

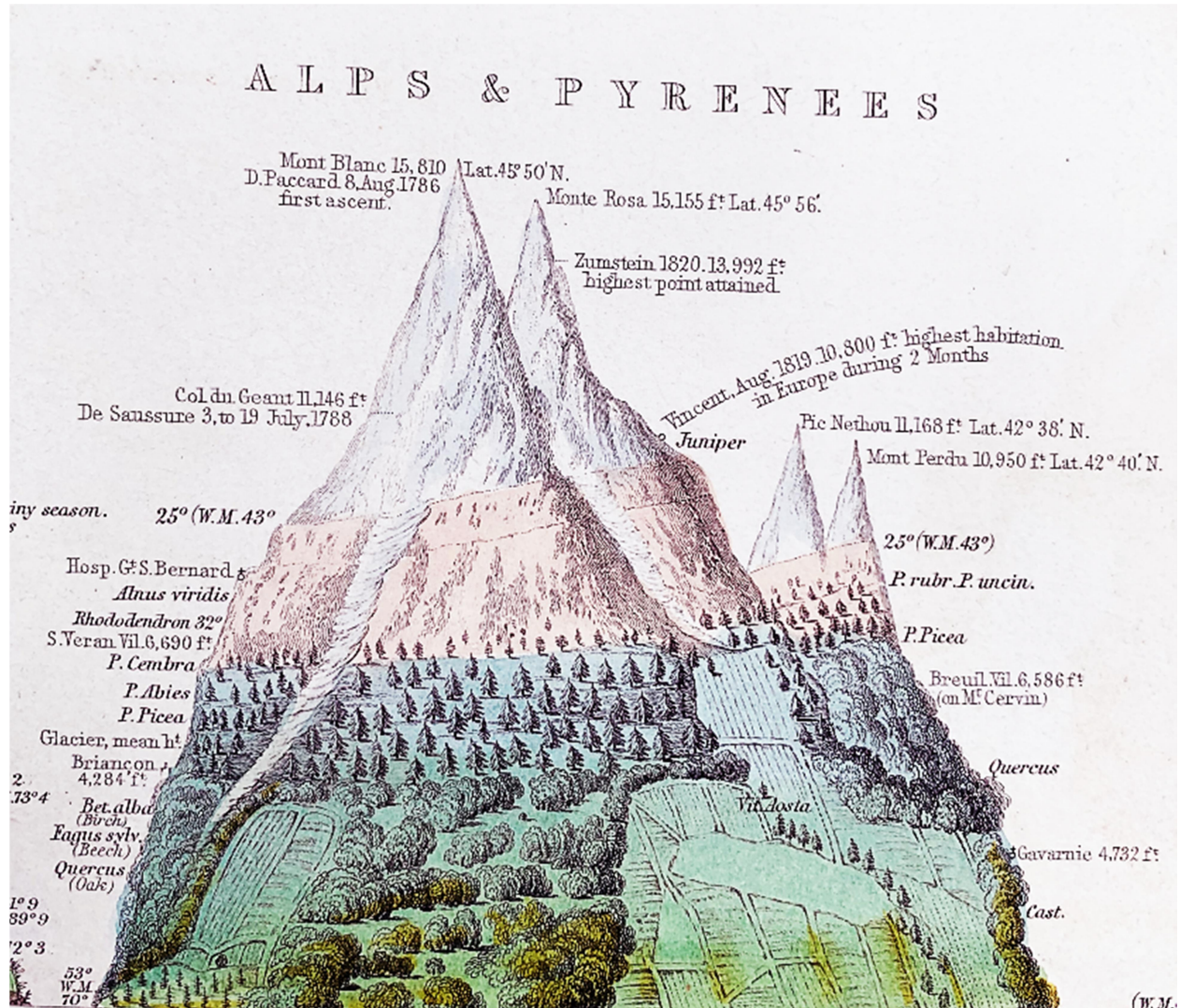
**JEFF WEBER**

**RARE BOOKS**

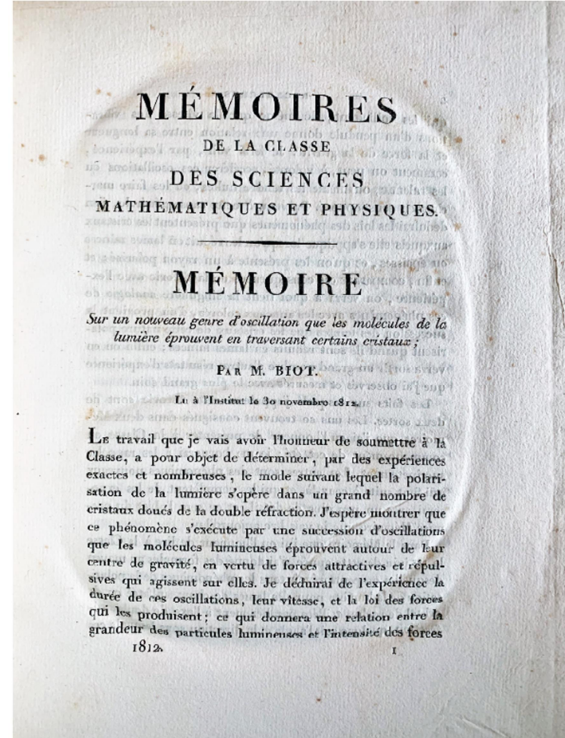
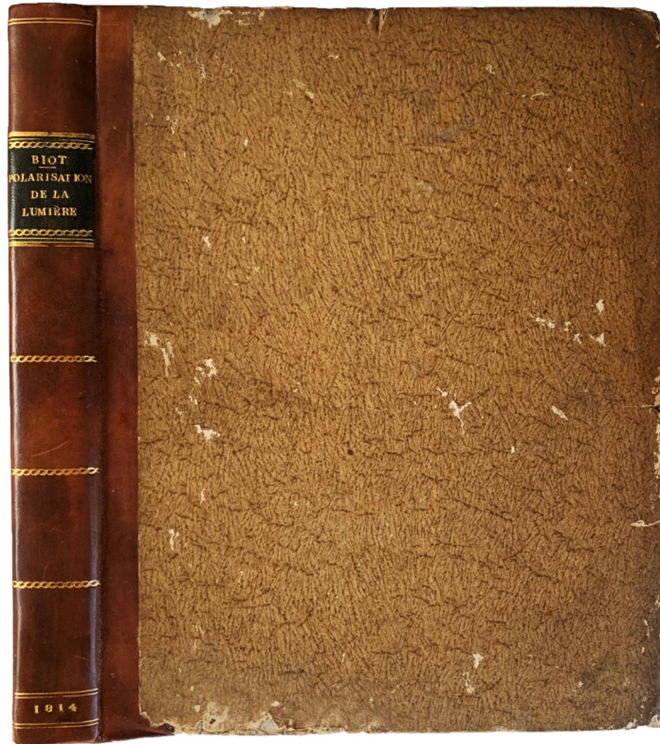
**THE SCIENCES**

**CATALOGUE 240**

# THE SCIENCES



JEFF WEBER  
RARE BOOKS  
CATALOGUE 240



1. **BIOT, Jean-Baptiste** (1774-1862). *Mémoire sur un nouveau genre d'oscillation que les molécules de la lumière éprouvent en traversant certains cristaux*. Paris: Chez Firmin Didot, Imprimeur de l'Institut Imperial de France, . . . 1814. Series: Mémoires de la Classe des sciences mathématiques et physiques de l'Institut impérial de France, Année 1812. ¶ pt. 1. 4to. 371, [1] pp. 2 folding plates (nos. 1-21, figs. 1, 1bis, 3); some foxing to endleaves. Original decorative boards, recent calf back, leather spine label, gilt bands, black leather spine label with gilt title; extremities of boards rubbed, freckled, but generally very good. BOOKPLATE OF FRANZ SONDHEIMER; small ownership teal rubber-stamp applied to title [GYMNAS. IMM. CONC. SOC. IES. / PARIS. AD VALL. GIR. / IHS]. VERY RARE. SS13750

\$ 2,500

First edition. "[Arago's optical] experiments [on quartz] were repeated in a more systematic way, with various plates of different thicknesses, by J.-B. Biot, a strong supporter of Newton's emission theory ..., and the inventor of the polarimeter, who

showed that some crystals of quartz turned the plane of polarization towards the right and others towards the left (Biot 1812, 1818); Biot had concluded that it was due to a property 'inherent to the molecules themselves, independent of their regular arrangement in the crystalline body', as in the case of liquids in which he had discovered optical rotation." – Authier, pp. 373-4.

Jean-Baptiste Biot (1774-1862), French physicist and astronomer, a former student of the Ecole des Ponts et Chaussees and Ecole Polytechnique, was appointed Professor at the Ecole Centrale in 1797 and at the College de France in 1801. Biot was elected to the French Academy of Sciences in 1803. The German mineralogist J.F.L. Hausmann, in honor of Biot's studies on the optical properties of mica, dedicated the mineral biotite to him.

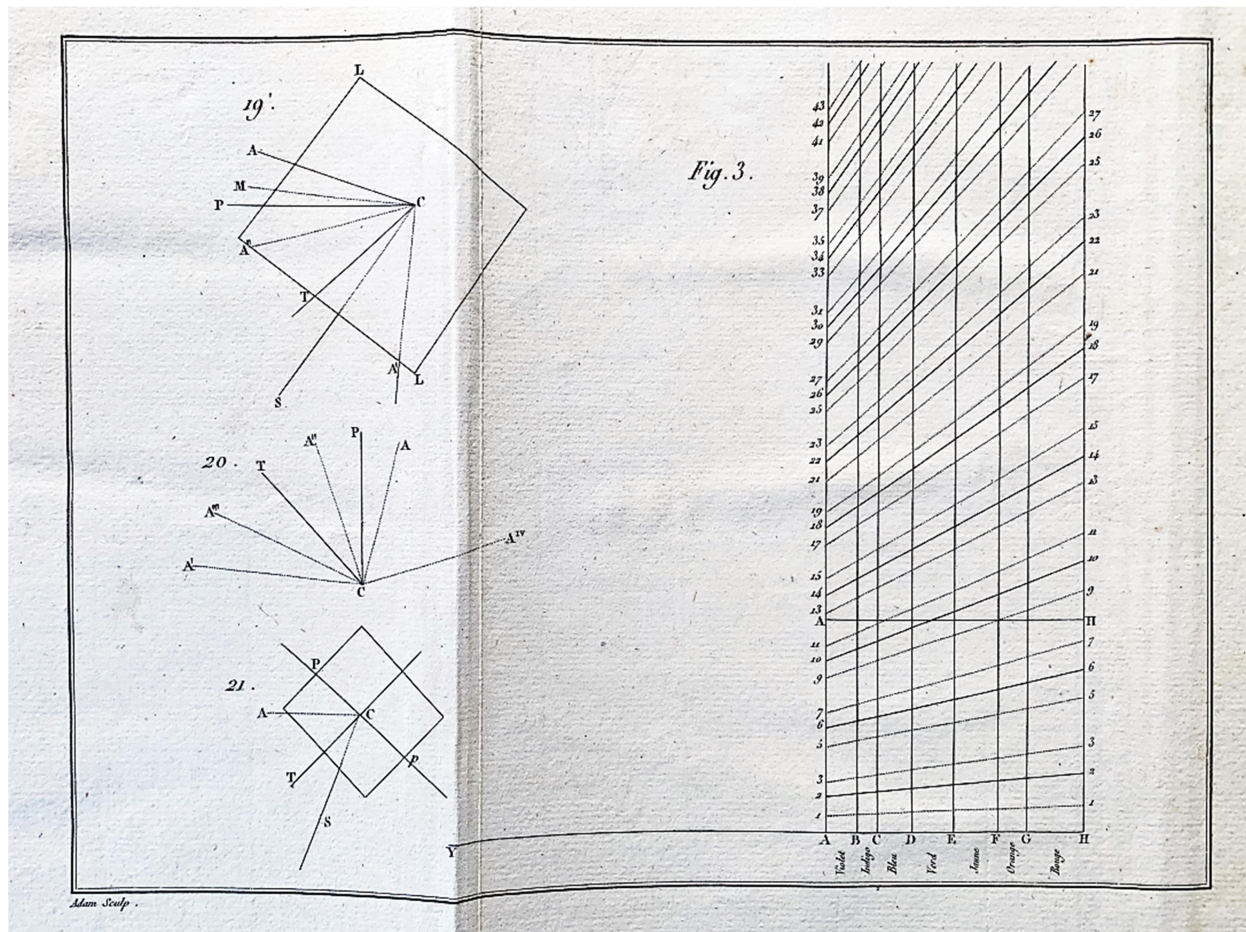


PROVENANCE: Franz Sondheimer (1926-1981), British chemist specializing in organic chemistry, born in Stuttgart, studied chemistry and earned his degree at Imperial College London. He was a postdoctoral student of Robert E. Woodward at Harvard University, where he assisted in the first formal total synthesis of cortisone. He then worked in Syntex SA, Mexico City, Head of the Organic Chemistry Department at the Weizmann Institute of Science, Rehovot Israel,

appointed as Royal Society Research Professor at the University of Cambridge and Fellow of Churchill College, Cambridge. He was elected a Fellow of the Royal Society, May 1967. His membership citation read: Professor Sondheimer is distinguished for his work on the total synthesis of a range of natural products, the partial synthesis of steroid hormones and analogues, and especially for his syntheses of the hitherto unknown class of conjugated unsaturated macrocyclic compounds which has led to some interesting theoretical conclusions. From 1967 to 1981 he was Royal Society Research Professor, University College London. Tragically he took his own life in 1981 during a sabbatical at Stanford University [cyanide]. He also had a passion for the history of chemistry and built one of the most important private book collections centered on chemistry and crystallography ever formed in the 20th century. See: Chemical & Engineering News Archives, February 23, 1981, vol. 59 (8), p 12.



"Here follows a brief note how Frank spent a great deal of money after I introduced him to the passion of collecting. By then I myself was an ardent collector of antique scientific books, which of course I showed to Frank with some pride. He then decided to do the same, but only to collect first editions of classic chemistry books which had been written by such great chemists as the Hon. Robert Boyle [1627-1691]. Even in London these treasures were difficult to find, and often cost several hundred, if not thousands of pounds sterling. After a few years, and after having splendid bookcases built for them in his Mayfair flat-Frank had by then become Royal Society Research Professor at University College, London - he had built up a superb collection of the history of chemistry. All were *editio princeps*, many of them in original bindings, often of antique leather and rebound if necessary. His magnificent collection was unique in private hands and it gave him great pleasure, as his wealth allowed him to enrich his knowledge and his life through it. Unfortunately after his death, the collection was dispersed ..." – see: Anthony R. Michaelis, "Rich Chemists and how they enjoyed their Wealth," p.7.



"In the early nineteenth century Biot was the leading French champion of mathematical science against speculative 'systems' which were then still quite popular. According to him, the goal of the physical sciences is a search for mathematical laws of phenomena, rather than for primary causes. He allowed the use of imponderable fluids, but solely as a convenient hypothesis, which may be modified or abandoned if the facts contradict it. Biot distinguished the emission or wave system from a theory. By 'theory' he understood a set of mathematical relations between exactly measured observations. Biot realized his ideal of a physical theory in this theory of 'mobile polarization.' Though he utilized 'light molecules whose axes oscillate between two limits,' he never identified this model with reality. Following Newton, he refused to discuss the cause of fits of easy reflection and refraction and took them as a 'fact.' Biot's theory was built on two concepts: the periodicity of light and the asymmetry (or transversality) of light about the direction of its propagation. His attempts to mathematize these concepts were important, though they appeared rather awkward in the emission theory of light." – Kipnis, p. 211.

☞ See: Andre Authier, *Early Days of X-ray Crystallography*, Oxford University Press, 2013; Jed Z. Buchwald, *The Rise of the Wave Theory of Light: Optical Theory and Experiment in the Early Nineteenth Century*. University of Chicago Press, 1989; DSB II, 139 – M.P. Crosland; N. Kipnis, *History of the Principle of Interference of Light*, 2012, pp. 211, 253.

2. **BROUWER, Dirk** (1902-1966); **A.J.J. Van WOERKOM** (1915-1991). *The Secular Variations of the Orbital Elements of the Principal Planets*. Washington: U.S. Government Printing Off., 1950. ¶ Series: Astronomical papers prepared for the use of the American ephemeris and nautical almanac, v. 13, pt. 2. 4to. 29 cm. 81-107 pages. Printed wrappers. Fine. Scarce. S13411

\$ 20

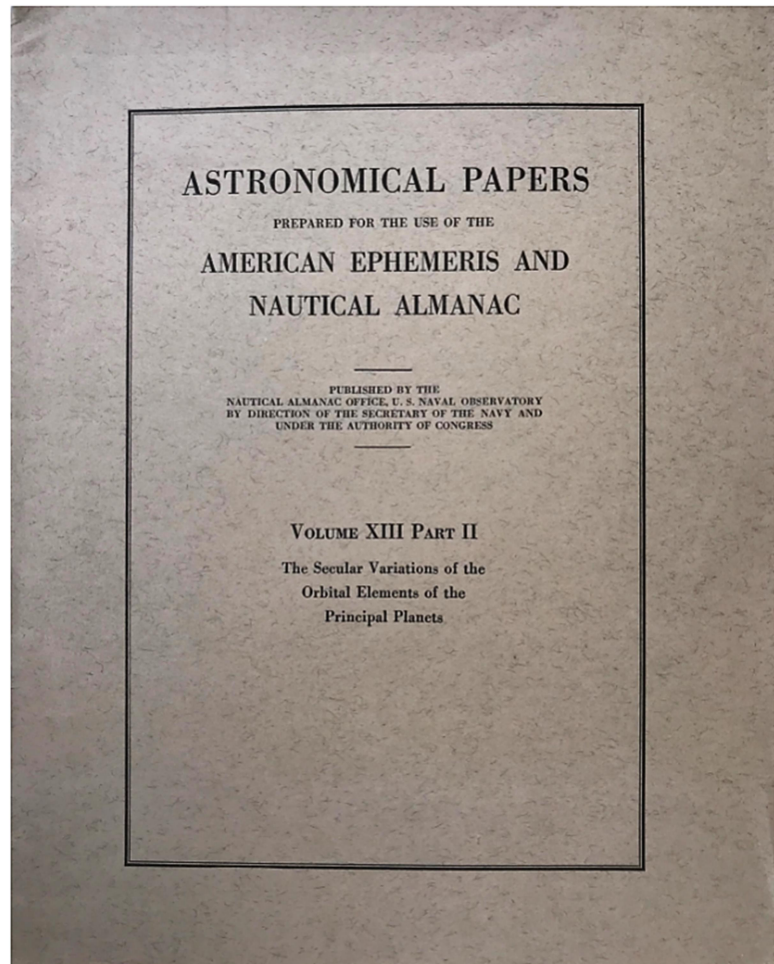
Brouwer took his PhD at Leiden University under Willem de Sitter. He was editor of the *Astronomical Journal* from 1941-66. "His initial appointment at Yale was in 1928 as research assistant to Ernest W. Brown, who was then the greatest living authority on the motion of the moon. After rising through the usual junior ranks, in 1941 he was appointed professor, chairman of the Department of Astronomy, and director of the Observatory, and in 1944 Munson Professor of Natural Philosophy and Astronomy, posts which he held until his death." – Clemence. See: Hockey, Thomas,

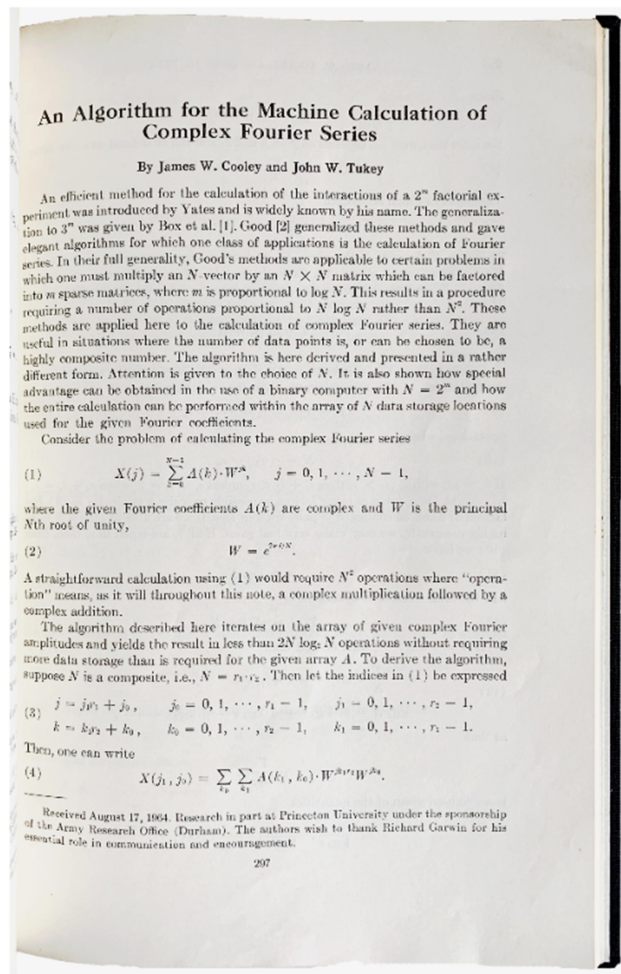
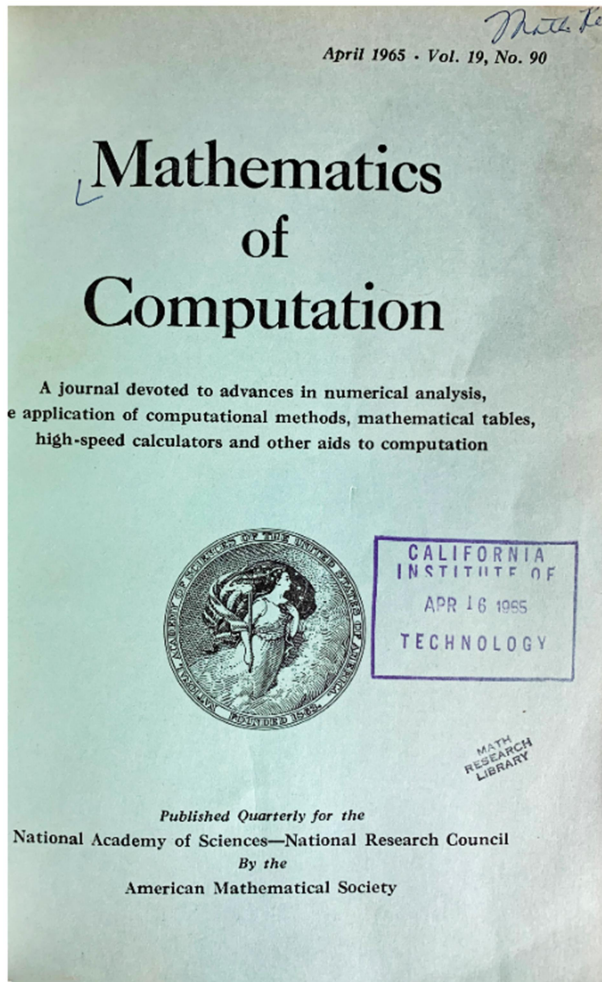


*The Biographical Encyclopedia of Astronomers*, 2009; G.M. Clemence, [Obituary], National Academy of Sciences, 1970.

An obituary for Woerkom states the scene of this paper: "Born October 3, 1915 in Werkendam, the Netherlands, van Woerkom began his professional life as an astronomer specializing in celestial mechanics after completing his Ph.D. in 1948 under the guidance of the well-known Dutch astronomer, J.H. Oort. His extensive monograph, "On the Origin of Comets", remains a seminal reference in the field today. He was then hired by Dirk Brouwer, Director of the Yale University Observatory, as a Research Associate and placed in charge of the computing laboratory which the Observatory established at that time.

During his eight years at Yale, van Woerkom applied his creative mind to a large array of problems in celestial mechanics and astrometry, including the secular perturbations of asteroids, numerical integrations of the orbits of Mars, Ceres, Pallas, Vesta, Juno, the motions of Uranus, Neptune and Pluto, and a repetition of the well-known numerical integrations of the five outermost planets, originally carried out on the SSEC and now executed on the Naval Weapons Laboratory computer known as NORC, to determine better mass coefficients." – Raynor L. Duncombe, and Morris S. Davis for the American Astronomical Society, BAAS, 1991, v. 23, p.1495.





3. **COOLEY, James W.** (1926-2016) & **John W. TUKEY** (1915-2000). *An Algorithm for the Machine Calculation of Complex Fourier Series*. (Providence, RI): National Academy of Sciences-National Research Council, 1965. ¶ Contained in *Mathematics of Computation*, Vol. 19, No. 90, pp. 297-301. 8vo. pp. 177-364. Original printed wrappers bound in. Black cloth, printed paper spine label. Institutional exlib stamp on printed wrapper cover, ownership marks on printed covers. Fine. [S9606]

\$ 1000

FIRST EDITION. This important work on the fast Fourier transform (FFT) algorithm, which is an efficient algorithm to compute the discrete Fourier transform (DFT) and its' inverse. FFTs are of great importance to a wide variety of applications,

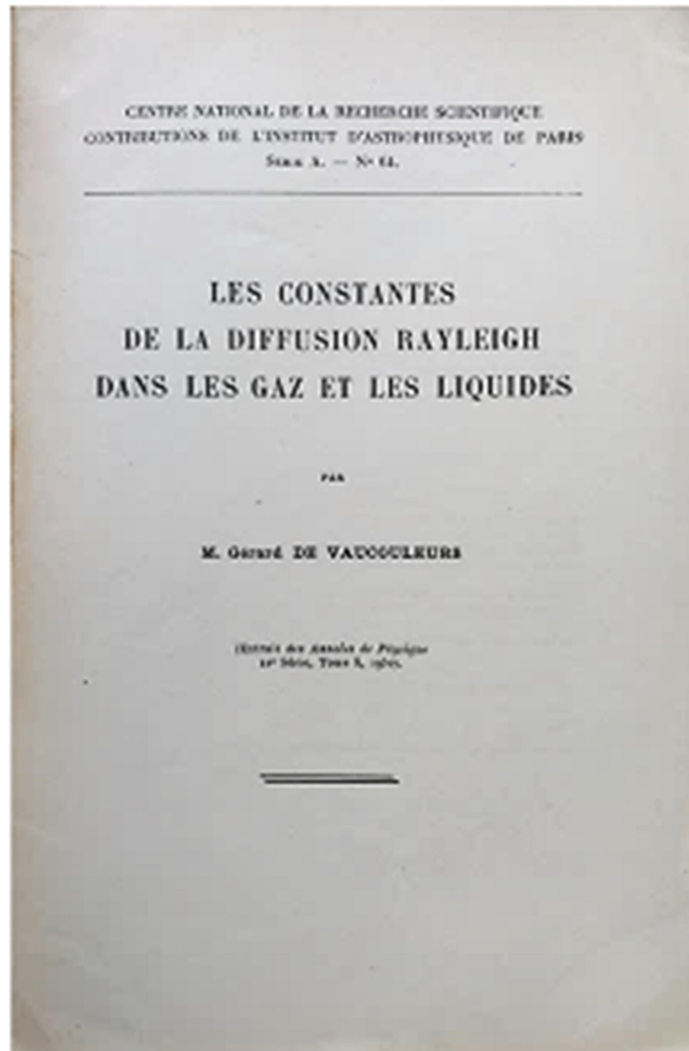
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from digital signal processing and solving partial differential equations to algorithms for quick multiplication of large integers. "By far the most common FFT is the Cooley-Tukey algorithm. This is a divide and conquer algorithm that recursively breaks down a DFT of any composite size  $N = N_1N_2$  into many smaller DFTs of sizes  $N_1$  and  $N_2$ , along with  $O(N)$  multiplications by complex roots of unity, traditionally called twiddle factors (after Gentleman and Sande, 1966). This method (and the general idea of an FFT) was popularized by a publication of J. W. Cooley and J. W. Tukey in 1965, but it was later discovered that those two authors had independently re-invented an algorithm known to Carl Friedrich Gauss around 1805 (and subsequently rediscovered several times in limited forms). The most well-known use of the Cooley-Tukey algorithm is to divide the transform into two pieces of size  $N / 2$  at each step, and is therefore limited to power-of-two sizes, but any factorization can be used in general (as was known to both Gauss and Cooley/Tukey). These are called the radix-2 and mixed-radix cases, respectively (and other variants such as the split-radix FFT have their own names as well). Although the basic idea is recursive, most traditional implementations rearrange the algorithm to avoid explicit recursion. Also, because the Cooley-Tukey algorithm breaks the DFT into smaller DFTs, it can be combined arbitrarily with any other algorithm for the DFT." [Wikipedia]. Norman, *Origins of Cyberspace* 548.

"His most significant contribution to the world of mathematics and digital signal processing is the Fast Fourier transform, which he co-developed with John Tukey (see Cooley–Tukey FFT algorithm) while working for the research division of IBM in 1965. / The motivation for it was provided by Dr. Richard L. Garwin at IBM Watson Research who was concerned about verifying a Nuclear arms treaty with the Soviet Union for the SALT talks. Garwin thought that if he had a very much faster Fourier Transform he could plant sensors in the ground in countries surrounding the Soviet Union. He suggested the idea of how Fourier transforms could be programmed to be much faster to both Cooley and Tukey. They did the work, the sensors were planted, and he was able to locate nuclear explosions to within 15 kilometers of where they were occurring." [Wikip.].





4. **DE VAUCOULEURS, Gerard H.** (1918-1995). *Les Constantes de la Diffusion Rayleigh dans les gaz et les liquides*. [Offprint]. Paris: Annales de Physique, 1950. ¶  
Series: Centre national de la recherche scientifique. Contributions de l'Institut d'astrophysique de Paris, serie A, n° 64. 8vo. [ii], 115, [1] pp. 4 plates, figs. Plain wrapper; pink wrapper partly extant. Very good. S13412 \$ 20

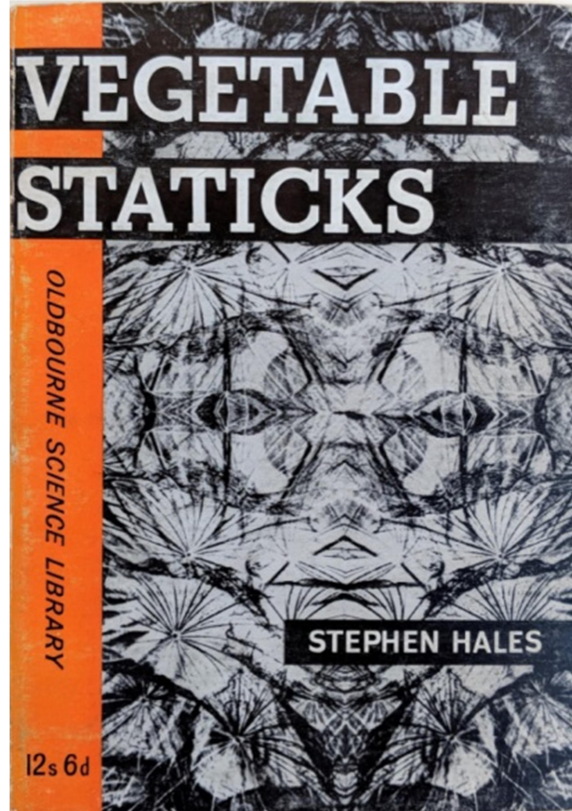


5. **FRANKLIN, Benjamin** (1706-1790). *Des Herrn Benjamin Franklins Esq. Briefe von der Electricitat. Aus dem Englandischen Ubersetzt Nebst Anmerkungen von J. C. Wilcke.* Leipzig: Gottfried Kiesewetter, 1758. ¶ 8vo. [26], 354 pp. Engraved frontis., engraved title vignette, engraved initials, engraved head & tail pieces; foxed. Original red leather spine, boards, early ms. on spine; extremities rubbed. Early bookplates of Albert Friedrich May, & Lt. Col. May. Very good. RARE. [SS13500]

\$ 850

FIRST GERMAN EDITION. "Franklin's most important scientific publication." Norman 830 (first English edition). A vital work that represents a historic publication in the literature of electricity. "The most dramatic result of Franklin's researches was the proof that lightning is really an electrical phenomenon." *Printing and the Mind of Man* 199 (1st ed., 1751). There are two known states of the first German edition: with an erratum on p. 354, and without. This copy does not have the erratum.

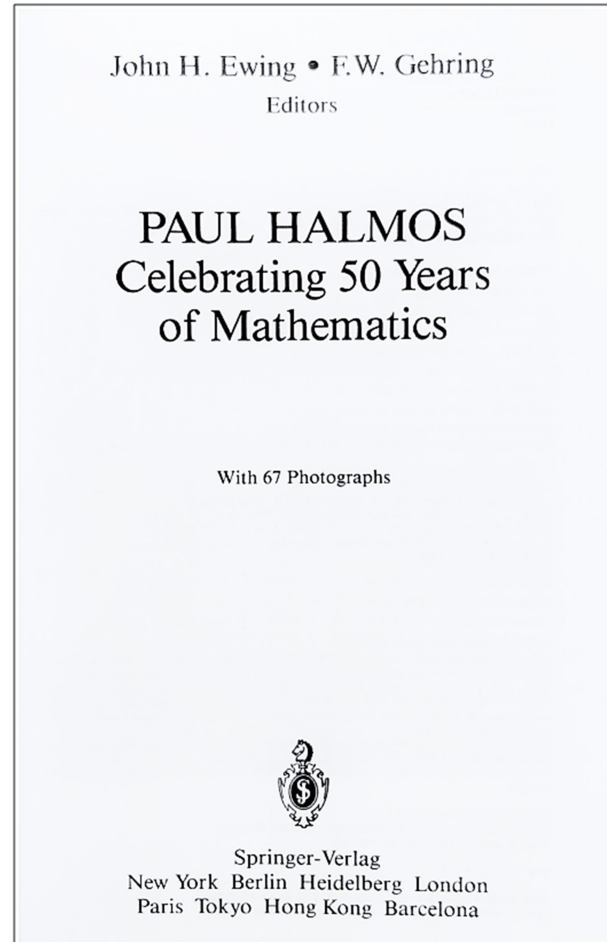
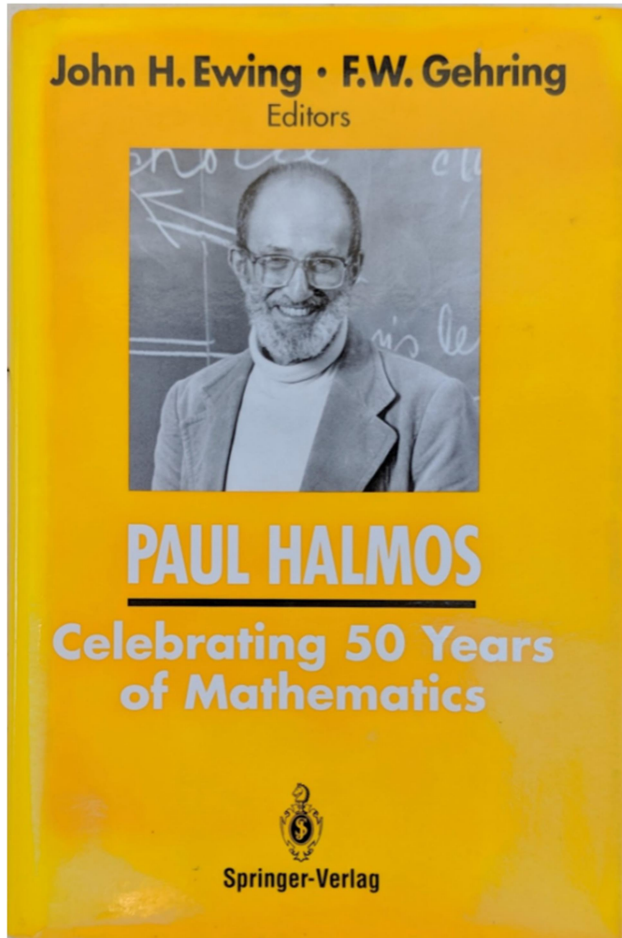
PROVENANCE: Albert Friedrich May (1773-1853), a Bern magistrate. This edition not in BM Readex; Norman; Poggendorff; Brunet; Lowndes.



6. **HALES, Stephen** (1677-1761). *Vegetable Staticks*. London: Oldbourne, (1961). ¶ 21 cm. xxxii, 214 pp. Plates, "a table where to find each experiment"; rubber stamped number on ffep. Printed wrappers; extremities rubbed. Very good. S12560

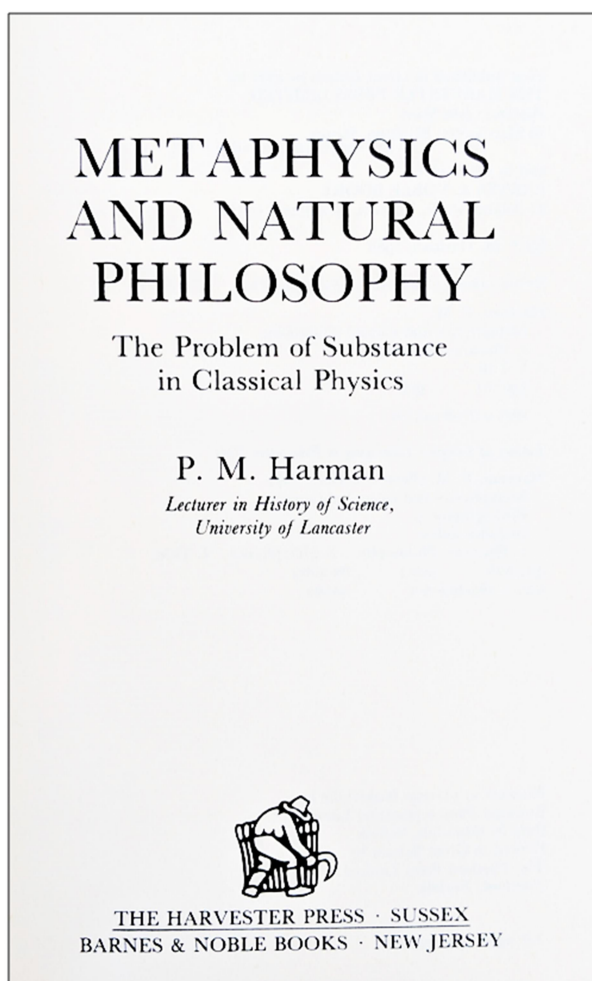
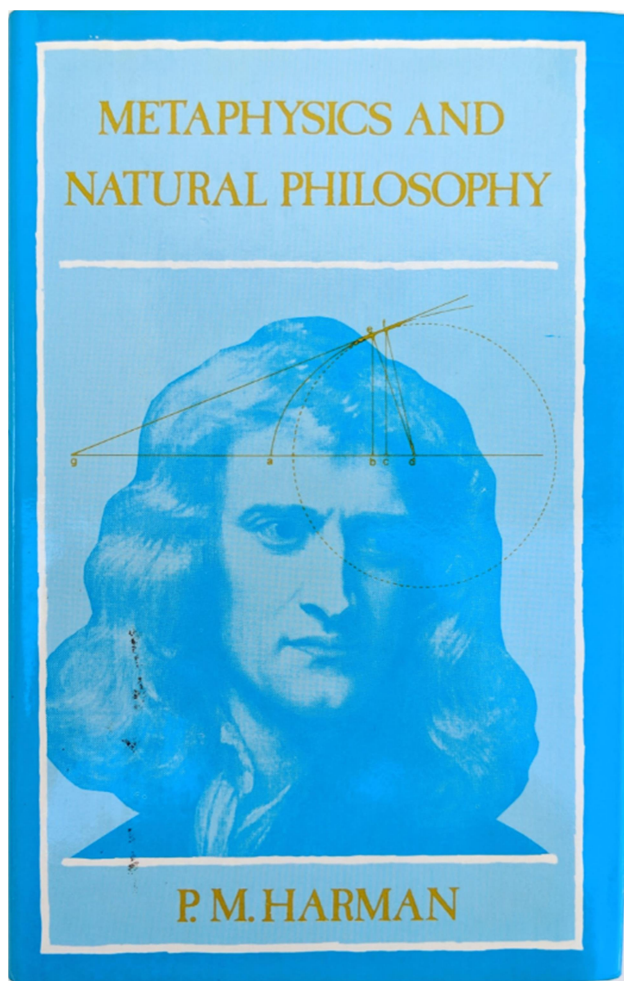
\$ 5

Classic work relating to plant physiology and chemistry.



7. [HALMOS] EWING, John H.; F.W. GEHRING (eds.). *Paul Halmos, Celebrating 50 years of Mathematics*. New York: Springer, (1991). ¶ 8vo. viii, 320 pp. Frontis, 66 photos, index. Glossy yellow boards, dust-jacket; jacket a bit worn along an edge, spine mildly faded. Very good. S12564

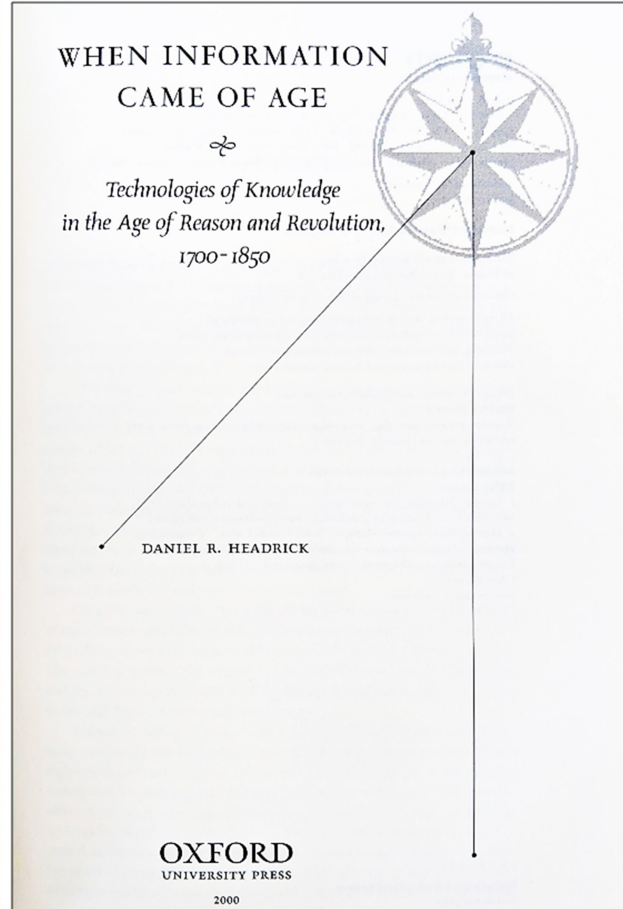
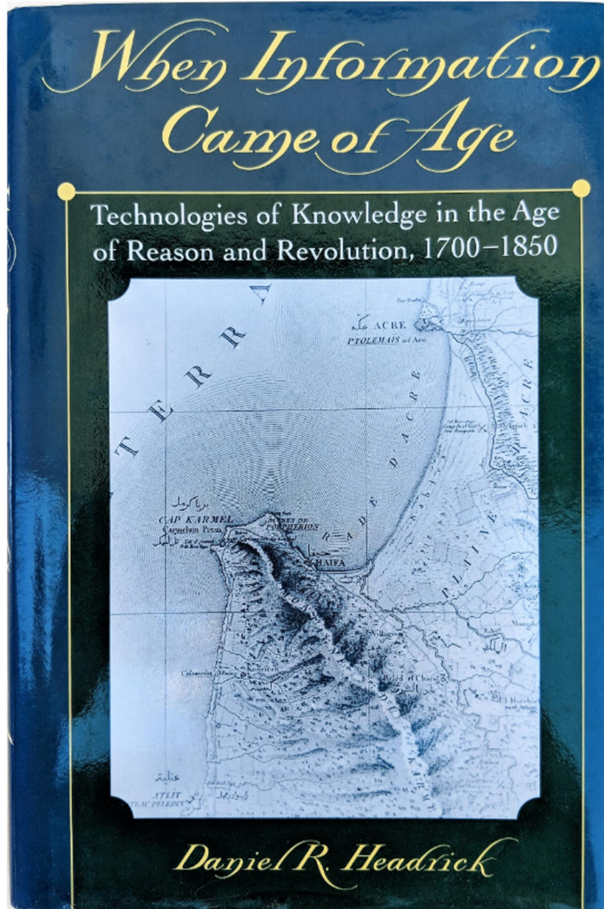
\$ 25



8. **HARMAN, Peter Michael** (1943-). *Metaphysics and Natural Philosophy, the Problem of Substance in Classical Physics*. Sussex: Harvester Press, (1982). ¶ First edition. 8vo. xvi, 168 pp. Printer's device on title, bibliography, index. Gilt-stamped blue cloth, dust-jacket. Near fine. Harman was Professor of the History of Science at Lancaster University. S12566

\$ 30

Harman is a scholar of James Clerk Maxwell.



9. **HEADRICK, Daniel R.** (1941-). *When Information Came of Age, Technologies of Knowledge in the Age of Reason and Revolution, 1700-1850*. Oxford: University Press, 2000. ¶ 8vo. viii, 246 pp. 13 figures, 12 tables, index. Gilt-stamped green papered boards, dust-jacket. Fine. S12570

\$ 25

Although the Information Age is often described as a new era, a cultural leap springing directly from the invention of modern computers, it is simply the latest step in a long cultural process. Its conceptual roots stretch back to the profound changes that occurred during the Age of Reason and Revolution. *When Information Came of Age* argues that the key to the present era lies in understanding the systems developed in the eighteenth

and early nineteenth centuries to gather, store, transform, display, and communicate information.

The book provides a concise and readable survey of the many conceptual developments between 1700 and 1850 and draws connections to leading technologies of today. It documents three breakthroughs in information systems that date to the period: the classification and nomenclature of Linnaeus, the chemical system devised by Lavoisier, and the metric system. It shows how eighteenth-century political arithmeticians and demographers pioneered statistics and graphs as a means for presenting data succinctly and visually. It describes the transformation of cartography from art to science as it incorporated new methods for determining longitude at sea and new data on the measure the arc of the meridian on land. Finally, it looks at the early steps in codifying and transmitting information, including the development of dictionaries, the invention of semaphore telegraphs and naval flag signaling, and the conceptual changes in the use and purpose of postal services.

When *Information Came of Age* shows that like the roots of democracy and industrialization, the foundations of the Information Age were built in the eighteenth and early nineteenth century.

Daniel R. Headrick is an American historian and writer who specializes in the history of international relations, technology, and the environment.

CONTENTS: 1. Information and its History -- 2. Organizing Information: The Language of Science -- 3. Transforming Information: The Origin of Statistics -- 4. Displaying Information: Maps and Graphs -- 5. Storing Information: Dictionaries and Encyclopedias -- 6. Communicating Information: Postal and Telegraphic Systems -- 7. Information Ages, Past and Present.







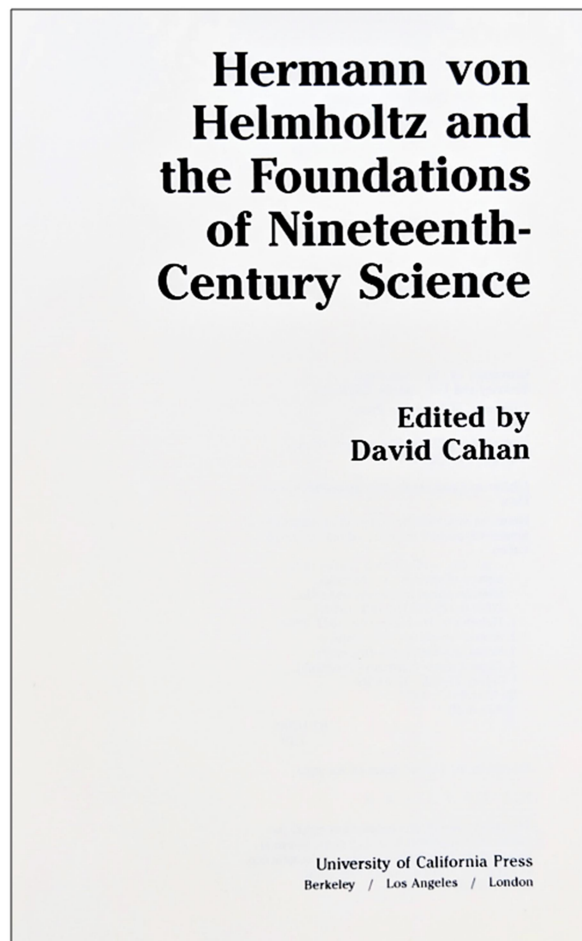
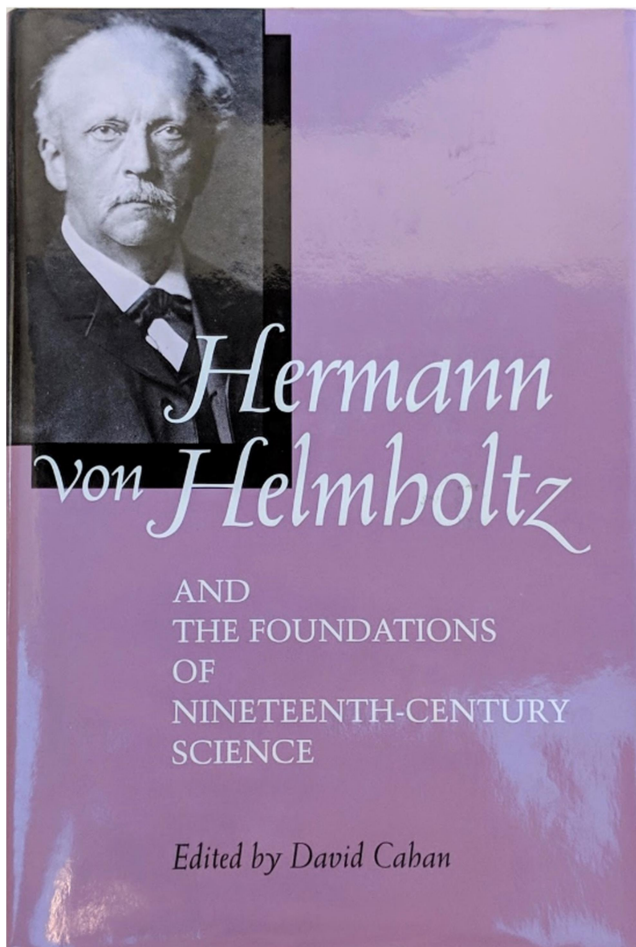
10. **HEBBEL, Friedrich** (1813-1863). *Maria Magdalene: Ein burgerliches Trauerspiel in drei Akten*. Leipzig: Philipp Reclam Jun., [No date, circa 1930]. ¶ Series: Reclams Universal-Bibliothek, Nr. 3173. 16 cm. 88 pp. Printed wrappers; browning, frayed along spine and edges. Good. S12571 \$ 4.50

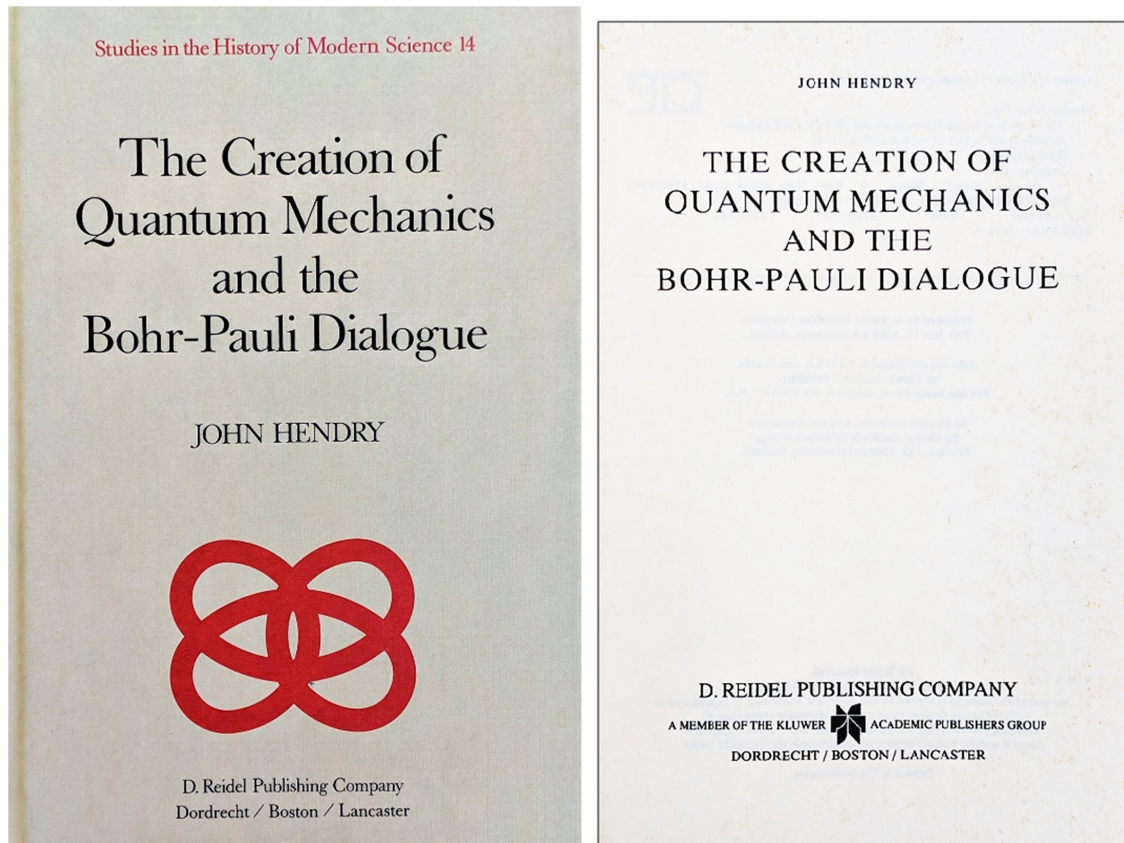
11. **[HELMHOLTZ] CAHAN, David** (ed.). *Hermann von Helmholtz and the Foundations of Nineteenth-Century Science*. Berkeley: University of California Press, (1993). ¶ Thick 8vo. xxix, 666 pp. Figures, bibliography, index. Pale blue metallic stamped tan cloth, dust-jacket. Near fine. S12575

\$ 50

"Hermann von Helmholtz (1821-1894) was a polymath of dazzling intellectual range and energy. Renowned for his co-discovery of the second law of thermodynamics and his invention of the ophthalmoscope, Helmholtz also made many other contributions

to physiology, physical theory, philosophy of science and mathematics, and aesthetic thought. During the late nineteenth century, Helmholtz was revered as a scientist-sage—much like Albert Einstein in this century. David Cahan has assembled an outstanding group of European and North American historians of science and philosophy for this intellectual biography of Helmholtz, the first ever to critically assess both his published and unpublished writings. It represents a significant contribution not only to Helmholtz scholarship but also to the history of nineteenth-century science and philosophy in general." – Publisher. David Cahan is Associate Professor of History at the University of Nebraska, Lincoln, and author of *An Institute for an Empire: The Physikalisch-Technische Reichsanstalt, 1871-1918* (1990).

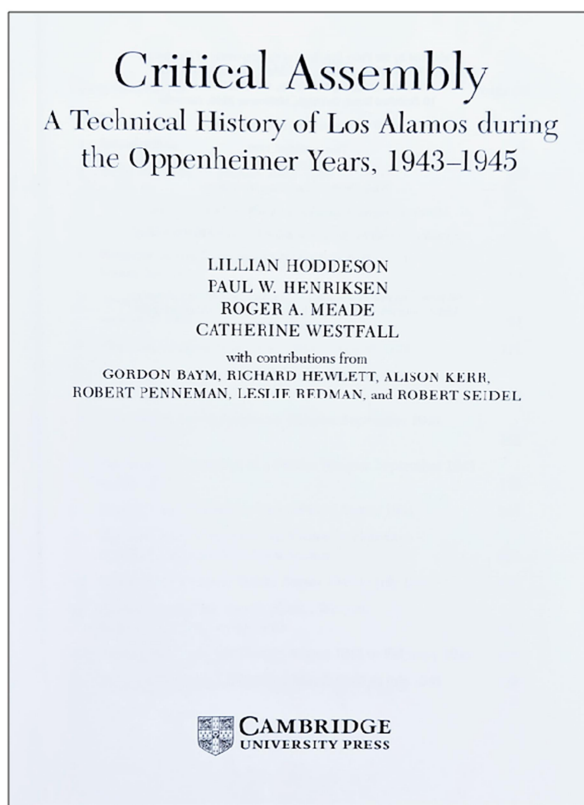
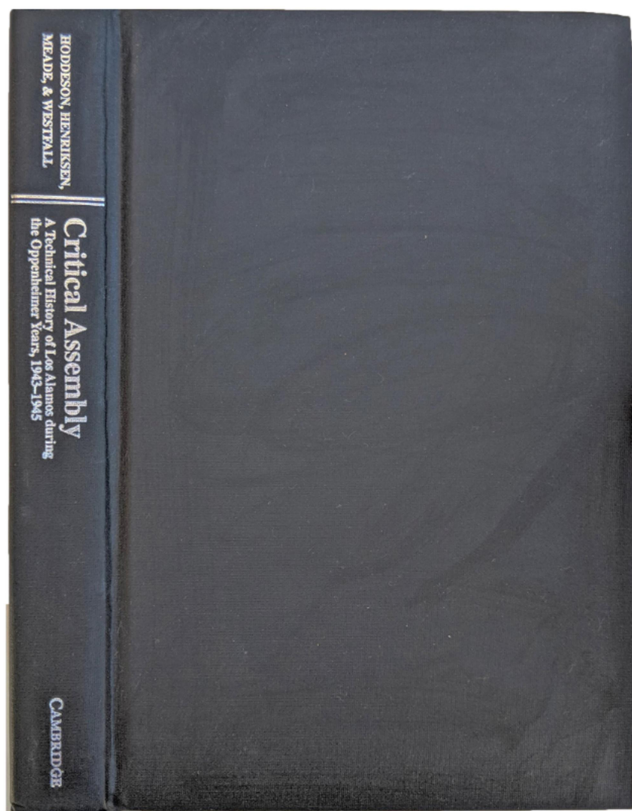




12. **HENDRY, John.** *The Creation of Quantum Mechanics and the Bohr-Pauli Dialogue.* Dordrecht: D. Reidel, (1984). ¶ First edition. Series: Studies in the History of Modern Science, vol. 14. 8vo. xi, 177 pp. Diagrams, notes, bibliography, index. Beige cloth. Fine. S12576

\$ 200

The development of quantum mechanics is interpreted, in this book, as a dynamic interaction between physical, methodological and epistemological considerations, emerging primarily as a dialogue between two profound physicist-philosophers, Niels Bohr and Wolfgang Pauli. It is shown that Heisenberg's matrix mechanics, the quantum-mechanical transformation theory, Heisenberg's uncertainty principle and Bohr's principle of complementarity all had their roots in this central dialogue, and that the ideas characteristic of the interpretation of quantum mechanics were also essential to its creation. The book makes considerable use both of unpublished source material and of the large amount of detailed research carried out by historical scholars over the past 15 years. – Publisher.



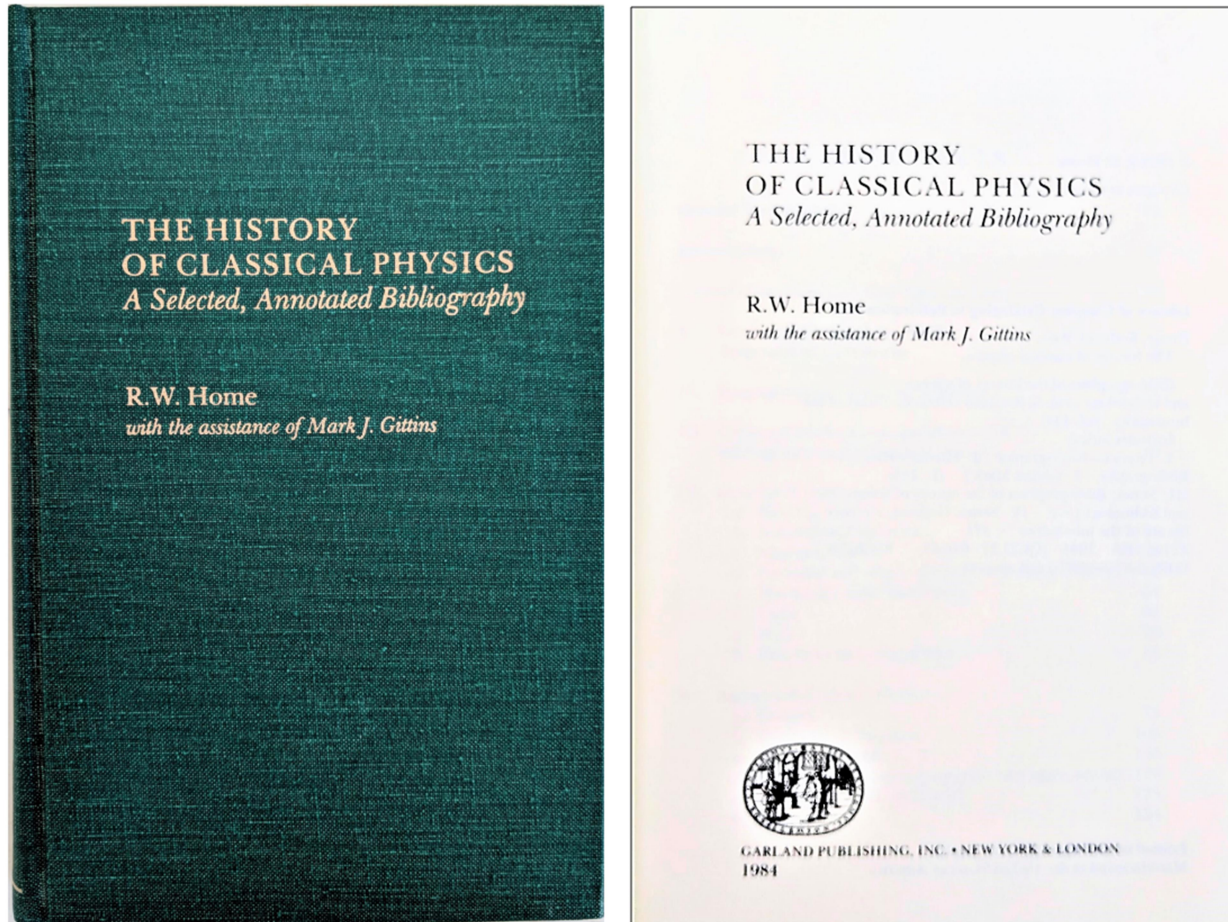
13. **HODDESON, Lillian; Paul W. HENRIKSEN; Roger A. MEADE; Catherine WESTFALL** (eds.). *Critical Assembly: A Technical History of Los Alamos During the Oppenheimer Years, 1943-1945*. Cambridge: Cambridge University Press, (1995). ¶ Reprint. 8vo. xv, 509 pp. Illus., index. Dark blue silver-stamped cloth. Fine. S12579

\$ 75

Hardback version. "This volume is a lucid and accurate history of the technical research that led to the first atomic bombs. The authors explore how the "critical assembly" of scientists, engineers, and military personnel at Los Alamos, responding to wartime deadlines, collaborated to create a new approach to large-scale research. The book opens with an introduction laying out major themes. After a synopsis of the prehistory of the bomb project, from the discovery of nuclear fission to the start of the Manhattan Engineer District, and an overview of the early materials program, the book examines the establishment of the Los Alamos Laboratory, the implosion and gun assembly programs, nuclear physics research, chemistry and metallurgy, explosives, uranium and plutonium development, confirmation of spontaneous fission



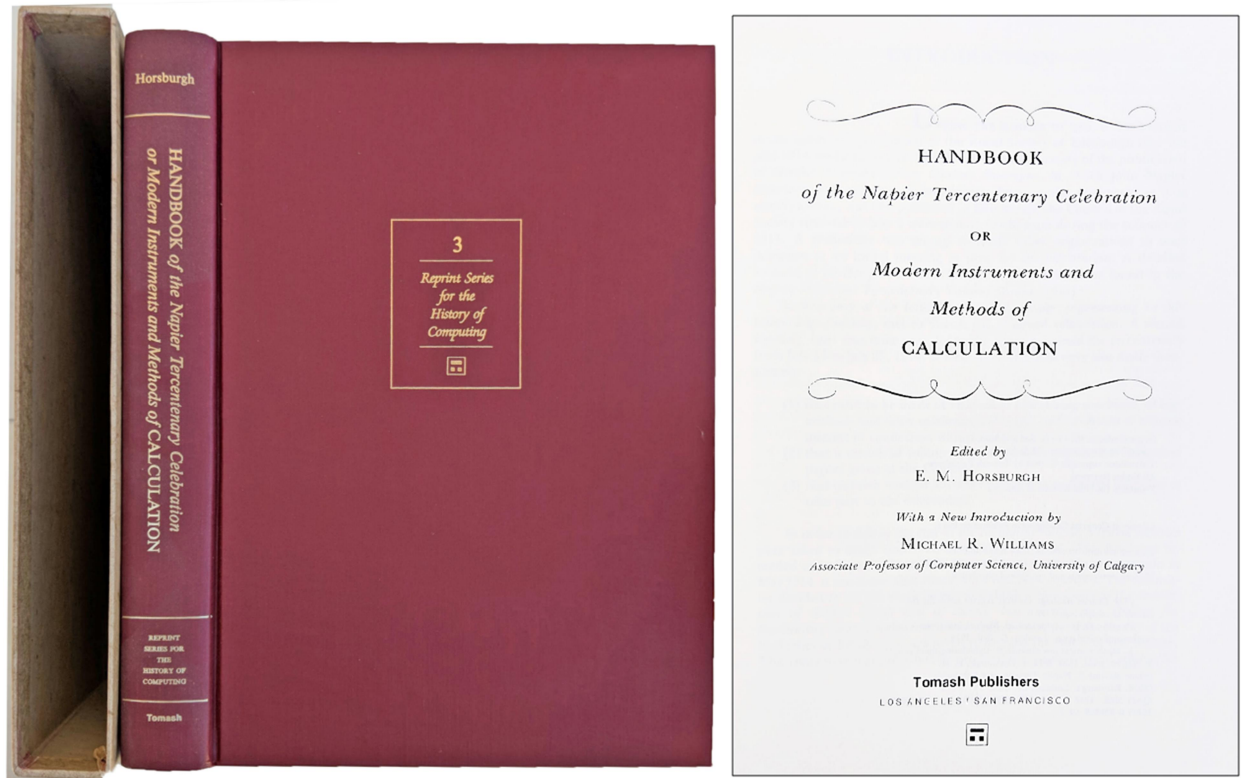
in pile-produced plutonium, the thermonuclear bomb, critical assemblies, the Trinity test, and delivery of the combat weapons." – publisher. "This book fulfills its declared intention of providing an unprecedentedly full picture of all the actions and processes that were involved in bringing the bombs into existence." – A. P. French, *Nature*.



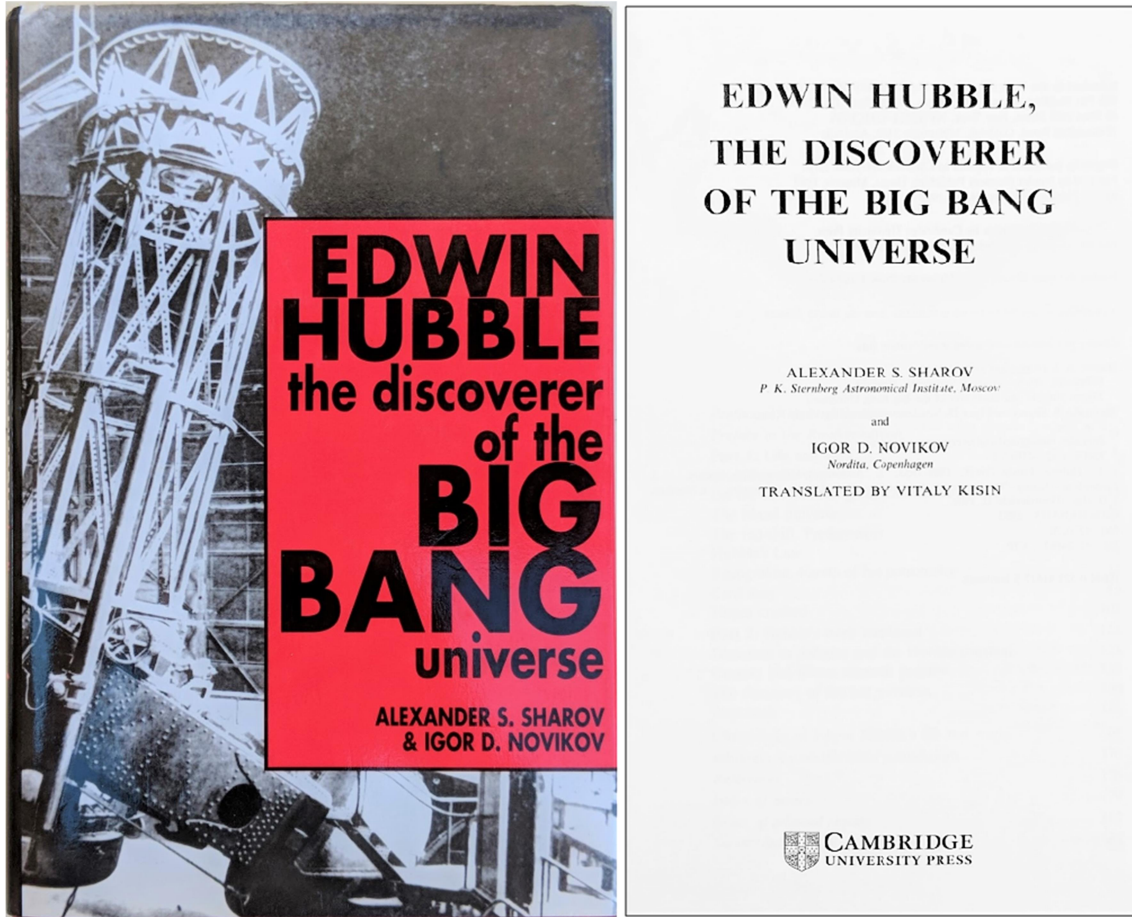
14. **HOME, Roderick Weir; Mark J. GITTINS.** *The History of Classical Physics, A Selected, Annotated Bibliography.* New York: Garland, 1984. ¶ Series: Bibliographies of the History of Science and Technology, vol. 8; Garland Reference Library of the Humanities, vol. 444. 8vo. xix, 324 pp. Gilt-stamped green cloth. Fine. S12581

\$ 50

Roderick Weir "R.W." Home, is an Australian academic and historian of Science. Home has been Professor of History and Philosophy of Science, University of Melbourne from 1975 to 2002 on his retirement



15. **HORSBURGH, E. M.** (ed.). *Handbook of the Napier Tercentenary Celebration or Modern Instruments and Methods of Calculation; With a New Introduction by Michael R. Williams*. Los Angeles and San Francisco: Tomash Publishers, (1982). ¶ Reprint from 1914. Volume III, in the Charles Babbage Institute Reprint Series for the History of Computing. Large 8vo. XXII, [2], vii, 343, [1], xii, [4] pp. Plates, figures, diagrams, original ad facs. (xii pp.). Gilt-stamped maroon cloth in beige marbled slip-case. Fine. S12583 \$ 50

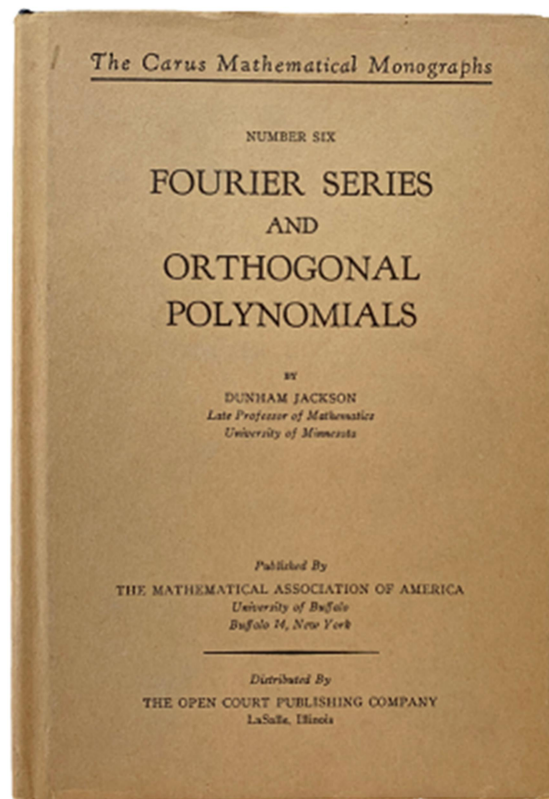


16. [HUBBLE] Alexander S. SHAROV; Igor D. NOVKOV. *Edwin Hubble the discoverer of the Big Bang universe*. Translated by Vitaly Kisin. Cambridge: Cambridge University Press, (1993). ¶ 8vo. xv, 187 pp. Illus., including port. frontis., index. Maroon silver-stamped cloth, dust-jacket. Price sticker with ownership name mounted on ffp. Near fine. S12585

\$ 22

Hardback version. "This book is the first complete account of the scientific life and work of Edwin Hubble, whose discoveries form the basis of all theories of the evolution of the universe. One of the outstanding astronomers of the twentieth century, Hubble studied the velocities or redshifts of galaxies and discovered that the universe is expanding. He convincingly proved that our galaxy is only one of countless galaxies and thus paved the way for the exploration of an immense world beyond the limits of our knowledge. The exploding universe proposed by Hubble, now termed the Big Bang, is used to explain the origin of the elements, of stars, and of galaxies.

The second part of the book describes the fundamental discoveries on the nature of the universe made subsequently, and thus sets his achievements in context. Hubble's vision, particularly his efforts to help build the big telescope at Mt. Palomar, firmly established the United States as a leader in observational astronomy. Written by two prominent astronomers (Dr. Novikov is the author of *Black Holes and the Universe*, CUP, 1990) who have built on Hubble's work, this book is a classic of science, setting out the thrilling story of the exploding universe."

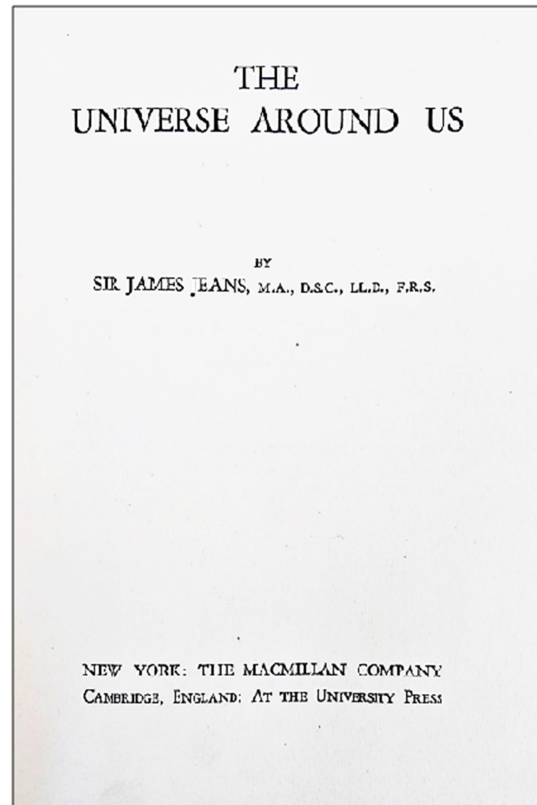
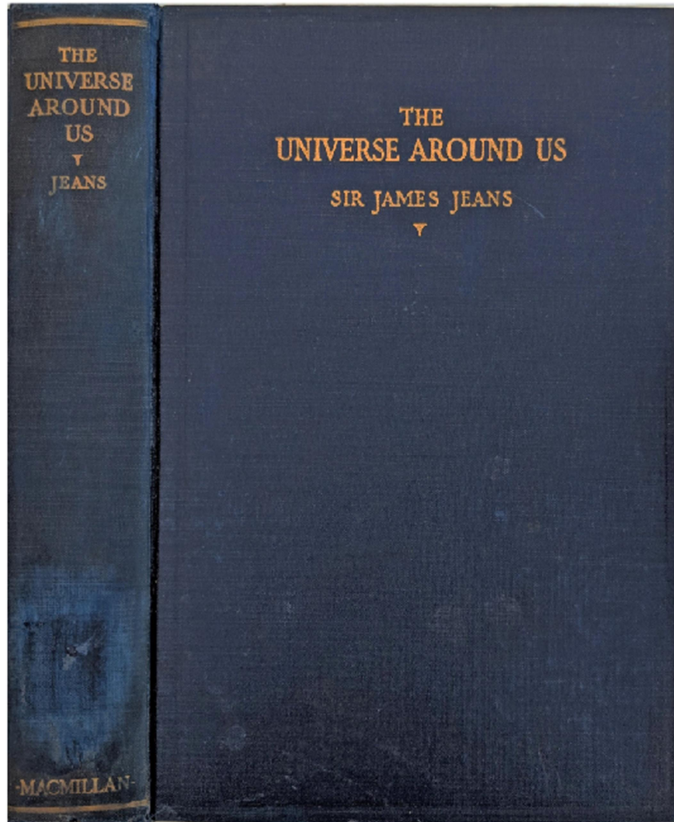


17. **JACKSON, Dunham** (1888-1946). *Fourier Series and Orthogonal Polynomials*. New York: Mathematical Association of America, 1961. ¶ Series: The Carus Mathematical Monographs, Number Six. Small 8vo. 234 pp. Original blue gilt-stamped cloth, printed dust-jacket. With the ownership signature of Wayne A. Ganzel [also applied his initials to the fore-edge]; blind-embossed stamped on title of Joseph W. Ouellette. Very good. S13758

\$ 7

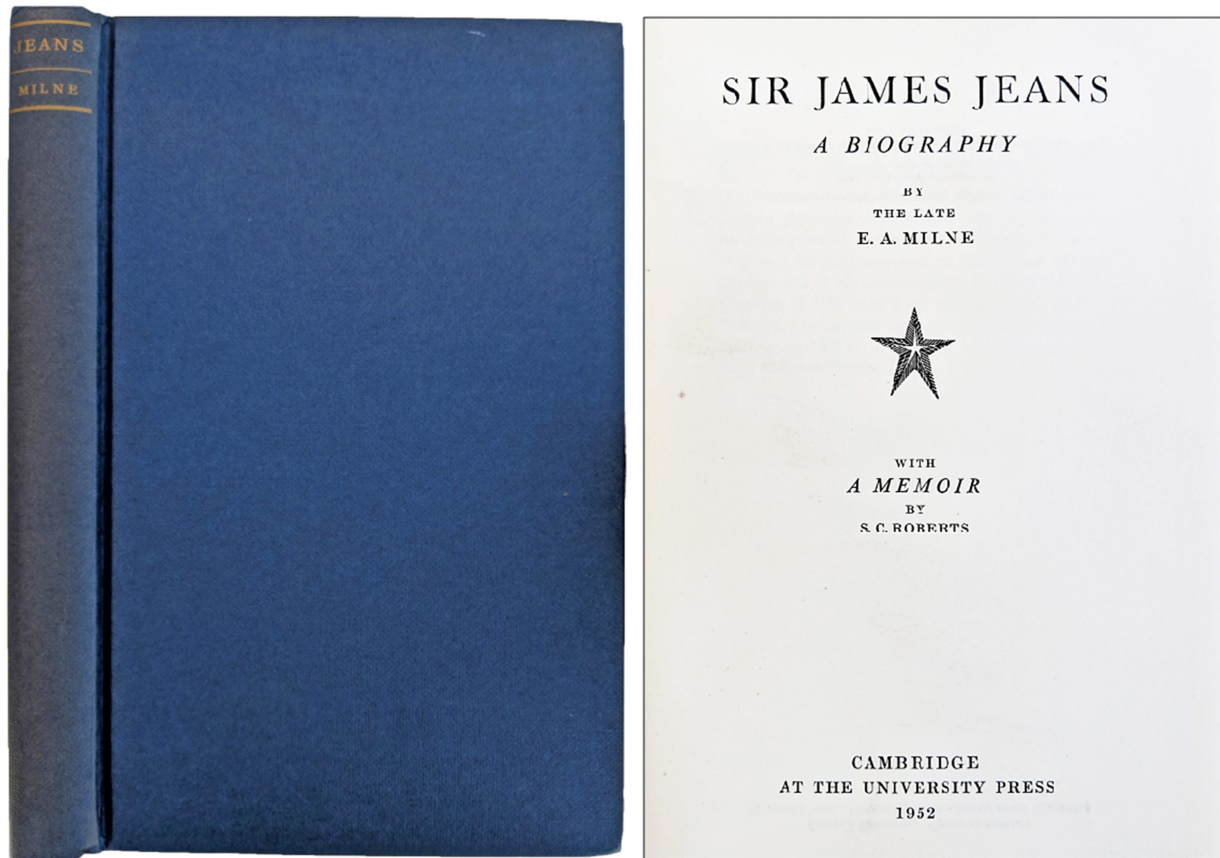
Jackson, Harvard educated, was professor of mathematics at the University of Minnesota.



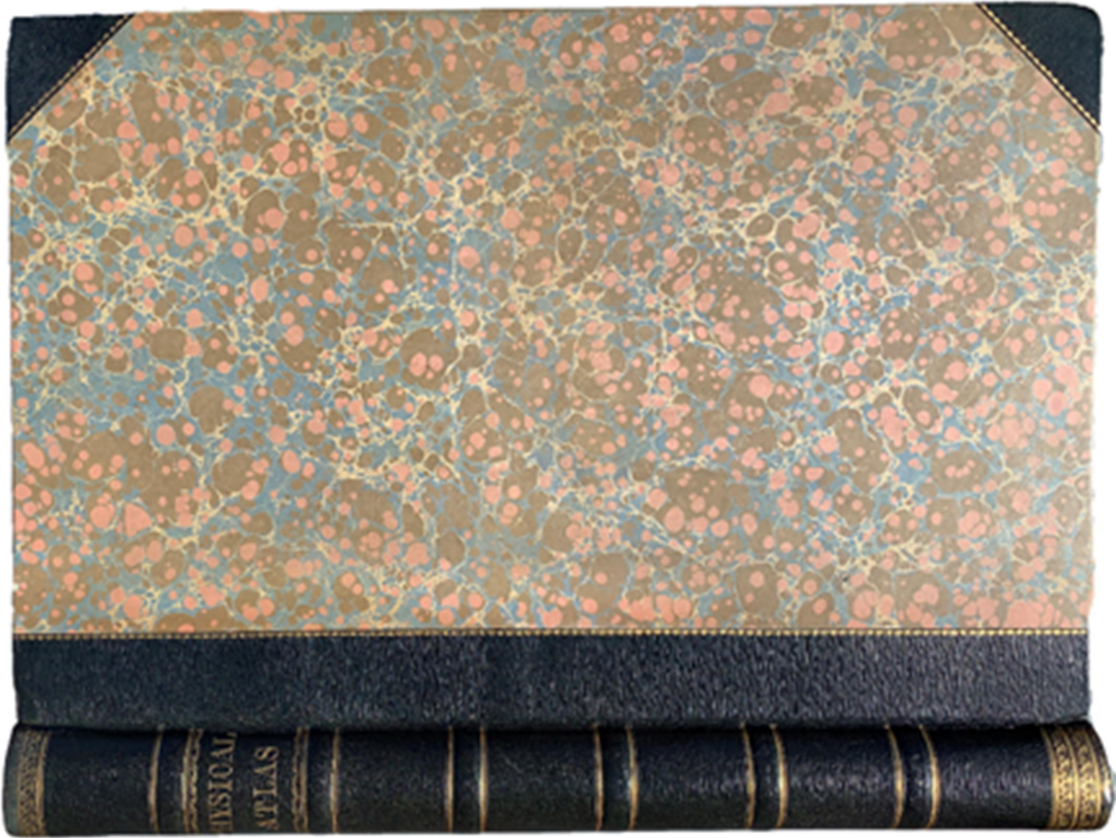
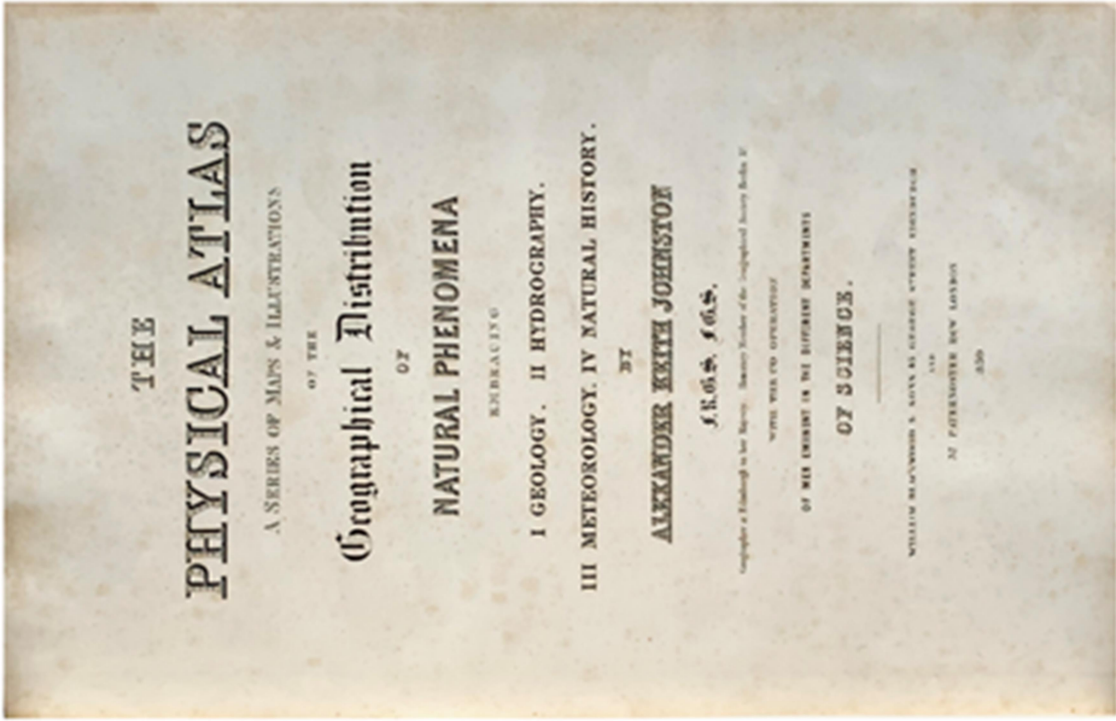


18. **JEANS, Sir James Hopwood** (1877-1946). *The Universe Around Us*. New York: Macmillan, (1929). ¶ Reprint. 8vo. x, 341 pp. 24 plates, illus., figs., index; some pages torn along upper margin. Navy blue gilt-stamped cloth; spine ends bit frayed, foot of spine sympathetically painted over. Bookplate and rubber ink stamps of Ohio State University Libraries. Good. S12598 \$ 2.95
19. [**JEANS, Sir James Hopwood** (1877-1946)] **MILNE, Edward Arthur** (1896-1950). *Sir James Jeans, a biography. With a memoir by S.C. Roberts*. Cambridge: University Press, 1952. ¶ 8vo. xvi, 175 pp. 2 plates (including a portrait frontis.), 7 figures, several diagrams, bibliography, index. Blue gilt-stamped cloth. Very good. S12599 \$ 14.95

First edition. "Originally published in 1952, this book by E. A. Milne examines the life and work of influential astrophysicist Sir James Jeans. The text includes reproductions of correspondence between Jeans and such luminaries as G. H. Hardy and G. E. Hale, and is introduced by a personal memoir by the publisher S. C. Roberts. This book will be of value to anyone with an interest in Jeans' work and the history of astrophysics." [CUP].



CONTENTS: I - Merchant Taylors' and Cambridge; II - Princeton, 1905; III - Return to England. The Adams Prize Essay, 1909; IV - Secretary of the Royal Society, 1919; V - Popular Exposition, 1929; VI - Later Years, 1931; VII - Science in Jeans's Boyhood; VIII - The Partition of Energy; IX - Rotating Fluid Masses; X - Star Clusters; XI - The Equilibrium of the Stars; XII - Jeans and Philosophy.



[20]



*The “first physical atlas ever published in England...”*

20. **JOHNSTON, Alexander Keith** (1804-1871). *The Physical Atlas. A series of maps & illustrations of the Geographical Distribution of Natural Phenomena; embracing I Geology. II Hydrography. III Meteorology. IV Natural History.* Edinburgh & London: William Blackwood & Sons, 1850. ¶ Folio (15 x 22 inches). [X], [Geology] 34, [Hydrology] 16, [Meteorology] 10, [Phytology and zoology] 34 pp. 30 double-page plates (mostly or partly hand-colored) on tabs, tables; a hint of foxing. Dedicated to Alexander von Humboldt. Modern half gilt-stamped "PHYSICAL ATLAS" black morocco, marbled paper over boards, all edges gilt. RARE. Near fine.

\$ 1,650

FIRST ENGLISH EDITION, Imperial folio issue (see below), of Johnston's important and beautifully illustrated world atlas, first published 1848, which was the "first physical atlas ever published in England..." [DNB, X, p. 942]. The first edition was dedicated to Alexander von Humboldt who had suggested this work be produced. Humboldt believed in the unity of nature and the need of interdisciplinary study of all the sciences in the application of geographical data. The atlas is one of the first to create a geographical map of fossils and paleontological evidence as found in Great Britain. It also includes a detailed map of volcanic activity around the world. The maps in this volume are of the Atlantic Ocean, Indian Ocean, Pacific Ocean, a Tidal Chart of the British Seas, the River Systems of Europe and Asia, and the River Systems of America. Others maps are devoted to hydrography (currents, temperature, ocean depth, level of sea, navigation, river systems), meteorology, botanical distribution, zoological distribution (including rats and birds and reptiles), ethnography, ornithology. There are a number of references to the work of Charles Darwin: of his discovery of the wild potato, a new opossum, llama, habitat of the hummingbird, and the southern limit of reptiles. Professor Richard Owen is mentioned with regard to mammals. Alfred Russel Wallace is not mentioned.

"The success of Johnston's *Physical Atlas of Natural Phenomena*, 1848, did much to establish the term physical geography at this time" (Freeman, p. 44).

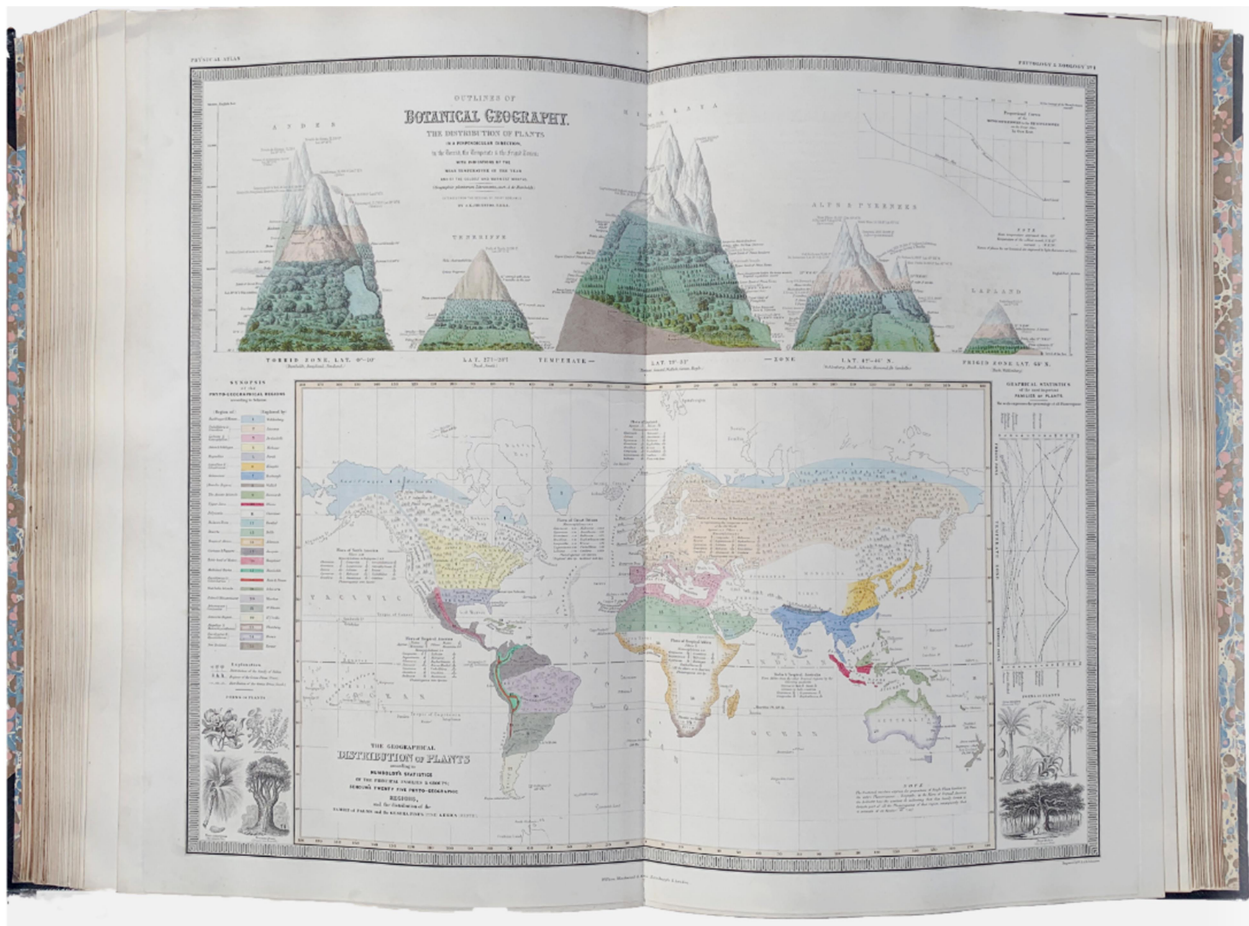
"Among the best Atlases, illustrating physical features, are Lange's *Schul Atlas*, and Keith Johnston's *Physical Atlas* (Faunthorpe, p. 3).





Johnston “published *The Physical Atlas* (Edinburgh, 1848), in large part the English version of Heinrich Berghaus’s *Physikalischer Atlas* (Gotha, 1845-48). The phytology and zoology section included an ethnographic map of Europe by Gustaf Kombst, a German geographer working in Edinburgh, and another of North America. These maps reflected both increased interest in the mapping of zoological and biological distributions, and a concern with ethnicity that demonstrated the impact of nationalism and a growing intellectual interest in ethnicity in the nineteenth century that built upon such eighteenth-century figures as determinants in history and Klotz, with his concept of ‘natural frontiers’” (Black, pp. 78-79).

“The Physical Atlas of Berghaus, a valuable German work, preceded the publication in [Scotland] of the more extensive and elaborate ‘Physical Atlas of Natural Phenomena’ by Mr. A. Keith Johnston, of which it would be difficult to speak in terms above the mark of its actual merits, embracing every part of the subject it delineates to the eye as well as to the mind, and far better than by any verbal description, those complex relations of physical phenomena on the globe, which are the true foundation of Physical Geography” (Maury, pp. 361-362).



There are at least two "Imperial folio" issues of this atlas: A tall folio measuring 15 x 22 ½ inches and with a 21-line title page (this issue). The “Imperial” folio issue, somewhat smaller, measures 11 ½ x 14 ¾ inches

and the title is with 13-lines of text (more simple typographically). This is, determined by the title-page, the earlier (wider & taller) format of the publication; the lesser sized imperial folio was meant for use of students, colleges, academies and families.

☀ Black, Jeremy, *Maps and History: Constructing Images of the Past*, New Haven, CT: Yale University Press, 2000; Faunthorpe, John Pincher, *An Elementary Physical Atlas*, London: Edward Stanford, 1884; Freeman, T.W., *A Hundred Years of Geography*, Livingston, NJ: Transaction, 1961; Maury, Matthew Fontaine, “The Physical Geography of the Sea” [Review], *Edinburgh Review*, Vol. CV, Edinburgh: Longman, Brown, Green, Longmans, & Roberts, and Adam and Charles Black, 1857, 360-390 pp.

See also: Elizabeth Baigent, Robert Mayhew, *English Geographies 1600-1950: Historical Essays on English Customs, Cultures, and Communities in Honour of Jack Langton*, St John’s College Research Centre, 2009. Jeremy Black, *Maps and History: Constructing Images of the Past*, Yale University Press, 2000.

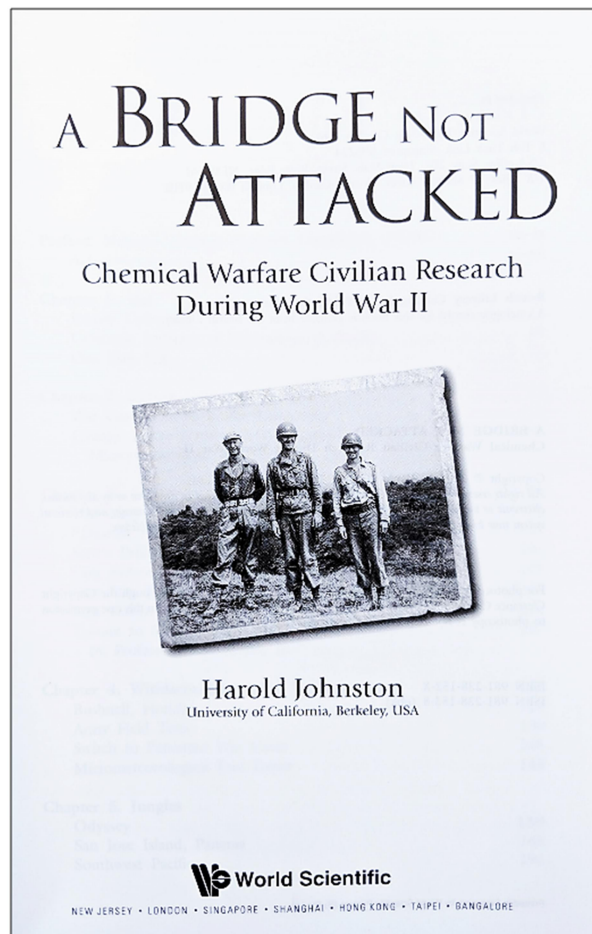
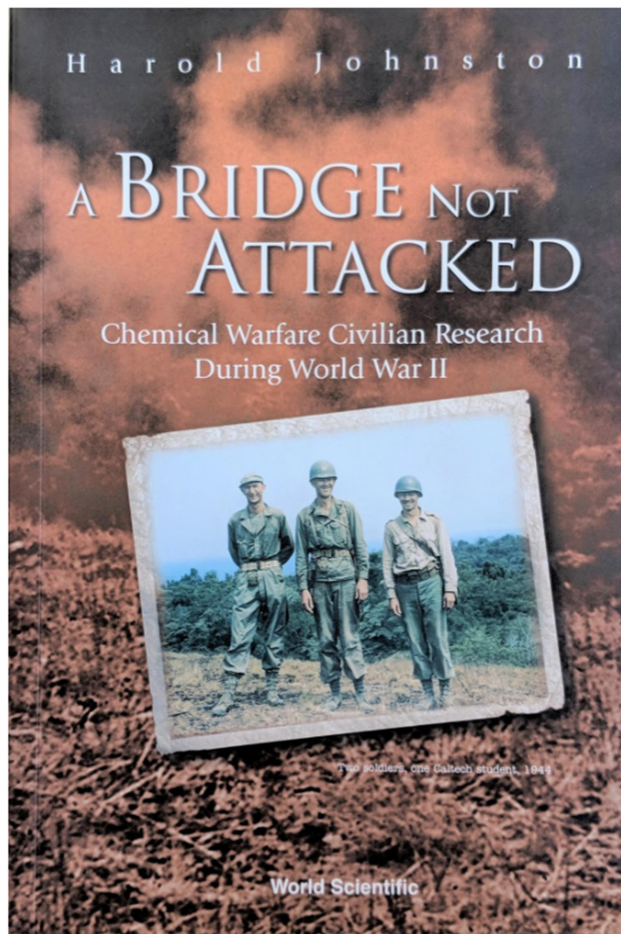
### 30 DOUBLE-PAGE MAPS:

[G=Geology; H=Hydrology, M=Meteorology, PZ=Phytology and Zoology]

1. The Mountain Systems of Europe. [double-page] **G-1**
2. The Geological Structure of the Globe. [double-page, colored]
3. The Mountain Chains in Asia & Europe. [double-page, partly colored]
4. The Mountain Chains in North America [double-page]
5. The Mountain Chains of South America. [double-page, partly colored]
6. Illustrations of the Glacier Systems of the Alps [double-page, partly colored]
7. The Phenomena of Volcanic Action ... over the globe. [double-page, partly colored]
8. Comparative Views of Remarkable Geological Phenomena [double-page, partly colored]
9. Palæontological Map of the British Islands. [double-page, colored]
10. Palæontological Map. [Ireland, England] [double-page, colored]



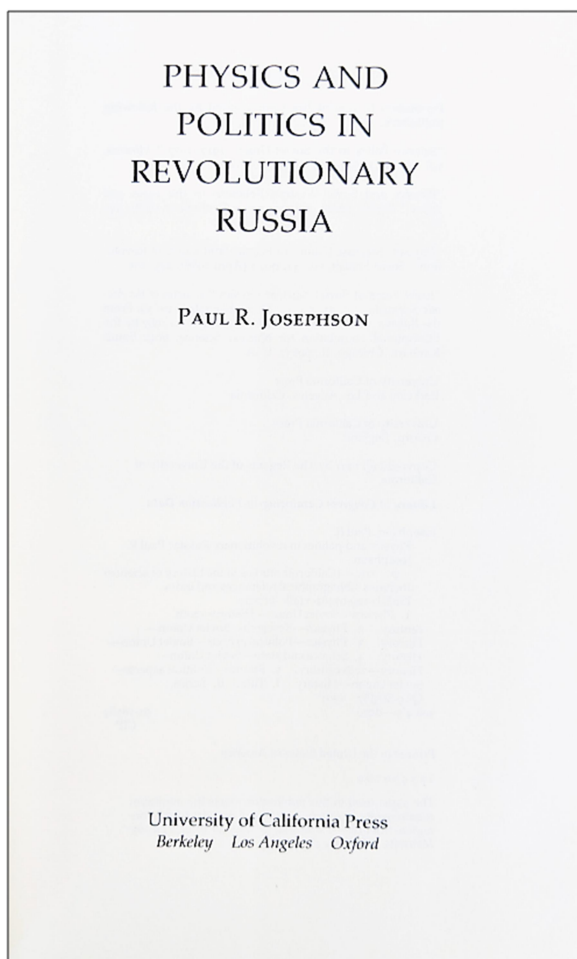
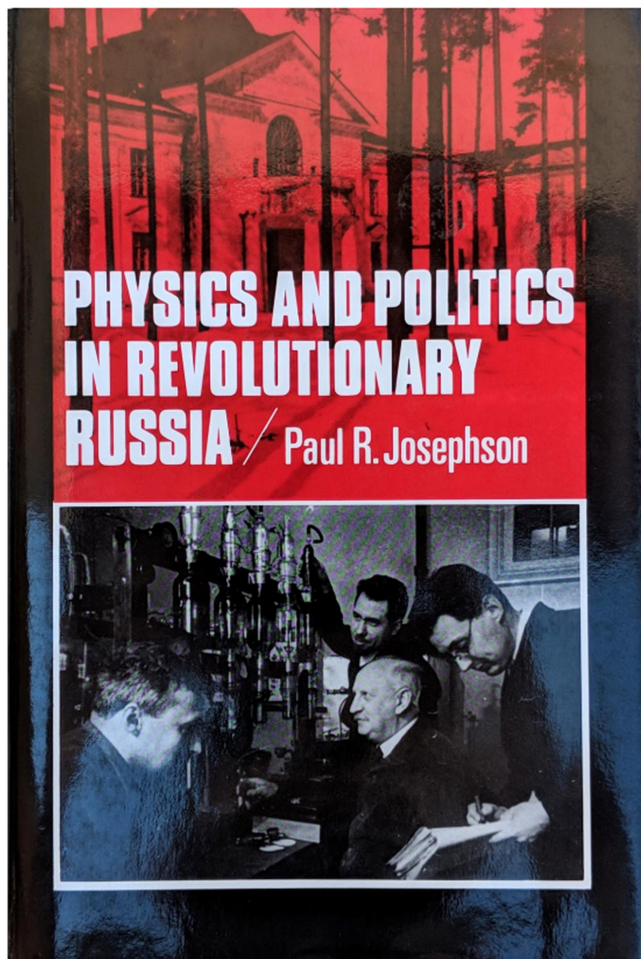
11. Physical Chart of the Atlantic Ocean. [double-page, partly colored] **G-11**
12. Physical Chart of the Indian Ocean. [double-page, partly colored] **H-1**
13. Physical Chart of the Pacific Ocean. [double-page, partly colored]
14. Tidal Chart of the British Seas. [double-page, partly colored]
15. The River Systems of Asia & Europe. [double-page, partly colored]
16. The River Systems of America. [double-page, partly colored]
17. Humboldt's System of Isothermal Lines, or lines of equal annual mean temperature over the globe. [double-page, partly colored] **H-6**
18. Geographical Distribution of the Currents of Air. [double-page, partly colored] **M-1**
19. Hyetographic or Rain Map of the World. [double-page, partly colored]
20. Hyetographic or Rain Map of Europe. [double-page, partly colored]
21. Map of Lines of Equal Polarization in the Atmosphere. [double-page, colored] **M-4**
22. Outlines of Botanical Geography. [double-page, colored] **PZ-1**
23. Survey of the Geographical Distribution and Cultivation of the most Important Plants which are used as food for man. [double-page, partly colored]
24. Zoological Geography. [double-page]
25. Geographical Division & Distribution of Carnivora (Carnivorous animals). [double-page, partly colored]
26. Zoological Geography: Rosentia (Gnawing animals) & Ruminantia (ruminating animals). [double-page]
27. Zoological Geography: Birds of Europe. [double-page]
28. Zoological Geography: Reptilia (Reptiles). [double-page]
29. Ethnographic Map of Europe, according to Dr. Gustaf Kombst. [double-page, partly colored]
30. Ethnographic Map of Great Britain and Ireland, according to Dr. Gustaf Kombst. [double-page, partly colored] **PZ-9**



21. **JOHNSTON, Harold.** *A Bridge Not Attacked, Chemical Warfare Civilian Research during World War II.* Hackensack: World Scientific, (2003). ¶ 8vo. xii, 261 pp. Illus., index. Color pictorial printed wrappers. Fine. S12600

\$ 15

True tales of highly talented civilian scientists who were carrying out research on defense against poison gases in unusual places during World War II.

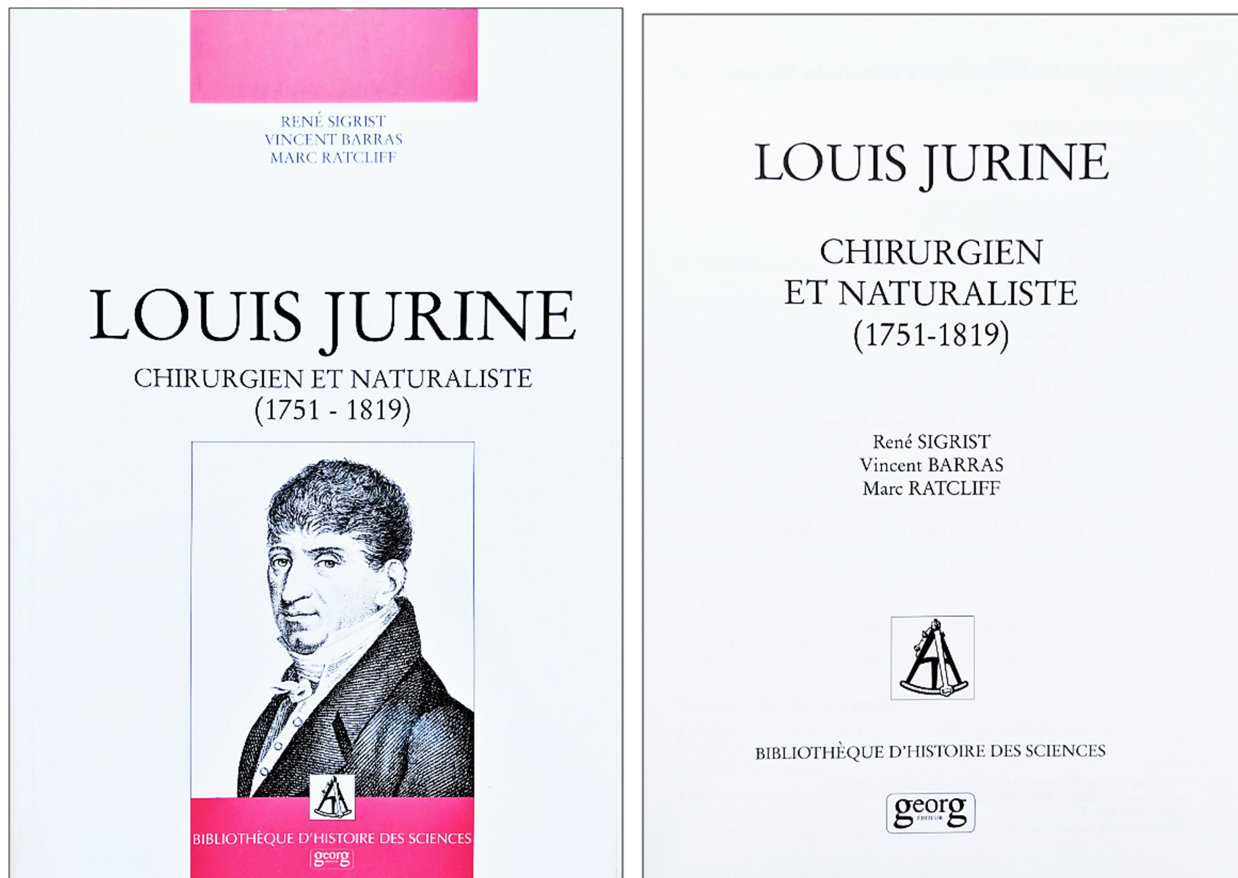


22. **JOSEPHSON, Paul R.** *Physics and Politics in Revolutionary Russia*. Berkeley: University of California Press, (1991). ¶ Series: California studies in the history of science. 8vo. xix, 422 pp. Illus., bibliography, index. Red white-stamped cloth, dust-jacket. Fine. S12605

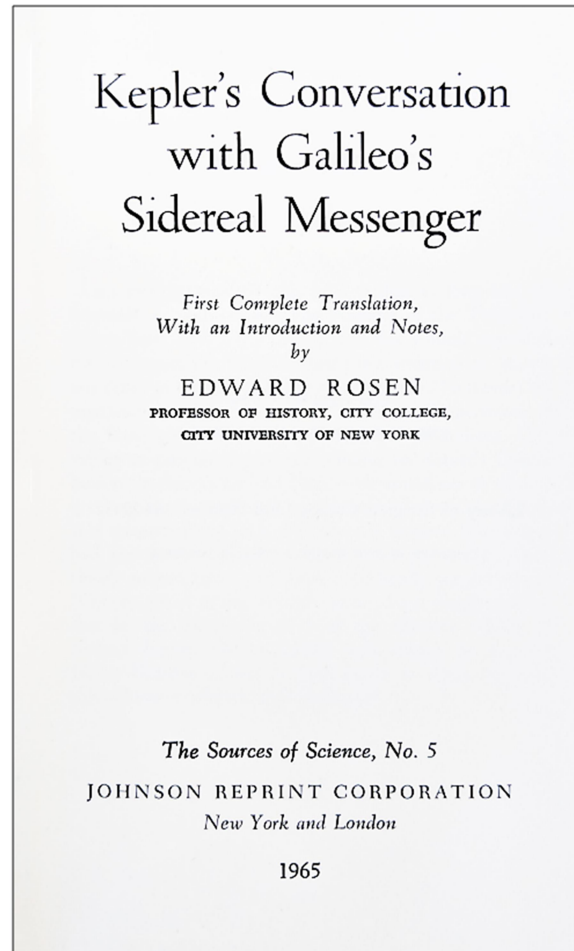
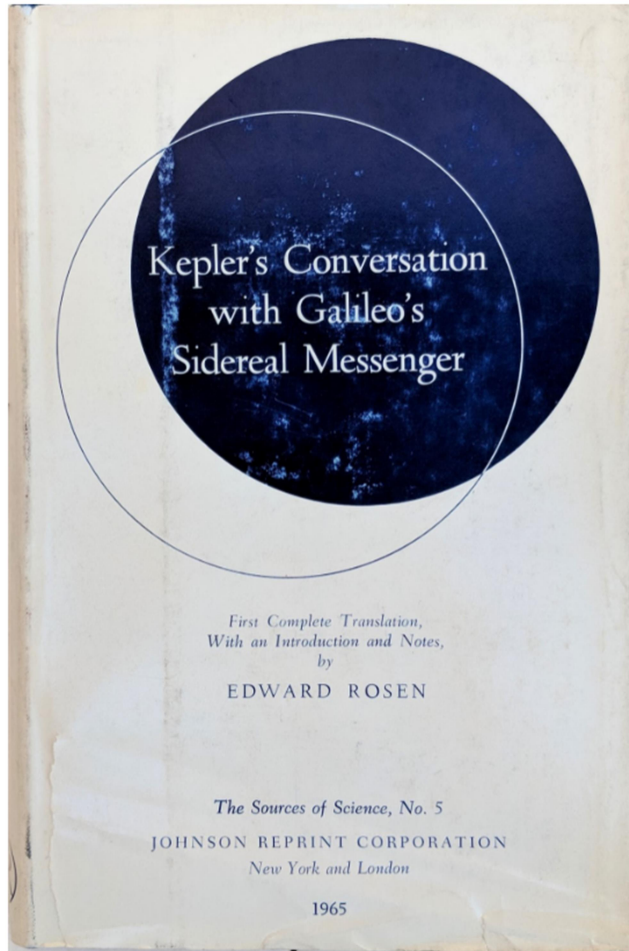
\$ 27

"Aided by personal documents and institutional archives that were closed for decades, this book recounts the development of physics—or, more aptly, science under stress—in Soviet Russia up to World War II. Focusing on Leningrad, center of Soviet physics until the late 1930s, Josephson discusses the impact of scientific, cultural, and political revolution on physicists' research and professional aspirations. Political and social revolution in Russia threatened to confound the scientific revolution. Physicists eager to investigate new concepts of space, energy, light, and motion were forced to accommodate dialectical materialism and subordinate their interests to those of the

state. They ultimately faced Stalinist purges and the shift of physics leadership to Moscow. This account of scientists cut off from their Western colleagues reveals a little-known part of the history of modern physics." – Publisher. Paul Josephson is Professor of Political Science at Sarah Lawrence College. "Will certainly become one of the standard works on the history of modern scientific institutions."—Spencer Weart, American Institute of Physics.



23. **[JURINE, Louis (1751-1819)] SIGRIST, Rene, et al.** *Louis Jurine, Chirurgien et Naturaliste (1751-1819)*. (Chene-Bourg: Medecine et Hygiene Departement livre GEORG, 1999). ¶ Series: *Bibliothèque d'Histoire des Sciences*, 2. 8vo. 494 pp. Illus., including color plates, appendices, index. Printed wrappers; edges lightly rubbed, else fine. S12606 \$ 22

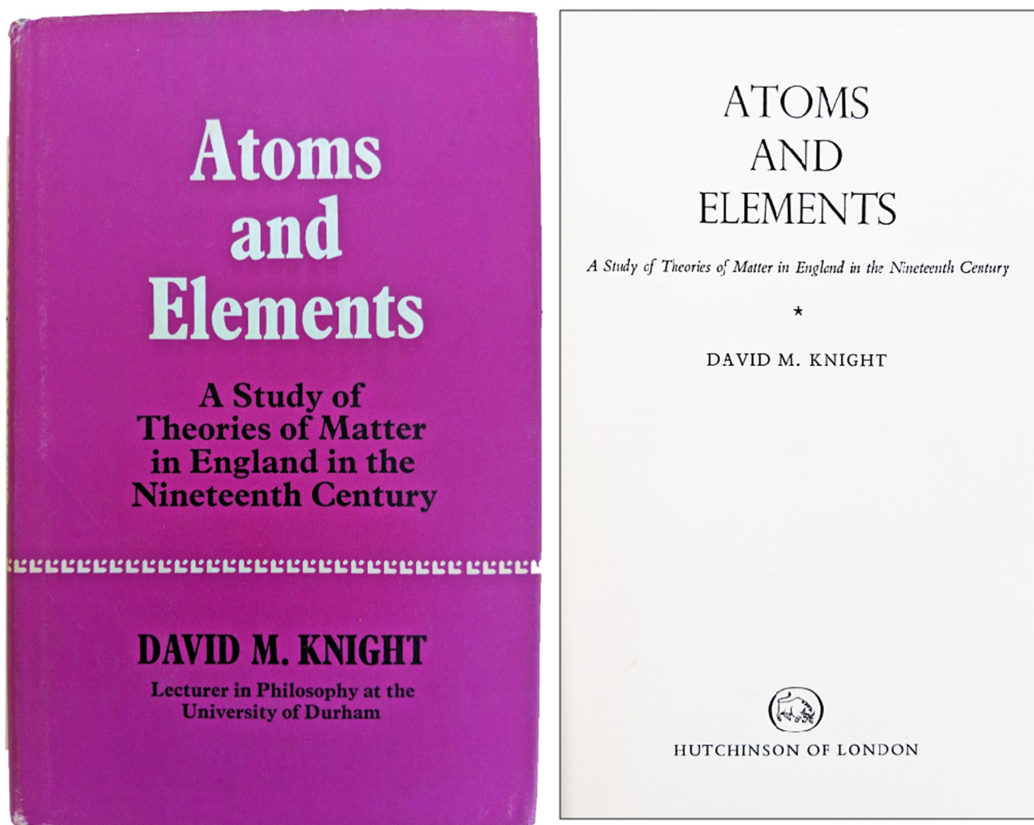


24. **KEPLER, Johannes** (1571-1630). *Kepler's Conversation with Galileo's Sidereal Messenger*. First Complete Translation, with an introduction and notes by Edward Rosen. New York: Johnson Reprint, 1965. ¶ Series: The Sources of Science, No. 5. 8vo. xix, 164 pp. Original quarter gilt-stamped blue cloth, pale blue marbled boards, dust jacket; jacket rubbed and edge torn. Very good. S12609

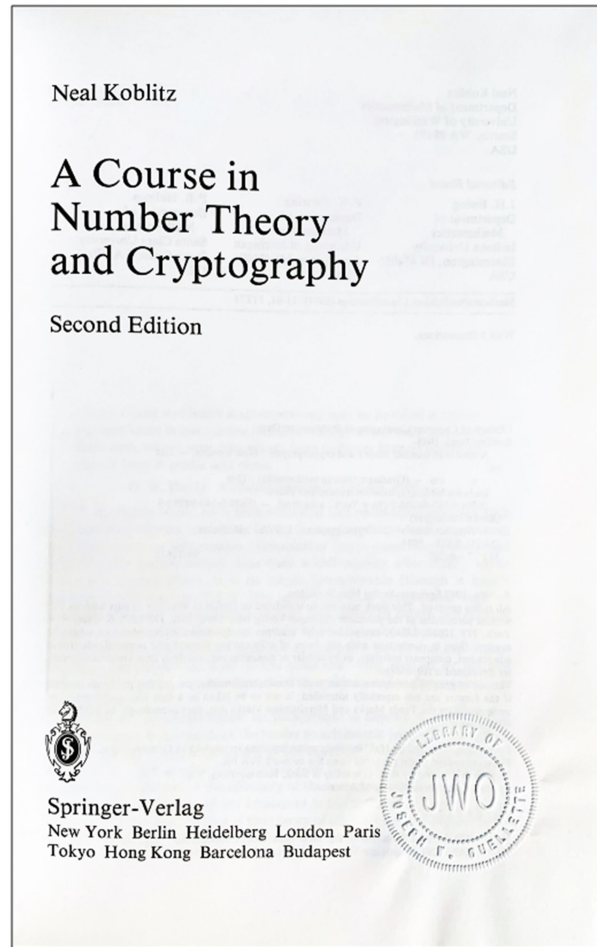
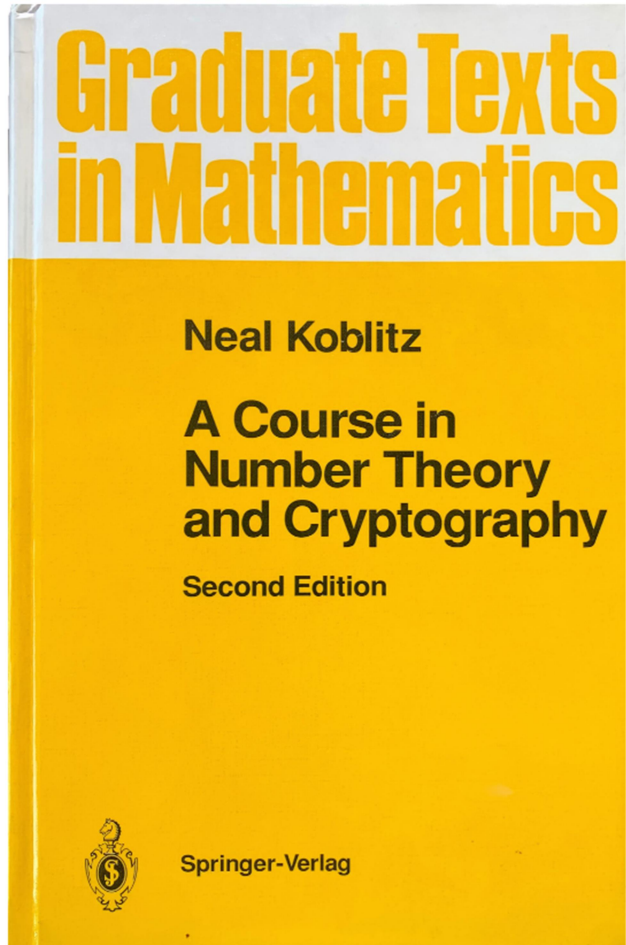
\$ 190

First complete English translation of *Dissertatio cum Nuncio sidereo* (1st Latin ed., 1610). "On 8 April 1610 Kepler received a copy of Galileo's *Sidereus nuncius*, and a few days later the Tuscan ambassador in Prague transmitted Galileo's request for an opinion about the startling new telescopic discoveries. What a contrast with 1597, when Kepler, an unknown high-school teacher, had sought in vain Galileo's reaction to his own book! Kepler was now the distinguished imperial mathematician, whose opinion mattered; he responded generously and quickly with a long letter of approval. He

promptly published his letter as *Dissertatio cum Nuncio sidereo*; in accepting the new observations with enthusiasm, he also reminded his readers of the earlier history of the telescope, his own work on optics, his ideas on the regular solids and on possible inhabitants of the moon, and his arguments against an infinite universe. A few months later, in the second of the only three known letters that Galileo wrote directly to Kepler, the Italian astronomer stated, 'I thank you because you were the first one, and practically the only one, to have complete faith in my assertions'. The chief English translations are Edward Rosen, *Kepler's Conversation with Galileo's Sidereal Messenger* (New York, 1965)" - Owen Gingerich, *DSB*, VII: pp. 299, 309.



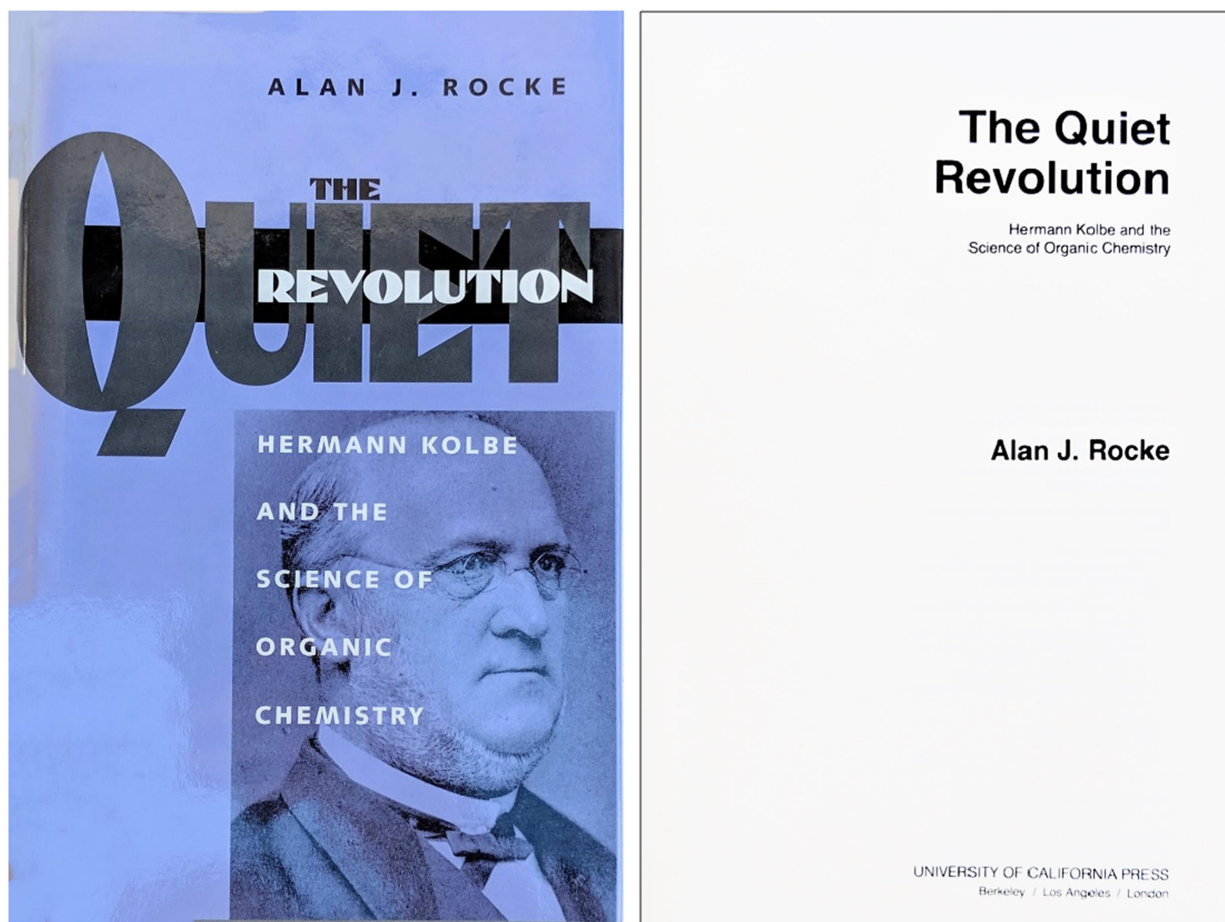
25. **KNIGHT, David M.** *Atoms and Elements: A study of theories of matter in England in the nineteenth century.* London: Hutchinson, (1967). ¶ First edition. Sm. 8vo. 167 pp. One diagram with errata insert on p. 12, bibliography, index. Silver-stamped black cloth, dust-jacket; extremities rubbed. Ink signature on front pastedown. S12617      \$ 25



26. **KOBLITZ, Neal** (1948-). *A course in number theory and cryptography*. New York: Springer, 1987. ¶ 8vo. x, 208 pp. Index. Blind-embossed stamped on title of Joseph W. Ouellette. Very good. S13759

\$ 15

"Neal I. Koblitz is a Professor of Mathematics at the University of Washington. He is also an adjunct professor with the Centre for Applied Cryptographic Research at the University of Waterloo. He is the creator of hyperelliptic curve cryptography and the independent co-creator of elliptic curve cryptography."

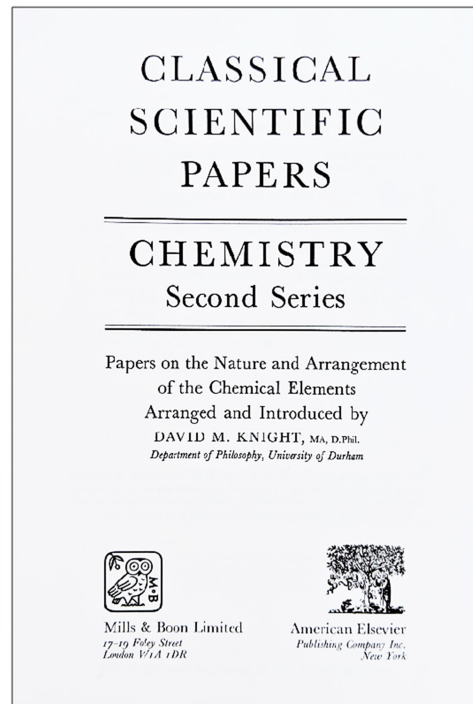
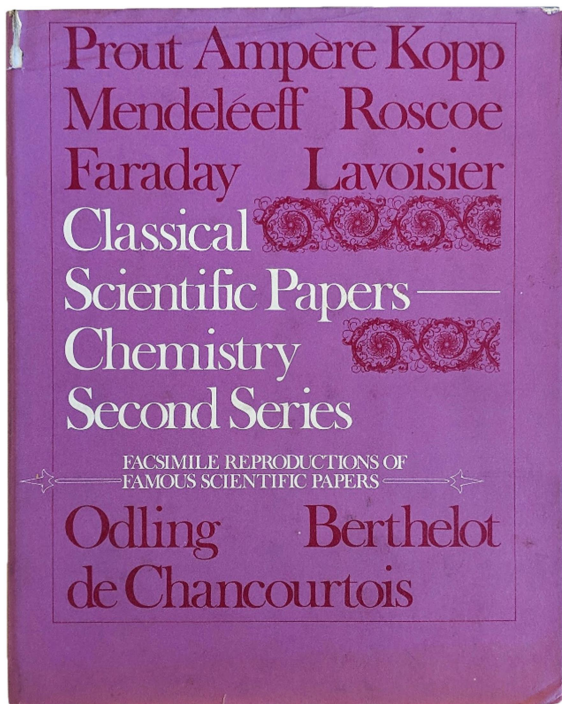


27. [KOLBE, Hermann (1818-1884)] Alan J. ROCKE. *The Quiet Revolution; Hermann Kolbe and the Science of Organic Chemistry*. Berkeley, Los Angeles, London: University of California Press, (1993). ¶ First edition. Series: California Studies in the History of Science. 8vo. xv, 501 pp. Illus., 3 tables, index. Pink-stamped gray cloth, dust-jacket. Fine.

\$ 80

The "quiet revolution" that emerged in the 1850s from the turbulent disputes regarding theories of chemical types, radicals, and constitutions gave rise during the following decade to a new science: structural organic chemistry. This powerful set of ideas, resulting from investigation of the arrangements of atoms within molecules, still serves today as the theoretical foundation of organic chemistry. Yet, as Alan Rocke shows in this vigorously contextualized biography, the story involves much more than chemical science alone. [Out-of-print].

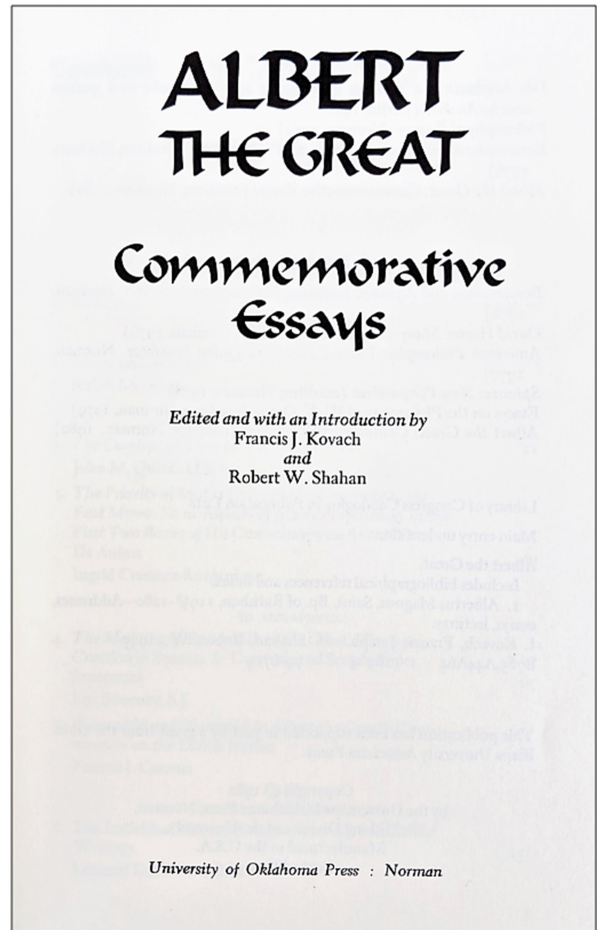
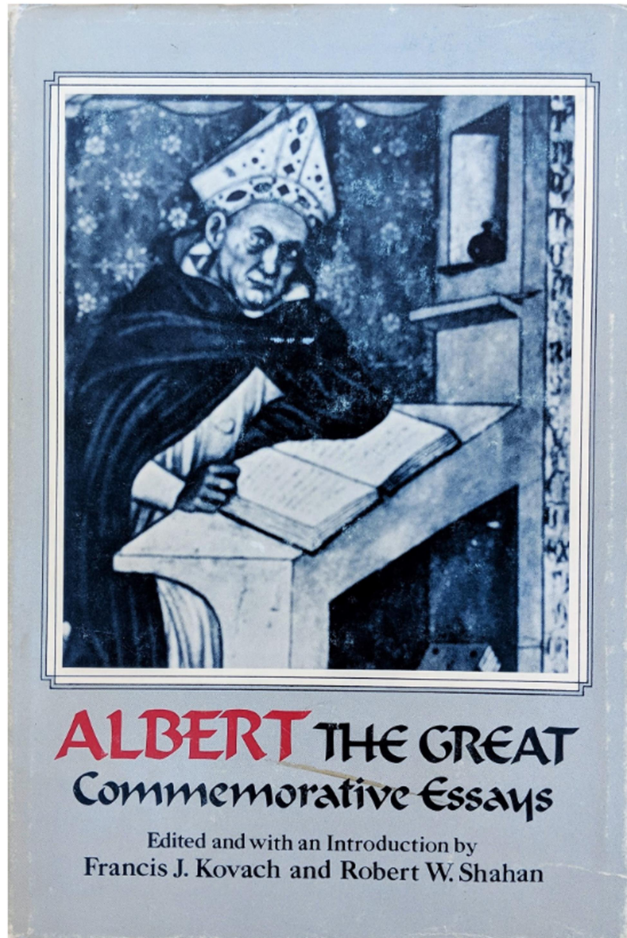




28. **KNIGHT, David M.** (ed.). *Classical Scientific Papers: Chemistry. Second Series. Papers on Nature and Arrangement of the Chemical Elements, Arranged and Introduced by David M. Knight.* London/New York: Mills & Boon; Elsevier, (1970). ¶ 4to. xiii, 441 pp. Silver stamped blue cloth with red spine piece, dust-jacket; jacket edges worn or wrinkled, corner bumped. Very good. S12620

\$ 28

"This is a collection of facsimile reprints of papers and extracts from books dealing with the nature and classification of the chemical elements. It is to be regarded as complementing a previous collection which documented the atomic theory in a similar way. The extracts are well chosen and contain no surprises; they range in time from Prout's anonymous paper of 1815 to the recognition of helium as a product of the spontaneous decay of radium, and to Ramsay's faint foreshadowing of atomic power (1911). Topics which are covered by the reprints include the suspected complexity of the elements, the so-called 'fourth state of matter', the Periodic Table and other schemes of classification. The editor has written an introduction and linking commentary of exemplary clarity." – *British Journal for the History of Science*, volume 5, Issue 4, December 1971, pp. 406-407.



29. **KOVACH, Francis J.; Robert W. SHAHAN** (eds.). *Albert the Great, Commemorative Essays*. Norman: University of Oklahoma Press, (1980). ¶ 8vo. xix, 297 pp. Port. frontis. of Albertus Magnus, 1 table, index. Black silver-stamped cloth, dust-jacket; jacket extremities heavily rubbed. Very good. S12621

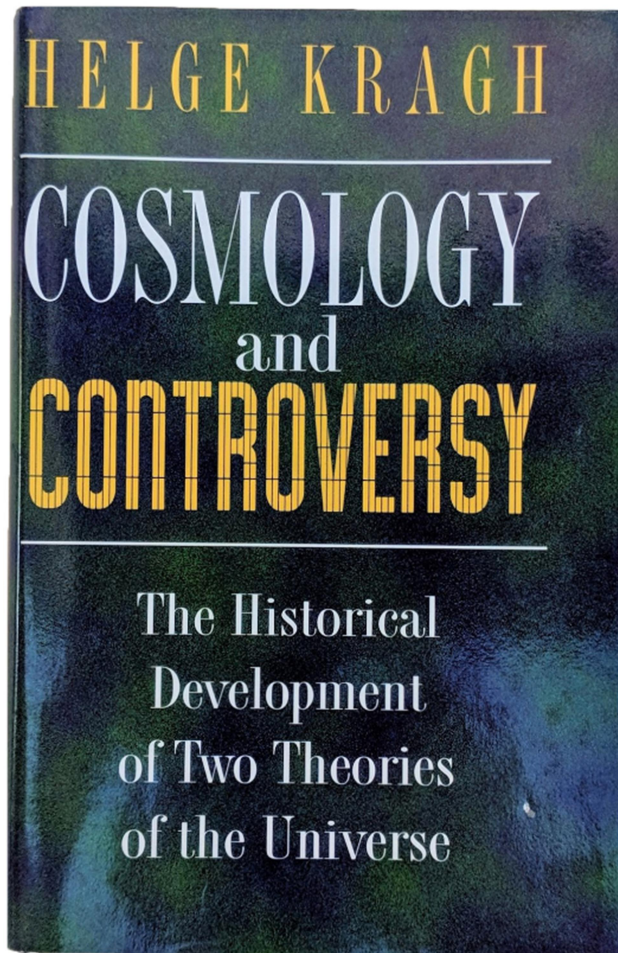
\$ 16.50

"The seventh centenary of the death of Albert the Great has been the occasion for renewed interest in this great scientist, philosopher, and theologian of the thirteenth century. Several Festschriften have appeared, among which is this fine collection of essays. Clearly Albert has been overshadowed by his most illustrious disciple, Thomas Aquinas, who preceded his master in death by more than six years. Yet the older Dominican came to several important positions in his philosophy that were both original with him and passed on to Thomas. For example, Albert was the first to

connect the principle of proportionate distance between two light sources with the problem of action at a distance, to mention only one such principle brought out in Kovach's essay contained here. This principle was taken up by Thomas also, and may well be considered the remote origin of the inverse square principle of contemporary field theory. Collections of essays are notorious for lacking unity, a difficulty all the more accentuated by multiplicity of authorship. Yet there is a surprising degree of cohesiveness to these nine contributions which touch on every aspect of Albert's influence except the theological. Ralph McInerny provides the initial chapter, "Albert on Universals." McInerny's fine choice and analysis of texts surfaces two important aspects of Albert's thought. Albert groped and struggled with Neoplatonic influences and interpretations of Aristotle; he also eventually arrived at many positions which strongly influenced Thomas. These facts of Albert's writings are true of much more than his treatment of universals, though not as well handled by some of the other contributors.

The present work complements another commemorative volume, *Albertus Magnus and the Sciences: Commemorative Essays*, ed. James A. Weisheipl (Toronto: Pontifical Institute of Medieval Studies, 1980), previously reviewed in this journal (*Thomist*, vol. 44), by including a treatment of the doctrine of time in Albert's commentary on IV Physics. Owing to his earlier treatments of this same topic in Aquinas and Augustine, John M. Quinn, O.S.A., is the logical choice to write "The Concept of Time in Albert the Great." The Platonic influences on Albert become more apparent in this second essay. Quinn moves from the dialectical development of the definition of time to the importance of the 'now' in Albert's treatment, concluding with the properties of time and its relationship to the soul." *The Thomist: A Speculative Quarterly Review*, Volume 48, Number 2, April 1984, pp. 323-327.





Cosmology and Controversy  
THE HISTORICAL DEVELOPMENT OF  
TWO THEORIES OF THE UNIVERSE

HELGE KRAGH

PRINCETON UNIVERSITY PRESS  
PRINCETON, NEW JERSEY

30. **KRAGH, Helge.** *Cosmology and Controversy; The Historical Development of Two Theories of The Universe.* Princeton: Princeton University Press, (1996). ¶ 8vo. xiii, 500 pp. Figures, bibliography, index. Navy silver-stamped cloth, dust-jacket. Near fine. S12624

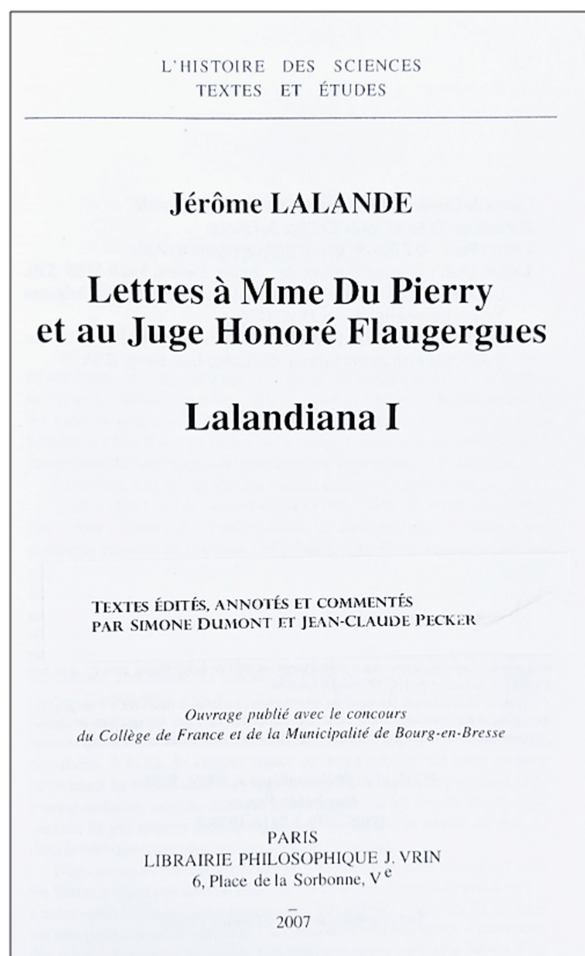
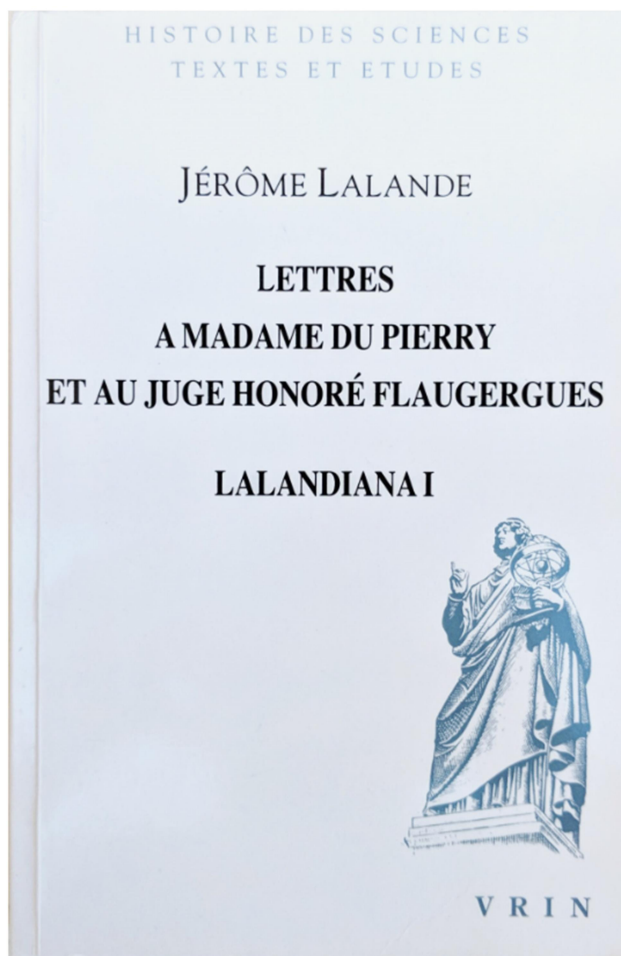
\$ 13

"For over three millennia, most people could understand the universe only in terms of myth, religion, and philosophy. Between 1920 and 1970, cosmology transformed into a branch of physics. With this remarkably rapid change came a theory that would finally lend empirical support to many long-held beliefs about the origins and development of the entire universe: the theory of the big bang. In this book, Helge Kragh presents the development of scientific cosmology for the first time as a historical

event, one that embroiled many famous scientists in a controversy over the very notion of an evolving universe with a beginning in time. In rich detail he examines how the big-bang theory drew inspiration from and eventually triumphed over rival views, mainly the steady-state theory and its concept of a stationary universe of infinite age.

In the 1920s, Alexander Friedmann and Georges Lemaître showed that Einstein's general relativity equations possessed solutions for a universe expanding in time. Kragh follows the story from here, showing how the big-bang theory evolved, from Edwin Hubble's observation that most galaxies are receding from us, to the discovery of the cosmic microwave background radiation. Sir Fred Hoyle proposed instead the steady-state theory, a model of dynamic equilibrium involving the continuous creation of matter throughout the universe. Although today it is generally accepted that the universe started some ten billion years ago in a big bang, many readers may not fully realize that this standard view owed much of its formation to the steady-state theory. By exploring the similarities and tensions between the theories, Kragh provides the reader with indispensable background for understanding much of today's commentary about our universe." – [PUP].

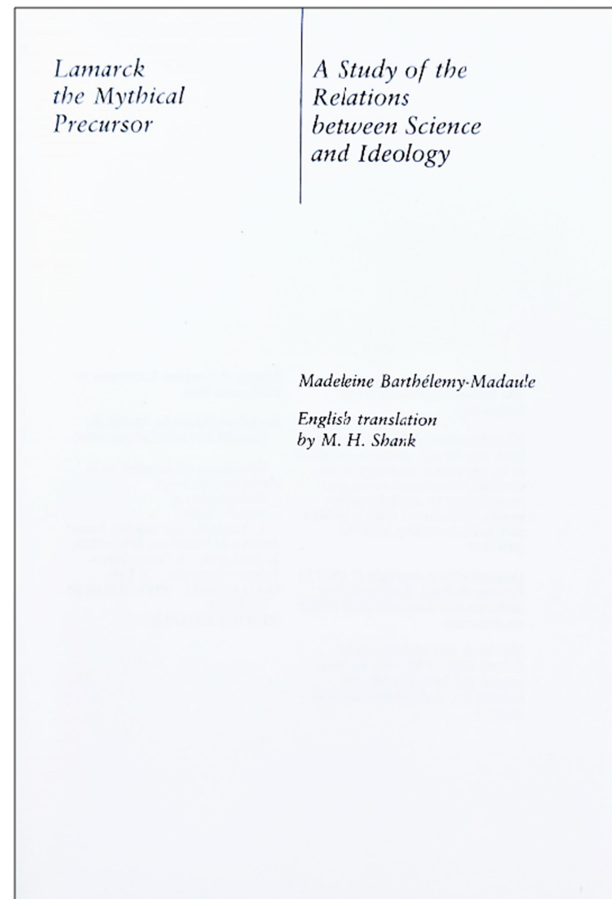
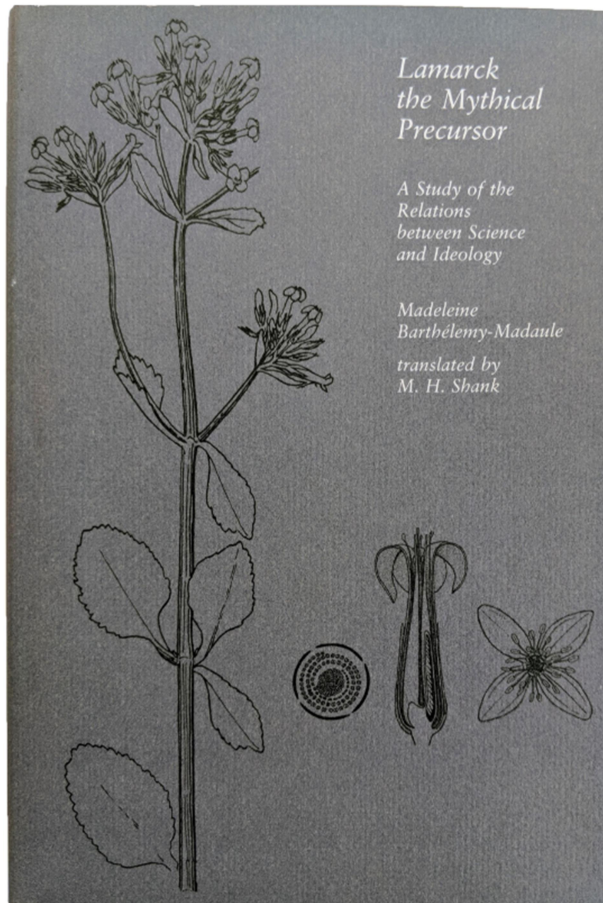




31. **LALANDE, Jérôme** (1732-1807). *Lettres à Mme Du Pierry et au Juge Honoré Flaugergues, Lalandiana I; Textes edités, annotés et commentés par Simone Dumont et Jean-Claude Pecker*. Paris: J. Vrin, 2007. ¶ Series: *Histoire des sciences, Textes et Etudes*. 8vo. 270 pp. Illus.; publisher's edited paper strip mounted on title, one letter ink edit on p. 8. Printed wrappers. INSCRIBED BY SIMONE DUMONT TO ROGER HAHN. Very good. S12629

\$ 35

These letters (originals at Brigham Young University and the Observatoire de Paris) demonstrate the work of the astronomer Lalande (1732-1807) and the ideas of his time, by weaving together both the love letters between him and his mistress and the intellectual and scientific correspondence with justice of the peace and astronomer Flaugergues.



32. [LAMARCK] BARTHELEMY-MADAULE, Madeleine. *Lamarck the Mythical Precursor: A Study of the Relations between Science and Ideology*. Translated by M.H. Shank. Cambridge: MIT Press, (1982). ¶ 8vo. xv, 174 pp. Index. White-stamped gray cloth, dust-jacket. Fine. S12631

\$ 10

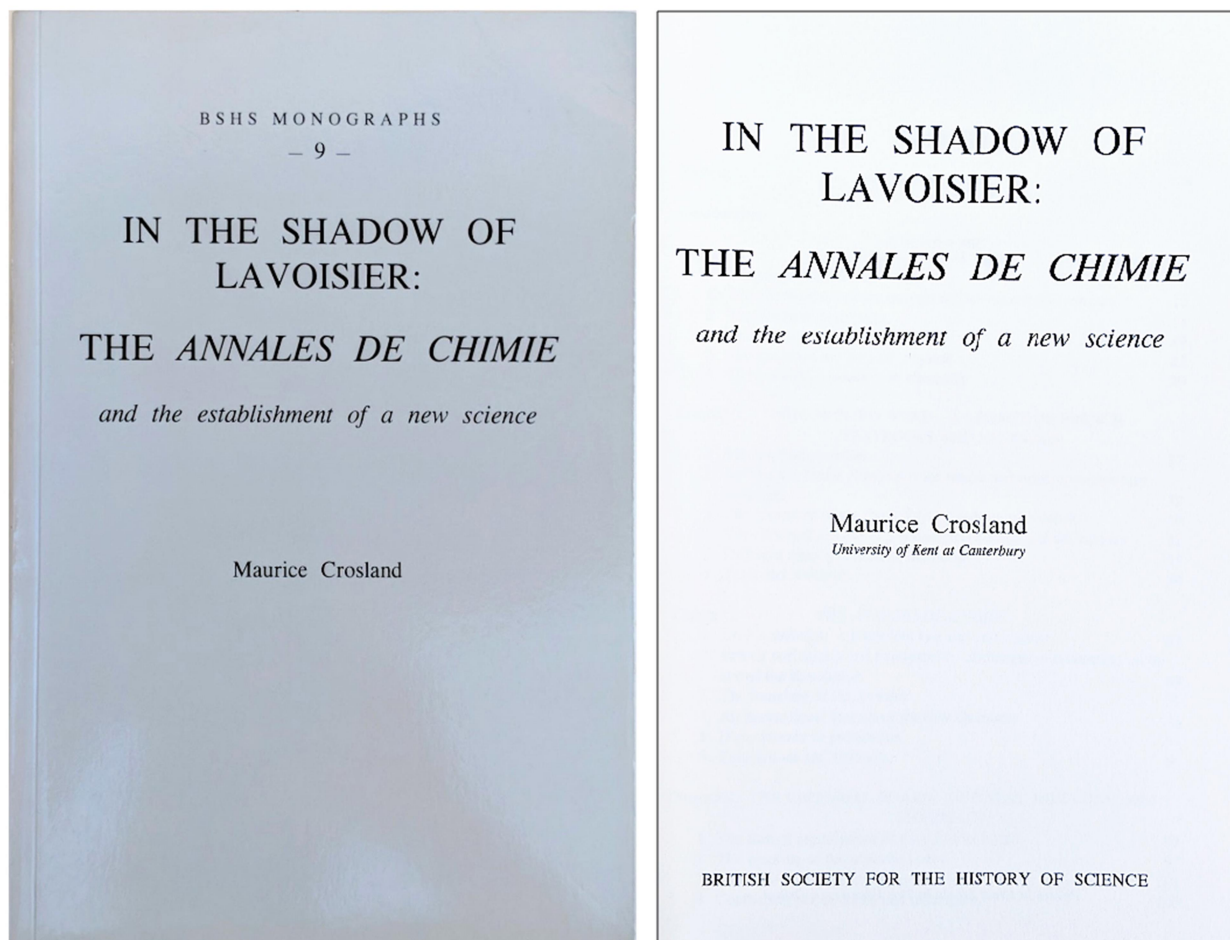
"This book presents a highly readable account of Lamarck's theories and the debates they generated. A child of the Enlightenment and supporter of the French Revolution, Lamarck emerges in this study as a bold and intellectually adventurous pioneer whose early work centered on meteorology and botany and who became the leading authority on invertebrates of his period. It strips away the myth of Lamarck as precursor to Darwin, making the case that the only way to see him, or any figure in

the history of science, is within the scientific, religious, philosophical, and political context of his time, rather than in the light of what we know now. Jean-Baptiste Lamarck (1744-1829) was elected to the French Academy of Sciences, yet he had to contend with scientific conservatism ("Do not meddle with my Bible!" Napoleon is said to have commanded the biologists): he eventually died penniless and blind, his work condemned. Despite its shaky status Lamarckism, which holds that traits acquired during a creature's lifetime can be passed on to its offspring, is currently enjoying a resurgence of interest and has been the subject of several scientific papers and a host of experiments. "Wrong" theories tend to be avoided in discussions of the history of science and the true value of Lamarck's work is only now beginning to be appreciated. This book does not attempt to rehabilitate Lamarck but instead places him in his milieu showing that his theories are relevant to a problem still under discussion - the debate on innate versus acquired characteristics - providing a rich contribution to the history of ideas." [MITP]

Madeleine Barthélemy-Madaule is Professor of Philosophy at the University of Picardie and directs the Interdisciplinary Research Center in the History of Ideas there.



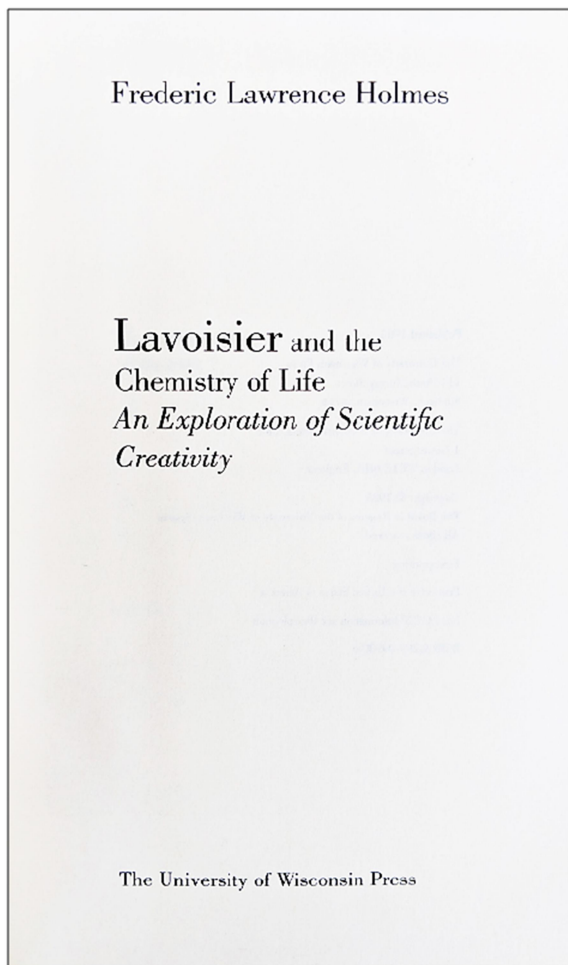
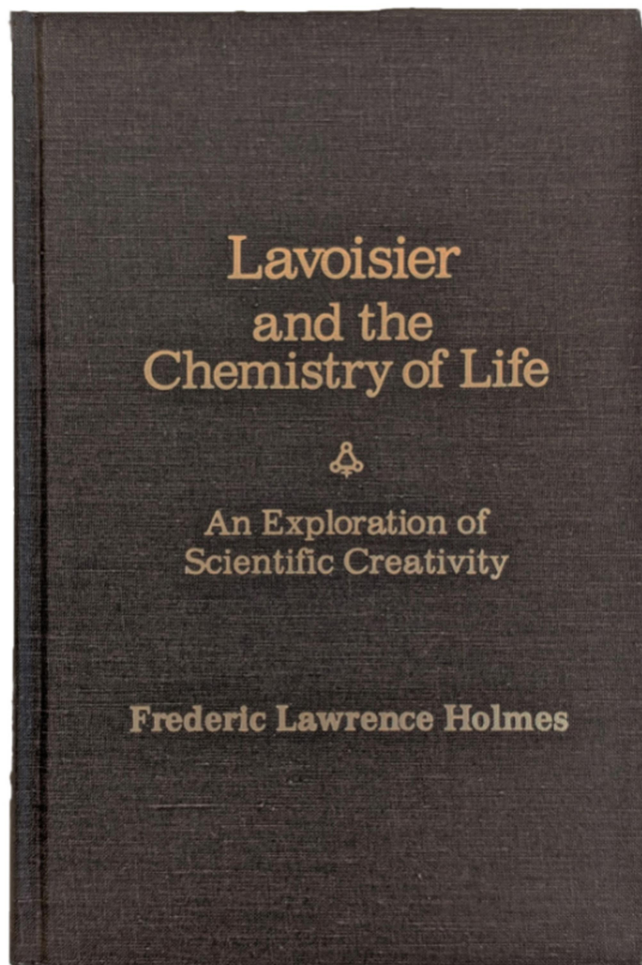




33. [LAVOISIER] CROSLAND, Maurice P. *In the Shadow of Lavoisier: The Annales de Chimie and the establishment of the new science*. [Oxford]: British Society for the History of Science, (1994). ¶ 8vo. xii, 354 pp. Table, facsimiles, appendices, indexes. Gray printed wrappers. Near fine. S12638

\$ 32

"This biography of one of the most influential scientific journals in the nineteenth century welcomes the reader with a wealth of information and insights on French science, as one might expect given Maurice Crosland's long-standing engagement with France. It complements and completes his earlier works on Guy-Lussac, the Society of Arcueil, and the French Academy of Sciences by offering a sketch of the landscape of French science. Despite the title, the book covers much more than the *Annales*; it is very much like a collective biography of French scientific literature and will serve as an invaluable guide for students of the history of French chemistry." Mi Gyung Kim, [review], *ISIS*, volume 87, number 3, Sept., 1996.



34. [LAVOISIER, Antoine-Laurent de (1743-1794)] HOLMES, Frederic Lawrence (1932-2003). *Lavoisier and the Chemistry of Life: An Exploration of Scientific Creativity*. (Madison): University of Wisconsin Press, (1985). ¶ First printing. Series: Wisconsin Publications in the History of Science and Medicine, Number 4. 8vo. xxiv, 565 pp. Portrait frontispiece, figures, index. Gilt-stamped light brown cloth; corners lightly rubbed. Near fine. S12639

\$ 15

"On a cold morning in February 1783, a guinea pig was placed on cotton wool in a makeshift iron basket, which was fitted inside a contraption containing ice and well insulated from the air outside. During many hours

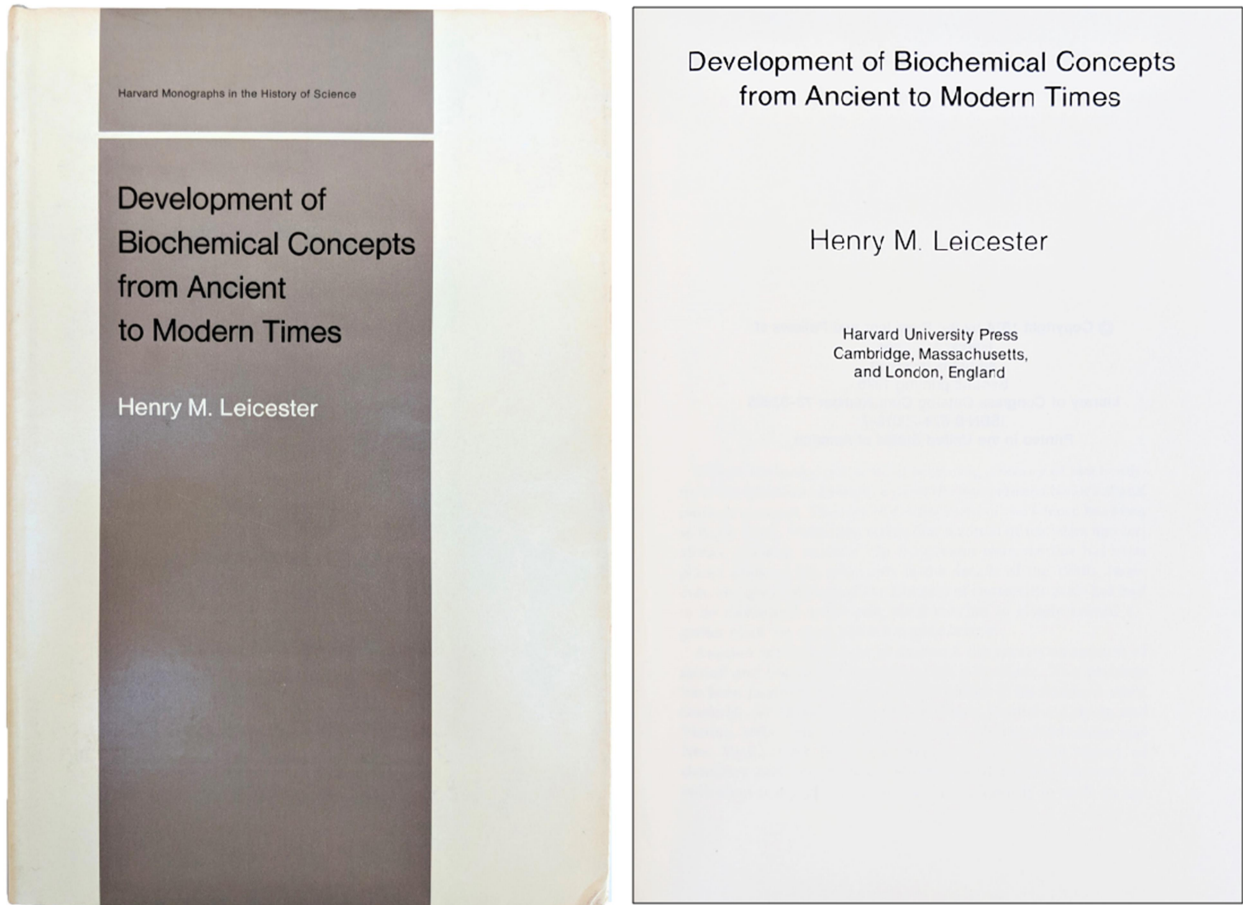


in this inhospitable environment the animal continued to breathe and give out body heat, thereby melting some of the ice. The resultant water was drained off and weighed, thus giving an index of the amount of heat produced by the simple process of breathing (or so it was thought). This turned out to be roughly the same as that produced by a candle burning to form the same quantity of gaseous product ("fixed air").

"From experiments of this kind the great French chemist, A. L. Lavoisier ... derived support for a growing conviction that respiration and combustion were intimately connected. He intended to initiate a 'chemical revolution' (so his private papers reveal), and later historical judgments would not have disappointed him. Famous above all for his part in the overthrow of the phlogiston theory, the discovery and naming of oxygen, and the clarification of our understanding of a chemical element, he was equally interested in animal and plant phenomena and in physical and chemical processes." [Colin A. Russell [Review].

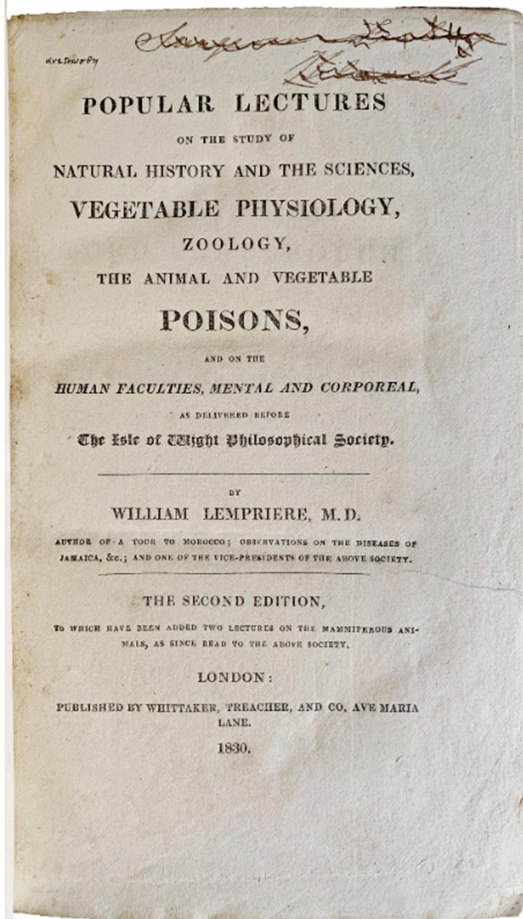
Of the author's history: "In the midst of writing his magisterial two volume study of Krebs—The formation of a scientific life, 1900–1933 (1991) and Architect of intermediary metabolism, 1933–1937 (1993)—Larry took a detour back to the eighteenth century that makes sense only in the context of the contingencies of his continuous but hardly linear pathway and the patient persistence that characterized his intellectual style. Struggling to understand the distant historical background for Krebs' studies of intermediary metabolism, what might have been a few pages of stagesetting for the Krebs volumes became instead another foundational book that used Lavoisier's surviving laboratory notebooks in Lavoisier and the chemistry of life (1985). ... Larry was awarded the History of Science Society's Pfizer Prize (1975) and Sarton Medal (2000); the American Association for the History of Medicine's Welch Medal (1978); and the American Chemical Society's Dexter Award (1994). He was President of the History of Science Society in 1981–83, and became a Fellow of the American Academy of Arts and Sciences in 1994." John Harley Warner, Obituary, *Medical History*, 2004 Jan 1; 48(1): 112–114.





35. **LEICESTER, Henry M.** *Development of Biochemical Concepts from Ancient to Modern Times*. Cambridge: Harvard University Press, 1974. ¶  
Series: Harvard Monographs in the History of Science. 8vo. [viii], 286 pp. Indexes. Black stamped gray cloth, dust-jacket; corners slightly bumped. Very good. S12644

\$ 6



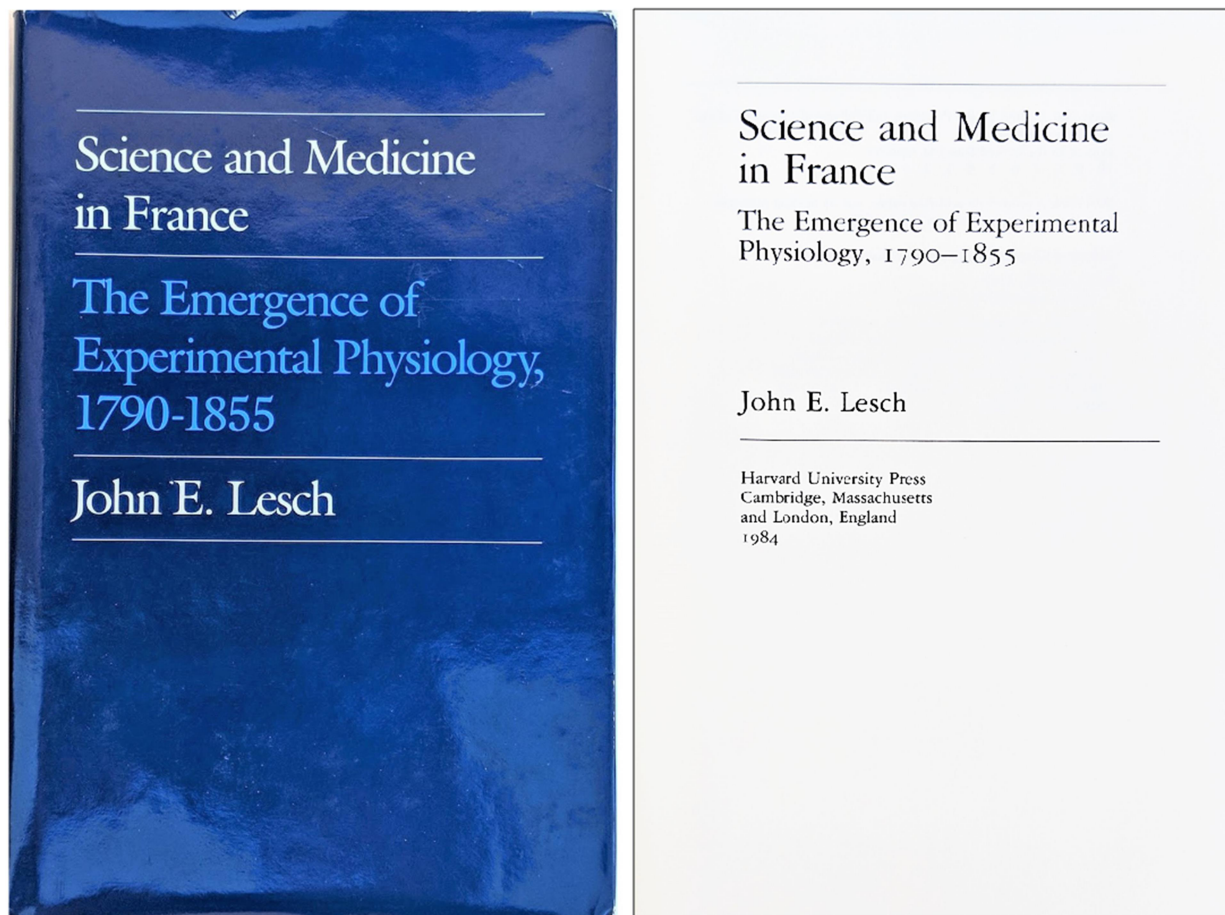
36. **LEMPRIERE, William** (d. 1834). *Popular Lectures on the Study of Natural History and the Sciences, Vegetable Physiology, Zoology, the Animal and Vegetable Poisons, and on the Human Faculties, Mental and Corporeal, as delivered before The Isle of Wight Philosophical Society. The Second Edition, to which have been added two lectures on the mammiferous animals, as since read to the above Society.* London: Whittaker, Treacher, and Co., 1830. ¶ 8vo. (225 x 136 mm) xv, [1], 414 pp. Uncut, errata slip tipped in; occasional foxing, ownership pen marks on title-page. Bound in original paper boards, printed paper spine title label; spine and corners renewed. Very good. SCARCE. [S8898]

\$ 175

Second edition (1st edition was 1827), which includes two added lectures not in the first edition. The first series of six lectures address the topics of natural history, vegetable physiology, zoology, animal and vegetable poisons, and human faculties, mental and corporeal. Following the chapter on zoology are five pages of animal classification tables. The final two lectures deal with mammiferous animals (six orders, from primates to whales). On page 86, there is an underlined portion of the text, referring to Stephen Hales' discoveries relating to temperature and the rising of sap in plants. Among the plants Lempriere discusses in his list of poisonous plants are deadly nightshade, hemlock, henbane, tobacco, foxglove, wolfsbane, mushrooms and the opium poppy. He also goes into a lengthy discussion of venomous snakes, particularly the American rattlesnake. There is a six-page table of poisons listed at the end of the related lectures.

William Lempriere ". . . entered the army medical service when young, and by 1789 was attached to the garrison of Gibraltar. In the September of that year Sidi Mahommed, emperor of Morocco, sent a message to General O'Hara, the commandant at Gibraltar, asking that an English doctor might be sent to attend his son, Muley Absolom, who was suffering from cataract. Lempriere accepted the commission, and left Gibraltar on 14 Sept. 1789; on 28 Oct. he reached Tarudant, where he attended the prince with great success. His only rewards, however, were 'a gold watch, an indifferent horse, and a few hard dollars.' He was then summoned to Morocco itself, which he reached on 4 Dec., to attend some ladies of the sultan's harem. He was detained at Morocco a long time against his will, and was not allowed to leave till 12 Feb. 1790; here again he complains of the miserable remuneration awarded him. After his return from Morocco Lempriere published an account of his travels in *A Tour from Gibraltar to Tangier, Sallee, Mogadore, Santa Cruz, Tarudant, and thence over Mount Atlas to Morocco, London, 1791. . . .* Lempriere left the army with the rank of inspector-general of hospitals, and resided for many years in the Isle of Wight. . . ." During his stay there he published two medical works: *A Report on the Medicinal Effects of an Aluminious Chalybeate Water lately discovered at Sandrocks, in the Isle of Wight*, London, 1812, and *Popular Lectures on the Study of Natural History and the Sciences, as delivered before The Isle of Wight Philosophical Society, London, 1830.* [DNB].

☞ BM Readex, Vol. 15, p. 22; DNB, Vol. XI, p. 913. Not in Osler, Waller or Wellcome.



37. **LESCH, John E.** *Science and Medicine in France; The Emergence of Experimental Physiology, 1790-1855*. Cambridge & London: Harvard University Press, (1984). ¶ First edition. 8vo. (ix), 276 pp. Illus., index. Original silver-stamped blue cloth, dust-jacket; jacket rubbed else fine. S12647

\$ 15

"An event of fundamental importance to the history of biology is explained in this thoughtful study of physiological method. Physiology was the first of the life sciences to commit itself to the ideal and practice of experimentalism in its modern sense. John E. Lesch traces the more than half-century-long process that gave rise to the field in France, arguing that

experimental physiology first appeared there because of circumstances peculiar to the French scientific and medical milieu.

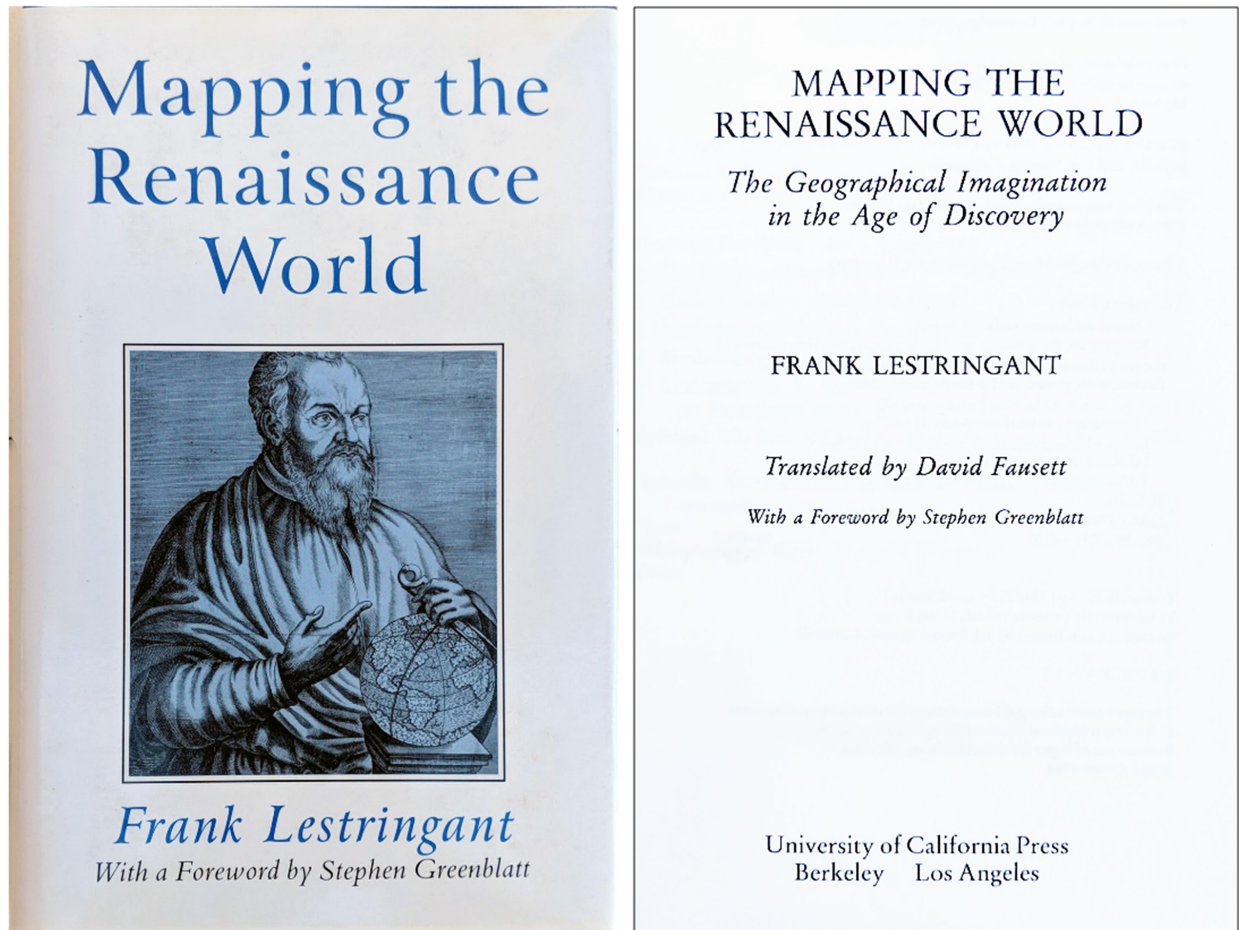
"Lesch begins with a look at the nature of physiology and its investigative methods in the seventeenth and eighteenth centuries. From the pressure and opportunities of the 1790s emerged the Paris clinical school, with its unification of surgery and internal medicine, its centering of education and practice in the hospitals, and its cultivation of pathological anatomy. He shows that in this environment a new generation of experimental physiologists appeared. Their use of animal experiment was marked by the surgical qualities of their training, and facilitated by the clinical experience of the hospitals, research provided by veterinarians, and chemical substances provided by pharmacists. Contemporary French ascendancy in science and advances in education provided the physiologists with scientific exemplars, authoritative standards, and substantive knowledge and technique. By the 1820s a significant segment of the French medical community was involved in some way with the new physiology.

Lesch's exploration of these pathbreaking scientists and institutions creates a model for understanding the beginnings of a dominant research tradition." [HUP].

CONTENTS: 1. A Science in the Making; 2. Context for Change: The 1790s; 3. Bichat's Two Physiologies; 4. A New Generation and a New Program; 5. The Experimentalist in Action; 6. Pharmacists and Chemists; 7. Experimental Pharmacology; 8. Pathological Physiology; 9. From Medicine to Biology.



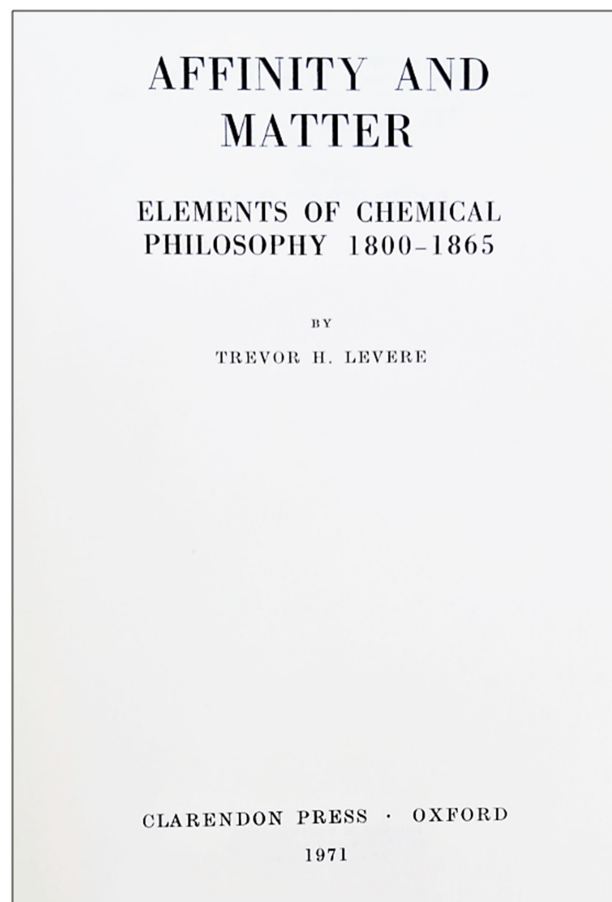
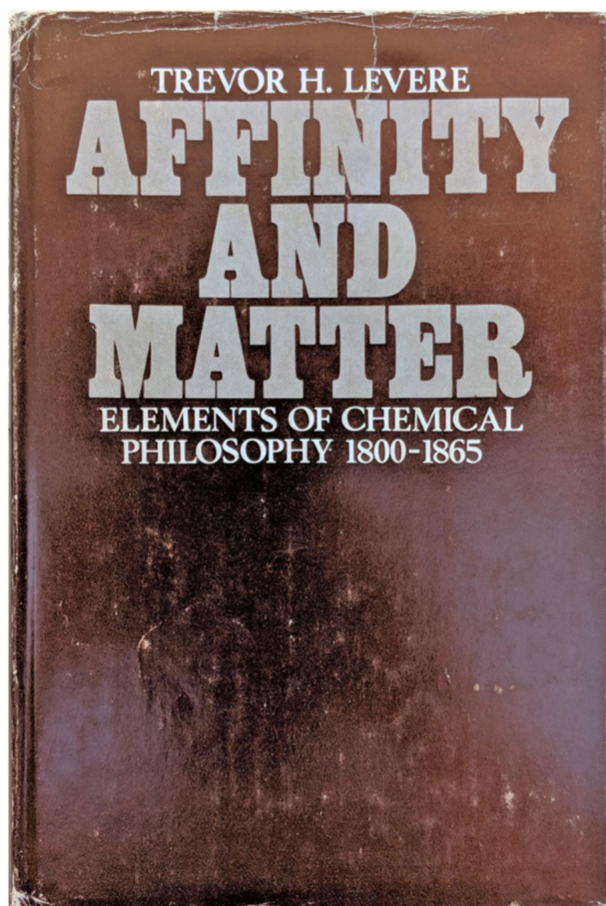




38. **LESTRINGANT, Frank.** *Mapping the Renaissance World. The Geographical Imagination in the Age of Discovery. Translated By David Fausett. Foreword by Stephen Greenblatt.* Berkeley and Los Angeles: University of California Press, (1994). ¶ 8vo. xvii, 197 pp. 19 illus., index. Cloth, dust-jacket. Fine.

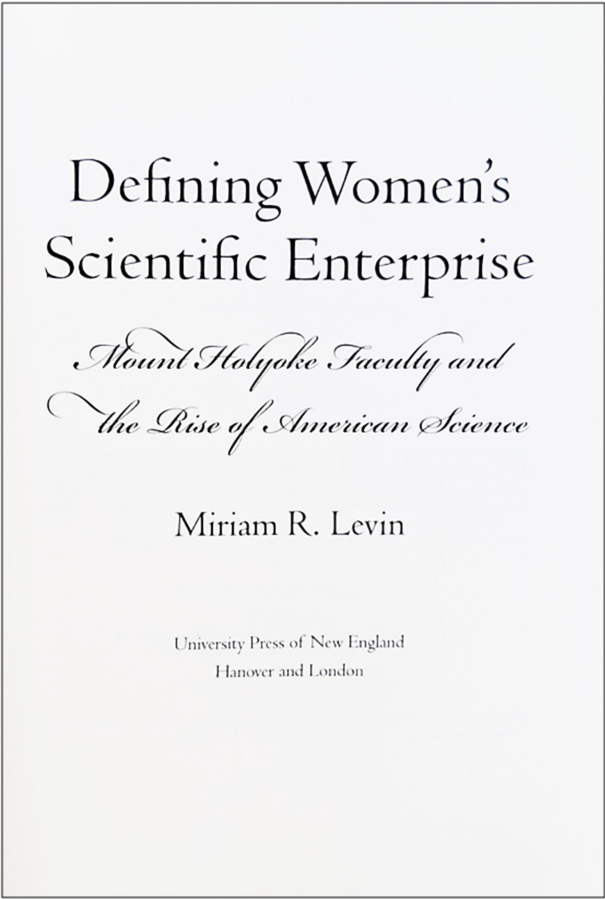
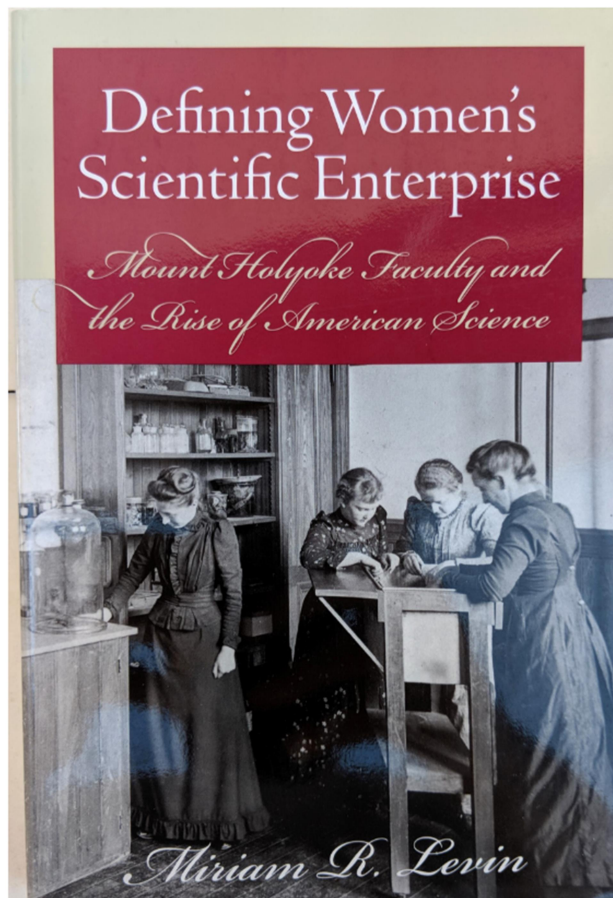
\$ 48

This book focuses on the work of the great sixteenth-century traveler and map-maker Andre Thevet. Frank Lestringant is Professor of Renaissance Literature at the University of Lille.



39. **LEVERE, Trevor H.** *Affinity and Matter: Elements of Chemical Philosophy 1800-1865*. Oxford: Clarendon Press, 1971. ¶ First edition. 8vo. xvii, 230 pp. Photo plates, figures, bibliography, index. Gilt-stamped blue cloth, dust-jacket; jacket extremities worn else Near fine. S12649

\$ 24



40. **LEVIN, Miriam R.** *Defining Women's Scientific Enterprise; Mount Holyoke Faculty and the Rise of American Science*. Hanover & London: University Press of New England, (2005). ¶ 8vo. xiii, 209 pp. Illus., bibliography, index. Printed wrappers. Fine. S12651

\$ 3

An important new look at how gender, religion, pedagogy, and geography help shape women's scientific work. "Levin tells a remarkable story—all the more remarkable because of a paucity of sources . . . Levin has produced an exciting history of an important school, one that has much to say about the development of science in the United States and of women's changing roles in that practice."—ISIS.

CONTENTS: □ Sanctified Scientific Teachers --- Teachers of Science (1837-1859); □ Taking the Academic Science Path in an Era of Collegiate Innovation (1860-1888); □

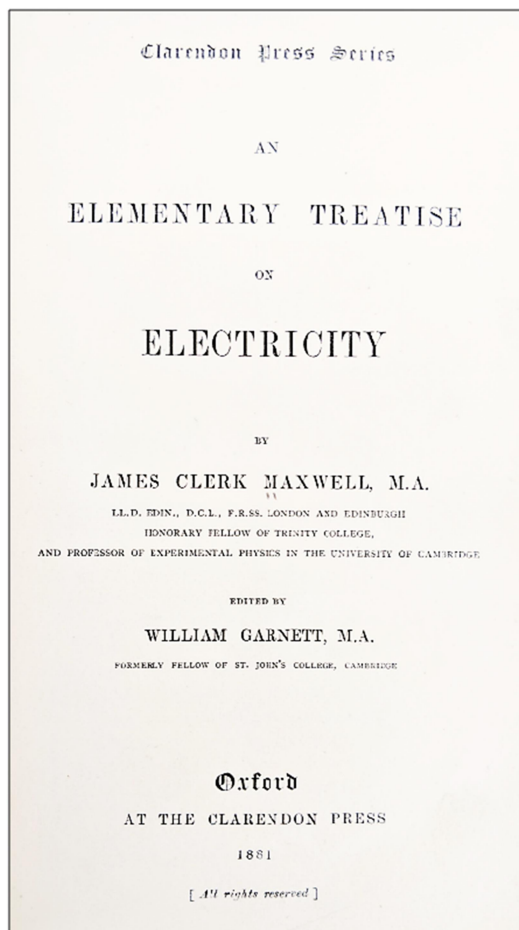
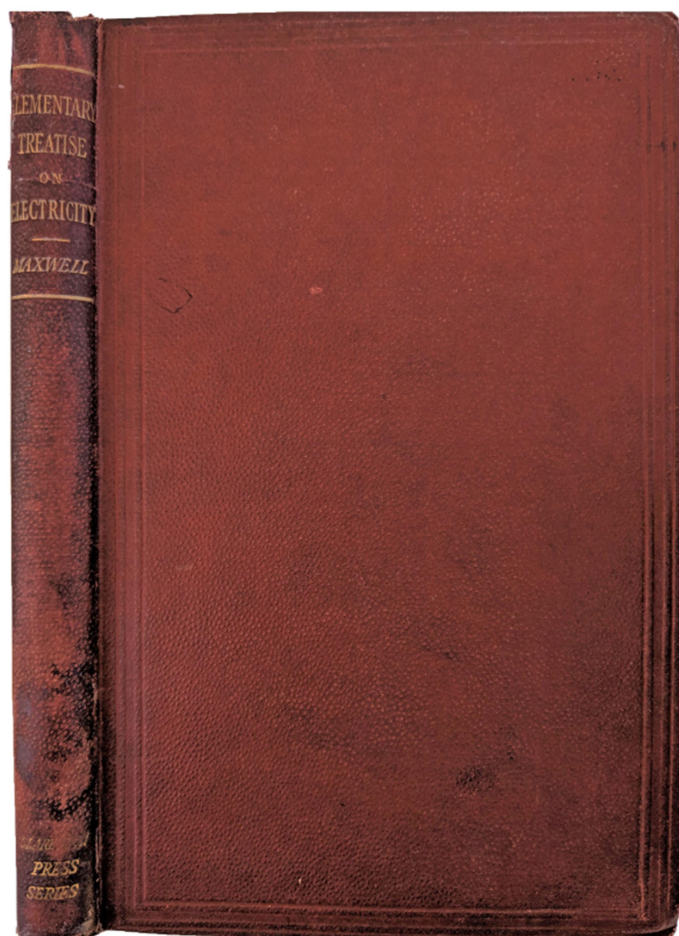
Redefining Scientific Labor in the Age of Specialization (1889-1900); □ Apogee and Defeat of the Female Science Mission (1901-1937).



41. **[Madrid] Observatorio Astronomico de Madrid.** Memoria sobre el eclipse total de Sol del dia 30 de Agosto de 1905. Madrid: Bailly-Bailliere e Hijos, 1904. ¶ 4to. 125, [3] pp. 5 plates (2 color lithographs, 4 folding). Original green printed wrappers; spine scraped off, some chipping. Institutional Rubberstamp of the Academy of Natural Science of Philadelphia. Very good. S13413

\$ 40

Advance notice of the August 1905 total eclipse of the Sun and its path across Spain. There is a world map showing the path, followed by a map of Spain and the Iberian Peninsula (showing the solar arc just north of Madrid), and a detailed map (all folding).



42. **MAXWELL, James Clerk** (1831-1879); **William GARNETT** (ed.). *An Elementary Treatise on Electricity*. Oxford: Clarendon Press, 1881. ¶ Clarendon Press Series. 8vo. xvi, 208 pp. 53 figs., 6 plates, various diagrams; several leaves dog-eared with corner portion missing btw. pp. 1-4, rubber stamp number on bottom margin of preface. Original brick-red textured cloth with double blind ruled covers and gilt-stamped spine; extremities bit worn. Bookplate and ink signature of Mendenhall; rear endpaper with pealed cardstock and glue remains. Very good. [S12670]

\$ 600

First edition. This book came from Maxwell's own detailed manuscripts of lectures given at the Cavendish Laboratory, an institution he founded in 1874 at Cambridge



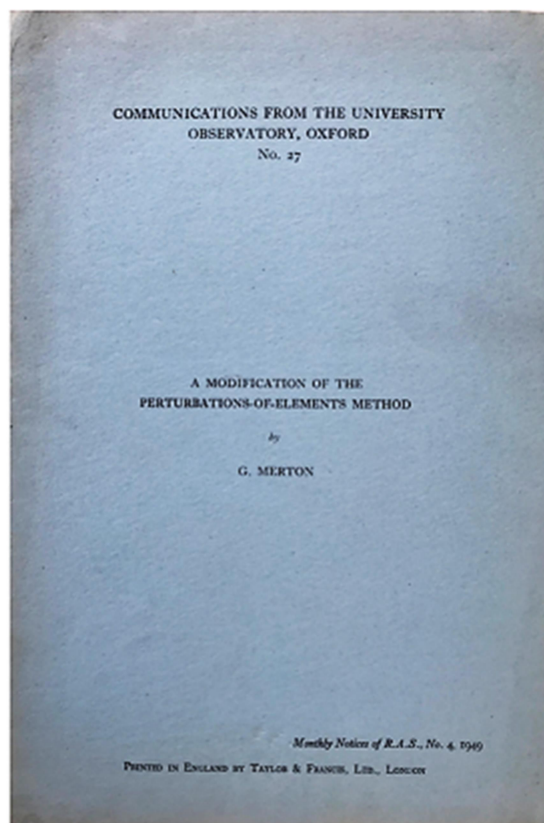
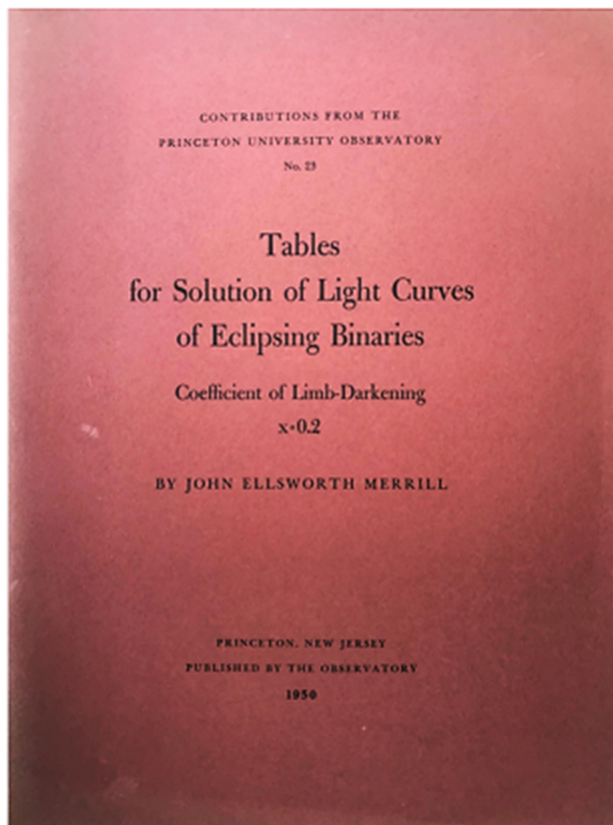
University. He was the first Cavendish Professor of Physics whose achievements concerning electromagnetism have been called the "second great unification in physics" after the first one realized by Newton.

PROVENANCE: Thomas Corwin Mendenhall (1841-1924) first professor of physics at Ohio State University and father of Charles Elwood Mendenhall (1872-1935), also a physicist and also, like his father, a member of the National Academy of Science. T. C. Mendenhall II (1910-1998), 6th president of Smith College, was named after this grandfather, Thomas Corwin Mendenhall. This book originally belonged to the two elders.

☞ Nahin, P.J. (1992). "Maxwell's grand unification". *Spectrum*, IEEE 29 (3): 45; *DSB* Vol. IX, pp. 198-230;



43. **MAXWELL, James Clerk** (1831-1879). *Maxwell on Saturn's Rings*. Edited by Stephen G. Brush. Cambridge: MIT Press, (1983). ¶ 8vo. xii, 199 pp. Illus., index. Blue white-stamped cloth, dust-jacket. Near fine. S12671 \$ 45



44. **MERRILL, John Ellsworth** (1902-1991). *Tables for Solution of Light Curves of Eclipsing Binaries*. Coefficient of Limb-Darkening  $x=0.2$ . Princeton: Published by the Observatory, 1950. ¶ Series: Contributions from the Princeton University Observatory, no. 23. 4to. pp. [3], 52-111, [1]. Original printed wrappers. Near fine. S13414 \$ 25

Miller was born in Parsonsfield, Maine, took his degree at Boston University, then a mathematics masters' degree from Case Institute of Technology (1927). Another of the same from Princeton two years later and

continued with a Ph.D. in astronomy, graduating in 1931. For a long time he taught at Hunter College, NYC, then joined Wesleyan and Ohio State University. Later he was a part of the Franklin Institute, etc. Unfortunately he suffered from extreme peripheral vascular disease and had his leg amputated prior to passing away. See: Keller, G. & Keller, J. "Obituary: John Ellsworth Merrill, 1902-1991." Bulletin of the American Astronomical Society, vol. 24, no. 4, p. 1329-1329.

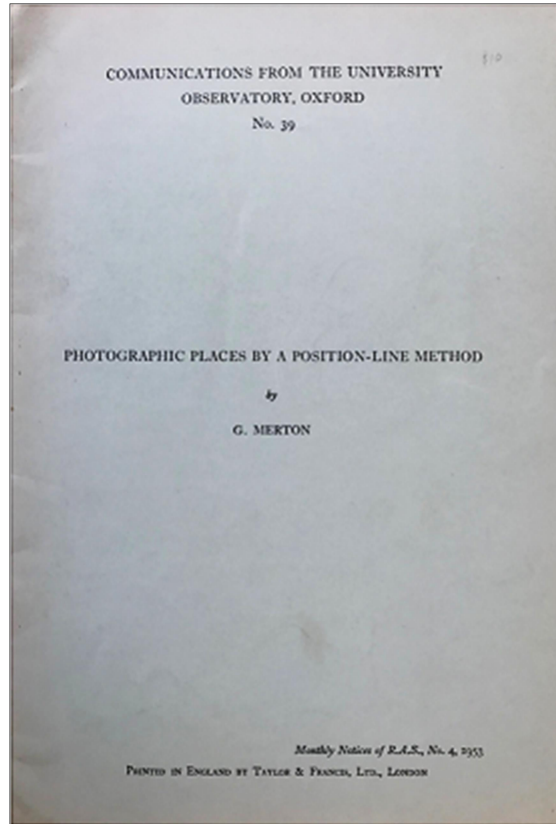
45. **MERTON, Gerald** (1893-1983). A Modification of the Perturbations-of-Elements Method. London: Royal Astronomical Society, 1949. ¶ Series: Monthly Notices of the Royal Astronomical Society, vol. 109, no. 4, 1949; Communications from the University Observatory, Oxford, no. 27. 9.75 inches. pp. 21-35, [1]. Blue printed wrappers. Very good. S13415

\$ 10

Abstract: The division of the orbit of a comet or minor planet, into an integral number of parts, permits the construction of special tables which facilitate the calculation of the special perturbations, by the planets, in terms of the variations of the usual ecliptic elements. Such tables have been published, but the approximate methods usually employed with them are not, it is argued, accurate enough to be generally suitable for the predictions of the returns of periodic comets. A rigorous method, treating the time element as perturbed and the mean anomaly as the independent variable, is here derived, very simply, for use with these tables or with the new ones proposed. And the integration of the perturbations of the mean anomaly, involving a double integration, is replaced by a single integration of the perturbed time interval.



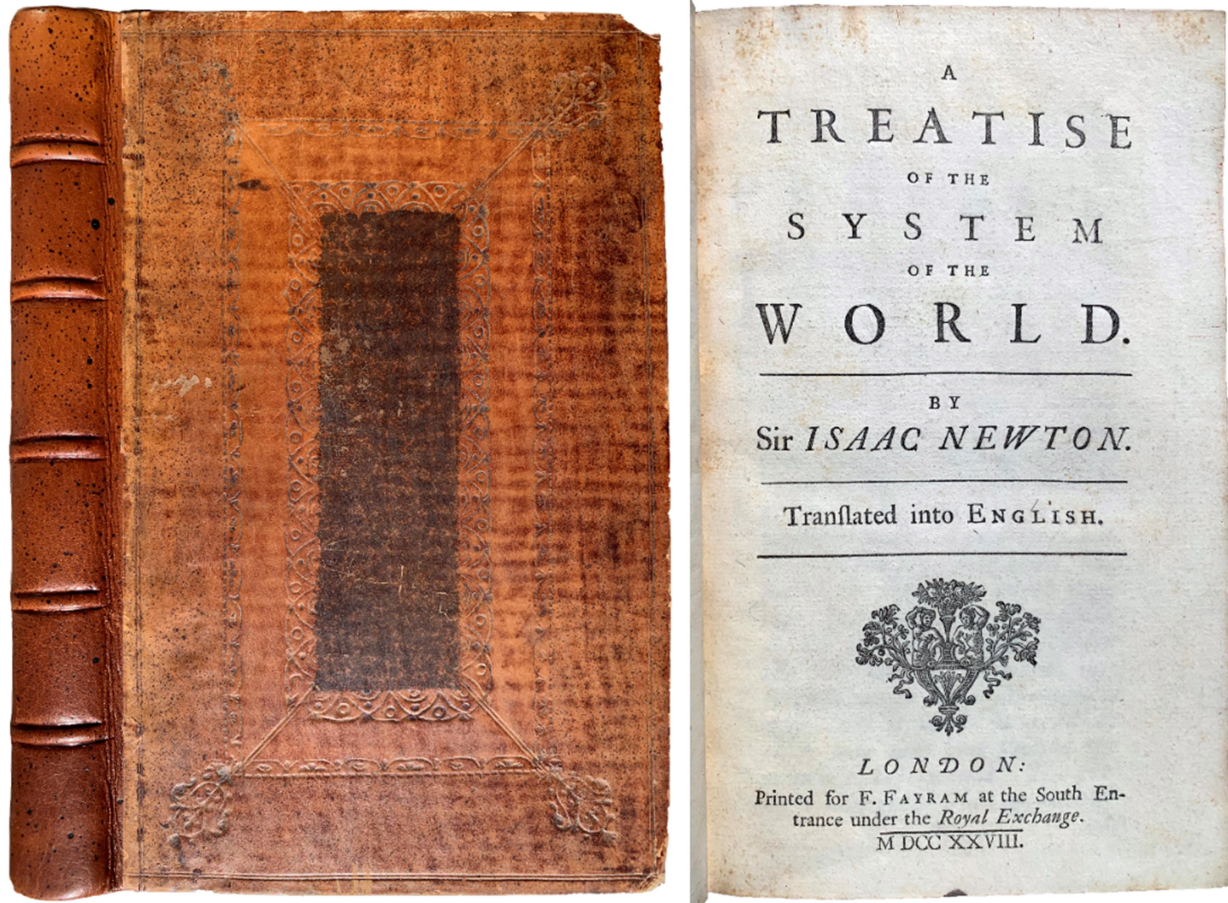




46. **MERTON, Gerald** (1893-1983). *Photographic Places by a Position-line Method*. London: Royal Astronomical Society, 1953. ¶ Series: *Monthly Notices of the Royal Astronomical Society*, Volume 113, Issue 4, 1 August 1953; *Communications from the University Observatory, Oxford*, no. 39. 9.75 inches. Pages 428–449. Figs. Pale blue printed wrappers. Very good. S13416

\$ 10

Abstract: A method is given for deriving, from an approximate position of the image of an object on a photographic plate and the accurately measured distances between its image and those of the comparison stars, the corrections necessary to give the accurate equatorial (or other) coordinates of the object. A simple graphical method, akin to the navigator's "position-line" method, is described for obtaining these corrections. Approximations and tables, to facilitate the computations, are added in appendices. The solution is applicable to the spherically curved plates of such types of reflecting telescopes as Schmidt's, as well as to the flat ones of refractors (even those of large field); and the method obviates the need for special means to measure the plates in rectangular coordinates.



*The Honorable George Baillie's Copy*

47. **NEWTON, Sir Isaac** (1642-1727). *A Treatise of the System of the World. Translated into English.* London: F. Fayram, 1728. ¶ 8vo. xxiv, 154, [2] pp. 2 engraved plates, woodcut figs., errata page; last few leaves with marginal damp stain at head (text unaffected); a small amount of foxing. Original full calf, raised bands, gilt ruled compartments, gilt stamped red leather spine label; neatly rebacked to style. Armorial bookplate of The Hon.ble [Honorable] George Baillie, Esq., one of the Lords of the Treasury, 1724. NEAR FINE. S13767

\$ 10,000

### FIRST EDITION IN ENGLISH OF THE PRINCIPIA BOOK III.

"This is the first English translation of the *De Mundi Systemate* written, as Newton says, in the popular method that it might be generally read. It was originally intended to form the third part of the *Principia*. The interesting Preface, which was omitted in later editions, contains an extract from the beginning of the *Principia* and a short account of astronomy and the state it was in when Newton wrote. The name of the translator was withheld, but comparison with certain passages of Motte's translation of the *Principia* affords ample proof that he was also Andrew Motte. There is an interesting passage where Newton points to the possibility of Terrestrial Tidal Effects, which were discovered by Michelson in 1919, and another passage indicates the existence of the planet Uranus, which was actually first seen by Herschel in 1781." Babson, 18.

"The original draft of Book III, after contributing much to its successor, remained among Newton's papers to be published posthumously printed (1728) under the supPLICATE title *The System of the World ...*" (p. 216). "That Newton had in mind the remote classical antecedents of the Renaissance revolution in astronomy, and of his own dynamical investigations which had subsequently justified it, when he was in the full flow of writing the *Principia*, is evident from the grandiose opening to the original Book III of that book, suppressed in 1686 but printed immediately after Newton's death as *The System of the World*." (p.345) A. Rupert Hall, *Isaac Newton*. Cambridge (1992, 1996).

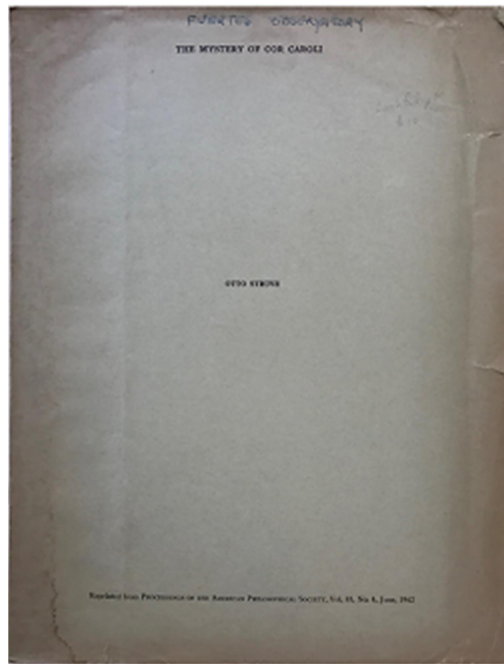
"Newton died on 20 March 1727 at the age of 84. His contemporaries' conception of him nevertheless continued to expand as a consequence of various posthumous publications, including *The Chronology of Ancient Kingdoms Amended* (1728); the work originally intended to be the last book of the *Principia*, *The System of the World* (1728, in both English and Latin); *Observations upon the Prophecies of Daniel and the Apocalypse of St. John* (1733); *A Treatise of the Method of Fluxions and Infinite Series* (1737); *A Dissertation upon the Sacred Cubit of the Jews* (1737), and *Four Letters from Sir Isaac Newton to Doctor Bentley concerning Some Arguments in*



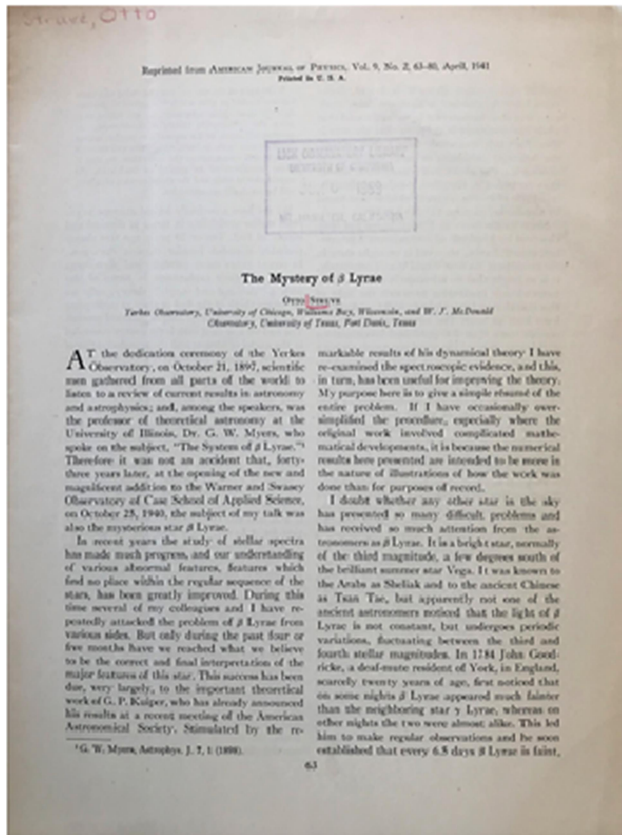
Proof of a Deity (1756)." – Stanford University. ? DSB X; Babson, 18; Norman, 1593; Gray, 30; Wallis, 30.



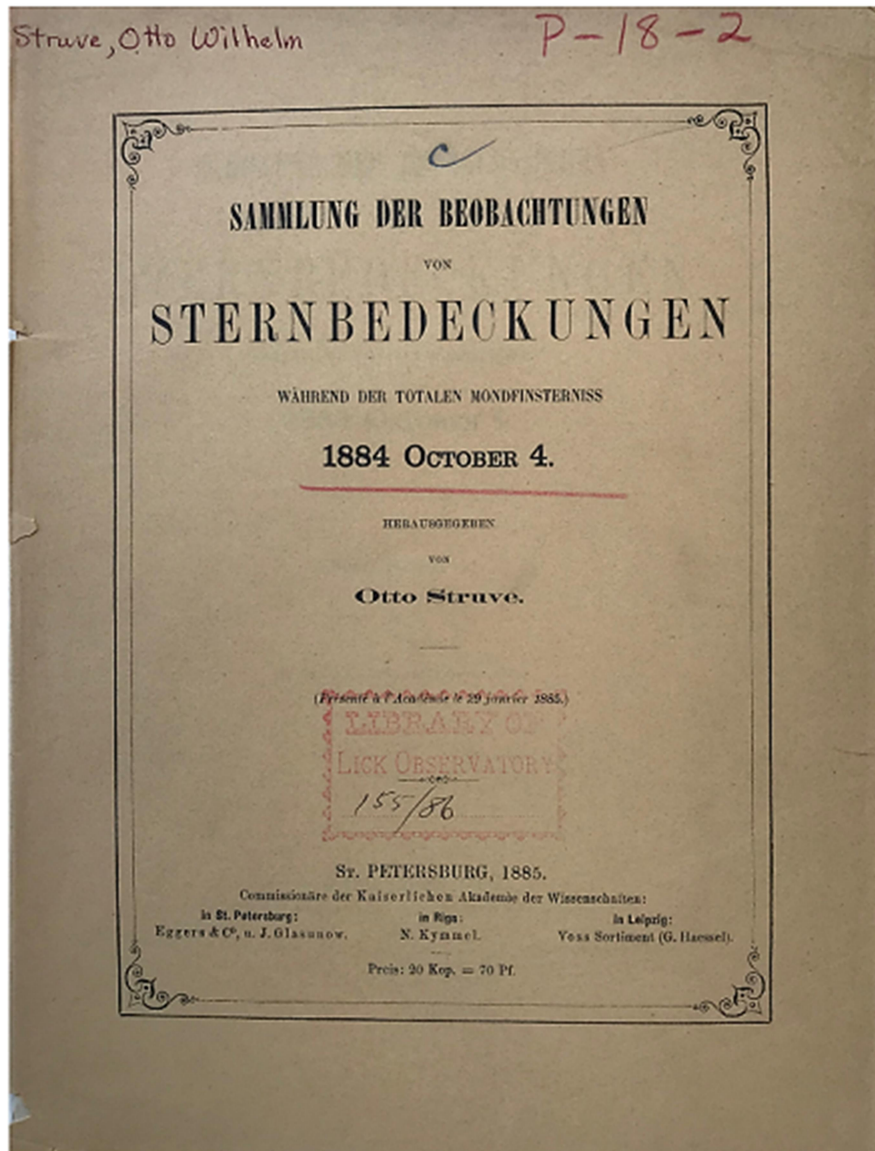
PROVENANCE: The Honorable George Baillie (1664-1738), Scottish politician and Member of the Parliament from 1691-1707 and in the British House of Commons from 1708 to 1734. "Baillie devoted his retirement to his friends and his family, to his books and his prayers; he had for many years been representative elder for the parish of Earlston, in which lies Mellerstain, and he remained a devout Presbyterian to the end." [DNB]. Astrophysics



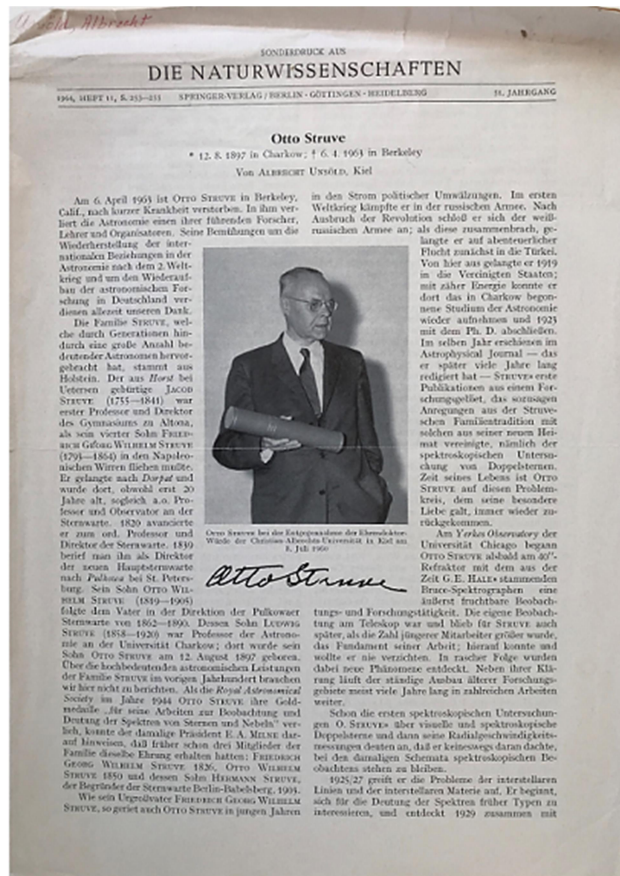
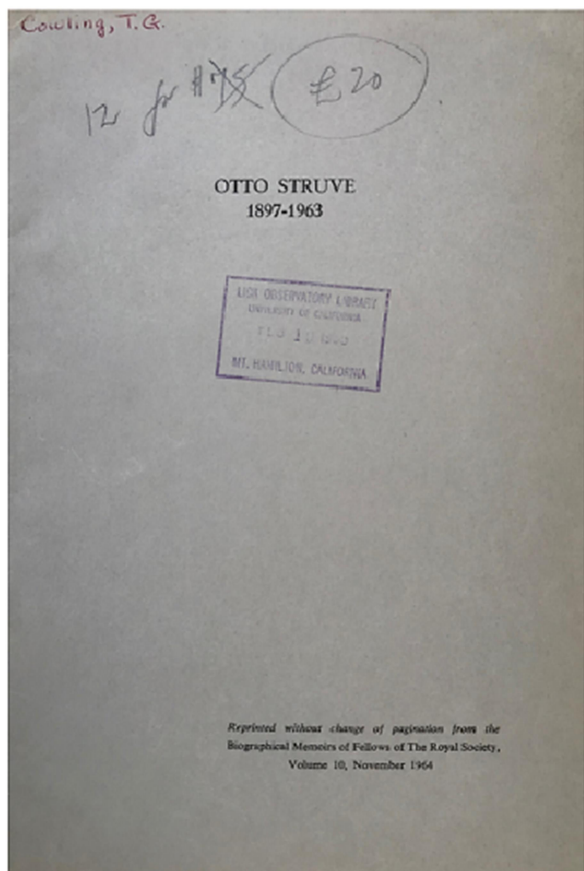
48. **STRUVE, Otto** (1897-1963). *The Mystery of Cor Caroli*. [NY]: American Philosophical Society, 1942. ¶ Series: *Proceedings of the American Philosophical Society*, vol. 85, no. 4, June, 1942. 4to. pp. 351-358. Original green printed wrappers. Significant tears to margins, waterstain at lower corner. Good. S13417 \$ 10



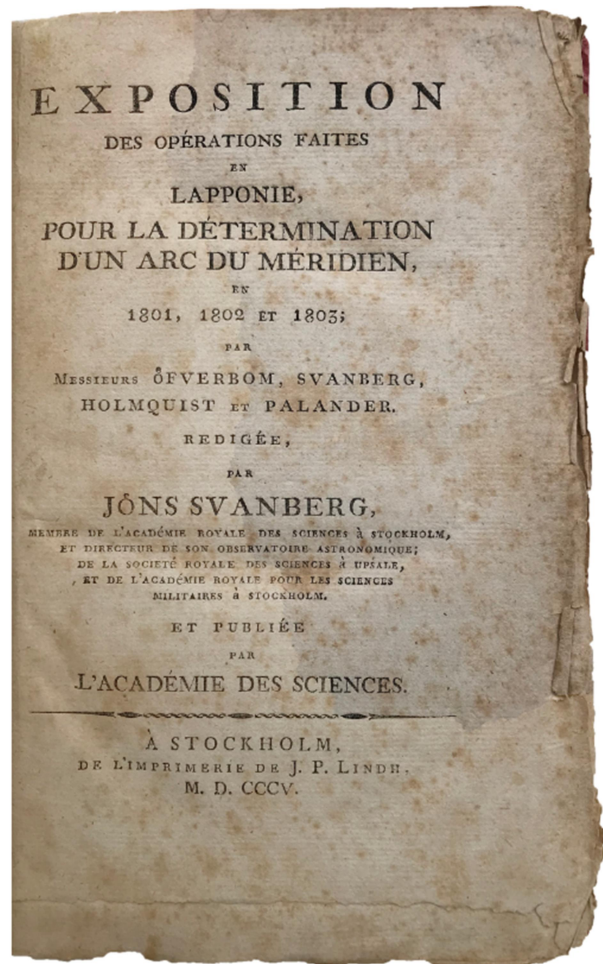
49. **STRUVE, Otto** (1897-1963). The Mystery of [Beta] Lyrae. [offprint]. NY: American Journal of Physics, 1941. ¶ Series: American Journal of Physics, vol. 9, no. 2, April 1941. 10.5 inches. pp. 63-80. Self-wraps. Rubberstamp of the Lick Observatory. S13418 \$ 20
50. **STRUVE, Otto** (1897-1963). Sammlung der Beobachtungen von Sternbedeckungen während der totalen mondfinsterniss 1888 Januar 28. St. Petersburg: Buchdruckerei der K. Akademie der wissenschaften, 1889. ¶ 4to. xii, 58 pp. Original printed wrappers. Cover and title with manuscript notations. Very good. S13419 \$ 35



51. **STRUVE, Otto** (1897-1963). Sammlung der Beobachtungen von Sternbedeckungen während der totalen Mondfinsterniss 1884 October 4. St. Petersburg: Buchdruckerei der K. Akademie der Wissenschaften, 1885. ¶ 4to. vii, 32 pp. Original yellow printed wrappers. Cover and title with manuscript notations. Rubberstamp of the Lick Observatory. Very good. S13420 \$ 35



52. [STRUVE, Otto] T. G. (Thomas George) COWLING (1906-1990). *Otto Struve 1897-1963*. London: The Royal Society, 1964. ¶ Series: Biographical Memoirs of Fellows of The Royal Society, vol. 10, Nov. 1964. 8vo. pp. 283-304. Portrait. Original printed wrappers. Rubberstamp of the Lick Observatory. With a compliments note from Cowling, laid in. Very good. S13421 \$ 20
53. [STRUVE, Otto] Von Albrecht UNSOLD. *Otto Struve – 12. 8. 1897 in Charkow; 6. 4. 1963 Berkeley*. [offprint, obituary]. Berlin: Springer, 1964. ¶ Series: *Sonderdruck aus die Naturwissenschaften*, heft 11, 1964. 11 inches. pp. 253-255. Illus. Self-wraps; edge curled. Very good. S13422 \$ 12



54. **SVANBERG, Jöns [SWANBERG]** (1771-1851). *Exposition des Opérations Faites en Laponie, pour la détermination d'un arc du méridien, en 1801, 1802 et 1803, par Messieurs Öfverbom, Svanberg, Holmquist et Palander.* [Stockholm]: J.P. Lindh, 1805. ¶ 8vo. [2, iv], xiii-xvi, [v]-xii, xxxi, [1], 196 pp. 3 folding engraved plates, errata; lightly foxed. Modern dusty-rose paste-paper over boards. The first section is misfoliated, but complete. Untrimmed. RARE. [SS13440]

\$ 375

First Edition, arranged in four parts, appendix. The 1801-3 scientific results of measuring the arc of meridian in Lapland, Finland. The expedition was undertaken with the direction of Daniel Melanderhjelm (1726-1810),

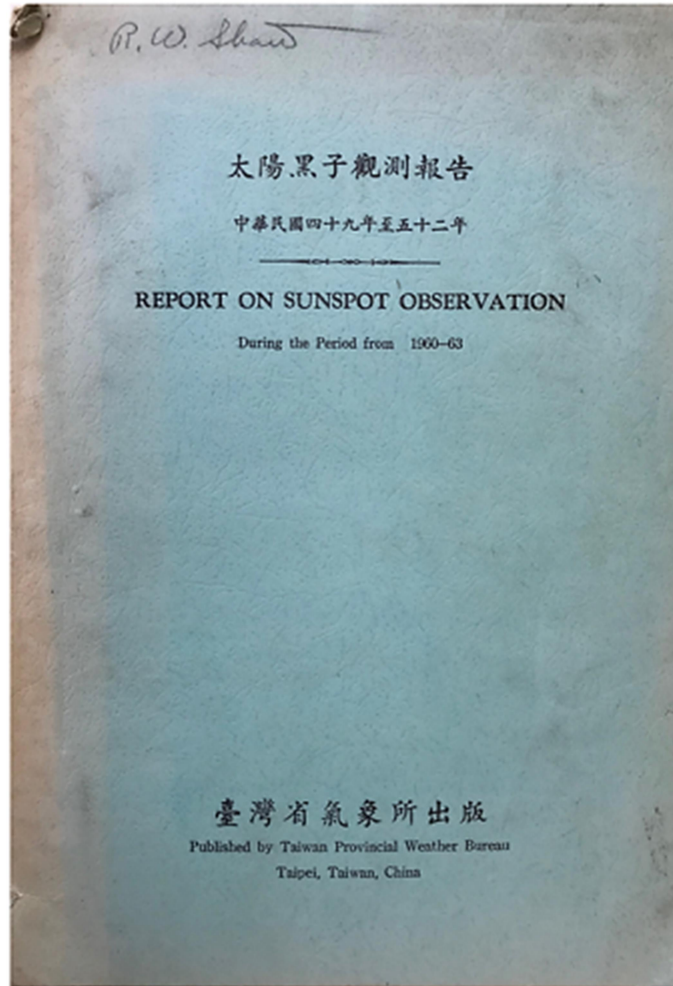




secretary to the Swedish Academy of Sciences, for the purpose of verifying or correcting previous measurements by Pierre Louis Maupertuis (1698-1759), taken in 1736. The text refers to J.-B.-J. Delambre, *Méthodes Analytiques pour la détermination d'un arc du méridien*, 1799, Pierre Bouguer, Charles Marie de La Condamine, Nevil Maskelyne, Holmquist, Palander, Mehan, Daniel Melanderhjelm (1726-1810), Franz de Paula Triesnecker (1745-1817), Aristotle, Huygens and Isaac Newton (p. 11).

“The re-measurement of a degree in Lapland, as a correction of the previous French operations [by Maupertuis], was carried on during the years 1801, 1802, and 1803, by Messrs. Ofverboom, Svanberg [“Swanberg”], Holmquist [Holinquist [sic]] and Palander, Swedish mathematicians: and from the account of their operations, published by M. Sw[v]anberg, the length of a meridional degree, north latitude  $66^{\circ} 20' 10''$  (the centre of the arc) is  $69^{\circ} 2698$  English miles. From a comparison of this result with those from the measurements taken in Peru, the East Indies, and France, M. Swanberg deduces a mean of  $1/323^{\circ} 065$  for the ellipticity, and  $3963^{\circ} 26$  miles for the equatorial radius of the earth.” – Peter Barlow, *A New Mathematical and Philosophical Dictionary: Comprising an Explanation ...*

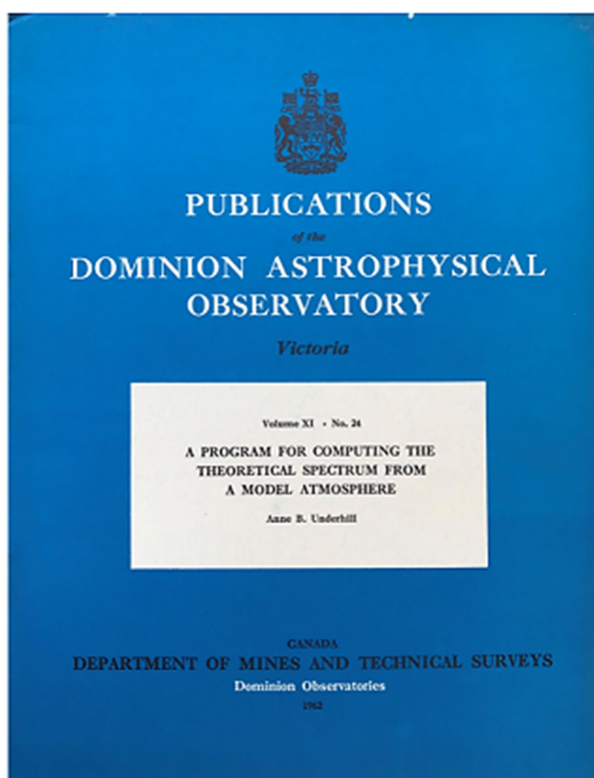
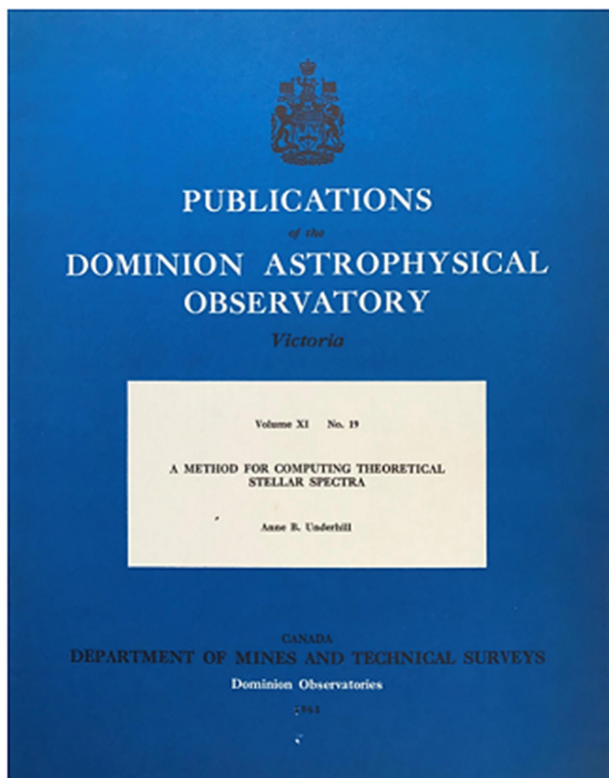




55. **Taiwan Provincial Weather Bureau; Formosa (Island).** Report on Sunspot Observation During the Period from 1960-63. Taipei, Taiwan, China: Taiwan Provincial Weather Bureau, 1964? ¶ 4to. [2], 166 pp. text in Chinese and English. Original pale turquoise printed wrappers; some fading and chipping to spine. Ownership signature of R.W. Shaw. Very good. Very rare. S13424

\$ 45

The Astronomical Observatory of Taiwan Weather Bureau made sunspot observations at Taipei continuously with a 10cm equatorial refractor during the period from January 1960 to December 1963. This report contains the results of sunspot observation during this period. Added: 4 supplemental reports from March 1965-December 1965 [nos. 5-6-7-8].



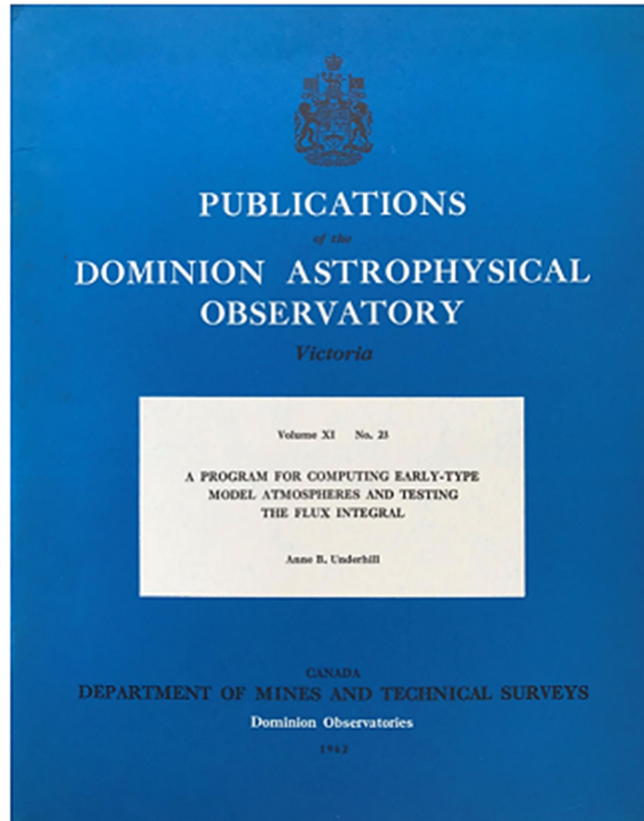
56. **UNDERHILL, Anne B., FRSC** (1920-2003). A Method for Computing Theoretical Stellar Spectra. Victoria, BC: Dominion Astrophysical Observatory, 1961. ¶ Series: Publications of the Dominion Astrophysical Observatory, vol. XI, no. 19, 1961. Canada Dept. of Mines and Technical Surveys; Observatories Branch. 4to. pp. 363-383, [1]. Tables, fig. Blue printed wrappers. Very good. S13425

\$ 15

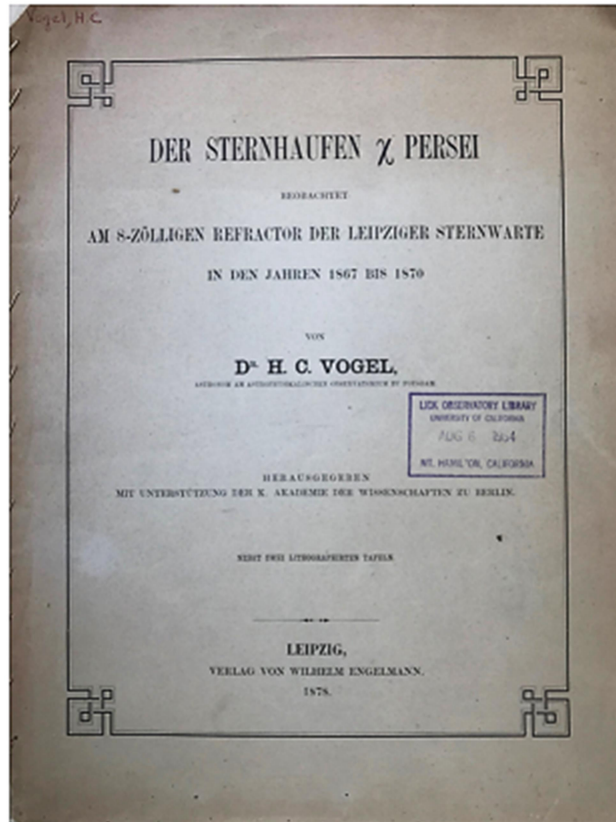
Canadian astrophysicist, Underhill was known for her work on early-type stars. She took her Ph.D. at the University of Chicago, studying under astrophysicist Subrahmanyan Chandrasekhar, graduating in 1948. From 1949-62, during the time of this paper, she worked at the Dominion Astrophysical Observatory as a research scientist. Later she took positions in Utrecht and at NASA. See: Nancy Grace Roman, [Obituary], "Anne Barbara Underhill (1920 - 2003)," *Bulletin of the American Astronomical Society*, 2003, v. 35, p.1476.



57. **UNDERHILL, Anne B., FRSC** (1920-2003). A Program for Computing the Theoretical Spectrum from a Model Atmosphere. Victoria, BC: Dominion Astrophysical Observatory, 1962. ¶ Series: Publications of the Dominion Astrophysical Observatory, vol. XI, no. 24, 1962. Canada Dept. of Mines and Technical Surveys; Observatories Branch. 4to. pp. 467-489, [1]. Figs. Blue printed wrappers. Very good. S13426 \$ 15



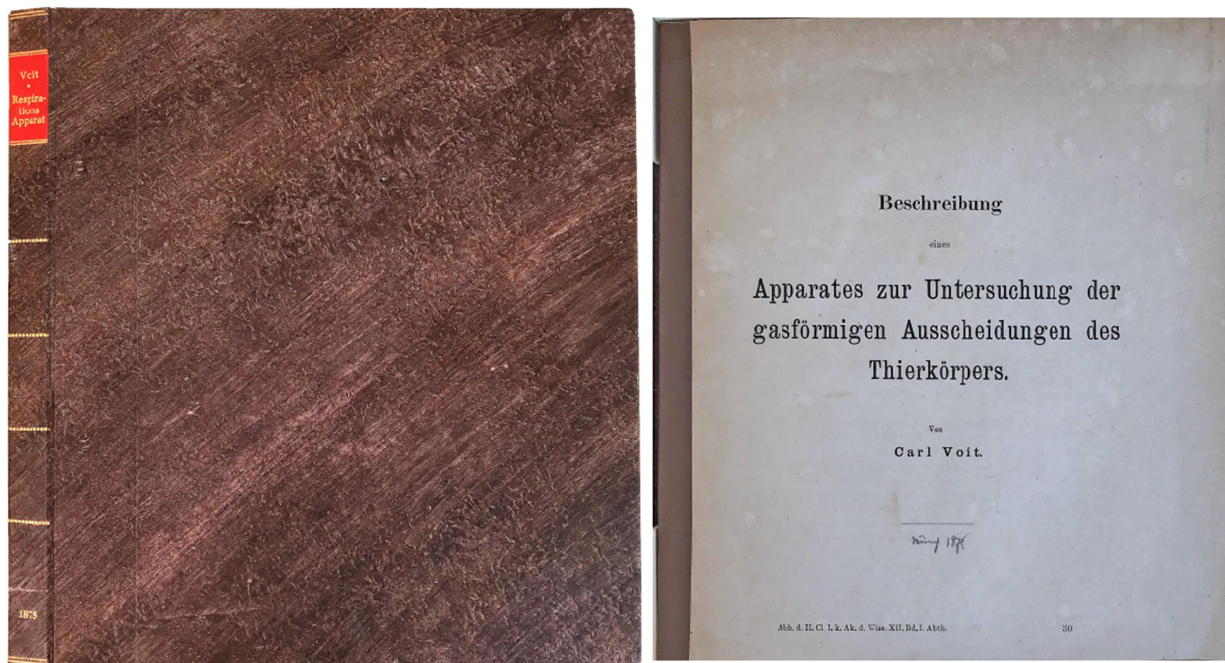
58. **UNDERHILL, Anne B., FRSC** (1920-2003). A Program for Computing Early-Type Model Atmospheres and Testing the Flux Integral. Victoria, BC: Dominion Astrophysical Observatory, 1962. ¶ Series: Publications of the Dominion Astrophysical Observatory, vol. XI, no. 23, 1962. Canada Dept. of Mines and Technical Surveys; Observatories Branch. 4to. pp. 433-466. Tables. Blue printed wrappers. Very good. S13427 \$ 15



59. **VOGEL, Dr. Hermann Carl** (1841-1907). *Der Sternhaufen X [Chi] Persei beobachtet am 8-zölligen Refractor der Leipziger Sternwarte in den Jahren 1867 bis 1870 . . . Nebst zwei lithographirten Tafeln.* Leipzig: Wilhelm Engelmann, 1878. 4to. [vi], 36 pp. 2 lithographs. Original printed wrappers; spine re-stitched. Rubberstamp of the Lick Observatory. S13428

\$ 30

"The Star-cluster X [Chi] Persei — Dr. Vogel, of the Potsdam Observatory, has published the results of measures of the cluster X [Chi] Persei made in 1867-70, by means of the 8-inch refractor, at Leipzig, with the object of fixing the relative positions (and magnitudes) of the stars of this cluster, as that any future change may not pass undetected. 176 stars, in all, have been fixed in position by the filar micrometer." — W. F. Denning, in: *The Observatory*, edited by W.H.M. Christie, Volume 2, London, 1879, p.100.



*Pulmonary Gas Exchange*

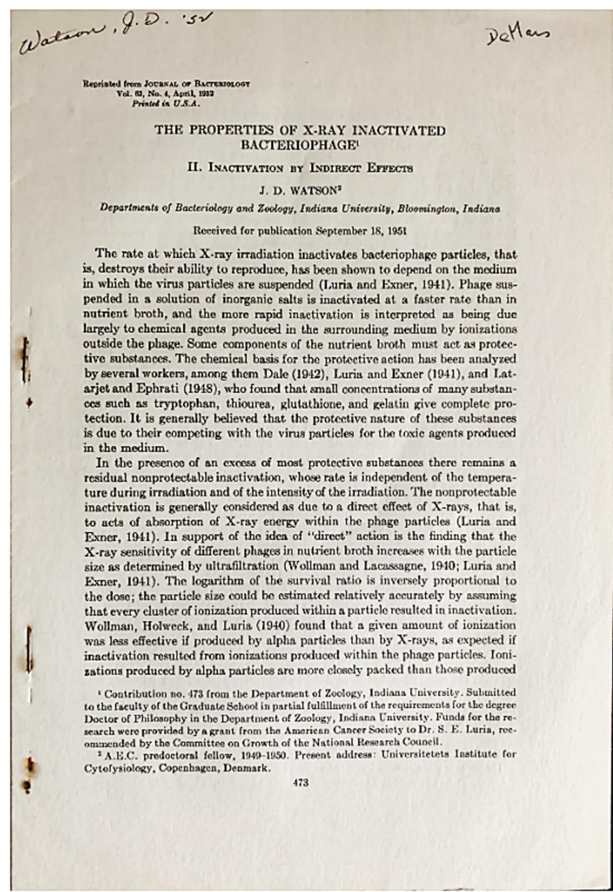
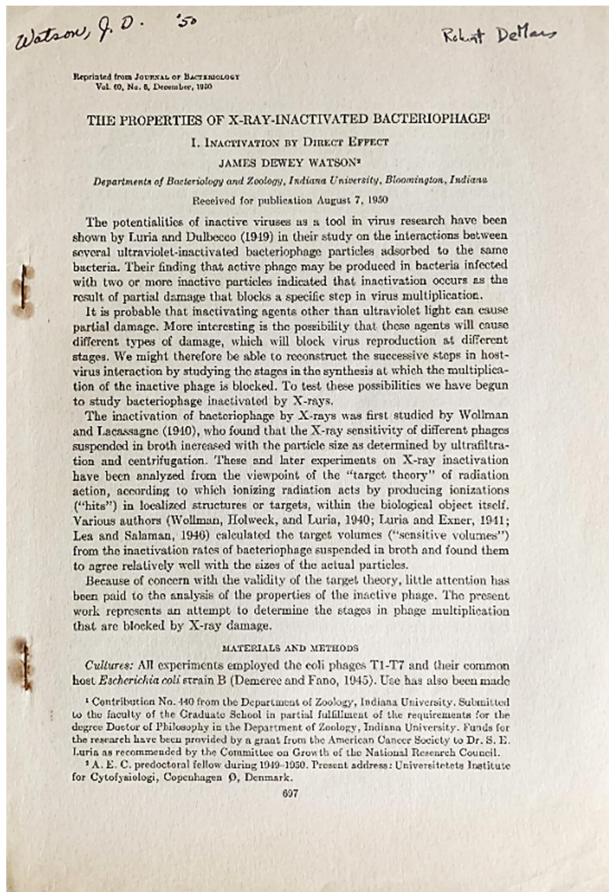
60. **VOIT, Carl von** (1831-1908). *Beschreibung eines Apparates zur Untersuchung der gasförmigen Ausscheidungen des Thierkörpers*. Offprint: Abhandlung der II Cl der k Akademie der Wissenschaften, Vol. XII, Part 1. [no place]: Akademie der Wissenschaften, 1875. ¶ 4to. pp. [219]-271. 2 folding engraved plates. Original printed wrappers. Housed in a clamshell box. Bookplate of Andras Gedeon. Fine. [SS9551]

\$ 450

In this treatise, "Voit gives a detailed description of his apparatus for the measurement of gas exchange in animals. The technique is based on an open-circuit approach, where air is allowed to flow through an enclosure where the experimental animal is confined. Accurate methods of gas analysis and ingenious absolute calibration techniques are combined to improve on the performance of a similar but much later installation built by Pettenkofer in 861." [Gedeon].

"Voit [1875] introduced the important improvement that a gas meter actuated by a small motor was used as a pump for the main air current. An extremely accurate measurement is hereby secured as Voit's calibrations show, and in all modern air-current apparatus gas meters have superseded the older and complicated types of pumps. It is perhaps a little strange that they have not so far been used in closed-circuit apparatus." August Krogh, p. 34.

☞ Gedeon, *Science and technology in medicine*, pp. 300-301. See: August Krogh, *The Respiratory Exchange of Animals and Man*, 1916.



*James D. Watson's First Published Research Papers*  
*3+1 years before Crick & Watson's*  
*1953 Historic Announcement of the Structure of DNA*

61. **WATSON, James Dewey** (b. 1928). *The Properties of X-Ray-Inactivated Bacteriophage. I. Inactivation by Direct Effect*. Offprint: *Journal of Bacteriology*, Vol. 60, No. 6, pp. 697-718, December 1950. ¶ Tall 8vo. 3 figs., 10 tables, refs., pencil notation on fig. 3 (presumably by DeMars). Self-wraps; two rusted (original) staples, slight stain from rust. Signature of Robert DeMars and author's name notation on cover. Fine. [with:] **WATSON, James Dewey**. *The Properties of X-Ray-Inactivated Bacteriophage. II. Inactivation by Indirect Effects*. Offprint: *Journal of Bacteriology*, Vol. 63, No. 4, pp. 473-485, April 1952. 3 figs., 6 tables, refs. Self-wraps; two rusted (original) staples, slight stain from rust. Signature of Robert DeMars and author's name notation on cover. Fine. [SS13435]

\$ 4850

FIRST OFFPRINT ISSUES of James D. Watson's first published research papers, in support of his doctoral candidacy, dealing with inactivation of T2 bacteriophage with X-Rays. Luria and Dulbecco had previously discovered (1949) that bacteriophage could be inactivated by ultraviolet irradiation, and in this paper Watson describes similar effects obtained by X-Ray exposure. A result of this investigation was that the required "killing" dosage or "hits" is logarithmically related to the intensity of the exposure, unlike ultraviolet irradiation. Through a sophisticated technique using heat-inactivated E. coli, Watson was able to measure the adsorptive capacities of various T-phages and postulate the damage done to a phage's ability to adsorb and infect a host bacterium, resulting in subsequent lysis. In his second paper, Watson demonstrates the indirect effect of "hyperprotection" of X-Ray inactivated phage by concentrations of cysteine. "The struggle in the spring of 1950 was 'to write up minor results'



for his thesis. He thought of it as 'torture.' He wrote the thesis in a month, but Salva 'did not like is' and took it home for rewriting. 'Not surprisingly,' Watson recalled, 'the thesis was accepted without fuss at my Ph.D. exam in late May.' He later reflected that he got his degree fast, 'not because I was really that bright, but because there was very much less to learn.'" [McElheny].

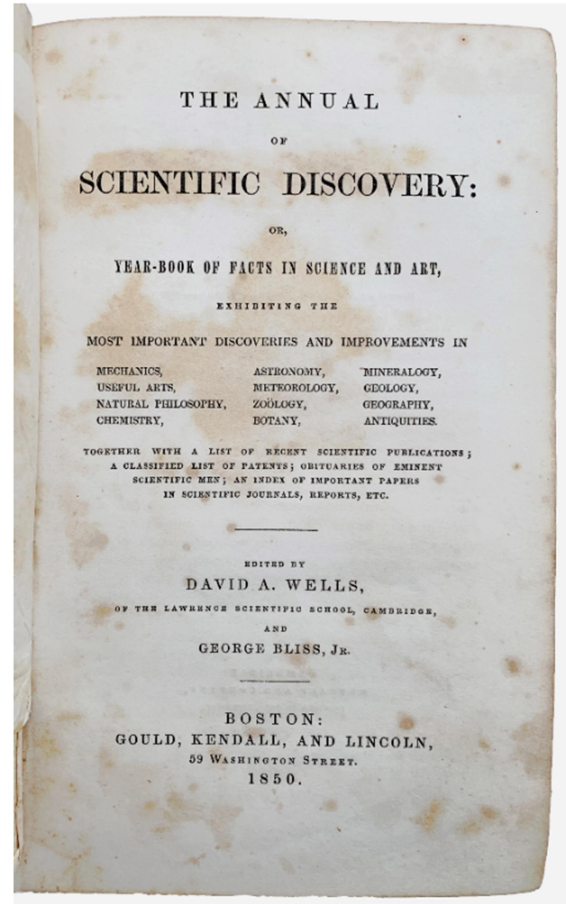
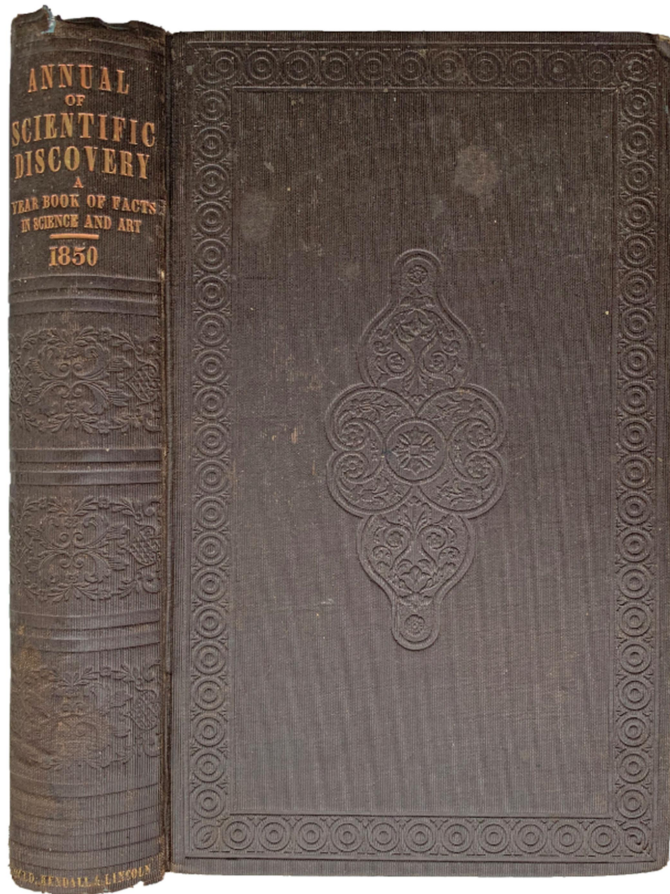
Crick and Watson, together with Maurice Wilkins, won the 1962 Nobel Prize in Medicine for their discovery of the structure of DNA. This was one of the most significant scientific discoveries of the 20th century ... At that time Maurice Wilkins and Rosalind Franklin, both working at King's College, London, were using X-ray diffraction to study DNA. Crick and Watson used their findings in their own research. In April 1953, they published the news of their discovery, a molecular structure of DNA based on all its known features - the double helix. Their model served to explain how DNA replicates and how hereditary information is coded on it."

"James Dewey Watson was born on 6 April 1928 in Chicago and studied at the universities of Chicago, Indiana and Copenhagen. He then moved to Cambridge University. Watson and Crick worked together on studying the structure of DNA (deoxyribonucleic acid), the molecule that contains the hereditary information for cells." [BBC]

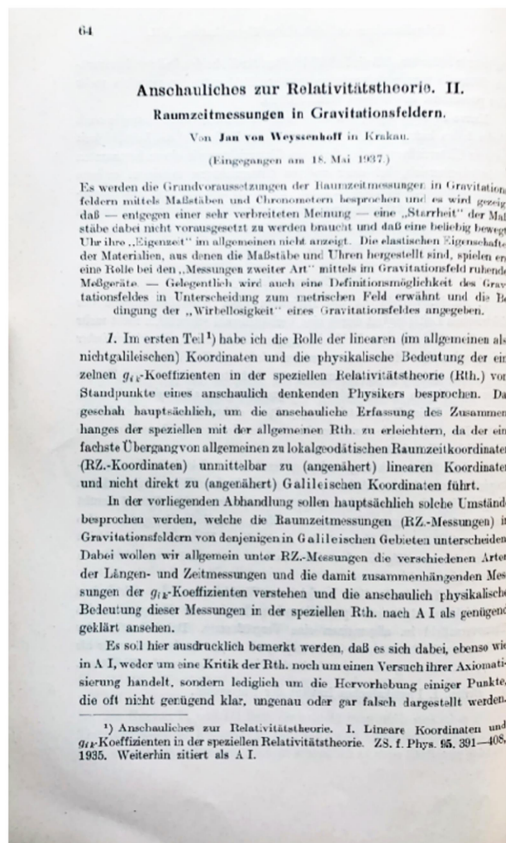
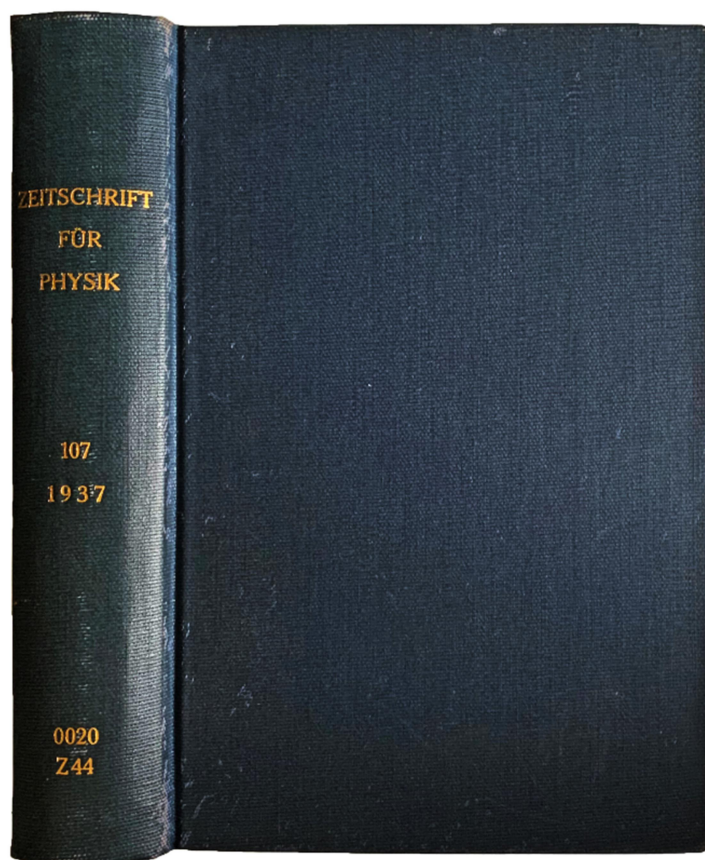
PROVENANCE: Robert DeMars' copies of these papers. As the third graduate student mentored by Salvador Luria, DeMars went on to positions at Washington University (St. Louis) and the University of Wisconsin (Madison). His genetic research also involved investigations using strains of T bacteriophage. As a personal friend and colleague of the author, Watson gave copies of all his papers to DeMars as they were published.

☞ McElheny, *Watson and DNA Making a Scientific Revolution*, pp. 25-28.





62. **WELLS, David A. & George BLISS** [eds.]. *The Annual of Scientific Discovery: or, Year-Book of Facts in Science and Art, exhibiting the most important discoveries and improvements in mechanics, useful arts, natural philosophy, chemistry, astronomy, meteorology, zoology, botany, mineralogy, geology, geography, antiquities. Together with a list of recent scientific publications; a classified list of patents; obituaries of eminent scientific men; an index of important papers in scientific journals, reports, etc.* Boston: Gould, Kendall, and Lincoln, 1850. ¶ 8vo. x, [2], [13]-392, [ads 17] pp. Frontispiece; occasional scattered foxing especially at end-leaves and title-page. Original stamped brown cloth, gilt-stamped spine; corners rubbed. Good. [S11267] \$40

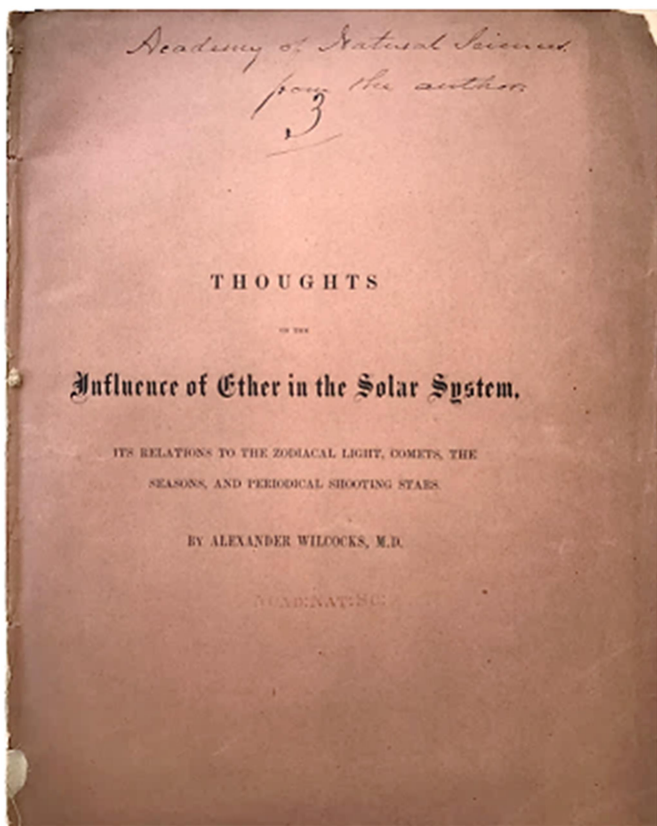


63. **WEYSSENHOFF, Jan von** (1889-1972). "Anschauliches zur Relativitätstheorie. II. Raumzeitmessungen in Gravitationsfeldern." *Zeitschrift für Physik*, v.107 n1-2 (193701): 64-72. Berlin: Julius Springer, 1937. ¶ Entire volume 107 [viii, 799 pp.]. Navy cloth; gilt spine; covers freckled. Embossed: Carnegie Institution of Washington, Mount Wilson Observatory. Very good. [S13768]

\$ 75

Journal issue: In 1937, he began working on the properties of relativistic spin particles. "Descriptive information on the theory of relativity. II. Space-Time measurements in gravitational fields." [German text]. Jan von Weissenhoff (1889-1972), Polish physicist, studied and excelled in both physics and mathematics at the Jagiellonian University, Cracow, and in Zurich (during WWI) he attended the E.T.H. [Eidgenössische Technische Hochschule], taking his doctorate (1916). As the chairman of the Krakow Branch of the Polish Physical Society, he organized the first nationwide seminar on theoretical physics (March 20-22, 1939). "He stayed on at the

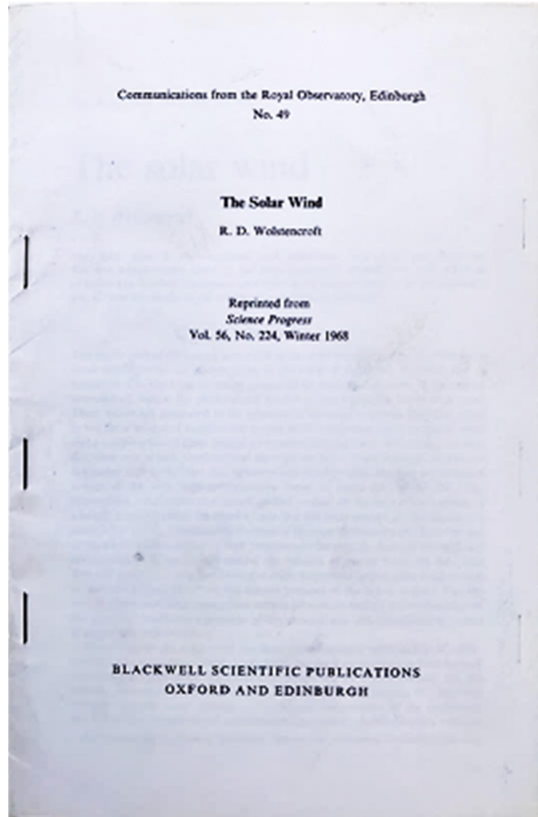
E.T.H. in Zurich as an assistant until he returned to Cracow in 1921 as a lecturer in theoretical and experimental physics. A year later he accepted a professorship at the University of Vilna, and in 1935 succeeded Wladyslaw (Ladislaus) Natanson in the chair of theoretical physics at the University of Cracow. Weysenhoff devoted his early career to the problems of statistical mechanics and quantum theory, and later shifted his activity to the foundations of special and general relativity theory." Helmut Rechenberg, *The Historical Development of Quantum Theory*, volumes 1-2, p. 431.



64. **WILCOCKS, Alexander, M.D.** (1817-1880). *Thoughts on the Influence of Ether in the Solar System, its relation to the zodiacal light, comets, the seasons, and periodical shooting stars. Read before the American Philosophical Society.* . . Philadelphia: C. Sherman, Son & Co., printers, 1864. ¶ Series: American Philosophical Society. 4to. pp. [ii], 73-104. 1 plate, 5 figs. Printed wrapper (upper cover present); some chipping to extremities. Cover inscribed, "Academy of National Science from the author." S13429

\$ 35

Issued later: American philosophical society, Transactions, Philadelphia, 1869. new ser., v. 13, pt. 1 (1865). The author also wrote: An essay on the tides: theory of the two forces. 1855.



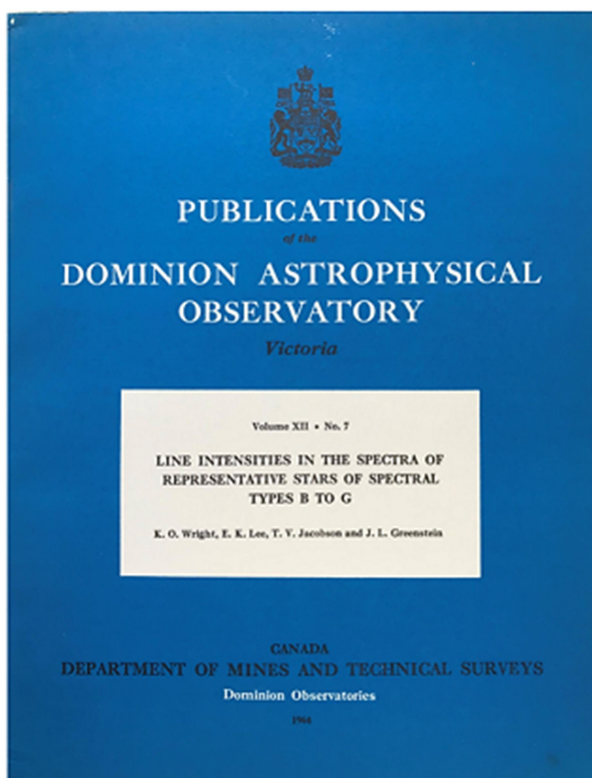
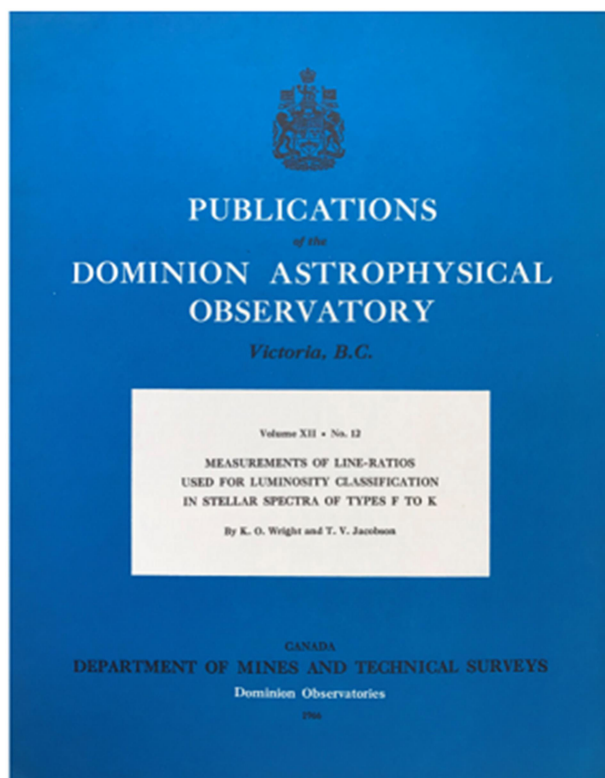
65. **WOLSTENCROFT, R. D. (Ramon David)** (1936-). *The Solar Wind*. Oxford and Edinburgh: Blackwell Scientific, 1968. ¶ [Offprint]. Series: *Science Progress*, vol. 56, no. 224, Winter 1968; Communications from the Royal Observatory, Edinburgh, no. 49. 9.25 inches. pp. 511-529, [1]. 3 figs. Printed wrappers. Very good. S13430

\$ 20

Abstract: The solar wind is the continual and supersonic outflow of gas from the Sun into interplanetary space: it has been extensively studied since 1962 when its existence was conclusively demonstrated from in situ measurements of the interplanetary gas. Current knowledge of the solar wind is

reviewed in this article.

Ramon David Wolstencroft, British Astronomer. Fulbright scholar, 1962-1965; recipient research grant National Science Foundation, 1968-1976. Fellow Royal Astronomical Society; member American Astronomical Society, International Astronomical Union. Junior astronomer, Kitt Peak National Observatory, Tucson, 1962-1965; senior science officer, Royal Observatory, Edinburgh, Scotland, 1965-1967; lecturer department astronomy, U. Edinburgh, 1967-1968; associate professor, Institute Astronomy, U. Hawaii, Honolulu, 1968-1973; full professor, Institute Astronomy, U. Hawaii, Honolulu, 1973-1976; senior principal science officer, Royal Observatory, Edinburgh, since 1976; deputy director, Royal Observatory, Edinburgh, since 1992. Fellow Royal Astronomical Society. Member American Astronomical Society, International Astronomical Union.



66. **WRIGHT, K. O.; T. V. JACOBSON.** *Measurements of Line-Ratios used for Luminosity Classification in Stellar Spectra of Types F to K.* Victoria, BC: Dominion Astrophysical Observatory, 1966. ¶ Series: Publications of the Dominion Astrophysical Observatory, vol. XII, no. 12, 1966. Canada Dept. of Mines and Technical Surveys; Observatories Branch. 4to. pp. 373-390. Plate, tables, figs. Blue printed wrappers. Very good. S13431 \$ 15
67. **WRIGHT, K. O.; T. V. JACOBSON; J.L. GREENSTEIN.** *Line Intensities in the Spectra of Representative Stars of Spectral Types B to G.* Victoria, BC: Dominion Astrophysical Observatory, 1964. ¶ Series: Publications of the Dominion Astrophysical Observatory, vol. XII, no. 7, 1964. Canada Dept. of Mines and Technical Surveys; Observatories Branch. 4to. pp. 173-291, [1]. 5 illus., 21 figs., tables. Blue printed wrappers. Very good. S13432 \$ 20

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