mm. 8vo. viii, 120 pp. Frontis., figs., tables, indexes. Blue cloth, dust-jacket; jacket soiled, else fine. [S2268]

\$ 20

FIRST EDITION. Eleven essays from a symposium held by the Institute of Biology, London, 29 and 30 September 1960. Includes Harlow Shapley's "The probable environment on other planets and its suitability for some forms of life."



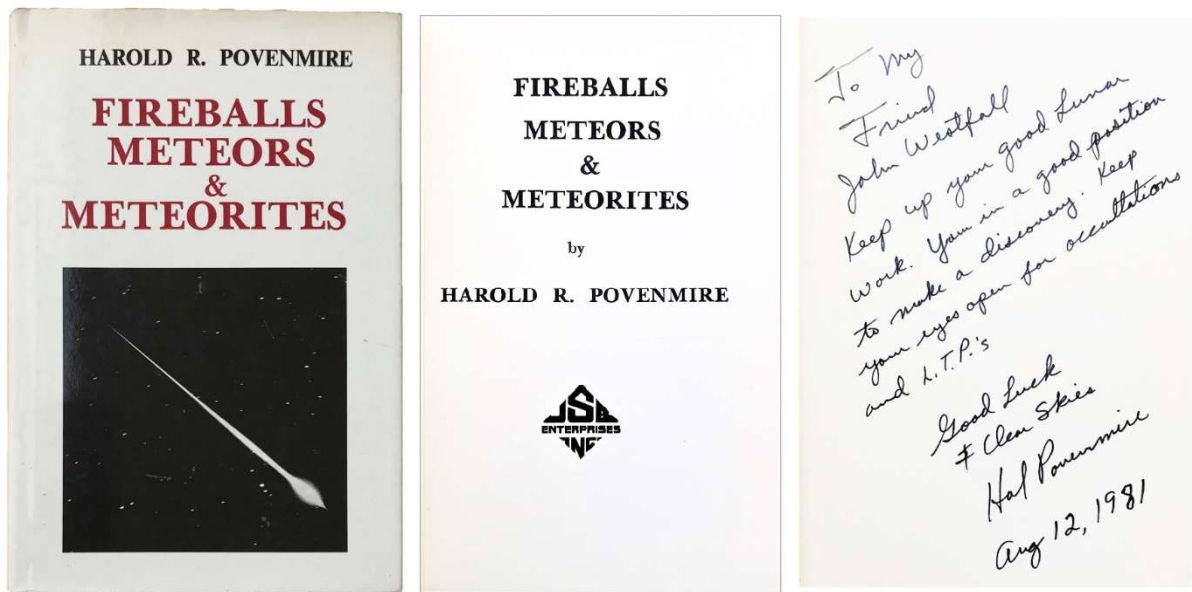


*Jupiter and Saturn*

186. **PONTECOULANT, Philippe Gustave Doulcet de** (1795-1874). *Mémoire sur la Partie des Coefficiens des Grandes Inégalités de Jupiter et de Saturne, qui Dépendent du Carre des Forces Perturbatrices*. Extract. [Paris]: no publisher, 1829. ¶ 4to. [391]-510 pp. Light marginal foxing, unopened. Rebound in half maroon cloth, gilt stamped morocco spine label, marbled boards. A fine copy. [S8105]

\$ 125

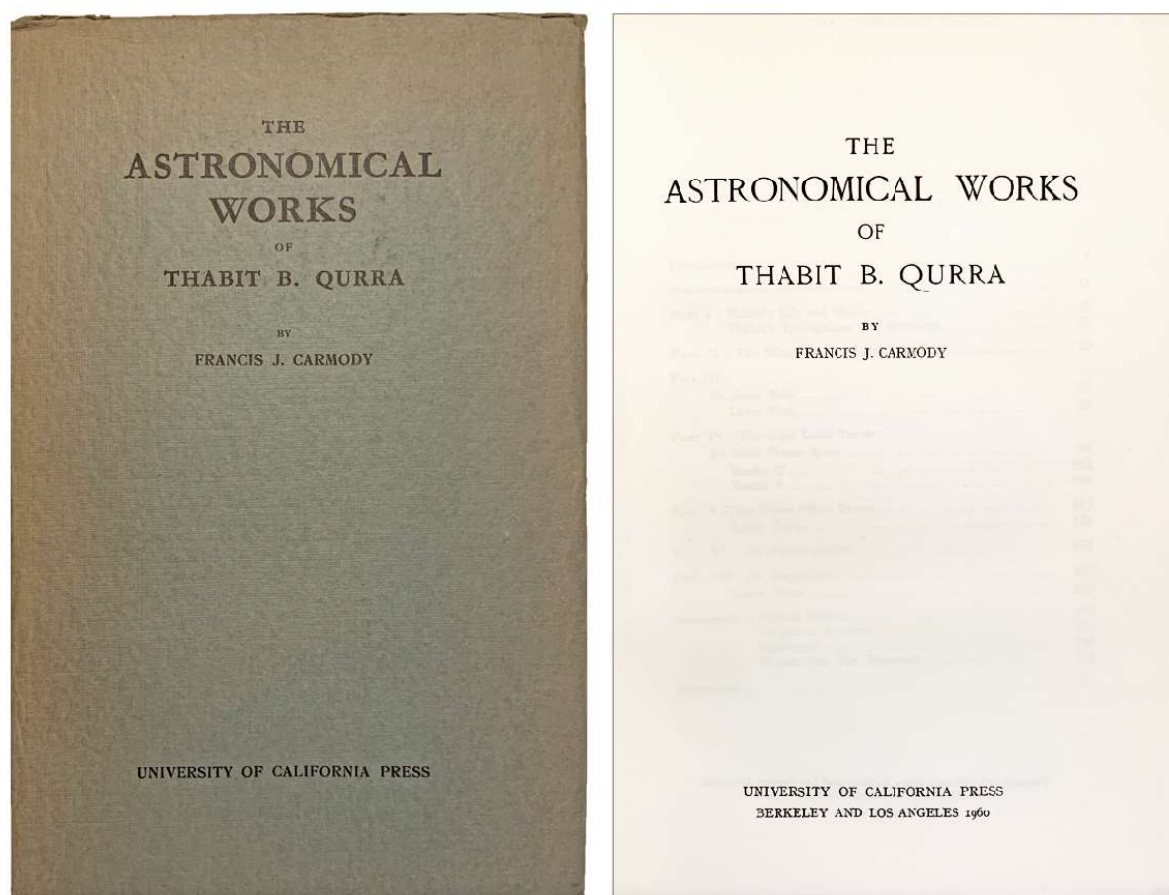
Memorandum on the Part of the Coefficients of the Great Inequalities of Jupiter and Saturn, which Depend on the Square of the Disruptive Forces.



187. **POVENMIRE, Harold R.** (1939-). *Fireballs, Meteors & Meteorites*. Indian Harbour Beach, FL: JSB Enterprises, 1980. ¶ First edition. 8vo. vii, [1], 215, [1] pp. Black gilt-stamped cloth, dust-jacket; jacket a bit worn. **WARMLY INSCRIBED FROM THE AUTHOR.** Very good. [S13578]

\$ 25

The author has tracked meteors for many years. He offers his observations on meteors, the meteor showers, the Florida Fireball Patrol, The Upsilon Pegasus Meteor Shower, George Tektites, Comets, Asteroids, etc.



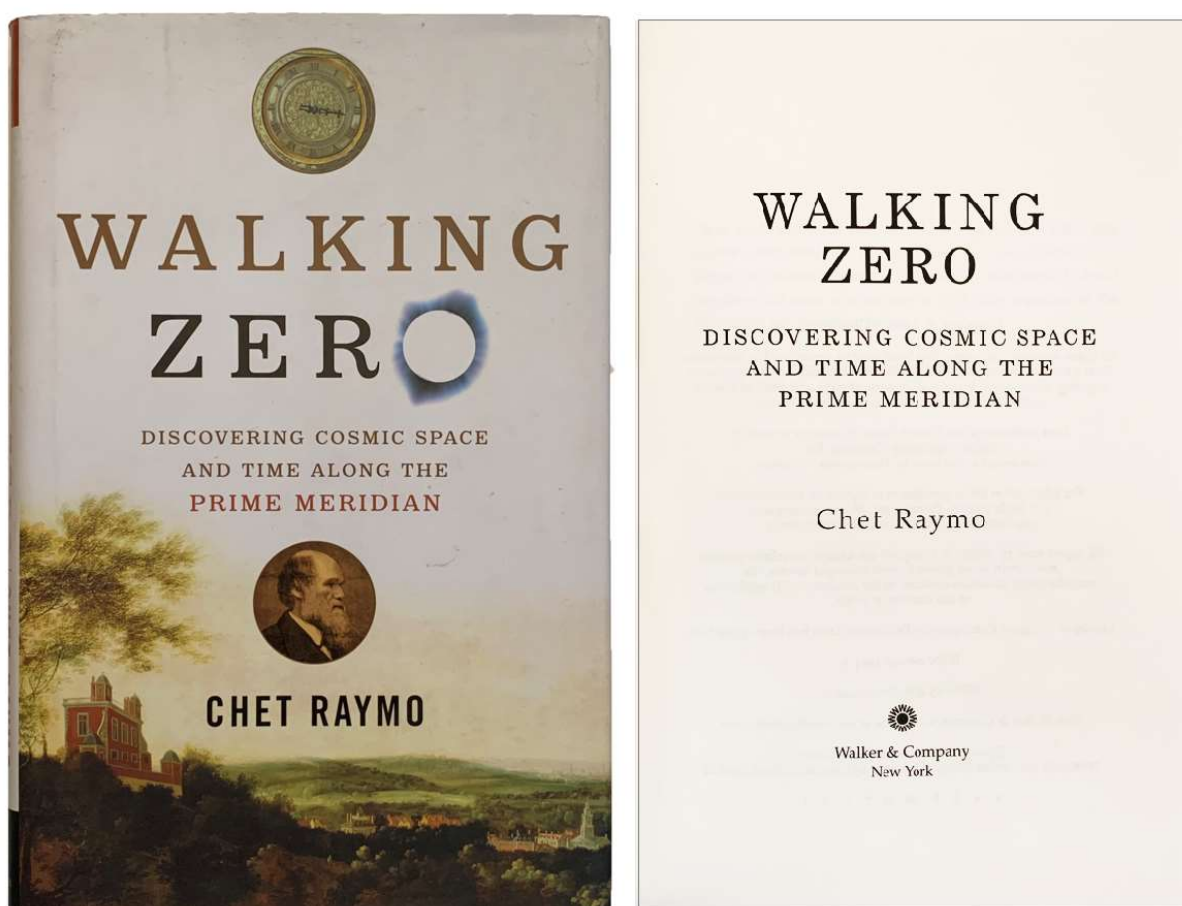
188. **QURRA, Thabit B.** (826 or 836 –901); **CARMODY, Francis J.** (1907-1982). *The astronomical works of Thabit B. Qurra*. Berkeley & Los Angeles: University of California Press, 1960. ¶ 8vo. 262 pp. Printed wrappers. Ownership signature. Fine. [S10928]

\$ 60

Thābit ibn Qurrah, born in Turkey, made important discoveries in algebra, geometry, and astronomy.

Francis James Carmody was, “For many years he was a regular contributor of papers, on both medieval and more general topics, to the Philological Association of the Pacific Coast. / Later on his interests included subjects as diverse as Arabic astronomical and astrological texts, the occult tradition, and nineteenth- and twentieth-century French poetry: the sheer chronological breadth of his published work is extraordinary. He once surprised and awed a younger colleague by telling him that his research interests knew no boundaries of time; he simply followed the problems he was investigating into whatever centuries and countries they led him.” – Alexandre Calame (1913-1996), Charles Muscatine (1920-2010), L. W. Johnson.

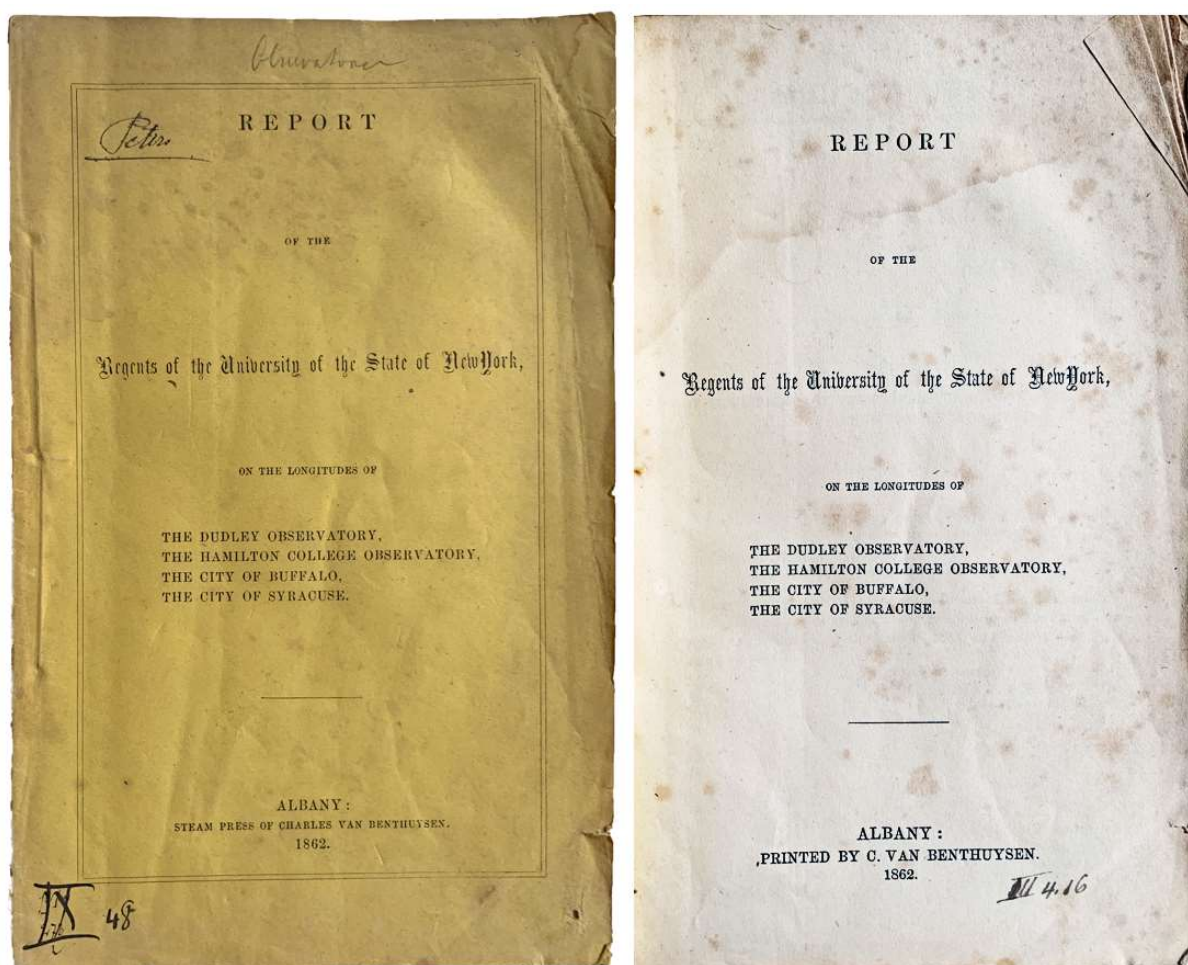




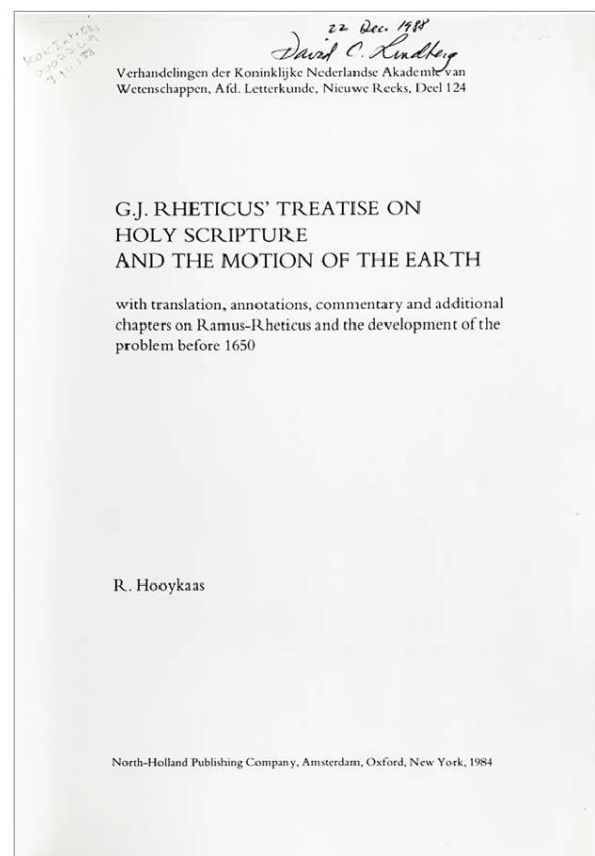
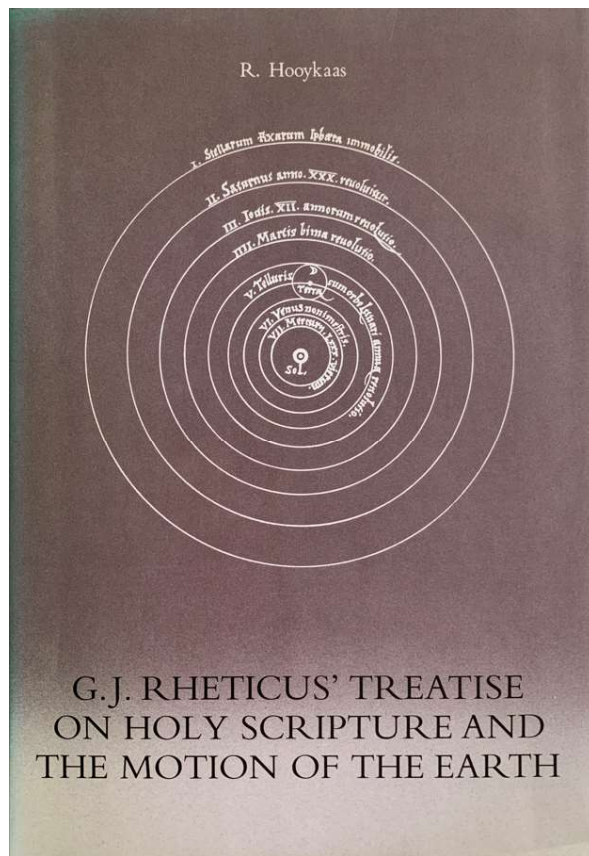
189. **RAYMO, Chet.** *Walking Zero: discovering cosmic space and time along the Prime Meridian.* New York: Walker, 2006. ¶ Small 8vo. xiii, [1], 194 pp. Figs., index. Hardcover, dust-jacket. Embossed stamp of Alan Bishop. Very good. [S14028] ISBN: 0802714943

\$ 6.50

The author uses the prime meridian - the line of zero longitude and the standard for all the world's maps and clocks - to reconstruct the story of humankind's intellectual journey from a cosmos not much larger than ourselves to the universe of the galaxies and geologic eons. — Jacket.  
Raymo was associated with Stonehill College.

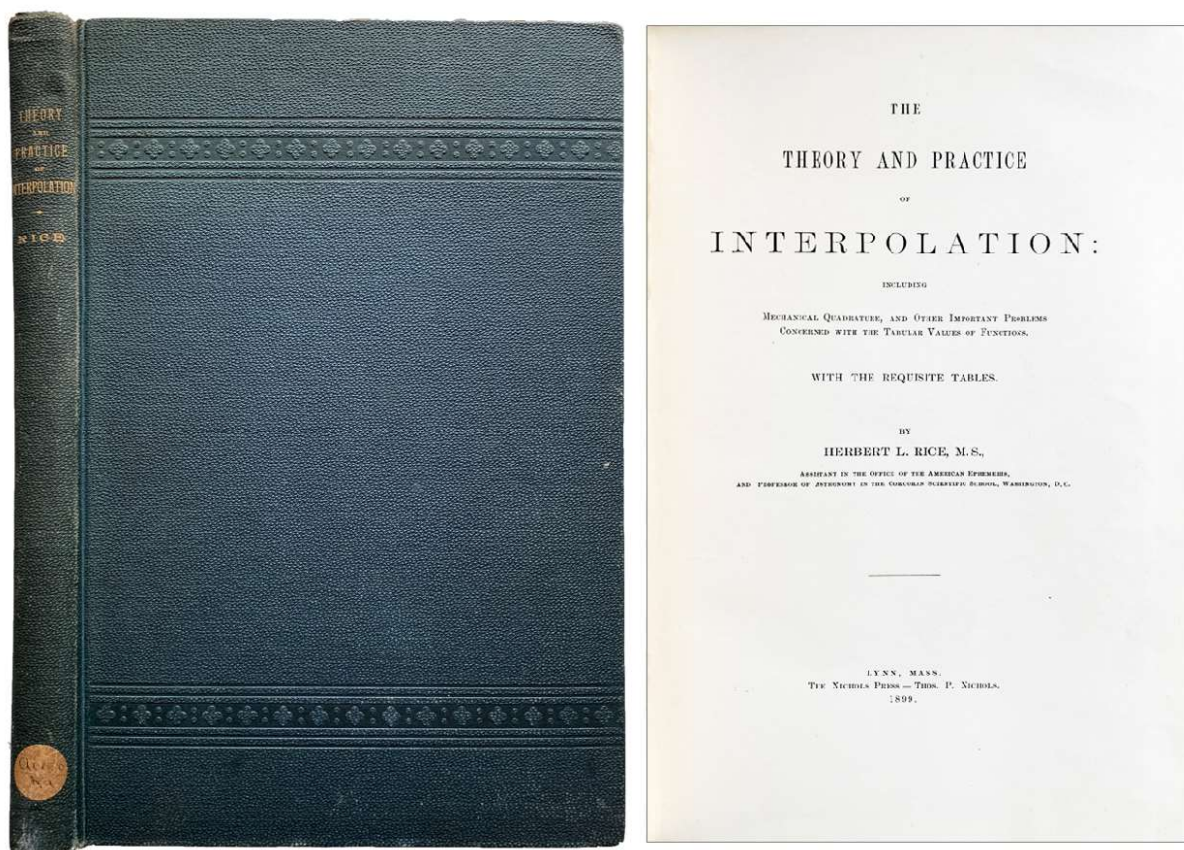


190. **Regents of the University of the State of New York.** *Report of the Regents of the University of the State of New York, on the longitudes of the Dudley Observatory, The Hamilton College Observatory, the City of Buffalo, the City of Syracuse.* Albany: C. Van Benthuyesen, 1862. ¶ 232 x 147 mm. 8vo. 59 pp. Tables, 2 plates; first few leaves water-stained. Printed wrappers; lightly water-stained, edges chipped. Ms. name and number on top cover. Good. [S3249] \$ 45



191. **RHETICUS, Georg Joachim** (1514-1576). *G. J. Rheticus' Treatise on Holy Scripture and the Motion of the Earth. With translation [from the Latin], annotations, commentary, and additional chapters on Ramus-Rheticus and the development of the problem before 1650 by Reijer Hooykaas.* Amsterdam: North-Holland Publishing Company, 1984. ¶ 8vo. 188 pp. 15 black-and-white illustrations, index, books of Holy Scripture cited. Paper wrappers, dust-jacket. Ownership signature. Includes original Latin text of the untitled treatise by Rheticus (1514-1574), perhaps best remembered as Nicolaus Copernicus' only student. Fine. [S10588] \$ 40





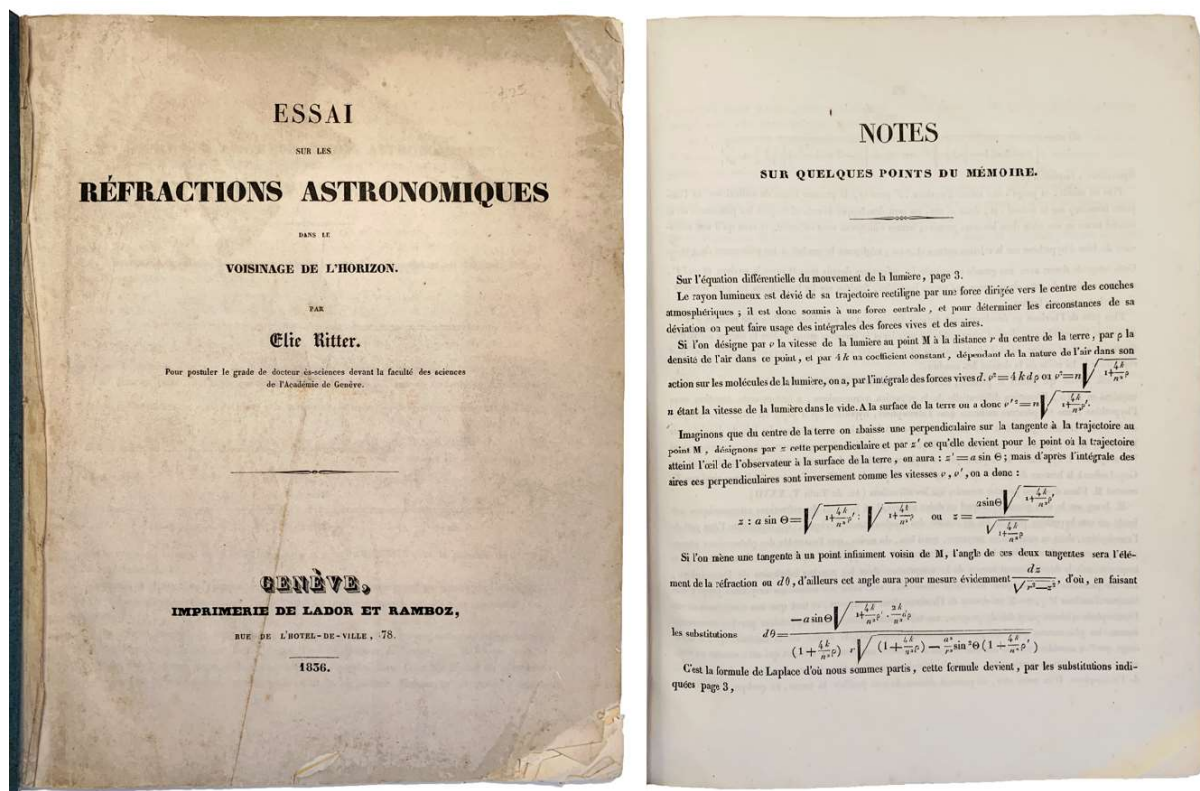
192. **RICE, Herbert L.** *The theory and practice of interpolation: including mechanical quadrature, and other important problems concerned with the tabular values of functions. With the requisite tables.* Lynn, MA: The Nichols Press - Thos. P. Nichols, 1899. ¶ 295 x 201 mm. 4to. ix, 234 pp. 8 tables, bibliog. Blind-stamped dark green cloth, gilt spine; lightly rubbed, spine ends lightly frayed. Ex library ms. spine label, blind stamp of the Carnegie Institution. Very good. [S3253]

\$ 75

“The theory and practice of interpolation is, in its essentials, based on the fact that in nearly all functions which arise in physical problems, a small change of the variable produces a small change of the function. The simplest case is the one in which we may consider the ratio of the two small changes as constant: in the language of the subject, the first differences are constant. When this assumption will not give sufficiently accurate results, we have to consider the difference of the first differences or the second differences, and even differences of higher order. Ultimately we neglect differences of some definite order and thus implicitly reduce the problem to the consideration of the values of a function which, between certain limits and to a given degree of accuracy, may be considered rational, integral and algebraic.” – Ernest W. Brown, [review] *Bull. Amer. Math. Soc.* 6(9): 402-404 (June 1900).



193. **RIGHINI, Guglielmo** (1908-1978). *Momenti della Vita di un Astronomo*. Florence: Giunti Barbera, 1979. Articles originally published separately in *La Nazione italiana*, etc., 1955-1978. ¶ 8vo. 257 pp. Printed wrappers; rubbed. Very good. RARE. See: Rosino, L., In Memoriam: Guglielmo Righini (1908-1978), *Solar Physics*, Volume 62, Issue 1, pp.3-7. Righini was “one of the most eminent scientists in solar physics. . .” [RH1398] \$ 25



194. **RITTER, Elie** (1801-1862). *Essai sur les réfractions astronomiques dans le voisinage de l'horizon*. Geneva: Lador et Ramboz, 1836. ¶ 4to. 23 pp. Plain blue wrappers; cover water-damaged. Good. S6831 \$ 25



STARFIELD  
CROWBOROUGH,  
SUSSEX.

Presented to

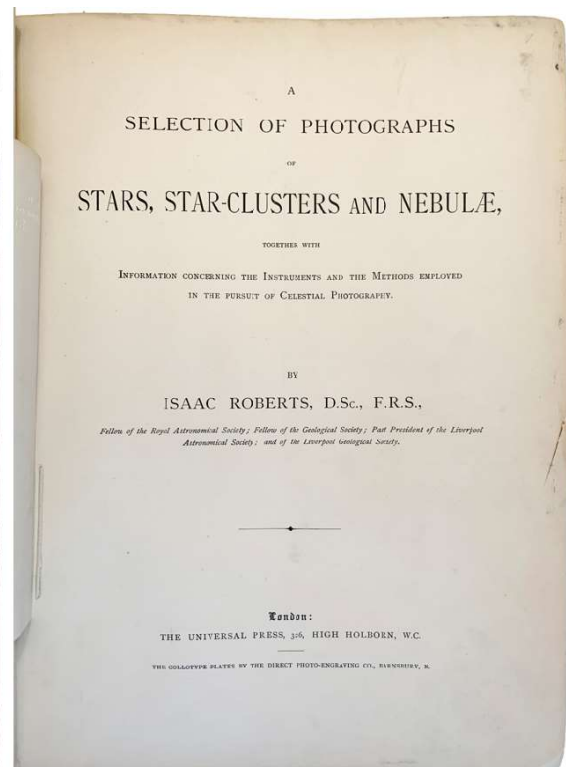
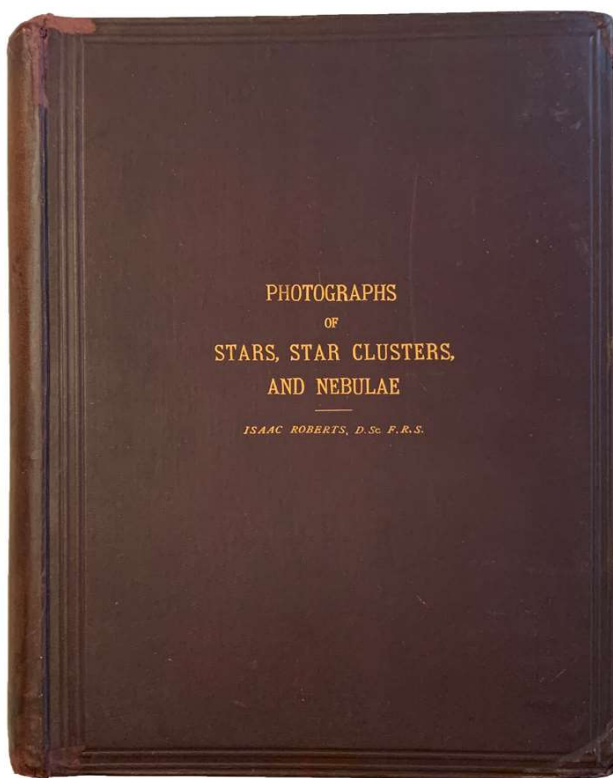
Arthur H. Rambaut Esq. F.R.S.

with the compliments

of the author

Isaac Roberts

June 1894



[195] Roberts

*Inscribed by the Author to Arthur Alcock Rambaut, Royal Astronomer, Ireland*

195. **ROBERTS, Isaac** (1829-1904). *A Selection of Photographs of Stars, Star-Clusters and Nebulae, together with information concerning the instruments and the methods employed in the pursuit of celestial photography.* London: The Universal Press, 1893/94.

¶ Vol. 1 of 2. 4to. 134 pp. collotype 53 plates. Original full maroon blind- and gilt-stamped cloth; heavily repaired, joints and corners mended with kozo. Very good. INSCRIBED BY THE AUTHOR; SIGNED BY JAMES STOKLEY, May 29, 1928 (on original black front free endsheet). Rare. [S14029]

\$ 500

With a tipped-in leaf (on Crowborough Hill stationary) inscribed by the author, "Presented to Arthur A. Rambaut, D.Sc., FRAS, with the compliments of the author, Isaac Roberts, June 1894. Bookplates of James Stokley (1900-1989) and the Franklin Institute Library of Philadelphia (gift of James Stokley). Stokley was Director of the Fels Planetarium of the Franklin Institute. A second volume accompanying the first volume, was issued in 1899/1900, entitled, *Photographs of Stars, Star-Clusters and Nebulae*. [Vol. II, 178 pp. 28 collotype photographic plates].

"With a view of obtaining very prolonger exposures, Roberts spared no trouble or expense in providing his telescope with an exceedingly perfect driving-clock, and at length Grubb succeeded in supplying him with one, electrically controlled, which met his requirements. With this Roberts has made successive exposures, even 4 hours in length, with astonishing results, particularly in respect to nebulae. The Pleiades have been shown to present and almost continuous mass of nebulous matter; the great Orion nebula has been traced far beyond the old limits, whilst the Andromeda nebula, 'now for the first time shown in an intelligible form', has proved to be a vast Saturniform body . . . A single plate exposed on a region in Cygnus has shown more than 16,000 stars : while the spiral nebula in Canes Venatici has been depicted with most wonderful distinctness.' – George Frederick Chambers, F.R.A.S. (1841-1915).

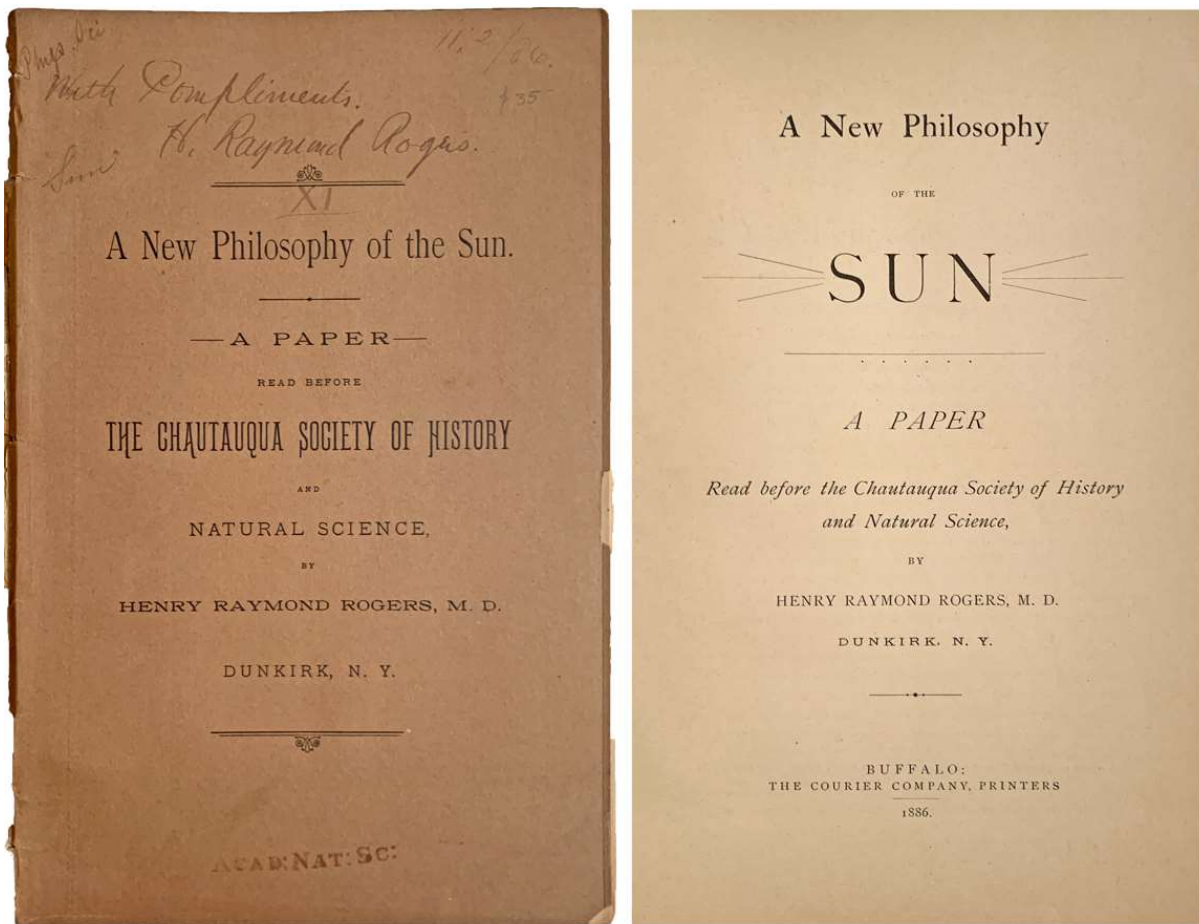
Isaac Roberts (1829-1904), Welsh engineer and businessman who made his living in construction in Liverpool, was an amateur astronomer (entirely self-taught), pioneering the field of astrophotography of nebulae. Roberts started using a 7-inch refractor at his home in Rock Ferry, Birkenhead (1878). Roberts began experimenting with astrophotography in 1883. Three years later, in 1886, he displayed his first photographs at the Royal Astronomical Society at Liverpool. By championing reflecting rather than refracting telescopes, Roberts was able to perceive previously unnoticed star-clusters, and was the first to identify the spiral shape of the Great Andromeda Nebula. Roberts' use of a telescope for photographing stars, and a long exposure time, provided greater definition of stellar phenomena than previously used hand-drawings. The images were remarkable in showing details of "the vast extensions of nebulosity in the Pleiades and Orion." Roberts' first star atlas, produced with his assistant W. S. Franks at his observatory in Crowborough, Sussex, *A Selection of Photographs of Stars, Star-Clusters and Nebulae, issued in 1893/4* contained the image that made him famous, a photograph of the Andromeda Galaxy (M31), called the Great Nebula in Andromeda, the image taken December 29, 1888. It is present in this atlas, (plate 10). The second part of the atlas was issued in 1899/1900.

Roberts was President of the Liverpool Astronomical Society and a Fellow of the Royal Geological Society. He was awarded the Gold Medal of the Royal Astronomical Society in 1895.

PROVENANCE: Arthur Alcock Rambaut, D.Sc., FRAS, (1859-1923), was Royal Astronomer for Ireland, and Radcliffe Observer at the University of Oxford. – James Stokley (1900-1989). – Franklin Institute Library of Philadelphia (gift of Fels Planetarium Director, James Stokley).

See: Lee T. MacDonald, "Isaac Roberts, E.E. Barnard and the Nebulae." *Journal for the History of Astronomy*, vol. 41, issue 2. May 1, 2010.

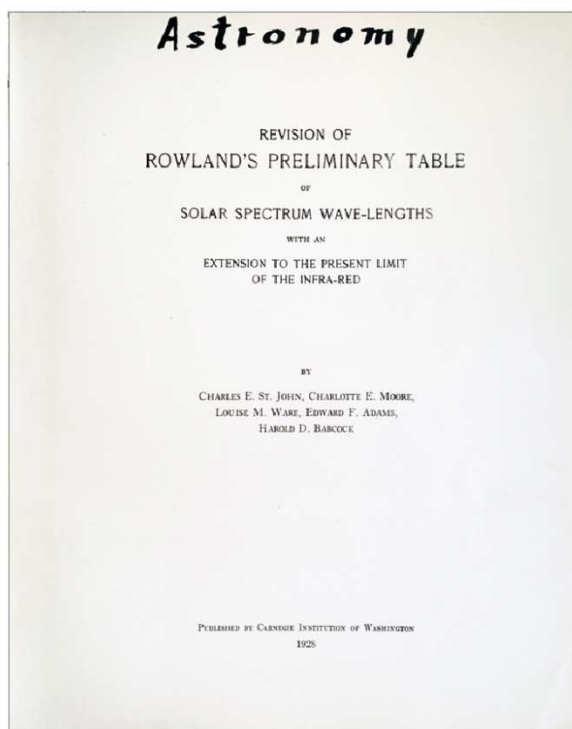
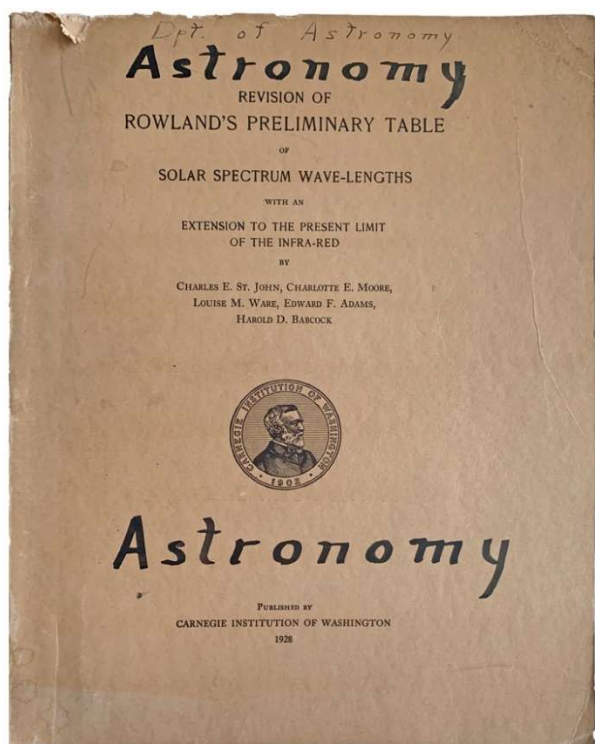




*Presentation copy*

196. **ROGERS, Henry Raymond** (1822-1901). *A new philosophy of the sun. A paper read before the Chautauqua Society of History and Natural Science.* Buffalo: Courier, 1886. ¶ 8vo. 27 pp. Original printed wrappers; edges brittle and chipped. Ex library rubber stamp and ms. notations on top cover. PRESENTATION COPY INSCRIBED BY THE AUTHOR on the top cover. Good. [S6385] \$ 20



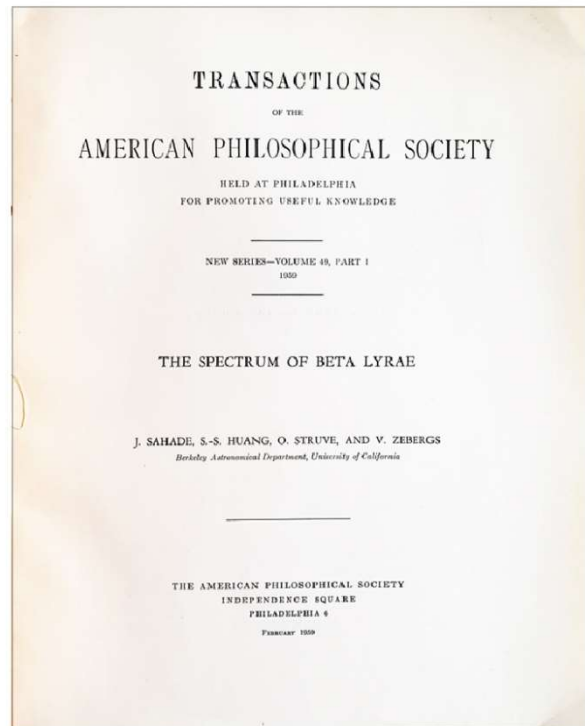
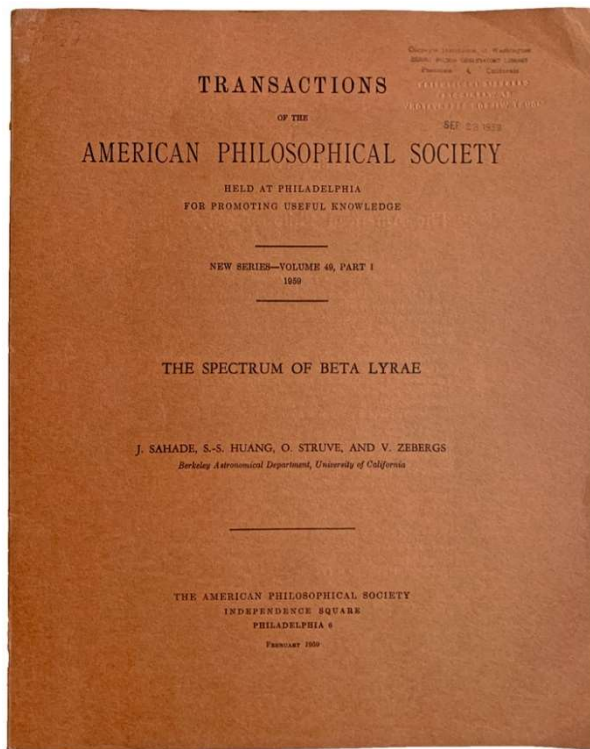


198. **ROWLAND, Henry Augustus** (1848-1901). *Revision of Rowland's preliminary table of solar spectrum wavelengths with an extension to the present limit of the infrared, by Charles E. St. John, Charlotte E. Moore, Louise M. Ware, Edward F. Adams, Harold D. Babcock.* Washington: Carnegie Institution, 1928. Series: *Carnegie Institution of Washington*, publication No. 396. *Papers of the Mount Wilson observatory*, vol. III. 4to. XXII-238 pp. Printed wrappers; worn, larger black manuscript ["Astronomy"] on cover & title. Good. [S14030]

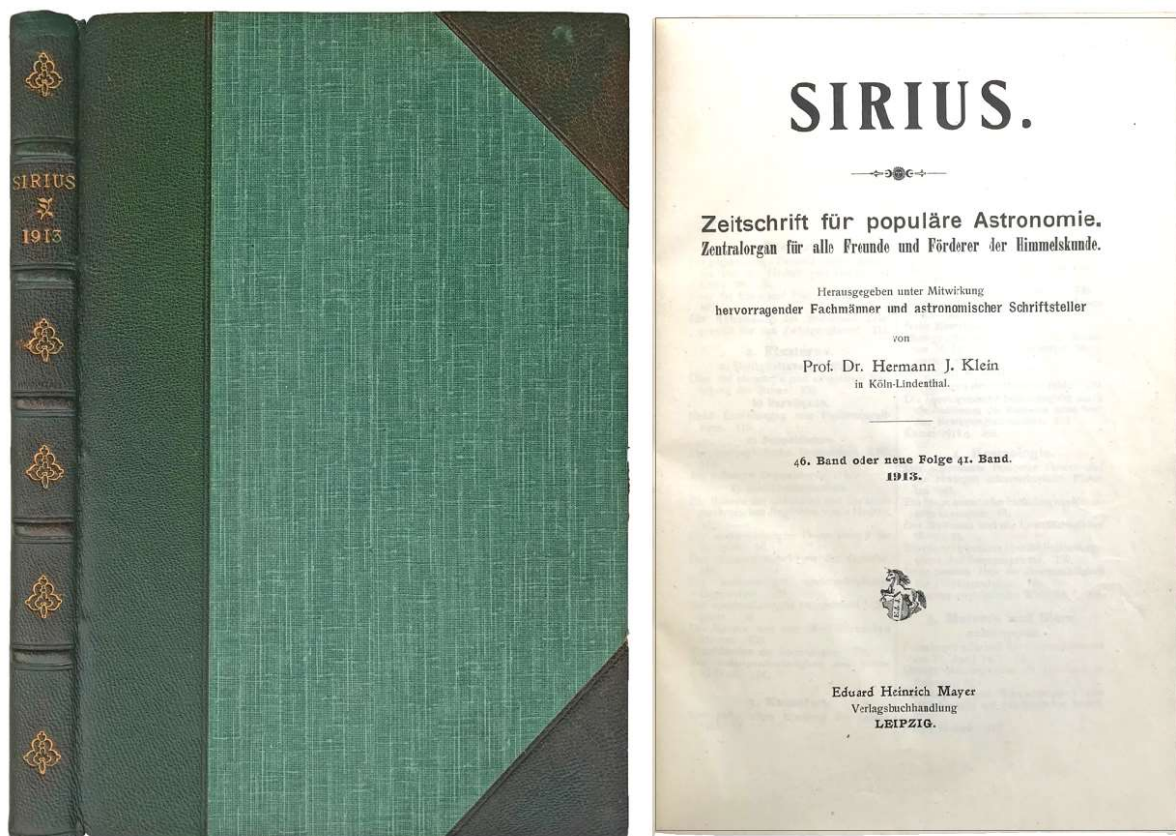
\$ 10

"In 1895-1897 Rowland published a Preliminary Table of Solar Spectrum Wavelengths that is still a challenge to spectroscopists. The span of observations was from 2975 Å to 7330 Å. Many features of this rich spectrum still defy interpretation. Throughout the years this classical work has provided a threefold incentive: to extend laboratory observations and interpretations of atomic and molecular spectra of various chemical elements, for the purpose of identifying more of the observed solar lines as to chemical origin; to extend Rowland's observations in both directions, to shorter and to longer wavelength-regions by means of modern observing techniques, photographic developments, and the like; finally, to reobserve the solar spectrum in the "accessible" range. All of these incentives are still being carried out. The first revision of the Rowland Table was made at the Mount Wilson Observatory in 1928 by C. E. St. John, and others. At this time the Rowland wave-length-scale was converted to the international scale. The correction curve used for this conversion is described in detail in the text to the 1928 publication." – Charlotte Moore, *The Solar Spectrum*, 1966.





199. **SAHADE, J.; S.-S. HUANG; O. STRUVE; & V. ZEBERGS.**  
**“The spectrum of Beta Lyrae.”** In: *Transactions of the American Philosophical Society* held at Philadelphia for Promoting Useful Knowledge, New Series, Vol. 49, Part 1, 1959. Philadelphia: American Philosophical Society, 1959. ¶ 4to. [ii], 54 pp. 20 figs., 11 tables, 30 spectrographic photographs, bibliog. Original printed wrappers. Ex library rubber stamps on top cover. Fine. [S6837]  
 \$ 30

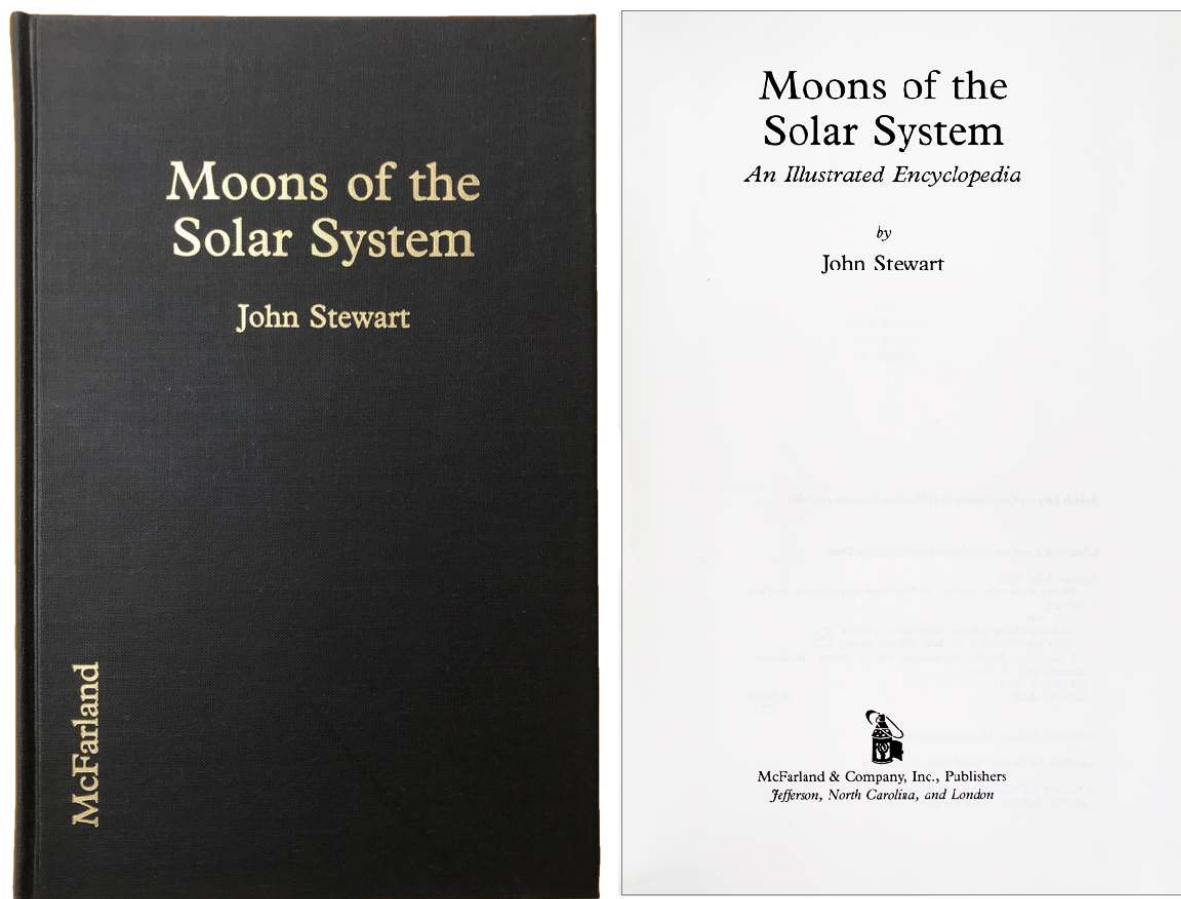


200. **SIRIUS; Prof. Dr. Hermann J. Klein** (editor). *SIRIUS; Zeitschrift für populäre Astronomie*. 46. Band oder neue Folge 41. Leipzig: Eduard Heinrich Mayer, 1913. ¶ 8vo. VIII, [2], 288 pp. Illustrated (14 plates, figs.). Original half dark green morocco, cloth boards, top edge gilt; gentle kozo repair to spine head. Near fine. [S13585]

\$ 45

PARTIAL CONTENTS: *Über neue Sterne und das gegenwärtige Aussehen einiger derselben*. [Of new stars; referencing Edward Emerson Barnard, p. 248]. *Plan eines Instituts für theoretische-astronomische Forschung*. [Plan for a new institute]. Die feinen scharfen Absorptionslinien im Spektrum der Nova Geminorum 2 vom Jahre 1912 (p. 253). *Nebelfleckbeobachtungen auf der Sternwarte Königstuhl-Heidelberg*. [Nebulae observations at the Königstuhl-Heidelberg Observatory, p. 226]. *Ein neuer Apparat zur Veranschaulichung der scheinbaren Planetenbewegungen*. [A new apparatus to illustrate the spiraling planetary motions, p. 204]. Plate X shows drawings of Mars from 1911, by Prof. Karl Bohlin (1860-1939), Stockholm. *Das Erdlicht oder die Helligkeit des Mitternachtshimmels ohne Sternenlicht*. [The earth light or the brightness of the midnight sky without starlight, p. 180]. *Beobachtungen des Mars in seiner Erdnahe 1911 auf der Sternwarte zu Stockholm*. [Observations of Mars in its Erdnahe 1911 at the observatory to Stockholm, by Karl Bohlin, p. 179]. Friedrich Wilhelm Ristenpart (1868-1913) obituary. pp.161-3, he was one of the German astronomers who worked in Chile. *Eine photographische Aufnahme der südlichen Milchstrasse*. [A photograph of the Southern Milky Way, Prof. Solon Irving Bailey (1854-1931)] -

Bailey was acting director of Harvard College Observatory from 1919 to 1921 after the death of Edward Charles Pickering and prior to the appointment of Harlow Shapley. J.N. Kriegers Mondatlas [Moon Atlas of Krieger, p. 12].

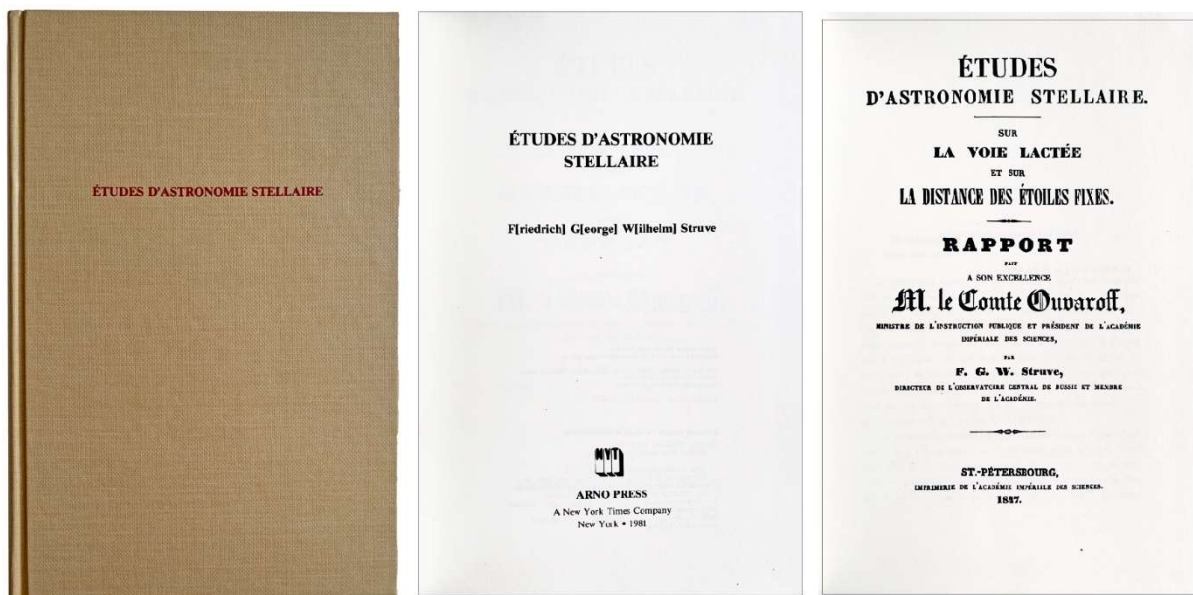


201. **STEWART, John.** *Moons of the Solar System, an Illustrated Encyclopedia.* Jefferson, NC: McFarland & Company, 1991. ¶ 8vo. xvi, 244 pp. Illustrated (some color pls.). Black gilt-stamped cloth. Fine. [S13587]

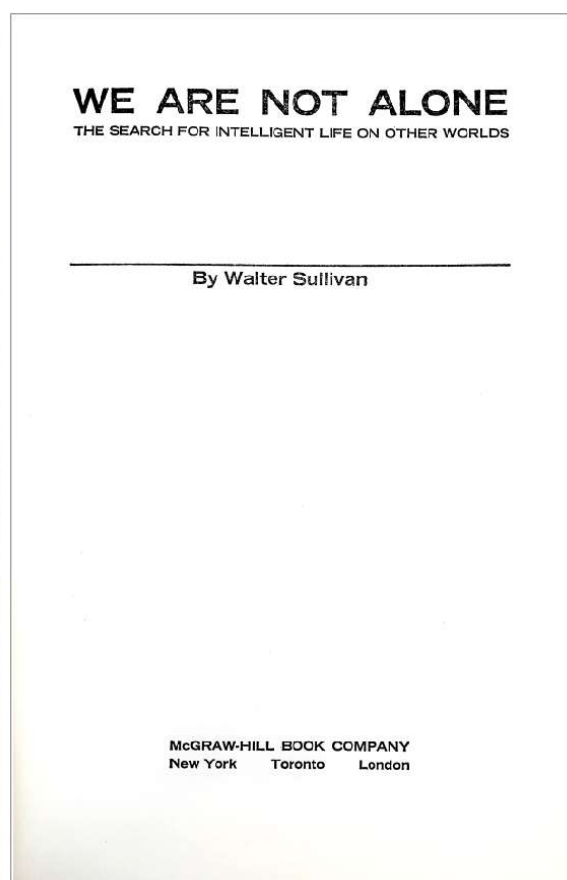
\$ 18

First edition. Hardcover issue.



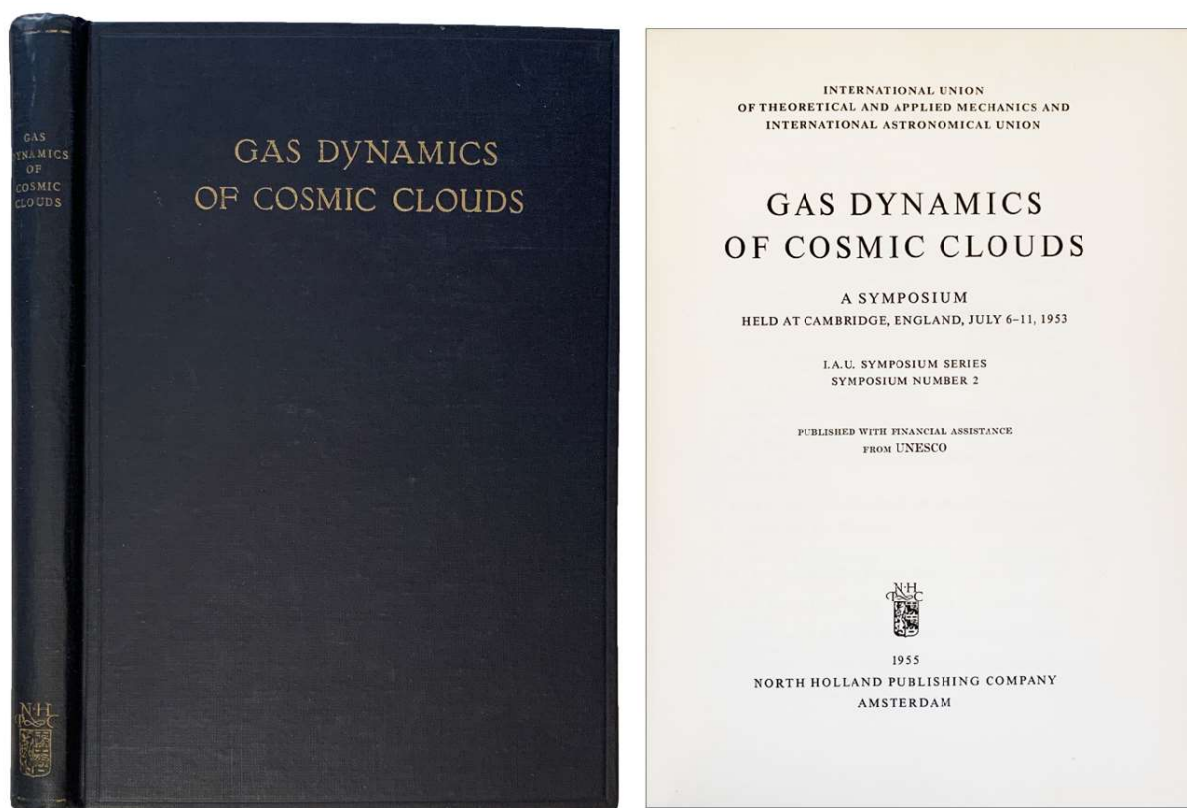


202. **STRUVE, Friedrich George Wilhelm** (1793-1864). *Études d'Astronomie Stellaire. Sur la voie Lactée et sur la Distance des étoiles fixes.* New York: Arno Press, 1981. Facsimile of: St. Petersburg, 1847. ¶ Series: The Development of Science, Sources for the History of Science. 8vo. iv, 108, 57 pp. Index. Beige/tan cloth stamped in red. Fine. [RH1477] \$ 35



203. **SULLIVAN, Walter** (1918-1996). *We Are Not Alone: The Search for Intelligent Life on Other Worlds*. New York: McGraw-Hill, 1964. ¶ Third printing. 8vo. xi, 325, [1] pp. Illus., index. Cloth, dust-jacket; jacket worn. Very good. [S13719]  
\$ 4

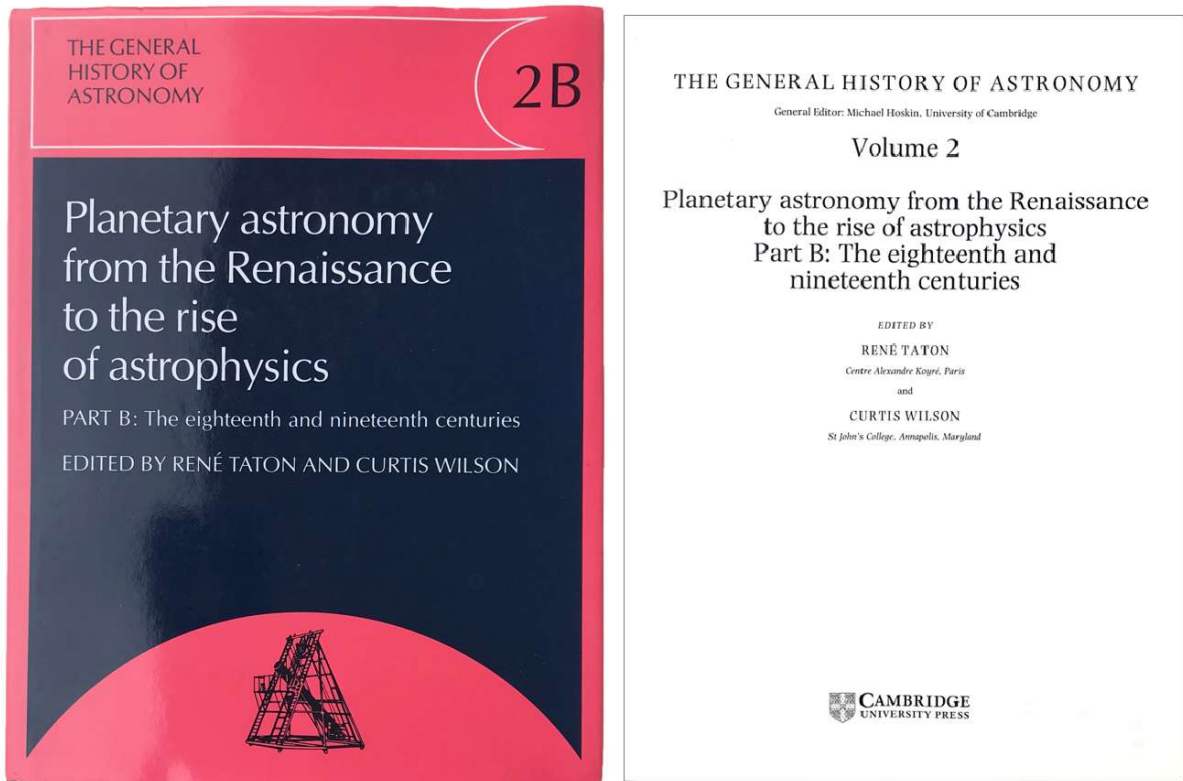
Walter Seager Sullivan, Jr., was a writer on science working for the New York Times. This book was a best seller and covered his views relating to the search for extraterrestrial intelligence.



204. **Symposium on Cosmical Gas Dynamics, Cambridge, UK.** *Gas Dynamics of Cosmic Clouds; a symposium held at Cambridge, England, July 6-11, 1953*. Amsterdam: North Holland, 1955. ¶ At head of title: *International Union of Theoretical and Applied Mechanics and International Astronomical Union*. 8vo. xii, 247, [1] pp. Text mostly in English, with one paper in French. Illus., figs. Original blind- and gilt-stamped black cloth. Ownership rubber-stamp of Optica, Oakland, Calif. [S14031]  
\$ 10

Arranged in 7 parts, this work contains contributions by: G.I. Taylor, Rudolph Minkowski (1895-1976), Adriaan Blaauw (1914-2010), Jan Hendrik Oort (1900-1992), Bartholomeus Jan Bok (1906-1983), [Ellen] Dorrit Hoffleit (1907-2007), C.M. Wade, Grigory Abramovich Shajn (1892-1956), A.D. Thackeray, H.C. van de Hulst, A. Schüter, M.P. Savedoff, F.D. Kahn, H. Zanstra, M.J. Seaton, A. Kantrowitz, F.D. Kahn (Manchester), G.K. Batchelor, M. J. Lighthill, G. Courtes, L. Biermann, J. H. Oort, E. Schatzman, Carl Friedrich von Weizsäcker (1912-2007),

Sebastian Rudolf Karl von Hoerner (1919-2003), Dennis William Siahou Sciama (1926-1999), Fred Hoyle (1915-2001), Sir William Hunter McCrea (1904-1999), Johannes (Jan) Martinus Burgers (1895-1981), T. Gold, and others.



205. **TATON, Rene** (1915-2004), **Alexandre Koyre Research Centre, Paris**; **Curtis WILSON**, **St John's College, Annapolis**. *The General History of Astronomy. Volume 2B. Planetary Astronomy from the Renaissance to the Rise of Astrophysics*. Cambridge: Cambridge University Press, 1995. ¶ Royal 8vo. xiii, [1], 281, [1] pp. Illus., index. Black gilt-stamped cloth, dust-jacket. Near fine. [S13588]

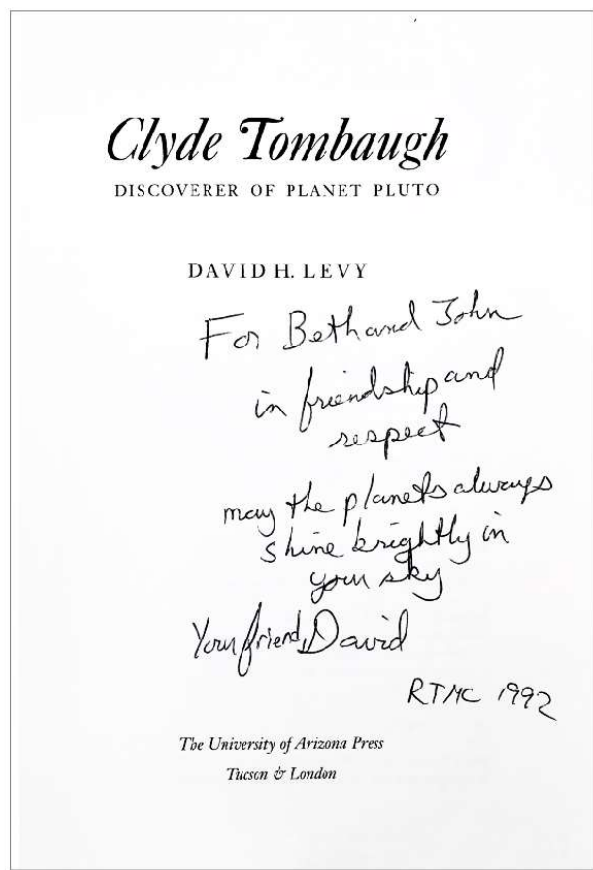
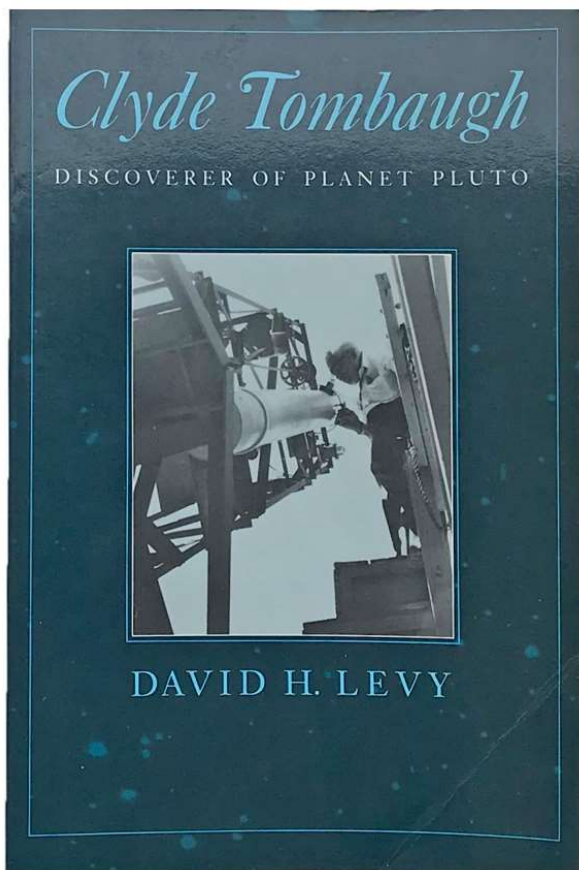
\$ 45

Hardcover issue. Part B of Planetary Astronomy from the Renaissance to the Rise of Astrophysics continues the history of celestial mechanics and observational discovery through the eighteenth and nineteenth centuries. It provides a synoptic view of the main developments and furnishes details about the lives, ideas, and interactions of the various astronomers involved. Twelve different authors have contributed their expertise to this book that begins with the reception of Newton's inverse-square law. In the remainder, a large place is given to the development of the mathematical theory of celestial mechanics from Clairaut and Euler to LeVerrier, Newcomb, Hill, and Poincare. This



emphasis is balanced by other chapters on observational discoveries and the rapprochement of observation and theory (for instance, the discovery of Uranus and the asteroids, use of Venus transits to refine solar parallax, introduction of the method of least squares, and the development of planetary and satellite ephemerides). Lists of “Further Reading” provide entry to the literature of the several topics. This book will be of great interest to historians of science and astronomers.”

TABLE OF CONTENTS: Part V. Early Phases in the Reception of Newton’s Theory: 14. The vortex theory in competition with Newtonian celestial dynamics Eric J. Aiton / 15. The shape of the Earth Seymour L. Chapin / 16. Clairaut and the motion of the lunar apse: The inverse-square law undergoes a test Craig B. Waff / 17. The precession of the equinoxes from Newton to d’Alembert and Euler Curtis Wilson / 18. The solar tables of Lacaille and the lunar tables of Mayer Eric G. Forbes and Curtis Wilson / 19. Predicting the mid-eighteenth-century return of Halley’s Comet Craig B. Waff. Part VI. Celestial Mechanics During the Eighteenth Century: 20. The problem of perturbation analytically treated: Euler, Clairaut, d’Alembert Curtis Wilson / 21. The work of Lagrange in celestial mechanics Curtis Wilson / 22. Laplace Bruno Morando. Part VII. Observational Astronomy and the Application of Theory in the Late Eighteenth and Early Nineteenth Century: / 23. Measuring solar parallax: The Venus transits of 1761 and 1769 and their nineteenth-century sequels Albert Van Helden / 24. The discovery of Uranus, the Titius-Bode and the asteroids Michael Hoskin / 25. Eighteenth–and nineteenth century developments in the theory and practice of orbit determination Brian G. Marsden / 26. The introduction of statistical reasoning into astronomy: from Newton to Poincare Oscar Sheynin / 27. Astronomy and the theory of errors: from the method of averages to the method of least squares F. Schmeidler. Part VIII. The Development of Theory During the Nineteenth Century: / 28. The golden age of celestial mechanics Bruno Morando. Part IX. The Application of Celestial Mechanics to the Solar System to the End of the Nineteenth Century: / 29. Three centuries of lunar and planetary ephemerides and tables Bruno Morando / 30. Satellite ephemerides to 1900 Yoshihide Kozai.

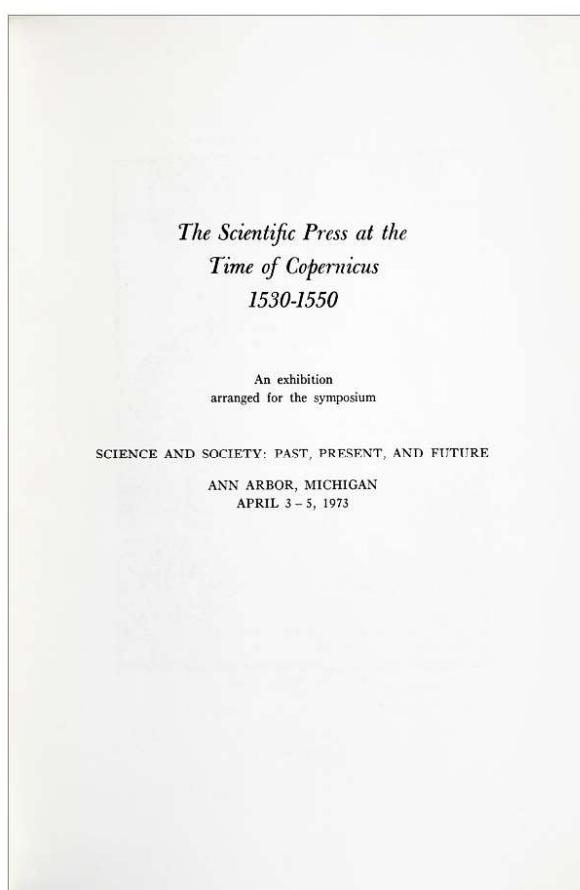
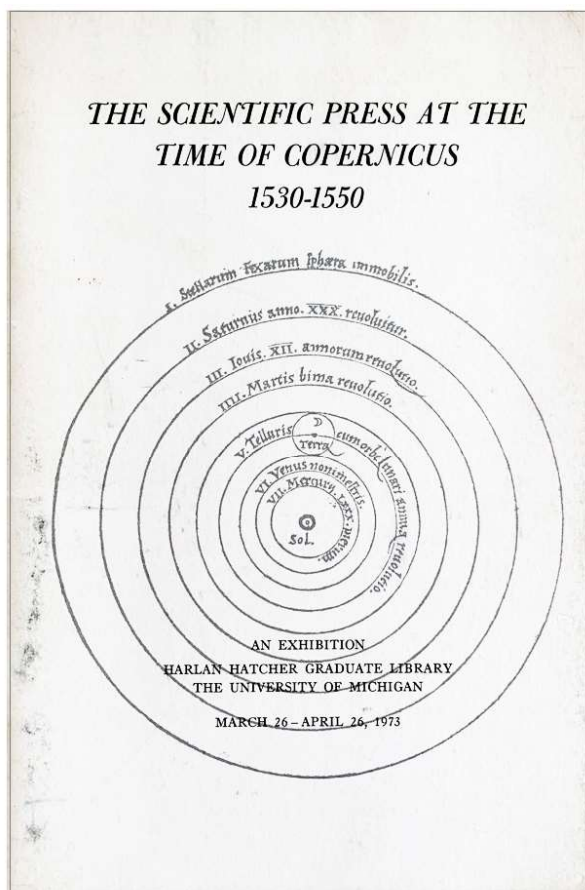


*Inscribed by the Author*

206. [TOMBAUGH, Clyde (1906-1997)] **David H. LEVY.** *Clyde Tombaugh, Discoverer of the Planet Pluto.* Tucson: University of Arizona Press, 1991. ¶ Second printing. 8vo. xii, [viii], 211, [1] pp. Illus., index. Original printed wrappers; creased. Very good. INSCRIBED BY THE AUTHOR to Beth & John Westfall . . . Your friend, David, RTMC, 1992.” [S13589]

\$ 25

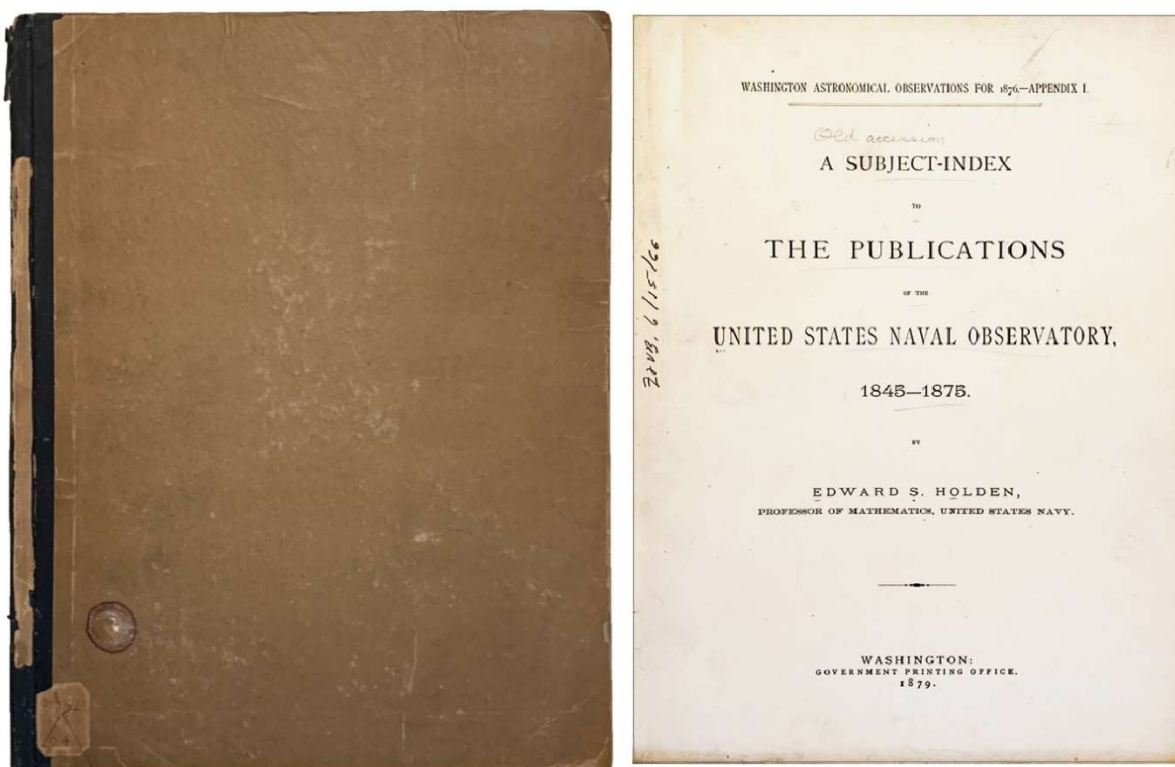
Clyde William Tombaugh was the discoverer of Pluto in 1930. At the time of discovery, Pluto was considered a planet, but was reclassified as a dwarf planet in 2006.



207. **University of Michigan [Libraries].** *The Scientific Press at the Time of Copernicus 1530-1550. An exhibition arranged for the symposium. Science and Society: past, present, and future. Ann Arbor, April 3-5, 1973.* Ann Arbor: University of Michigan, 1973. ¶ 8vo. 27 pp. Frontispiece. Printed wrappers. Very good. DL1190 \$ 6



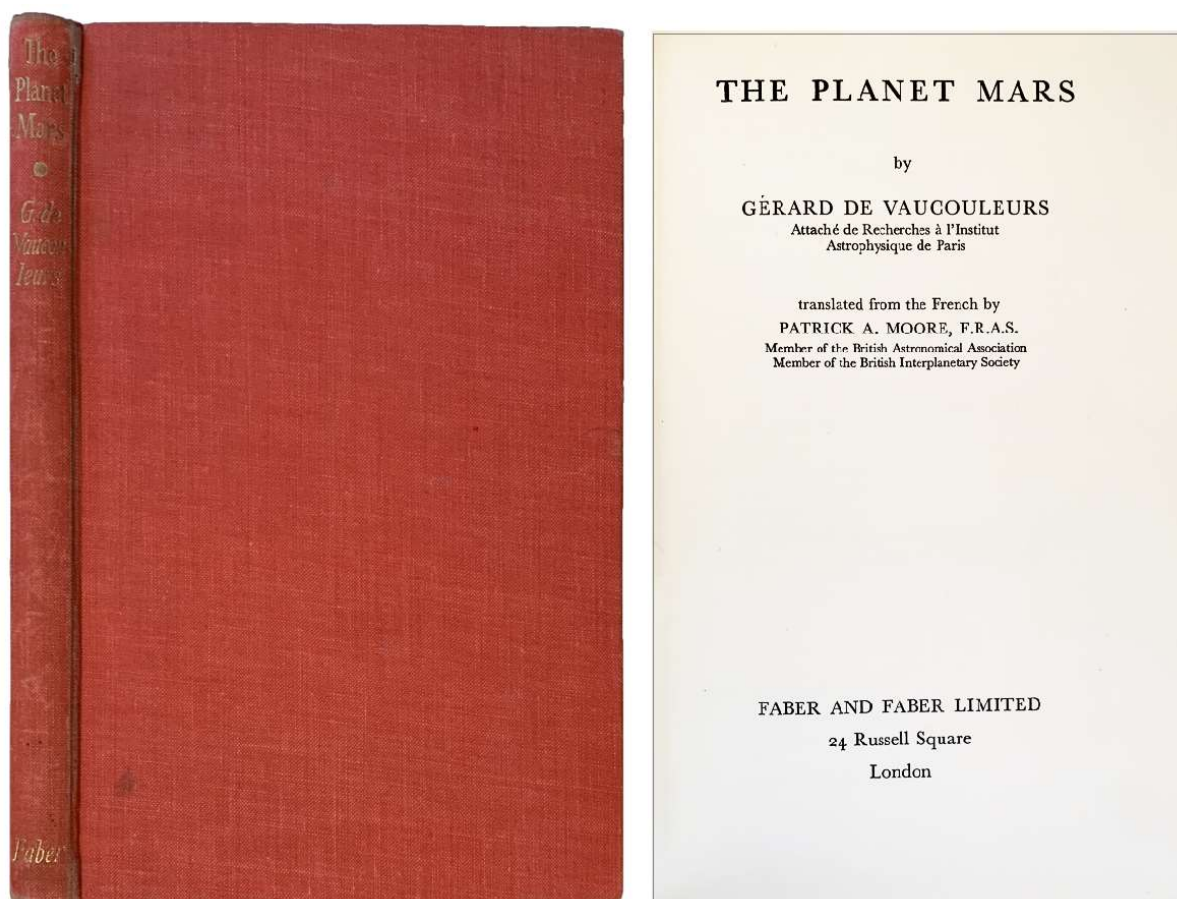




208. **United States Naval Observatory; Edward S. HOLDEN** (compiler). *A subject-index to the publications of the United States Naval Observatory, 1845-1875*. Washington, DC: Government Printing Office, 1879. ¶ At head of title: *Washington astronomical observations for 1876-Appendix 1*. 4to. 74 pp. Original boards, quarter black cloth; spine worn. Ex-library copy [Princeton]; withdrawn, with markings. Good. Very scarce. [S14032]

\$ 15

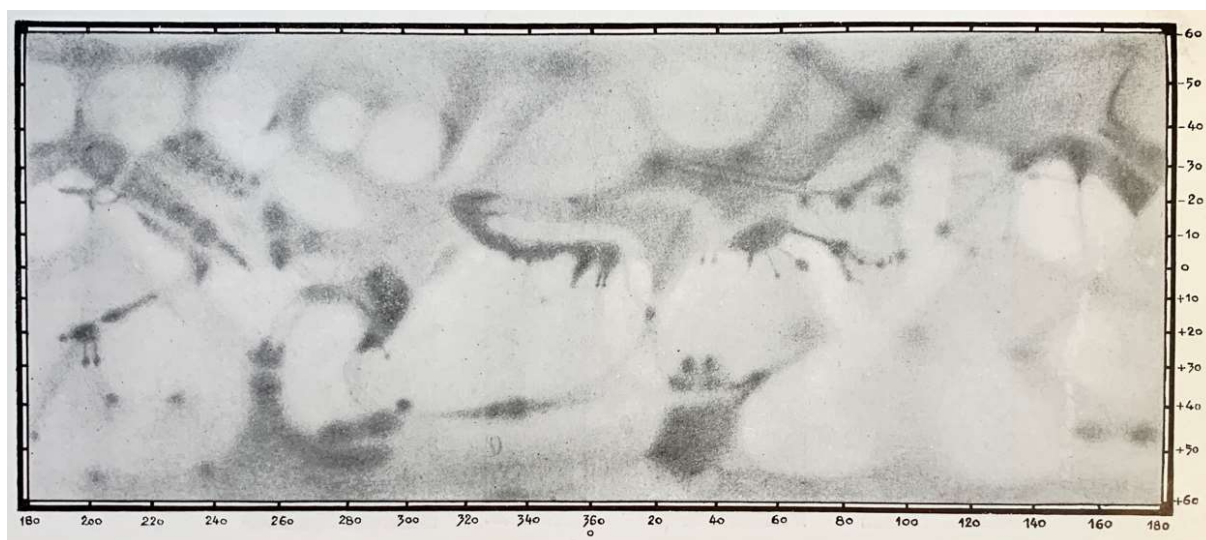
The United States Naval Observatory published its first annual volume in 1845, and since 1861 it has yearly issued a volume of observations, results, and discussions, so that Volume XXII was published in 1875. These volumes have on average about 500 pages, and contain the official reports of the Superintendent to the Bureau of Navigation of the Navy Department; the annual introductions to the observations with each instrument; the detailed observations with each instrument, and their reductions; the results of such observations; and finally, one or more appendixes which are special discussions of points in practical or theoretical astronomy.

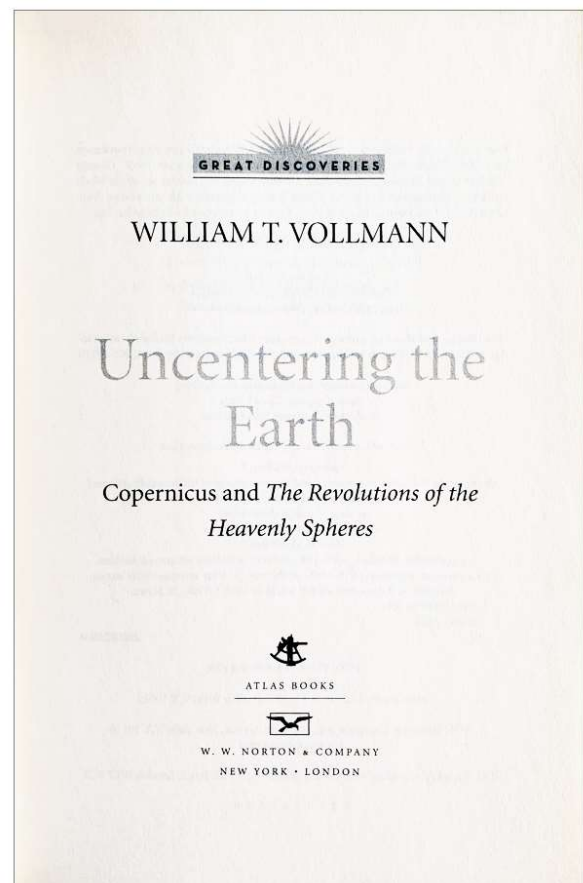
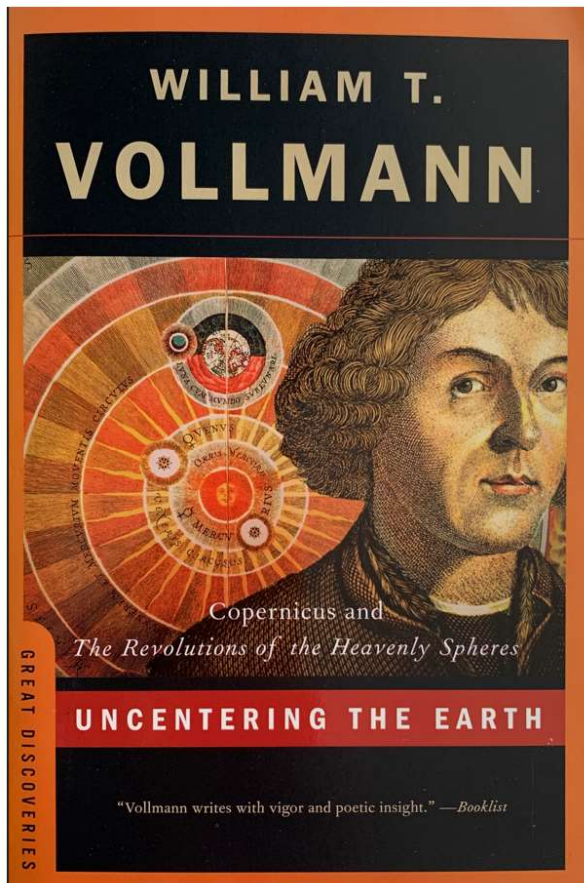


209. **VAUCOULEURS, Gérard de** (1918-1995). *The Planet Mars. Translated from the French by Patrick A. Moore*. London: Faber and Faber, 1950. ¶ 8vo. 87, [1] pp. 5 plates, 5 figs., index; a couple of minor pencil corrections of the text. Original salmon gilt-stamped cloth; rubbed. Ownership signature of Kenneth W. Landon. [S14033]

\$ 15

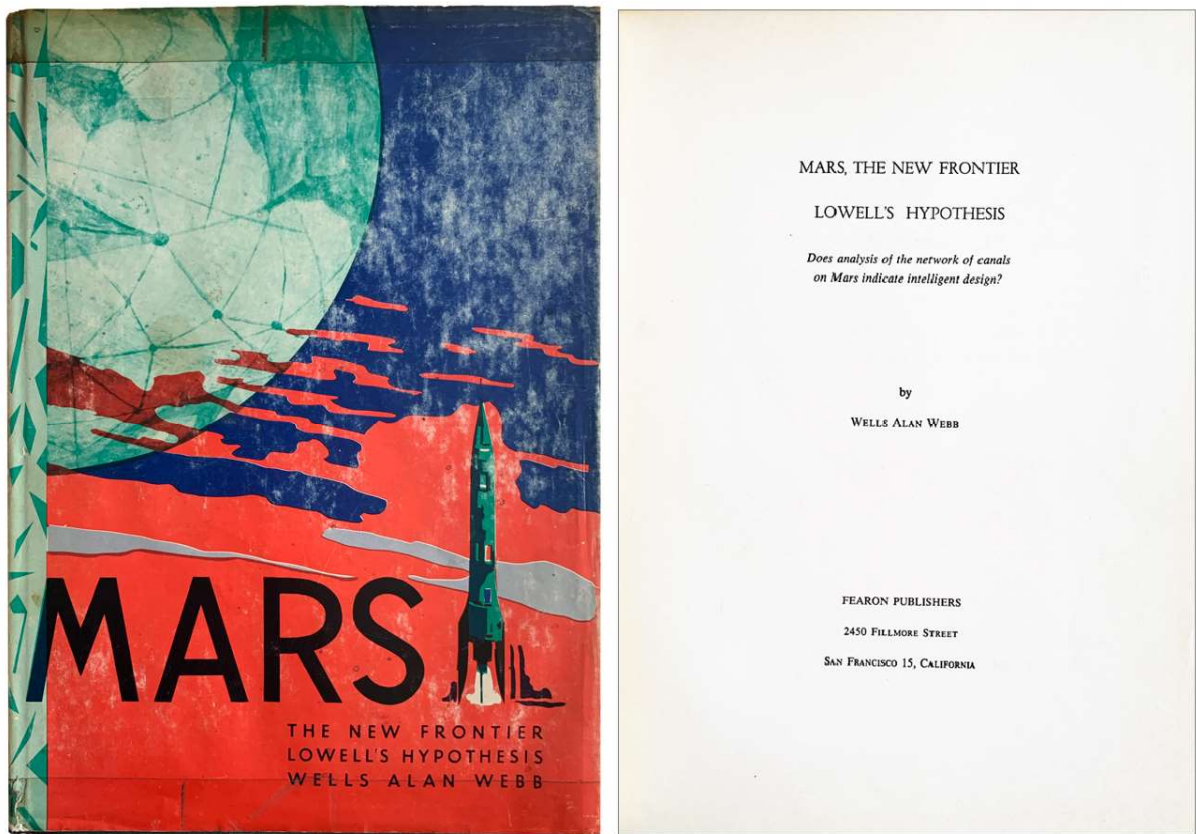
Provenance: Kenneth W. Landon (1926-2012).





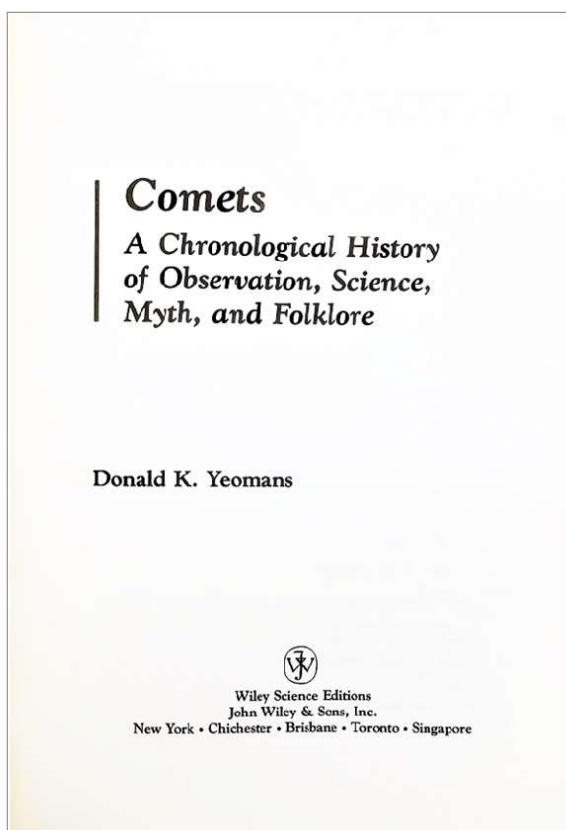
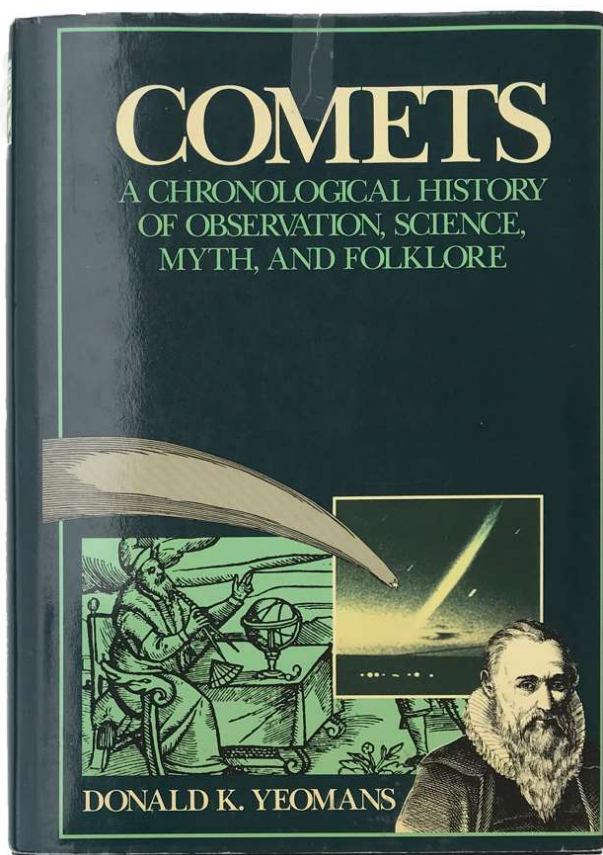
210. **VOLLMANN, William T.** *Uncentering the Earth; Copernicus and the Revolutions of the Heavenly Spheres*. New York: Norton, 2006. ¶ 8vo. 295 pp. Figs. Printed wrappers. Fine. [RH1479] \$ 7





*For Craig Foster  
Wells A. Webb*

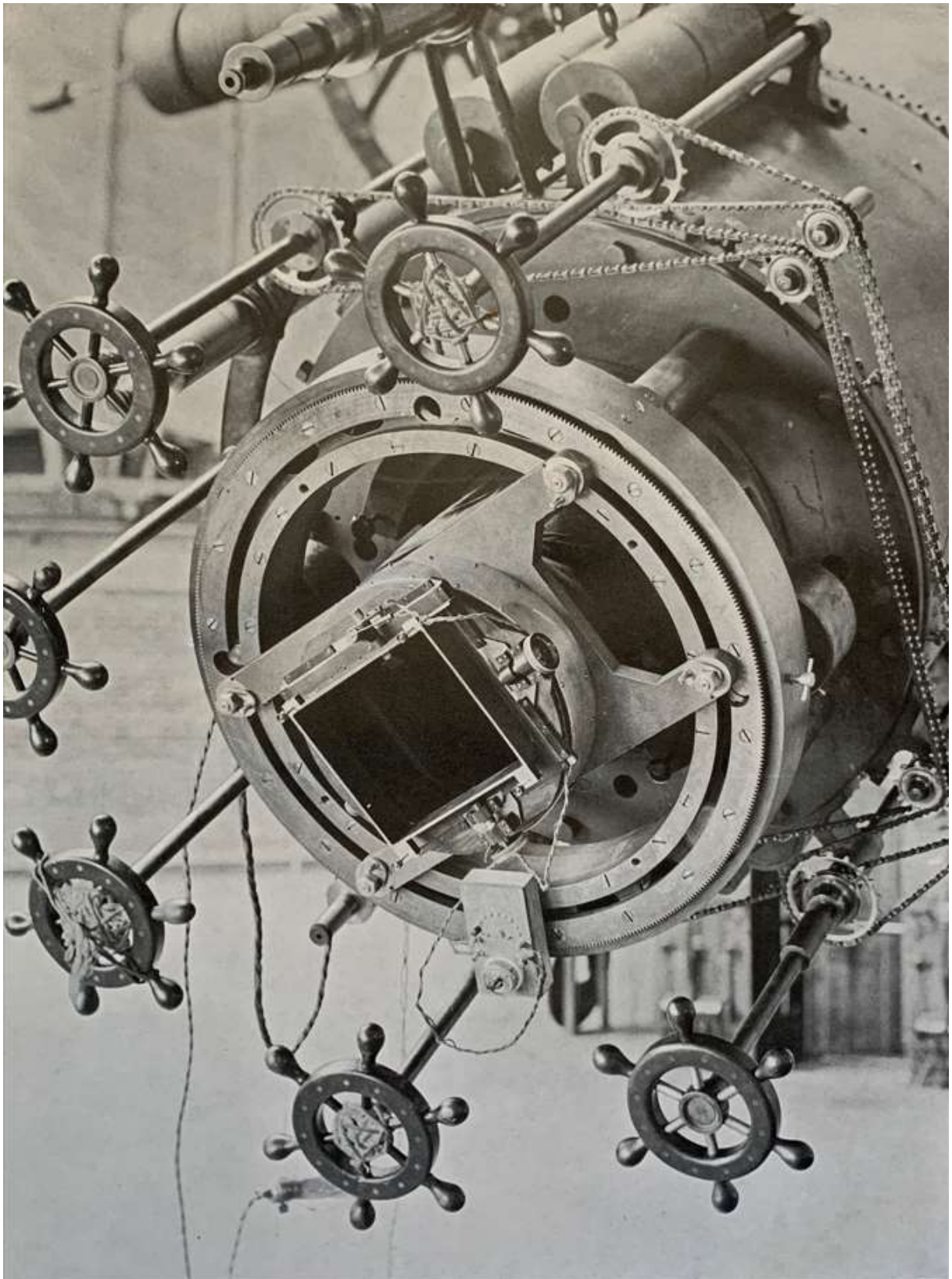
211. **WEBB, Wells Alan.** *Mars, the new frontier. Lowell's hypothesis.* San Francisco: Fearon, 1956. ¶ Large 8vo. 141 pp. Navy cloth, gilt-stamped cover and spine titles, dust jacket; jacket rubbed, scotch-tape applied. INSCRIBED BY THE AUTHOR. Very good. S10077 \$ 135



212. **YEOMANS, Donald K.** (1942-). *Comets; a chronological history of observation, science, myth, and folklore*. New York: Wiley, 1991. ¶ 8vo. x, 485, [1] pp. Figs., index. Cloth, dust-jacket; jacket with scotch tape applied to upper cover to close 1 tear. Very good. [S13594]

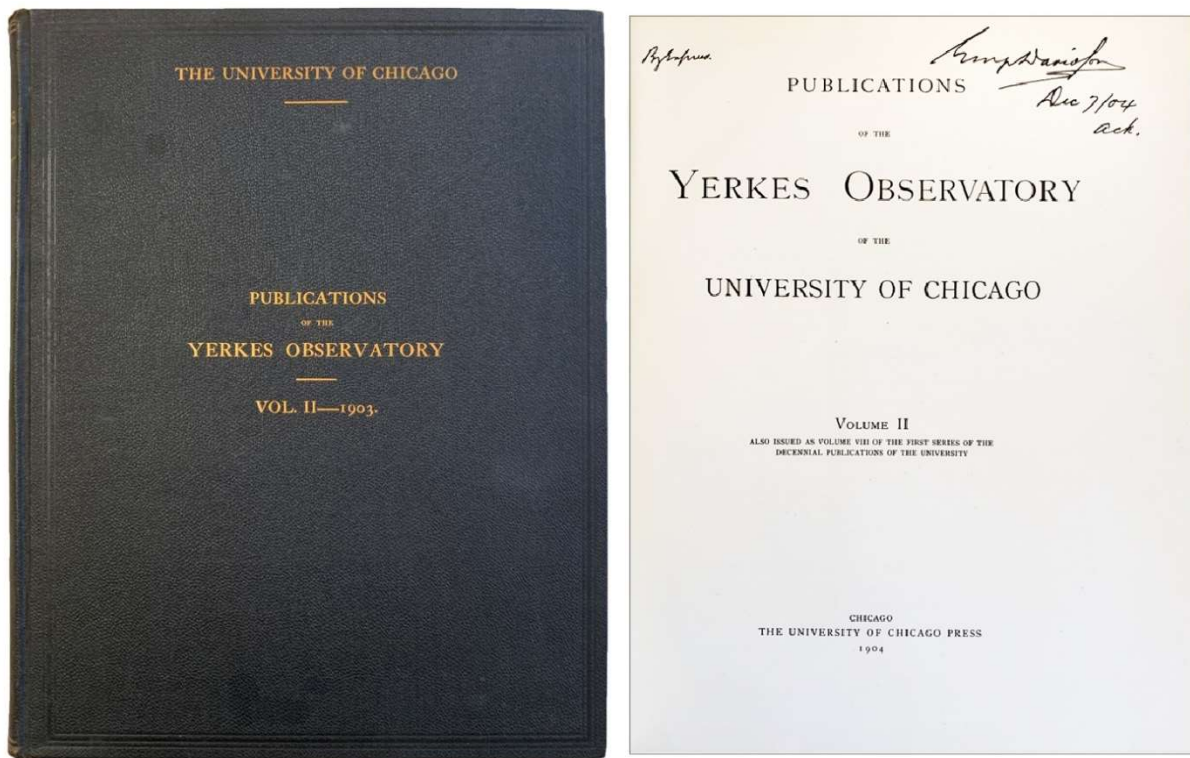
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Dr. Donald K. Yeomans was a JPL Fellow and Senior Research Scientist at JPL prior to his retirement in 2015. From 1998 through early 2015, he was the manager of NASA's Near-Earth Object Program Office at JPL. He provided the accurate predictions that led to the telescopic recovery of comet Halley at Palomar Observatory on October 16, 1982, and allowed the recognition of 164 BC Babylonian observations of comet Halley on clay tablets in the British Museum. He was a Science Team member for NASA's Near-Earth Asteroid Rendezvous (NEAR) mission, for NASA's Deep Impact mission, and for the successful Japanese Hayabusa mission. Asteroid "2956" was renamed asteroid "2956 Yeomans" to honor his professional achievements and in 2013, he was named as one of the 100 most influential persons by *Time* magazine.



[213] Yerkes Observatory





213. **Yerkes Observatory, University of Chicago.** *Publications of the Yerkes Observatory of the University of Chicago. Volume II.* Chicago: University of Chicago Press, 1904. ¶ 4to. [viii], 412 pp. 29 plates. Original full blind- and gilt-stamped black cloth [on spine: "DECENNIAL PAPERS"]; rear cover waterstained and related staining affecting the last 2 leaves of the volume. Ownership ink signature on title of George Davidson, San Francisco, 1904. Generally very good (noting rear cover). [S14034]

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CONTENTS: I. Measures of Double Stars with the forty-inch refractor of the Yerkes Observatory in 1900 and 1901, by Sherburne Wesley Burnham. II. Micrometrical Observations of Eros made with the forty-inch refractor of the Yerkes Observatory during the opposition of 1900-1901, by Edward Emerson Barnard. III. On Certain Rigorous Methods of Treating Problems in Celestial Mechanics, by Forest Ray Moulton. IV. Radial Velocities of Twenty Stars having Spectra of the Orion type, by Edwin Brant Frost and Walter Sydney Adams. V. The Spectra of Stars of Secchi's Fourth type, by George Ellery Hale. VI. Astronomical Photography with the forty-inch refractor and the two-foot reflector of the Yerkes Observatory, by George Willis Ritchey. VII. The Orbit of the Minor Planet (334), by Kurt Laves.

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**THE SPECTRA OF STARS OF SECCHI'S FOURTH TYPE**  
 GEORGE E. HALL, FERDINAND ELLERMAN, and J. A. PARKHURST

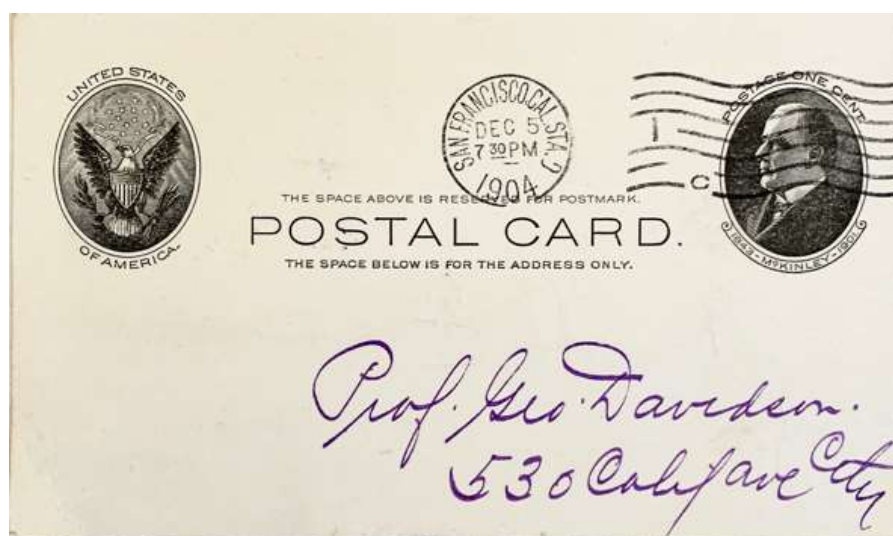
THE possibility of basing a systematic scheme of stellar evolution on spectroscopic observations is foreshadowed in the work of Fraunhofer, who in 1823 observed for the first time the spectra of a few of the brightest stars. Though wholly ignorant of the origin of the dark lines in these spectra, Fraunhofer recognized that their number, appearance, and grouping differed greatly from star to star, and that in certain cases the solar spectrum seemed to be exactly duplicated. But it required such a general survey as that of Secchi, who examined the spectra of more than four thousand stars, to afford any basis for a scheme of classification. The purely empirical classification which he adopted includes a very large percentage of the stars among its five principal types, and subsequent systems have done little more than to add subgroups to provide for the comparatively few peculiar spectra which do not fall within Secchi's divisions.

Secchi's classification, as we have said, was a purely empirical one, intended to serve only as a convenient means of grouping similar spectra. But the researches of Huggins and Vogel soon introduced the idea of development, and the changes of spectra from type to type came to be regarded as synonymous with progressive changes in the stars themselves. Spectroscopists have agreed in regarding the white stars, with spectra characterized by the predominance of the series of hydrogen lines (Secchi's first type), as representing an early stage of development, corresponding to a condition of low density. Through the continued action of gravity, accompanied by loss of heat, the absorbing metallic vapors increase in density, producing a marked increase in the number and strength of the metallic lines, while the hydrogen lines become narrower and less conspicuous (Secchi's second type). The reduction of light caused by the greater absorption is most marked at the violet end of the spectrum, causing the color of the star to change from white to yellow. After passing this, the solar stage, further operation of the same causes results in the production of red stars, whose spectra might be expected to indicate comparatively low temperature and high density of the absorbing vapors.

It is not clear, however, why there should be two distinct classes of red stars, characterized by widely different banded spectra. One of these classes (Secchi's third type), which includes such bright stars as *Orionis*, *a Scorpii*, and *a Herculis*, is comparatively well known. In the pioneer days of stellar spectroscopy Huggins and Vogel measured some seventy lines in the spectrum of *a Orionis*, and the more refrangible region of the spectra of some of these stars has more recently been studied photographically by these and other observers. But much remains to be done by photographic means, particularly in the less refrangible region, where Kessler was working with marked success when interrupted by his untimely death. In the present paper our photographs of the spectra of some of these stars are reproduced for comparison with the spectra of stars of Secchi's fourth type, but the measurement of these photographs has not yet been undertaken.

As the other great class of red stars (Secchi's fourth type) includes no objects brighter than magnitude 5.3, it is obvious that the detailed investigation of their spectra is beyond the reach of telescopes of small aperture. It will be seen from the references given below that the general characteristics of these spectra were clearly recognized in the visual observations of Secchi, Dunér, Vogel, and others, but it was impossible with the instruments employed by them to observe more than the carbon bands and two or three prominent lines. Even the objective prism, as applied in conjunction with photography, has failed to show the less conspicuous details, though it has been invaluable in discovering new objects and in showing the relative intensities of the various bands in different stars. As the great light-gathering power of the forty-inch Yerkes refractor seemed to render it especially suitable for an investigation of these faint stars, the work described in this paper was undertaken in

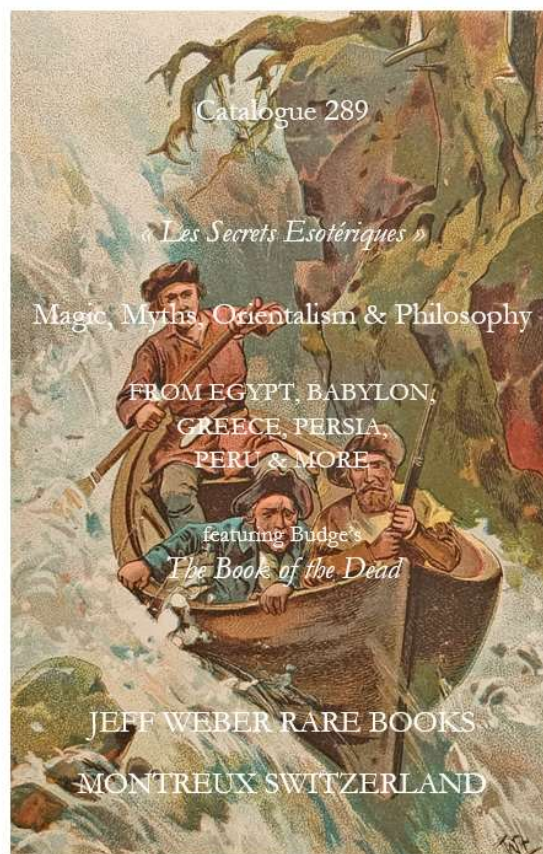
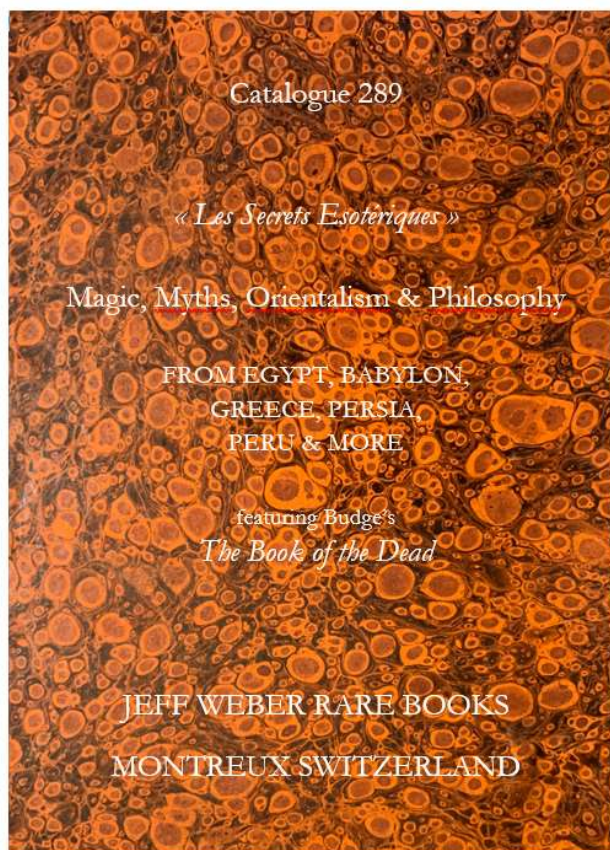
PROVENANCE: George Davidson, was a geodesist, astronomer, geographer, surveyor and engineer in the United States. He founded the Davidson Observatory in San Francisco, which was the first astronomical observatory on the Pacific coast of North America, and in 1869 brought the Pacific geodetic of the coast survey in telegraphic longitude connection with Greenwich. His astronomical work includes the observation of the total solar eclipse under the 60th parallel, in 1869; determination of the 120th meridian, in 1873; charge of the U. S. transit of Venus expedition, in 1874; recovery of the transit of Venus station of 1709 in Lower California occupied by Auteroche de la Chappe; observation of the total solar eclipse of January 7, 1880; and in 1882 charge of the party to observe the transit of Venus in New Mexico. [Wikip.].





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