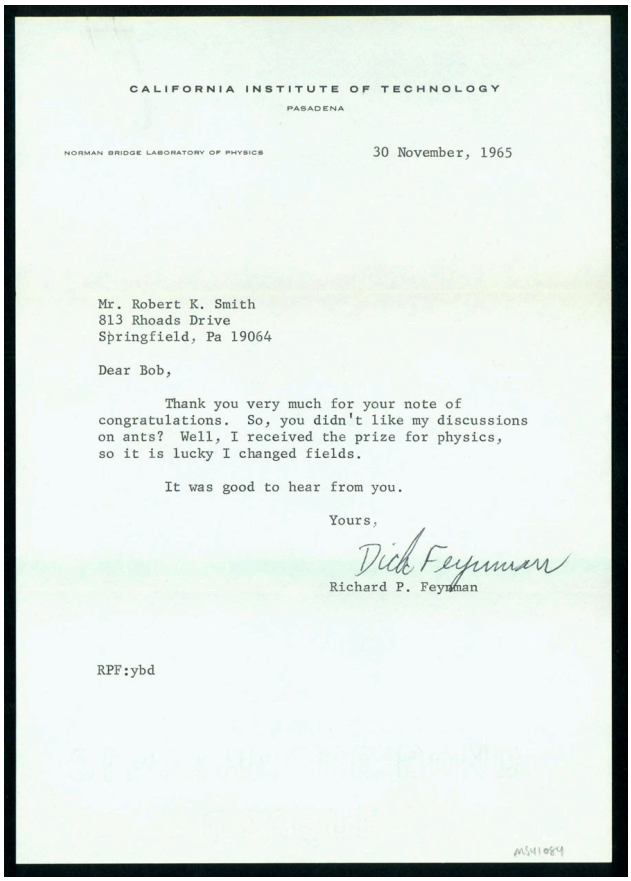
leaves a trifle gnawed, but a fine and completely unrestored tall copy, in a full morocco suede-lined box by Lobstein. "Double-phi" cipher penned on upper margin of title, reminiscent of those of bibliophiles **Nicolas Claude Fabri de Peiresc** (1580-1637), scholar and patron of the sciences, and **Nicolas Fouquet** (1615-80), finance minister to Louis XIV. From the renowned, but undocumented library of the French non-practicing physician, music publisher, and connoiseur, Jean Blondelet. Contemporary marginalia, including index of diseases related to biblical names on final flyleaf. $17,500

First Edition. G-M 2271. The first systematic treatise on pathology, which also introduced the names for the sciences of pathology and physiology. In the second part of the above, entitled "Pathologia" (a term Fernel introduced), Fernel provided the first systematic essay on the subject, methodically discussing the diseases of each organ. The result was a succinct summary of the best available knowledge of organic abnormality in disease. Fernel's predecessor Benivieni, whose *De abditis* (1507) represents the foundation of modern pathology, had presented a collection of case histories without any attempt at a logical or methodical system. Fernel's contributions to the study of aneurysms were particularly noteworthy. He was the first to associate arterial dilatation with aneurysm and he differentiated true from false aneurysms. Fernel also attributed the cause of arterial aneuysms to syphilis, which was pandemic during the Renaissance.

Although Fernel's earlier treatise, *De naturali parte medicinae* (1542; PMM 68), has long been considered the earliest work devoted exclusively to physiology, Fernel actually named that science "Physiologia" as the title to the revised edition of it which forms the first part of the *Medicina*. Within six years after his graduation from medical school Fernel became one of the most famous physicians in France. His reputation at the court of the dauphin (later Henri II) became firmly established when he saved the life of Henri's mistress, Diane de Poitiers. Fernel was however less successful with François I, Henri's father, who died of syphilis in 1547. See the classic *Endeavour of Jean Fernel* (1946) by Sir Charles Scott Sherrington. DSB. Long, *Hist. Path.*, pp. 38–41. Willius & Dry, *History of the heart and circulation* (1948) 40-41, 372. Acierno, *History of Cardiology* (1994)pp. 48-50, 97-99. Durling 1459. Norman 785. Waller 2993. Wellcome I, 2195. 34703



CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA

NORMAN BRIDGE LABORATORY OF PHYSICS 30 November, 1965

Mr. Robert K. Smith
813 Rhoads Drive
Springfield, Pa 19064

Dear Bob,

Thank you very much for your note of congratulations. So, you didn't like my discussions on ants? Well, I received the prize for physics, so it is lucky I changed fields.

It was good to hear from you.

Yours,

Richard P. Feynman

RPF:ybd

Mentioning His Nobel Prize and His Work on Ants

46. Feynman, Richard (1918-88). Typed letter signed, with postmarked cover, to Robert K. Smith. Pasadena, November 30, 1965. 1 page. 217 x 153 mm. Tears in cover mended with clear tape, otherwise fine. $6500

Excellent and characteristically humorous letter from Richard Feynman, who received a share of the 1965 Nobel Prize for physics for his part in developing the theory of quantum electrodynamics (QED), described as "perhaps the most nearly perfect theory in physics" (Weber, *Pioneers of Science,* p. 201). He also worked on the Manhattan Project, where he was head of the theoretical division at Los Alamos. "Widely known for his insatiable curiosity, gentle wit, brilliant mind and playful temperament" (Chandler, "Richard Feynman, Nobel laureate in physics," *Boston Globe* [17 February, 1988], 81), Feynman became famous outside the scientific world for his irreverent personality and his quirky and humorous books and lectures on popular science. Letters from Feynman are *rare*; this is only the second one we have seen on the market in our 40 years in business.

Feynman's letter, written a few weeks after he had received notification of his Nobel award, was a response to a friend's note of congratulations (we have not been able to further identify the recipient). The letter reads as follows:

> Dear Bob, Thank you very much for your note of congratulations. So, you didn't like my discussions on ants? Well, I received the prize for physics, so it is lucky I changed fields. It was good to hear from you. Yours, Dick Feynman

"Discussions on ants" refers to Feynman's studies of ant behavior made while he was in graduate school at Princeton and after he began teaching at the California Institute of Technology; he included an amusing account of these ant studies in his autobiography, *Surely You're Joking, Mr. Feynman!* One of Feynman's investigations—on how ants in an ant trail create a straight path between two points—has some bearing on his work on quantum electrodynamics. Feynman described this investigation in his autobiography:

> One question that I wondered about was why the ant trails look so straight and nice. The ants look as if they know what they're doing, as if they have a good sense of geometry. Yet the experiments that I did [at Princeton] to try to demonstrate their sense of geometry didn't work. Many years later, when I was at Caltech . . . some ants came out around the bathtub . . . I put some sugar on the other end of the bathtub . . . The moment the ant found the sugar, I picked up a colored pencil . . . and behind where the ant went I drew a line so I could tell where his trail was. The ant wandered a little bit wrong to get back to the hole, so the line was quite wiggly, unlike a typical ant trail.
>
> When the next ant to find the sugar began to go back, I marked his trail with another color . . . he followed the first ant's return trail back, rather than his own incoming trail. (My theory is that when an ant has found some food, he leaves a much stronger trail than when he's just wandering around.) This second ant was in a great hurry and followed, pretty much, the original trail. But because he was going so fast he would go straight out, as if he were coasting, when the trail was wiggly. Often, as the ant was "coasting," he would find the trail again. Already it was apparent that the second ant's return was slightly straighter. With successive ants the same "improvement" of the trail by hurriedly and carelessly "following" it occurred. I followed eight or ten ants with my pencil until their trails became a neat line right along the bathtub (Feynman, pp. 95-96).

The ants' process of arriving at a straight path, as Feynman described it, bears a strong similarity to Feynman's concept of how particles move in a straight line from point A to point B, a key part of his contribution to the theory of quantum electrodynamics:

> Now, we ordinarily think of particles (such as photons) as traveling in straight lines from A to B, but Feynman's concept was that, in a sense, a particle follows all possible paths, and it just so happens that the lengths of nearly straight paths are not very sensitive to slight variations of the path, so they all have nearly identical lengths, meaning they have nearly the same phase, so their amplitudes add up. On the other hand, the lengths of the more convoluted paths are more sensitive to slight variations in the paths, so they have differing phases and tend to cancel out. The result is that the most probable path (by far) from A to B is the straight path ("Feynman's Ants." *MathPages*. Web. 12 Jan. 2011).

Feynman, *Surely You're Joking, Mr. Feynman* (1985). 41084

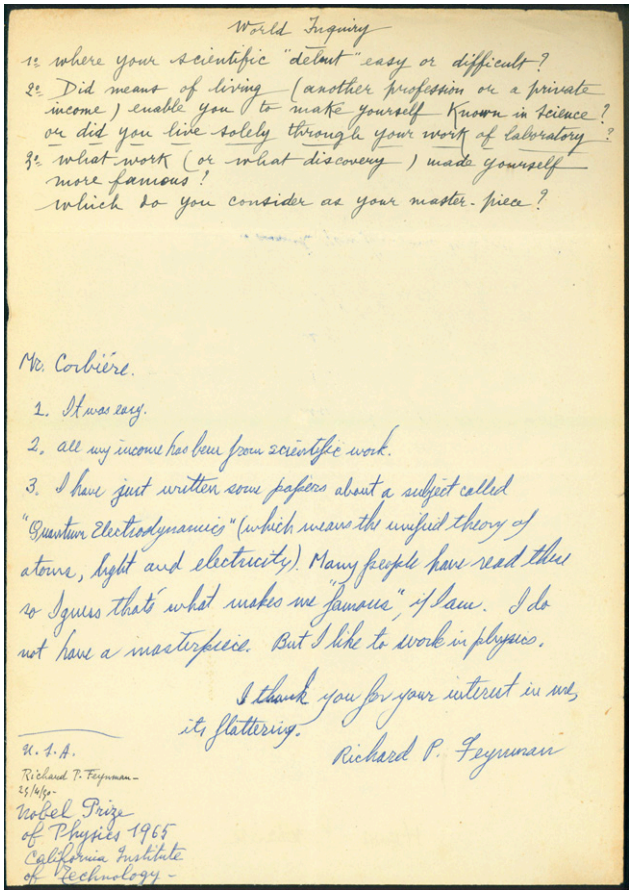
47. Feynman, Richard (1918-88). Autograph letter signed to Henri Corbière. N.p. [Pasadena], April 1970 (docketed "27/4/70" in recipient's hand). 1 page. 295 x 210 mm. Slight fraying at edges, but very good. $12,500

Extraordinarily rare autograph letter from Feynman, who received a share of the 1965 Nobel Prize for physics for his part in developing the theory of quantum electrodynamics (QED), described as "perhaps the most nearly perfect theory in physics" (Weber, *Pioneers of Science,* p. 201). Feynman mentions his work on QED in his letter to Corbière, a European autograph collector who had sent Feynman a list of questions about his scientific work and career; Feynman's response, written on the same sheet, answers Corbière's questions in order. Corbière asked Feynman the following:

> 1. Where [sic] your scientific "debut" easy or difficult?
>
> 2. Did means of living (another profession or a private income) enable you to make yourself known in science? Or did you live solely through your work of laboratory?
>
> 3. What work (or what discovery) made yourself more famous?
>
> Which do you consider your masterpiece?

Feynman responded in his characteristically playful way:

> 1. It was easy.
>
> 2. All my income has been from scientific work.
>
> 3. I have just written some papers about a subject called "Quantum Electrodynamics" (which means the unified theory of atoms, light and electricity). Many people have read these so I guess that's what makes



World Inquiry

1. where your scientific "debut" easy or difficult?
2. Did means of living (another profession or a private income) enable you to make yourself known in science? or did you live solely through your work of laboratory?
3. what work (or what discovery) made yourself more famous! which do you consider as your master-piece?

Mr. Corbière.

1. It was easy.
2. all my income has been from scientific work.
3. I have just written some papers about a subject called "Quantum Electrodynamics" (which means the unified theory of atoms, light and electricity). Many people have read these so I guess that's what makes me "famous", if I am. I do not have a masterpiece. But I like to work in physics.

I thank you for your interest in me, it's flattering.

Richard P. Feynman

U. S. A.
Richard P. Feynman
25/4/52
Nobel Prize
of Physics 1965
California Institute
of Technology

me "famous," if I am. I do not have a masterpiece. But I like to work in physics.

I thank you for your interest in me, it's flattering.

Richard P. Feynman

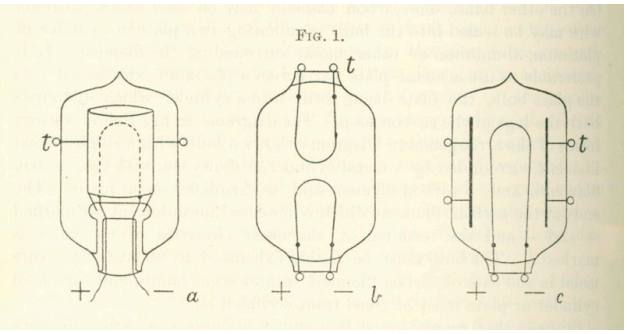
40927

Beginning of Electronics

48. Fleming, John Ambrose (1849-1945). On the conversion of electric oscillations into continuous currents by means of a vacuum valve. In *Proc. Roy. Soc.* 74 (1905): 476-487. Whole volume, 8vo. [66, variously paginated], 580pp. Plates, text illustrations. Later library buckram, very minor rubbing and wear. Book-label and stamps of the Liverpool Athenaeum.$2000

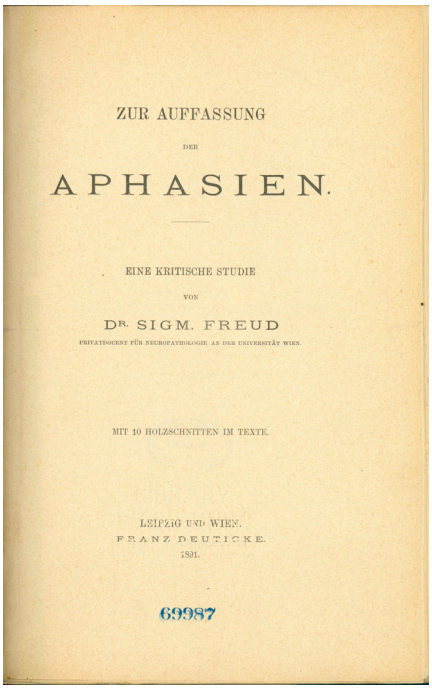
First Edition, Journal Issue. PMM 396. Fleming's paper introduced the basic principle of the modern wireless valve. Fleming, an electrical engineer and physicist who had worked with Thomas Edison's company in London,

> invented and patented the two-electrode vacuum-tube rectifier, which he called the oscillation valve.



> It was also called a thermionic valve, vacuum diode, kenotron, thermionic tube, or Fleming valve. . . . This invention is often considered to have been the beginning of electronics, for this was the first vacuum tube. Fleming's diode was used in radio receivers and radars for many decades afterwards, until it was superseded by solid state electronic technology more than 50 years later (Wikipedia).

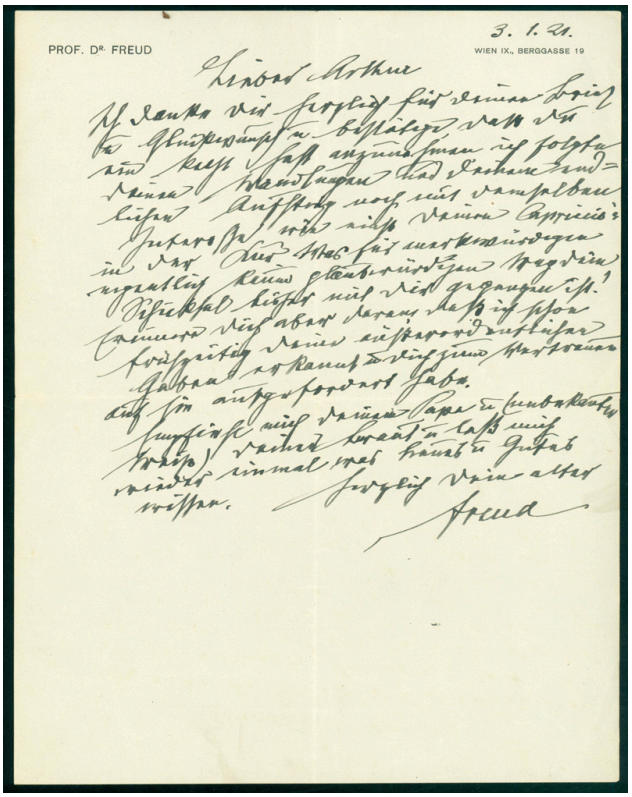
Fleming's invention paved the way for Lee DeForest and others to perfect the broadcasting of wireless signals. 40296



Freud's Rare First Book

49. Freud, Sigmund (1856-1939). Zur Auffasung der Aphasien. 8vo. [4] 107 [1]pp. Leipzig & Vienna: Deuticke, 1891. Modern cloth. Light browning, small ink & perforated library stamps on title, but very good. Library bookplate.

$3250


PROF. Dr. FREUD

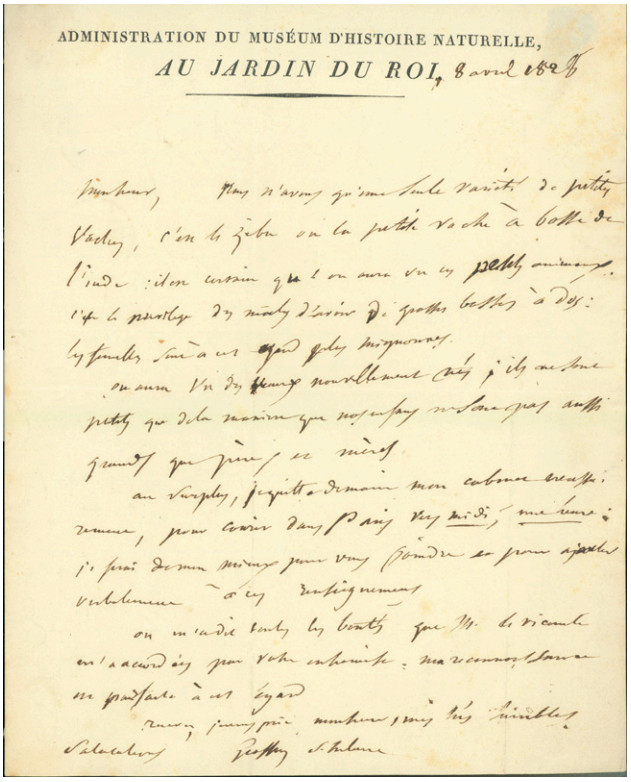
WIEN IX., BERGGASSE 19

3. 1. 29.

First Edition. Freud's treatise on aphasia, his first book, was little known or appreciated by contemporary neurologists, but Freud always regarded it as the most significant of his neurological writings. Freud was the first to criticize the foundations of the Wernicke-Lichtheim theory of aphasia, which held that losses of function in aphasia were caused by lesions to anatomically circumscribed centers corresponding to the various functions in language. Freud demonstrated that this concept led to localization schemes of labyrinthine complexity and did not fit with specific case studies; it was thus necessary to assume that the cerebral areas involved in language were less circumscribed. Grinstein 2. Norman F15. 31864

50. Freud, Sigmund (1856-1939). Autograph letter signed in German to an unidentified correspondent ("Arthur"). Vienna, January 3, 1929. 1 page. 288 x 229 mm. Fine. English translation included. $6500

To a former patient: "I thank you kindly for your letter and greetings and confirm that you have a right to assume I was still following you developments and your final success with the same interest as I once did your caprices during treatment. What a peculiar, actually almost incredible path fate has taken you up to now! But remember that I recognized your extraordinary gifts early on and demanded you trust in them. . . ." 40597


ADMINISTRATION DU MUSÉUM D'HISTOIRE NATURELLE,

AU JARDIN DU ROI, 8 avril 1828

51. Geoffroy Saint-Hilaire, Etienne (1772-1844). Autograph letter signed ("Geoffroy S. Hilaire"), in French, to Léon de Vailly [i.e., de Wailly] (fl. 1801-24). [Paris] Administration du Muséum d'histoire naturelle, au Jardin du Roi, April 8, 1828. 1 page plus integral address leaf. 255 x 205 mm. Small hole in address leaf where seal was cut away (not affecting text), traces of former mounting, but fine otherwise.

$950

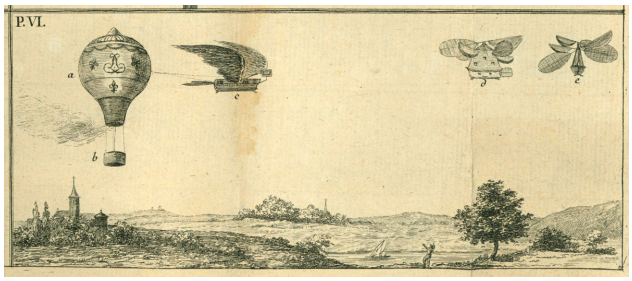
From French naturalist Etienne Geoffroy Saint-Hilaire, professor of zoology at the Muséum d'Histoire Naturelle in Paris and a pioneer evolutionary theorist. Unlike his great contemporary Cuvier (with whom he collaborated on five natural history memoires), Geoffroy Saint-Hilaire did not believe in the immutability of species. He theorized that all animals, both vertebrates and invertebrates, are descended from a single type, and that species undergo modifications over time. To support his theories Geoffroy Saint-Hilaire amassed evidence from his investigations in comparative anatomy and paleontology, and also drew from his studies of monstrous births. He is regarded as the founder of scientific teratology.

Geoffroy's letter, written on official stationery from the Muséum, alludes to the scientific menagerie that he founded at that institution:

Nous n'avons qu'une seule variété de petites vaches, c'est le zébu ou la petite vache à bosse de l'Inde : il est certain que l'on aura vu ces petits animaux. C'est le privilège des males d'avoir des grosses bosses à dos : les femelles sont à cet égard plus mignonnes. . .

[We only have one variety of small cow, which is the zebu or small humped cow of India: you will have certainly seen these animals. The males are privileged to have large humps on their backs; the females are daintier in this regard . . .

Geoffroy's correspondent was Léon de Wailly, one of the most notable natural history artists of the period (see Baratray and Hardouin-Fugier, *Zoo: A History of Zoological Gardens in the West* [2002], p. 80 for an example of his work). He was an illustrator of La Cepède's monumental *La menagerie du Muséum national d'histoire naturelle* (1800-1801), one of the finest examples of 18th century French natural history illustration. The Musée du Jardin des Plantes preserves hundreds of de Wailly's watercolors. *Dictionary of Scientific Biography.* Benezit for de Wailly. 40915

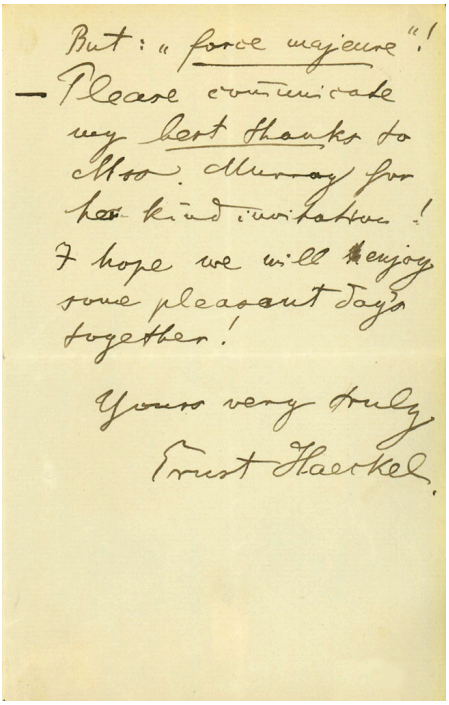


Bird Flight and Aerial Navigation

52. [Gérard, Laurent Gaspard.] Essai sur l'art du vol aérien. 8vo. iv, 178, [2], xv pp. Engraved folding plate. Paris: La veuve Duchesne; Brunet, 1784. 182 x 107 mm. (uncut). Original plain wrappers, worn at spine, minor dampstaining. Light browning & occasional foxing, some fore-edges frayed, but very good. Boxed.

$3750

First Edition. The first book after the invention of balloons to investigate the flight of birds in connection with the problem of aerial navigation. Included is a discussion of the use of wings to steer lighter-than-air craft and the possibility of heavier-than-air craft powered by beating wings (ornithopters). About one-third of the book is devoted to discussions of the physics of flight, a comparison of the flight methods of birds and insects, and the design and construction of a human-powered ornithopter; the final chapter describes a new type of balloon powered by inflammable gas (probably hydrogen). Gérard also discusses the evil consequences that might result from man's gaining the ability to fly, and sets forth seven highly restrictive suggestions for state control of flying machines—including the rule that "an individual would be permitted to use his flying machine only for the benefit of himself, his wife, and his family," and a proposal suggesting that "on each flight the hirer [of a flying machine] be accompanied by a government-nominated co-pilot . . . who would ensure that the hirer did not deviate from his stipulated route" (quoted in Hart, *Prehistory of Flight*, pp. 120-21). 40964


But: « force majeure »!
Please communicate
my best thanks to
Miss Murray for
her kind invitation!
I hope we will enjoy
some pleasant days
together!
Yours very truly
Ernst Haeckel.

53. Haeckel, Ernst (1834-1919). Autograph letter signed, in English, to Scottish oceanographer John Murray (1841-1914). Jena, August 10, 1891. 3pp. 1823 x 115 mm. Small traces of former mounting on blank verso of second leaf, otherwise fine. $950

Letter from the German biologist and comparative anatomist Haeckel, promoter of Darwin's work in Germany, and coiner of numerous biological terms including *phylum*, *phylogeny*, and *ecology.* His correspondent, John Murray, was one of the founders of modern oceanography; a member of the famous *Challenger* oceanographic expedition (1872-76), Murray was the first to note the existence of the Mid-Atlantic Ridge and oceanic trenches such as the Marianas Trench, and in 1884 he established the Marine Laboratory in Edinburgh, the first institution of its kind in Britain. Murray and Haeckel met while Murray was editing and published the voluminous reports on the *Challenger* expedition's findings—Haeckel, an expert on invertebrate anatomy,

had been asked to contribute the reports on radiolaria, medusae, siphonophores and sponges. Haeckel's *Challenger* reports, comprising Vols. 14, 18, 28 and 32 of the collected reports of the expedition, were issued between 1882 and 1889.

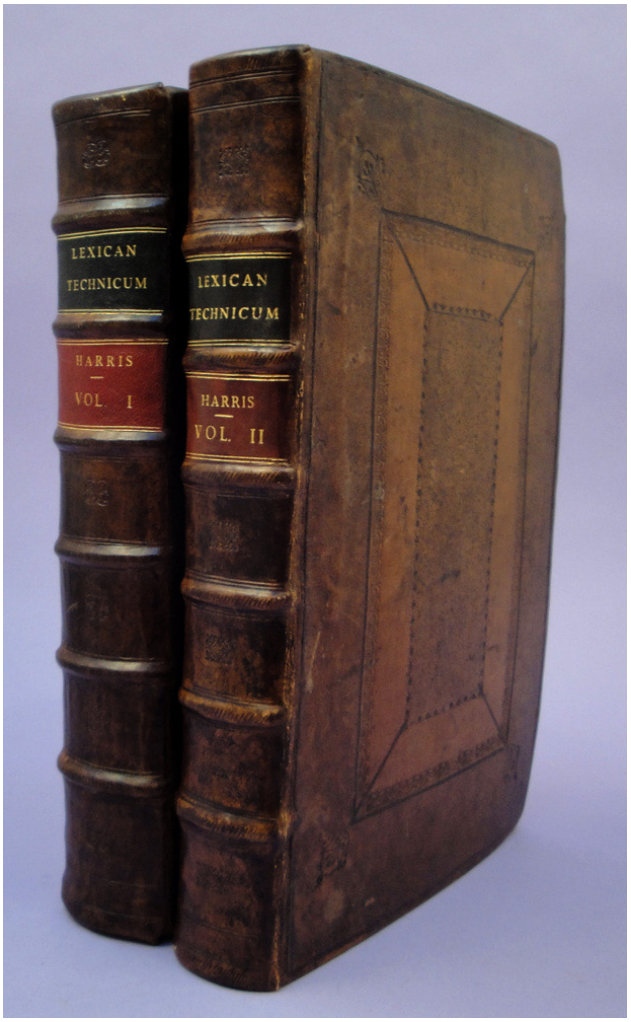
Haeckel's letter, written in his somewhat eccentric English, reads as follows:

> Dear Murray! Best thanks for your kind letter! I had all things arranged for depart to yesterday. Unfortunately, before yesterday, walking in the dark from a stall, I had a contusion of my left foot, so that I am obliged to remain lying in the canapee for some days. But I hope to be able again of walking in about a week, so that I may start from here about the 17 or 18 Aug. Than I will go directly to Hamburg, and write you, what day I will arrive at Edinbourgh. I am very anxious on this disagreeable delay! But: "force majeure"! Please communicate my best thanks to Mrs. Murray for her kind invitation! I hope we will enjoy some pleasant days together! Yours very truly Ernst Haeckel.

Richards, *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought* (2008), pp. 76-77. 41087

54. Harris, John (1666?-1719). Lexicon technicum: Or, an universal English dictionary of arts and sciences: Explaining not only the terms of art, but the arts themselves. 2 vols., folio. Unpaginated. Engraved portrait frontispiece by G. White after R. White in Vol. I, 14 engraved plates, text woodcuts. London: Dan Brown, Tim. Goodwin, John Walthoe [etc.], 1704-1710. 320 x 205 mm. Paneled calf ca. 1704-10, rebacked, endpapers renewed. A few plates toned, but a fine copy. Armorial bookplate of John Manley, Esq. in Vol. II. $15,000

First Edition. The first English dictionary of arts and sciences, and the earliest modern encyclopedia of science. Harris was the first to make the distinction between "word-books" (dictionaries) and "subject-books (encyclopedias), and his *Lexicon Technicum* is the first English encyclopedia to be arranged in alphabetical order. Harris relied heavily on the writings of Isaac Newton as a source, quoting lengthy excerpts from them under such headings as "Attraction," "Colour," "Fluxions," "Gravity," "Light," and "Motion." The introduction to Vol. II contains the first printing (in Latin and English) of Newton's "De natura acidorum," his only published work on chemistry; and the articles "Quadrature" and "Curves" give the first English translations of the "Two treatises" from Newton's

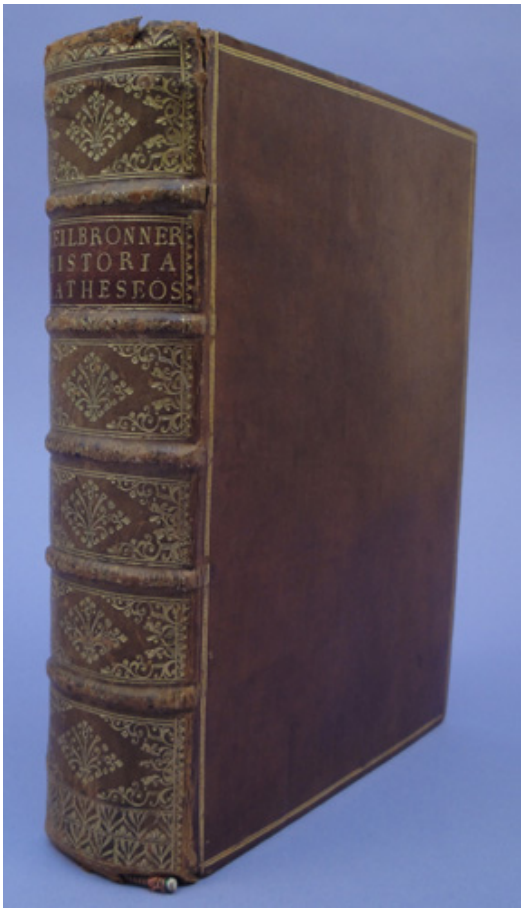


Opticks. The subscription list in Vol. II has Newton down for a large paper copy of the *Lexicon*.

Complete sets of the first edition of *Lexicon Technicum* are **extremely rare on the market**. Babson Supplement, p. 55. Collison, p. 99. Horblit 25a. Norman 992. *Printing and the Mind of Man* 171a. Wallis 383.5-383.501. 40876

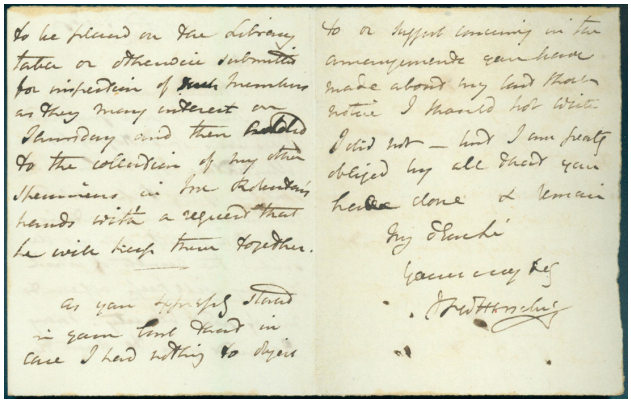
"Mathematical History"

55. Heilbronner, Johann Christoph (1706 – ca. 1747). Historia matheseos universae a mundo condito ad seculum p. C. n. XVI. 4to. [8], 924, [66]pp. Text diagrams. Leipzig: Joh. Friedrich Gleditsch, 1742. 230 x 177 mm. 18th century calf gilt, small cracks in hinges, light wear at extremities and corners. Some foxing and browning, but very good. Macclesfield Library bookplate (19th century) and embossed stamps. $2450



First Latin, and most probably the **First Complete Edition** (a German version, described as "Erster Theil" [first part] and consisting of only 204 pages, was published in 1739). Heilbronner's work, in both its German and Latin versions, was the first to use the term "mathematical history." It is one of the earliest histories of any science, predating Montucla's *Histoire des mathématiques*, which began publication in 1758.

Heilbronner's complete Latin edition contains chapters on mathematics and its uses, 602 biographies of famous mathematicians, bio-bibliographies of mathematical textbook writers, a chapter on Chinese mathematics, and a special study of arithmetic, including sections on arithmetical writers and even arithmetical poetry and divination. Of particular interest is a section listing mathematical manuscripts in important Italian, French, German and British libraries; some of the materials cited here may no longer be extant. 40967



"I Have Prepared Specimens of Photographs . . ."

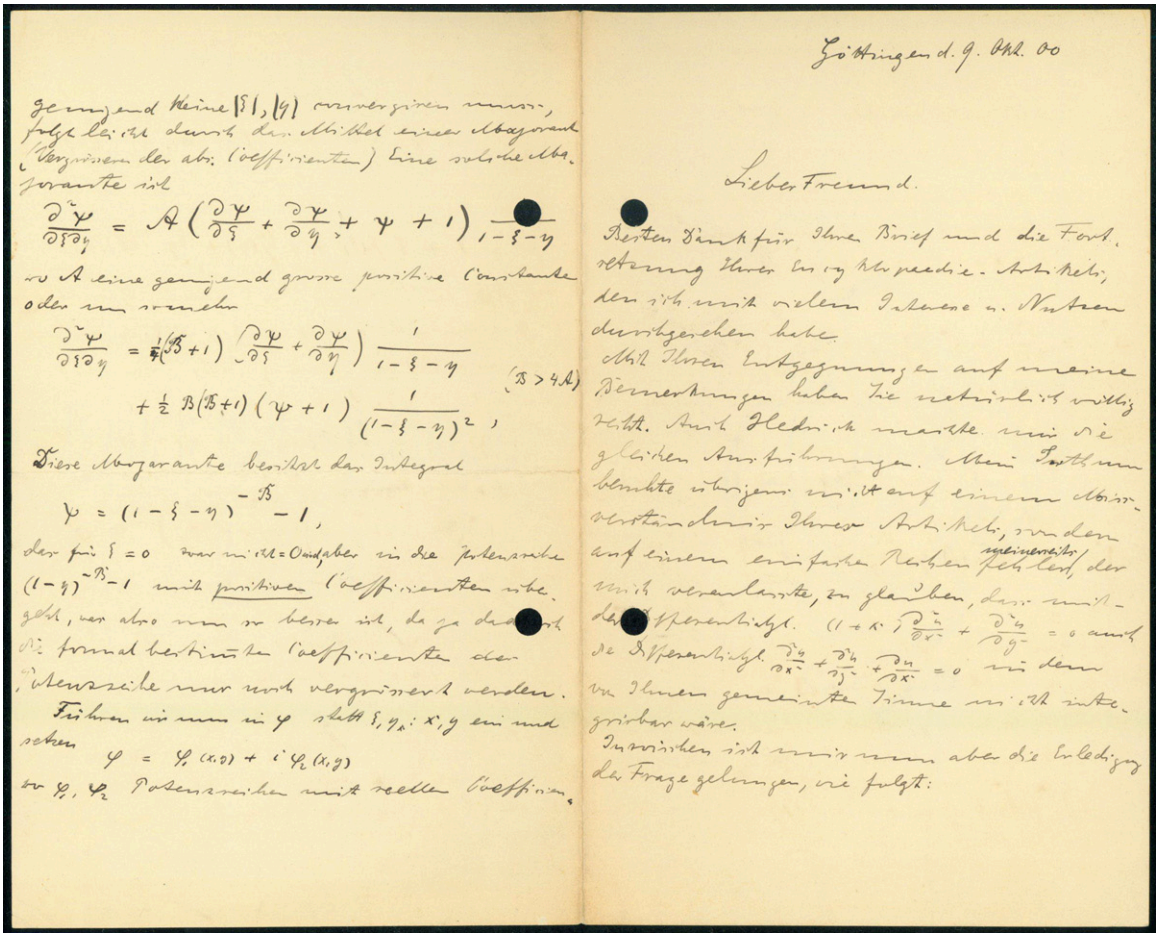
56. Herschel, John F. W. (1792-1871). Autograph letter signed to an unidentified correspondent [Samuel Hunter Christie (1784-1865)]. Collingwood [House, Hawkhurst], December 21, 1842. 3pp. 122 x 98 mm. Very good. $2500

Excellent letter discussing photographic researches from Sir John Herschel, whose intensive investigations in photography and photochemistry during the late 1830s and early 1840s led to enormous advances in the field in its earliest days. Herschel coined the terms "photography," "positive," and "negative," invented new photographic processes and improved existing ones, and experimented with color reproduction.

Herschel's letter begins with a discussion of his latest photographic work:

> Having had 2 days fine sun I have prepared specimens of photographs illustrative of the last paragraphs of my paper about the mercurial preparations and of a process not yet described that results of which if they will keep appear to me of great beauty. May I request you to direct them to be placed on the library table or otherwise submitted for inspection of such members as they may interest on Thursday and then added to the collection of my other specimens in Mr. Robertson's hands with a request that he will keep them together.

Herschel refers here to one of the two important papers on photography that he submitted to the Royal Society in 1842: "On the action of the rays of the solar spectrum on vegetable colours, and on some new photographic processes" (*Philosophical Transactions* 132 [1842]: 181-214) and "On certain improvements on photographic processes described in a former communication, and on the parathermic rays of the solar spectrum" (*Philosophical Transactions* 133 [1843]: 1-6). These papers discussed



Herschel's photochemical experiments with a wide range of organic and metallic materials, and announced his invention of two new photographic processes: the gold-based chrysotype and the cyanotype, an iron-based method using potassium ferricyanide. This last process, which produces white images on a blue ground directly onto paper, is the ancestor of the modern blueprint. Herschel described the working details of these processes fully in his second paper, to which he is likely referring in the present letter. The "process not yet described" probably refers to Herschel's experimental and ultimately unsuccessful mercury-based photographic process, which he christened "celanotype." Herschel's correspondent was mathematician and physicist Samuel Hunter Christie, who made important contributions to the study of magnetism; he served as secretary of the Royal Society from 1837 to 1843. See Schaaf, *Out of the Shadows* (1992), chs. 3-5 for a detailed discussion of Herschel's photographic researches, including excerpts from his unpublished scientific notebooks. Hannavy, *Encyclopedia of Nineteenth-Century Photography* (2008), p. 655. 40222

Autograph Letter Signed, with Significant Mathematical Content

57. Hilbert, David (1862-1943). Autograph letter signed, in German, to an unidentified correspondent. Göttingen, 9 October 1900. 6pp. 182 x 113 mm. Holes punched in inner margins, minimally affecting the text, creased horizontally, but fine otherwise. English translation included.

$7500

Excellent mathematical letter from David Hilbert, one of the most influential mathematicians of the late 19th and early 20th centuries. Hilbert made fundamental discoveries and contributions in many areas, including invariant theory, proof theory and mathematical logic; his work in geometry "had the greatest influence in that area after Euclid" (O'Connor and Robertson); and he formulated the theory of Hilbert spaces, one of the foundations of functional analysis.

Hilbert wrote this letter two months after giving his famous lecture on "The Problems of Mathematics" at the Second International Congress of Mathematics on August 8, 1900. In this lecture, and in a following paper, Hilbert

presented 23 unsolved problems in mathematics, many of which had great influence in 20th century mathematics. Aspects of Hilbert's problems continue to be of interest today.

The letter, written to one of Hilbert's mathematical colleagues, is almost completely mathematical in content. It begins as follows:

> Thanks very much for your letter and the continuation of your Encyclopedia article, which I reviewed with great interest and benefit.
>
> You are obviously completely correct in your objections to my remarks. Hedrick [i.e., American mathematician Earle Hedrick (1878-1943)] also made the same comments to me. By the way, my mistake was not due to a misunderstanding of your article, but rather because of a simple computational error on my part . . .

Hilbert then goes on to demonstrate this mathematically, using upwards of 20 separate equations and providing a narrative of his progression through the mathematics involved. He concludes by telling his correspondent that "it thus seems that all of your wonderful developments are well founded, and especially your Greens function and your exchange theorem . . ." O'Connor, J. J., and E. F. Robertson. "David Hilbert." MacTutor History of Mathematics. July 1999. Web. 22 Oct. 2010. 40125

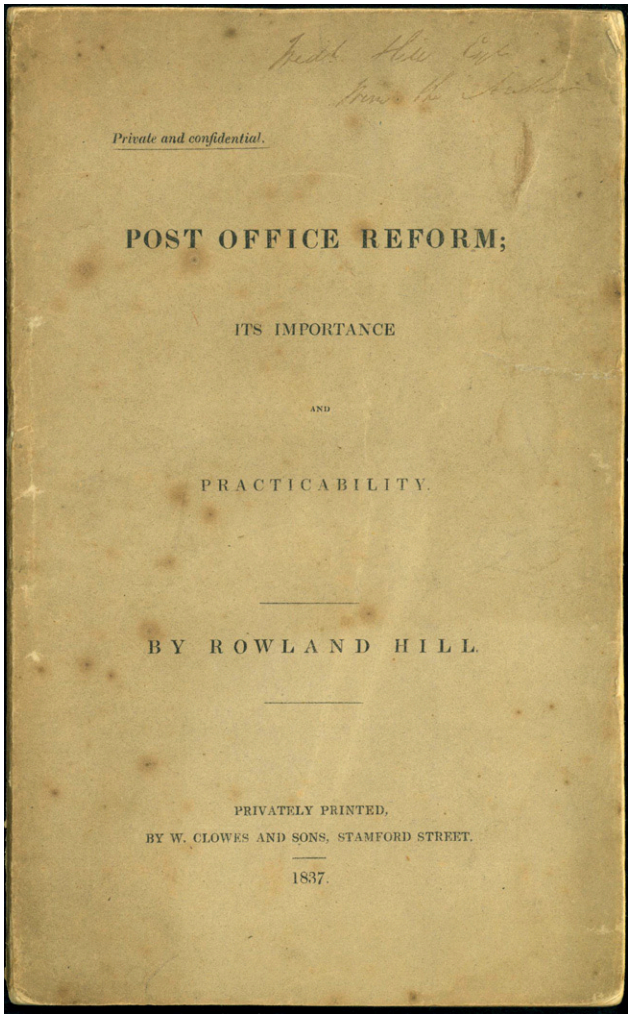
Postal Reform

58. Hill, Rowland (1795-1879). Post Office reform. 8vo. 73pp. Original printed wrappers, spine and one corner repaired, in cloth drop-back box. [London], 1837. 217 x 134 mm. *Inscribed by the Author* to Fred[eri]c Hill on front wrapper, with autograph letter signed to same, 2pp., May 28, 1846, laid in. Fine copy in the original state.

$20,000

First Edition. The rare privately printed pamphlet outlining postal reform in Britain which became standard throughout the world. Hill's proposals included the first use of postage stamps.

> The penny post inaugurated and administered by Rowland Hill required the adoption of four novel principles: (1) prepayment of postage, (2) payment by weight instead of by the number of sheets, (3) the use of envelopes, (4) the use of adhesive stamps on letters. Prior to this reform, for example, the use of an envelope would have been a novelty to most letter-writers and entailed double postage (*Printing and the Mind of Man*).


Private and confidential.

POST OFFICE REFORM;

ITS IMPORTANCE

AND

PRACTICABILITY.

BY ROWLAND HILL.

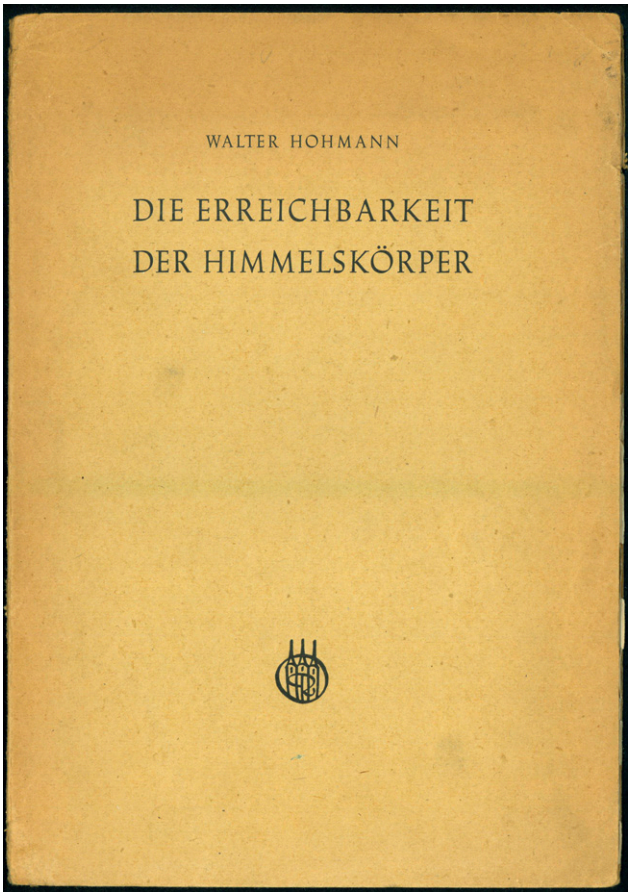
PRIVATELY PRINTED,
BY W. CLOWES AND SONS, STAMFORD STREET.

1837.

The accompanying letter, on London & Brighton Railway stationery, requests the attendance of the addressee at the Testimonial to be given to Hill in June. The Testimonial, a substantial monetary gift raised by public subscription, was given in recognition of Hill's work after he had been dismissed from the postal service without reward by an opposing minister. The event was one of the most memorable in his career. *Printing and the Mind of Man* 306a. 40286

59. Hohmann, Walter (1880-1945). Die Erreichbarkeit der Himmelskörper. [2], iv, [2], 88pp. Text diagrams. Munich and Berlin: R. Oldenbourg, 1925. 225 x 180 mm. Original tan printed wrappers, light wear at spine. Minor faint foxing, but very good. $1500

First Edition, variant with tan printed wrappers (the work was also issued in dark blue wrappers with a pictorial design in white). Hohmann discovered what is now called the "Hohmann transfer orbit," an orbital maneuver using two engine impulses to move

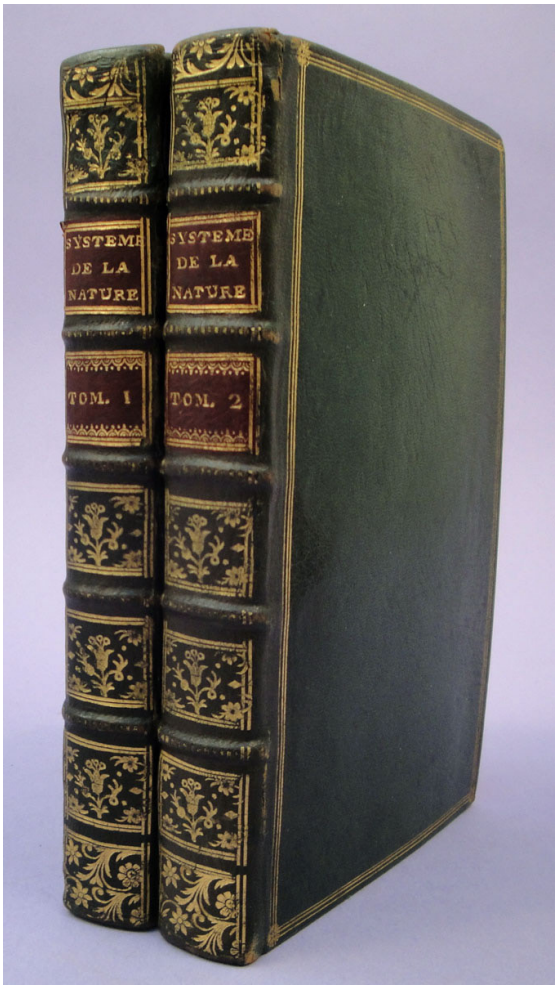


a spacecraft between two coplanar circular orbits. This maneuver, described in Hohmann's *Die Erreichbarkeit der Himmelskörper*, uses a minimum-energy trajectory consisting of an ellipse tangent to the two orbits; this is the most fuel-efficient path for moving a spacecraft between two different orbits.

"Walter Hohmann's great contribution to astronautical progress was the discovery of a new use for an old object, the ellipse. However, his involvement in the development of concepts for space travel extended well beyond that discovery: energy and mass requirements; spacecraft design; atmospheric modeling; maneuver analysis; crew safety; extraterrestrial in-situ propellant production, and more. In addition to conducting research, Hohmann belonged to *Verein für Raumschiffahrt* (Society for Space Travel), or VfR, and participated in its work" (McLaughlin, "Walter Hohmann's roads in space," *Journal of Space Mission Architecture* (Fall 2000): 1-14. 40971

Atheism

60. Holbach, Paul Henry Thiery, Baron d' (1723-89). Systême de la nature. Ou des loix du monde physique & du monde moral. Par M. Mirabaud. 2 vols., 8vo. [6], 370; [4], 412pp.



London [i.e., Amsterdam: Marc-Michel Rey], 1770. 195 x 119 mm. Crushed green morocco gilt ca. 1770, all edges gilt, extremities lightly rubbed. First and last leaves browned, a few spots. Ownership signature of V. C. Auffret in Vol. I.

$12,500

First Edition. *Printing and the Mind of Man* 215. The Baron d'Holbach, one of the first self-proclaimed atheists in Europe, was the author of a number of philosophical works advocating materialism and attacking religion as detrimental to the moral advancement of humanity. His most famous work was the controversial *Systême de la Nature*, in which he

> rejected the Cartesian mind-body dualism and attempted to explain all phenomena, physical and mental, in terms of matter in motion. He derived the moral and intellectual faculties from man's sensibility to impressions made by the external world, and saw human actions as entirely determined by pleasure and pain. He continued his direct attack on religion by attempting to show that it derived entirely from habit

and custom. But the *Systême* was not a negative or destructive book: Holbach rejected religion because he saw it as a wholly harmful influence, and he tried to supply a more desirable alternative (*Printing and the Mind of Man*).

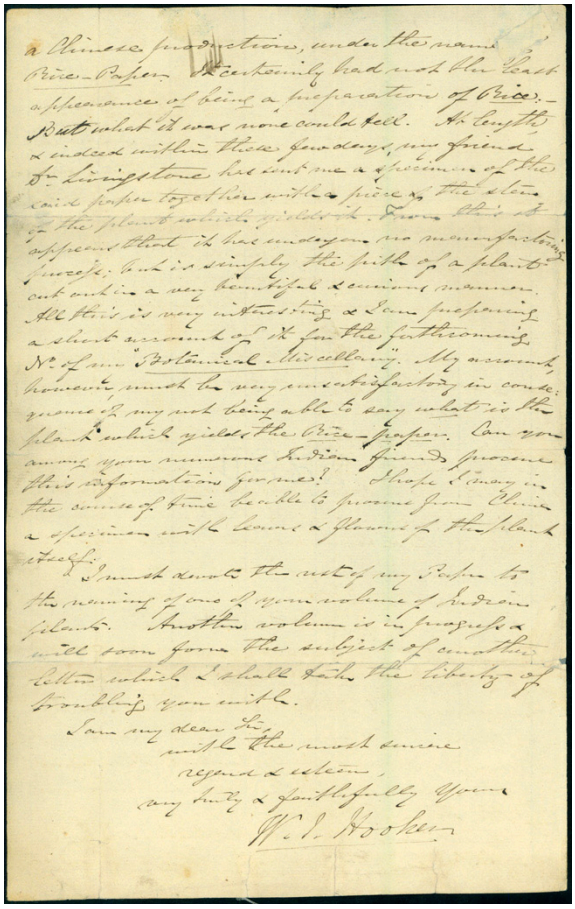
The radical ideas expressed in the *Systême* came under widespread attack, and even the free-thinking Voltaire was moved to refute the *Systême's* arguments in his own *Dictionnaire philosophique.* D'Holbach issued the work pseudonymously under the name of the late Jean-Baptiste de Mirabaud and had it published in Amsterdam in order to avoid censure. Wikipedia. 40299.

61. Hook, Diana H. and **Jeremy M. Norman**, with contributions by **Michael R. Williams**. Origins of Cyberspace: A library on the history of computing, networking, and telecommunications. 670 pages. 284 illustrations. Novato: Historyofscience.com, 2002. 8-1/2 x 11 inches. Cloth, 80-pound acid-free paper. ISBN 978-0-930405-85-4. Limited to 500 copies. Norman Bibliography Series no. 5. $500

Extensively annotated and illustrated bibliography describing 1411 books, technical reports, pamphlets, blueprints, typescripts, manuscripts, photographs and ephemera on the history of computing and computer-related aspects of telecommunications. Covers the period from the 17th century to circa 1970; includes several lengthy essays and a detailed timeline of significant events and publications in computer history. Indexed. Printed in two colors throughout. 38301

62. Hooker, William Jackson (1785-1865). Autograph letter signed to an unidentified recipient. Glasgow, April 7, 1828. 2pp. 323 x 202 mm. Tears along horizontal creases and in margins repaired, small hole in upper left corner (not affecting text), traces of mounting on verso. Very good. $1500

Letter with excellent scientific content from W. J. Hooker, the first full-time director of the Royal Botanic Gardens at Kew. Hooker devoted himself to the study of botany from an early age, specializing in mosses, liverworts and other cryptogamia. He served as regius professor of botany at the University of Glasgow from 1820 to 1841, when he was appointed to head Kew Gardens. Under Hooker's leadership Kew grew from eleven acres to its present size of nearly 300 acres, and its collections vastly increased, largely due to a network of Hooker's former students who brought in specimens from around the world. Hooker's own herbarium, which contained some

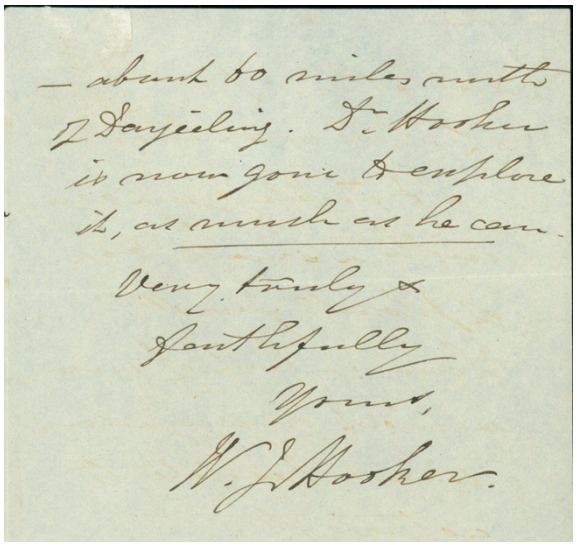


4000 volumes and one million dried plant specimens, was purchased by the British government for the nation after Hooker's death. Hooker was the author of over two dozen works on botany, including *British Jungermanniae* (1816), which established hepaticology (the study of liverworts) as a separate field; he also edited several botanical journals.

Hooker's letter, written during his tenure at the University of Glasgow, includes a discussion of the "rice-paper plant" (*Tetrapanax papyriferum [Hook.]Koch*), a subject of lasting interest to him. The pith of this plant, which can be sliced into very thin sheets, was used in China as an alternative to paper, and in the 1820s the Chinese began producing pith-paper paintings and other artifacts for the European market. Hooker had just received a sample of this "rice paper" from a Dr. Livingstone, who in 1805 brought the first examples of the material to England. Hooker noted in his letter that "I am preparing a short account of [rice paper] for the forthcoming No. of my 'Botanical Miscellany.' My account, however, must be very unsatisfactory in consequence of my not being able to say what is the plant which yields the Rice-paper." Hooker's short account, titled "Some account of the substance commonly known under the name 'Rice Paper,'" appeared in Vol. 1 of the *Botanical Miscellany* (1830). Between 1850 and 1856 Hooker published four more papers on the "rice paper" plant, which he named *Aralia Papyrifera, Hook.,*

classifying it as a member of the *Araliaceae* (ginseng) family. His complete scientific description of the plant, based on living specimens he had received in 1852 and 1855, appeared in Vol. 12 of *Curtis's Botanical Magazine* (1856). In 1859 the German botanist Karl Koch gave the plant its present scientific name.

Hooker's letter also discusses the identification of drawings of Indian botanical specimens he had undertaken for his correspondent. "Chinese Botanical Paintings, *Tetrapanax papyriferum (Hook.)Koch,*" Harvard University Herbaria (internet resource). 40863


— about 60 miles north of Darjeeling. Dr. Hooker is now gone to explore it, as much as he can.

Very truly &
faithfully
Yours,
W. J. Hooker.

63. Hooker, William Jackson (1785-1865). Autograph letter signed to an unidentified correspondent. [London,] Royal Gardens, Kew, Nov. 16, 1848. 2-1/2pp. 178 x 112 mm. Fine.

$1750

In his letter Hooker thanks his correspondent for sending him plant specimens from India:

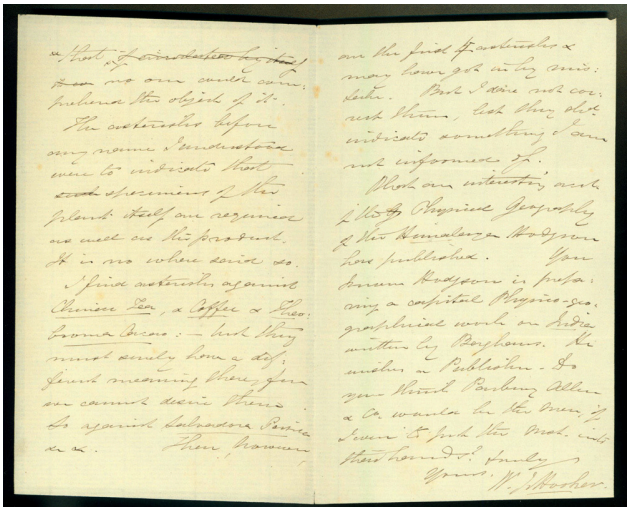
> The two cases of Plants for Dr. Falconer were delivered in good time. I have now to thank you for a parcel received today from Mr. Dalzell, Bombay, containing some very interesting Plants.
>
> Truly I have much more novelty from the East of India than any other portion of that vast territory.

"Dr. Falconer" refers to Hugh Falconer (1808-65), the distinguished botanist, geologist and paleontologist who was the first to come up with a "punctuated equilibrium" theory of evolution. Falconer spent many years in India, where he ran the Saharanpur and Calcutta botanical gardens and put together an enormous collection of plant and fossil specimens from the region.

Hooker also touches on the activities of his son, naturalist Joseph Dalton Hooker (1817-1911):

> You know, I dare say that Kinchinjunga [i.e., Kangchenjunga, in the Himalayas] is now ascertained to be the highest mountain in the world, 28,172 ft.—about 60 miles north of Darjeeling. Dr. Hooker is now gone to explore it, as much as he can.

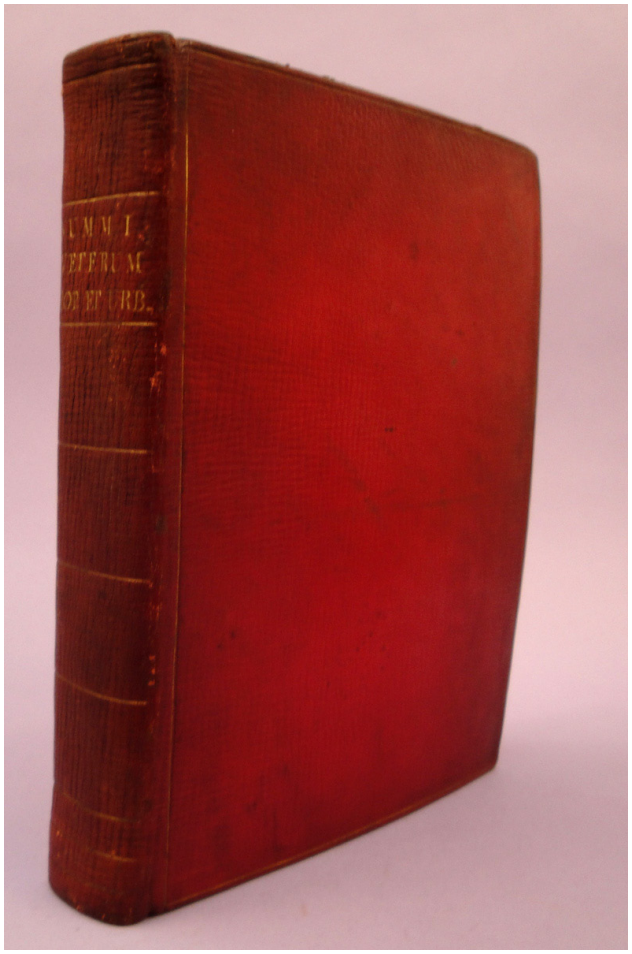
Joseph Hooker spent three years (1848-50) exploring the Himalayas, and was the first European to collect plants from the region. Kangchenjunga, which straddles the border between India and Nepal, was believed to be the world's tallest mountain until 1852, when the results of the British Great Trigonometric Survey revealed that Mt. Everest was the taller peak. 40457



64. Hooker, William Jackson (1785-1865). Autograph letter signed to an unidentified correspondent. [London,] Royal Gardens, Kew, April 3, n.d. (probably 1857 or after). 3pp. 179 x 112 mm. Fine apart from a little faint spotting.

$1750

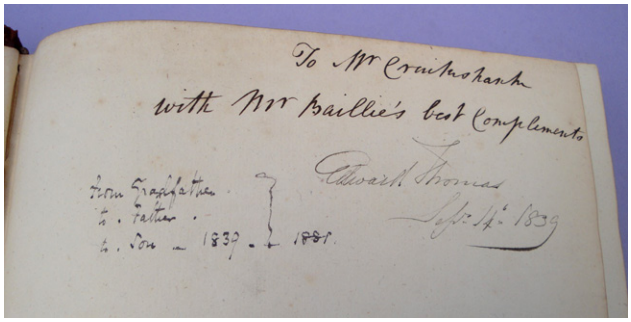
The first part of Hooker's letter deals with the preparation of a forthcoming botanical publication, most likely *The Museum of Economic Botany, or a Popular Guide to the Useful and Remarkable Vegetable Products in the Two Museum Buildings of the Royal Gardens of Kew* (1858). The next part touches on the work of Brian Houghton Hodgson (1800-1894), a naturalist and one of the pioneers of scientific ethnology. Hodgson spent much of his life in India, where he discovered 39 species of mammals and 124 species of birds that had hitherto been undescribed. He was the author of numerous books and papers, including *Papers Relative to the Colonization, Commerce, Physical Geography, &c., &c. of the Himalaya Mountains and Nepal*, published in



Calcutta in 1857. He was a close friend of Hooker's son, the naturalist Joseph Dalton Hooker (1817-1911). 40458

Inscribed by Baillie to Cruikshank

65. Hunter, William (1718-83). Nummorum veterum populorum et urbium, qui in museo Gulielmi Hunter asservantur, descriptio figuris illustrata. Opera et studio Caroli Combe . . . 4to. xi, [1], 354, [2, errata]pp. 68 engraved plates. London: J. Nichols; sold by T. Cadell; P. Elmsley, G. Nichol & J. Murray, 1782. 286 x 228 mm. Red crushed morocco gilt ca. 1784, a.e.g., slight wear at edges, evidence of bookplate removal inside front cover. Fine copy apart from some foxing to the plates. *Inscribed by Matthew Baillie* (1761-1823) *to William Cruikshank* (1745-1800) on the front flyleaf: "To Mr. Cruikshank with Mr. Baillie's best Compliments." 19th cent. ownership signature of



Edward Thomas, dated Sept. 14, 1839, and later note, presumably by a Thomas descendent.

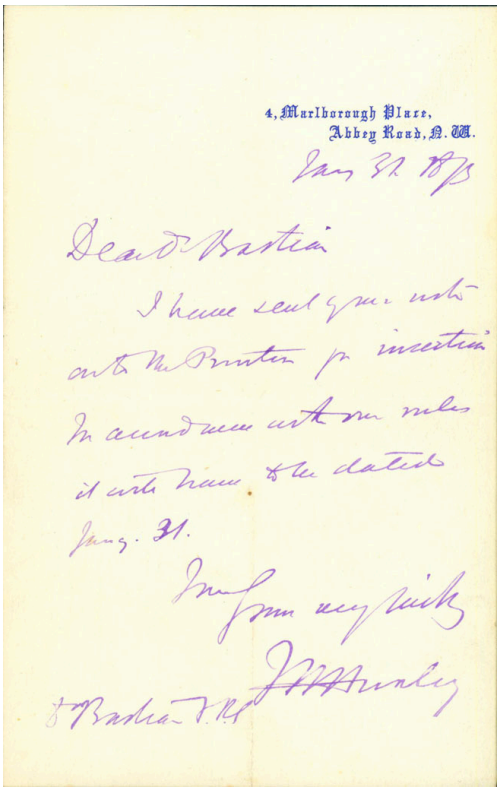
$5000

First Edition of the first and only published installment of the catalogue of William Hunter's magnificent collection of coins, a collection regarded as one of the finest in the world. Hunter began collecting coins around 1770, and by the time of his death had spent over £22,000 on this pursuit—an enormous sum of money by the standards of the day. After Hunter's death, by the terms of his will, the coin collection, together with Hunter's books, pictures and anatomical models, remained in the care of three trustees for thirty years, after which time they became the property of the University of Glasgow. In 1807 the collections were sent to Glasgow, where they now represent the core of the University's Hunterian Museum.

Nummorum veterum populorum et urbium was compiled by Charles Combe (1743-1817), a physician and coin dealer who became acquainted with Hunter in 1773, and greatly assisted Hunter in forming his collection. Combe was one of the three trustees appointed in Hunter's will to administer his collections, the other two being Dr. George Fordyce and Dr. David Pitcairne. Combe had originally intended to prepare a catalogue of the complete Hunterian coin collection, but was able to publish only this installment. The work is illustrated with 68 plates that Combe took care to make "more faithful to the original coins than the illustrations in previous numismatic works" (*Dictionary of National Biography*).

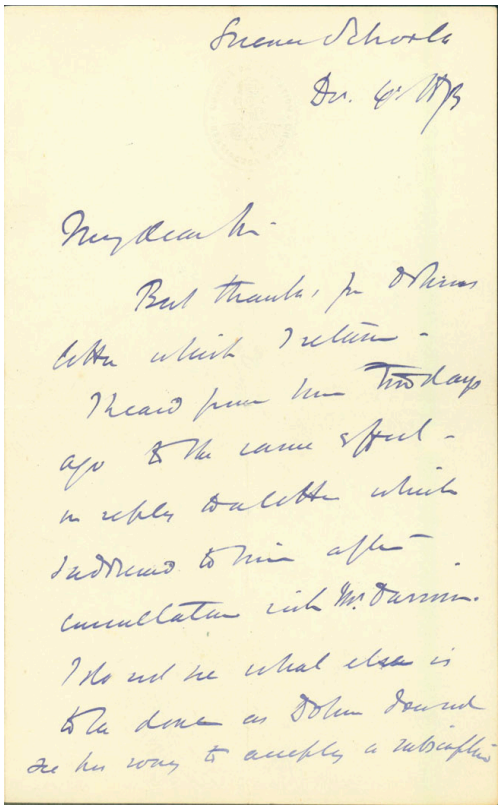
Our copy of *Nummorum veterum populorum et urbium* has an outstanding association, being inscribed by Hunter's nephew Matthew Baillie to Hunter's assistant William Cruikshank. Baillie and Cruikshank took over the administration of Hunter's Windmill Street anatomy school after Hunter's death. Hunter bequeathed the use of his collections to Baillie for a term of thirty years; had Baillie died during this time, the use of the collections would have passed to Cruikshank. Both men made lasting contributions to medicine. Baillie is best known as the author of *The Morbid Anatomy of Some of the Most Important Parts of the Human Body,* the first systematic study of pathology and the first publication in English

on pathology as a separate subject (see Garrison-Morton 2281). Cruikshank, together with John Hunter and William Hewson, laid the foundation of modern knowledge of the lymphatic system, as described in Cruikshank's *Anatomy of the Absorbing Vessels of the Human Body* (1786; see Garrison-Morton 1103). *Dictionary of Scientific Biography.* Simmons and Hunter, *William Hunter 1718-1783*, ed. C. H. Brock, p. 27. 40362


4, Marlborough Place,
Abbey Road, N.W.

66. Huxley, Thomas Henry (1825-95). Five autograph letters signed to Henry Charlton Bastian (1837-1915). May 15, 1865 – Jan. 31, 1873. 12pp. total. Various sizes. Portion torn from upper corner of one letter, affecting the date, a few tears along folds. $2250

Five letters from Huxley to Bastian, a physician who made notable contributions to the emerging specialty of clinical neurology, and a pioneer writer on theories of the origin of life. Bastian published important papers on aphasia (see G-M 4622, 4629) and was the first to demonstrate "Bastian's law": that complete section of the upper spinal cord abolishes reflexes and muscular tone below the level of the lesion. Bastian is best known, however, for his defense of the doctrine of spontaneous generation (abiogenesis) in the face of accepted biological and bacteriological opinion. Bastian argued that there was no fixed boundary between organic and inorganic life, stating that "since living matter must have arisen from nonliving matter at an early stage in evolution, such a process could still be taking place" (*Dictionary of Scientific Biography*). He can thus be seen as one of the first to consider the question of the origins of life from a scientific standpoint. Huxley found Bastian's views unacceptable and clashed with him over his beliefs and experimental methodology; see Desmond, *Huxley*, pp. 392-93. 40184


Science Schools
Dec. 4th 1873

67. Huxley, Thomas Henry (1825-95). **(1)** Autograph letter signed to Albert George Dew-Smith (1848-1903), together with stamped cover. South Kensington, Oct. 28, 1873. 3pp. 185 x 115 mm. **(2)** Autograph letter signed to Dew-Smith, together with stamped cover. [London] Science Schools, Dec. 4, 1873. 2pp. 185 x 113 mm. **(3)** Autograph letter signed to Dew-Smith, together with stamped cover. N.p., Dec. 4, 187[5?] [cover postmarked "De 4 75"]. 1 page. 187 x 112 mm. $2500

Three letters from Huxley to the photographer and instrument maker A. G. Dew-Smith, co-founder with Horace Darwin (Charles Darwin's youngest surviving son) of the Cambridge Scientific Instrument Company. The letters touch on Huxley's activities as a science educator and promoter of Darwin's theory of evolution; Darwin is

mentioned in the Dec. 4, 1873 letter, which reads in part as follows:

> Best thanks for Dohrn's letter which I return—
>
> I heard from him two days ago to the same effect—in reply to a letter which I addressed to him after consultation with Mr. Darwin. I do not see what else is to be done as Dohrn does not see his way to accepting a subscription.
>
> Foster had put the matter of your going out rather too strongly—He told me you thought of going & I said that I thought such a course very desirable—for I really was anxious about Dohrn's silence—at present there does not seem to be any emergency. Ever yours very faithfully THHuxley.

"Dohrn" refers to **Anton Dohrn** (1840-1909), a student of Ernst Haeckel and a prominent Darwinist. In September 1873 Dohrn founded the Stazione Zoologica, an international biological research institute located in Naples, Italy that is still operating today; its purpose, according to Huxley's biographer, was "to unravel the embryology and evolution of life" (Desmond, p. 424). Huxley, who was very interested in this project,

> liaised with [**Charles**] **Darwin** to raise £500 from the "land of fogs" to fund the Mediterranean enterprise. It was collected from "each according to his ability": which meant that Darwin put in £75 while Huxley had "no cash to spare" (Desmond, p. 424).

In the present letter to Dew-Smith, Huxley may be referring to a letter Dohrn sent in response to Huxley's letter to him of Oct. 17, 1873 discussing raising funds for Dohrn's institute (see Huxley, *Life and Letters* [1903], 2, p. 116). 40183

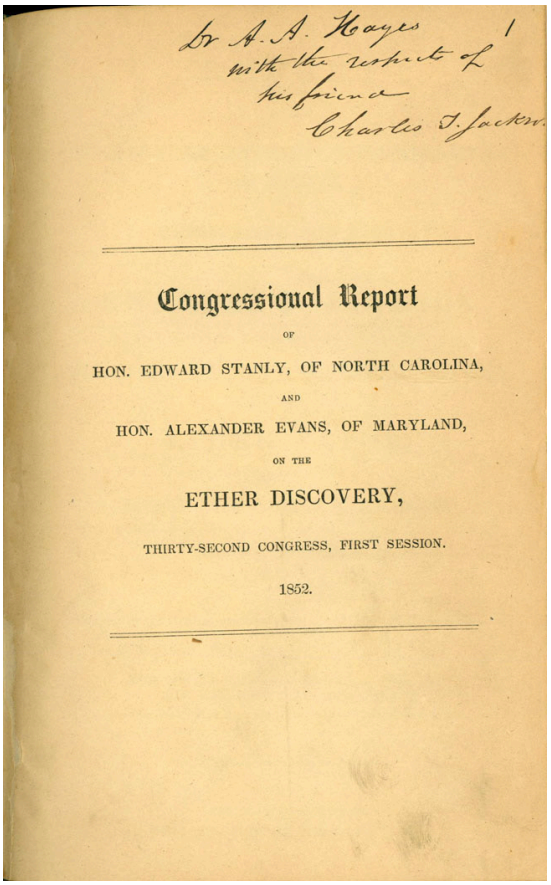
68. Huxley, Thomas (1825-95). Autograph letter signed to Gerald Massey (1828-1907). London, March 22, 1881. 2pp. plus integral blank, on Huxley's embossed stationery. 177 x 115 mm. Light soiling along folds, but very good.

$500

To poet and Egyptologist Gerald Massey, thanking Massey for the gift of one of his publications:

> Dear Sir, Accept my best thanks for the copy of your "Book of the Beginnings" which you have been kind enough to forward to me. I am yours very faithfully T. H. Huxley. Gerald Massey, Esq.

A Book of the Beginnings (1881) was the first of Massey's quasi-mystical works drawing parallels between ancient Egyptian mythology and Christianity. Interestingly, Massey believed that civilization had originated in equatorial Africa and spread from there to Egypt. 41088


Dr A. A. Hayes
with the respects of
his friend
Charles T. Jackson

Congressional Report

OF

HON. EDWARD STANLY, OF NORTH CAROLINA,

AND

HON. ALEXANDER EVANS, OF MARYLAND,

ON THE

ETHER DISCOVERY,

THIRTY-SECOND CONGRESS, FIRST SESSION.

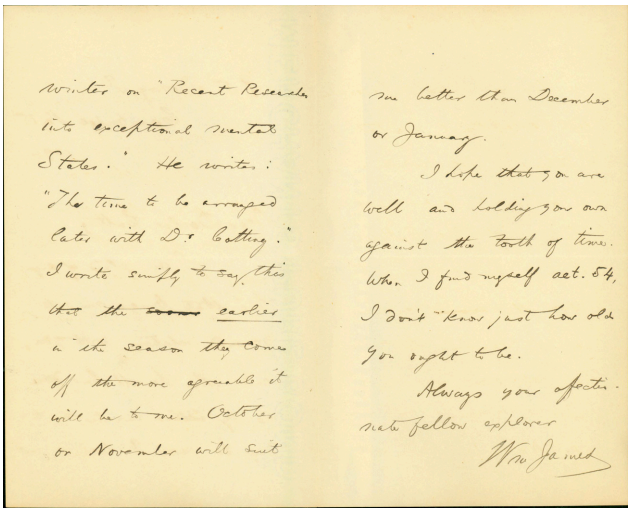
1852.

Ether Controversy

69. [Jackson, Charles Thomas (1805-80)]. **Stanly, Edward** and **Alexander Evans.** Report to the House of Representatives of the United States of America, vindicating the rights of Charles T. Jackson to the discovery of the anaesthetic effects of ether vapor, and disproving the claims of W. T. G. Morton to that discovery. 57pp. [Boston: Rand, Avery & Frye, 1853.] 221 x 145 mm. Quarter morocco, marbled boards in antique style, original front wrapper preserved. Very good copy, *inscribed by Jackson* on the front wrapper: "Dr. A. A. Hayes with the respects of his friend Charles T. Jackson." $2000

First Edition, issue with front cover title reading "Congressional report . . ."The "Ether Controversy," a rancorous dispute between W. T. G. Morton, Charles T. Jackson and Horace Wells over who deserved credit for discovering inhalation anesthesia, began in 1847 and ended only with Morton's death in 1868. In late November 1851 Morton, who had hoped to make his fortune from ether anesthesia, made his third petition to Congress for a monetary reward for the discovery. Morton's claims to

priority were reviewed by a congressional committee headed by William H. Bissell. The Bissell committee issued a report in favor of Morton, but two dissenting members, Edward Stanly and Alexander Evans, authored the present minority report supporting Jackson's priority. There are two issues of the report, one with the front wrapper title beginning with the words "Congressional report," and the other reading "The ether controversy." Jackson presented this copy to his friend Augustus A. Hayes, a Boston chemist who developed a method of distilling concentrated chloric ether for use as an anesthetic; see Warren, J. M., *Surgical Operations with Cases and Observations* (1867), p. 618. Wolfe, *Tarnished Idol,* ch. 17. 40867



"I Have Reason to Consider the Lectures a Success"

70. James, William (1842-1910). 4 autograph letters signed to Dr. Benjamin E. Cotting (1812-97), plus 4 pencil drafts in a secretarial hand of Cotting's replies. Cambridge, Mass., May 15 – November 15, 1896. Various sizes. Traces of mounting on the blank versos of several letters, but fine otherwise. $950

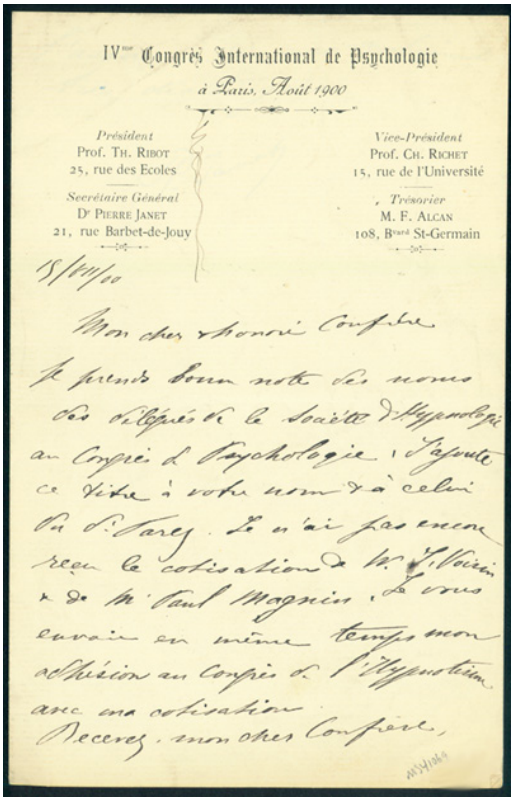
A series of letters from psychologist and philosopher William James to Dr. Benjamin E. Cotting, curator of the Lowell Institute from 1843 to 1897, in connection with James' 1896 Lowell Lectures. The correspondence also includes drafts of Cotting's replies, thus shedding light on the negotiations involved in planning the lecture series. James had been acquainted with Cotting since his student days at Harvard—Cotting was the brother-in-law of noted naturalist Louis Agassiz, one of James's professors, and both Cotting and James took part in Agassiz's 1865 scientific expedition to the Amazon. In his May 15 letter to Cotting, James signed himself "Always your affectionate fellow explorer."

In the spring of 1896 James was invited by Augustus Lowell, the head of the Lowell Institute, to deliver eight lectures on the topic of "Exceptional Mental States." This was the second of three courses of lectures James had been invited to give at the Lowell Institute, following his 1878 lecture series on "The Brain and Mind" and preceding his 1906 series on pragmatism. In his May 15 letter to Cotting James states that "I am glad of anything that brings me into renewed relations with you, and Mr. Lowell has done so by inviting me to give 8 lectures next winter on 'Recent Researches into exceptional Mental States.'" In the first three letters James set forth his preferred lecture schedule, requesting "October or November" and "either Wednesday & Saturday or Tuesday and Friday of the same weeks (preferably Wed. & Sat.)" He also asked Cotting to furnish him with extra tickets for the lectures, and to make sure that the lecture hall was not overheated—"when I have been there (rarely) in the past few years it has been a foretaste of hell for heat & non-ventilation." In the fourth letter, written after the series had concluded, James expressed his gratification over the lectures' reception: "The audience last night almost filled the seats, and I have reason to consider the lectures a success."

Despite the success of James's 1896 lectures, they remained unpublished until 1982, in large part because "they were on heretical topics rejected by psychology as a developing reductionist science, religion as an exclusively Christian and theistic enterprise, and philosophy as primarily a logical and analytic endeavor . . . The first four lectures [on "Dreams and hypnotism," "Automatism," "Hysteria" and "Multiple personality"] appeared to be the outline of a dynamic psychology of the subconscious, while the second four [on "Demoniacal possession," "Witchcraft," "Degeneration," and "Genius"] largely demonstrated the pathological working out of the subconscious in the social sphere" (Taylor, p. 13). Taylor, "Metaphysics and consciousness in James's Varieties," in Carrette, ed., *William James and* The Varieties of Religious Experience*: A Centenary Celebration* (2005), pp. 10-25. 41092

71. Janet, Pierre (1859-1947). 4 autograph letters signed to an unidentified correspondent (or correspondents). Paris, 1900-1929. 4pp. total, on 4 sheets, three on Janet's letterhead and one on the letterhead of the IVme Congrès International de Psychologie. Minor dust-soiling, penciled list in another hand on one of the letters, but very good. $500

A group of autograph letters from the pioneering French psychologist and psychotherapist, coiner of the terms "dissociation" and "subconscious," whose



IV^me Congrès International de Psychologie
à Paris, Août 1900

Président
Prof. Th. Ribot
25, rue des Ecoles

Vice-Président
Prof. Ch. Richet
15, rue de l'Université

Secrétaire Général
Dr Pierre Janet
21, rue Barbet-de-Jouy

Trésorier
M. F. Alcan
108, Bvard St-Germain

15/11/00

Mon cher et honoré Confrère

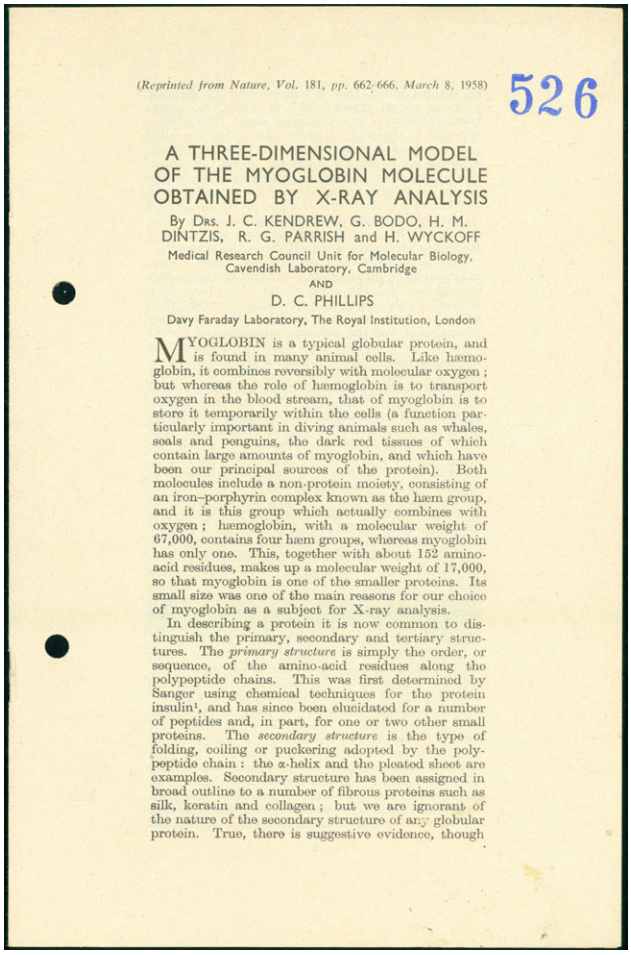
Je prends bonne note des noms des délégués de la Société d'Hypnologie au Congrès de Psychologie. J'ajoute ce titre à votre nom et à celui de M. Farez. Je n'ai pas encore reçu la cotisation de M. Vilvin et de M. Paul Magnin. Je vous envoie en même temps mon adhésion au Congrès et l'hypnotisme avec ma cotisation.

Recevez, mon cher Confrère,

L'Automatisme psychologique (1889) anticipated Freud and Breuer's announcement of the causes of hysterical symptoms by four years (see Garrison-Morton 4976.1). The letters are indicative of Janet's involvement in professional organizations such as the Société de Psychothérapie and the Fourth International Congress of Psychology (Paris, 1900), for which he served as general secretary. 41069

"The First Protein to be Solved"

72. Kendrew, John (1917-97). **(1)** A three-dimensional model of the myoglobin molecule obtained by x-ray analysis (with G. Bodo, H. M. Dintzis, R. G. Parrish, H. Wyckoff). Offprint from *Nature* 181 (1958). 10, [1]pp. Illustrated. 213 x 140 mm. Without wrappers as issued. Holes punched in left margin (not affecting text), small glue spot on verso of last leaf. From the library of British chemist and crystallographer Jack David Dunitz (1923-), with his docketing stamp on the first page. **(2)** Structure of myoglobin: A three-dimensional Fourier synthesis at 2 Å resolution (with R. E. Dickerson, B. E. Strandberg, R. G. Hart, D. R. Davies, D. C. Phillips, V. C. Shore). Offprint from *Nature* 185 (1960). 13, [1]pp.



(Reprinted from *Nature*, Vol. 181, pp. 662-666, March 8, 1958) 526

A THREE-DIMENSIONAL MODEL OF THE MYOGLOBIN MOLECULE OBTAINED BY X-RAY ANALYSIS

By Drs. J. C. KENDREW, G. BODO, H. M. DINTZIS, R. G. PARRISH and H. WYCKOFF

Medical Research Council Unit for Molecular Biology, Cavendish Laboratory, Cambridge

AND

D. C. PHILLIPS

Davy Faraday Laboratory, The Royal Institution, London

MYOGLOBIN is a typical globular protein, and is found in many animal cells. Like haemoglobin, it combines reversibly with molecular oxygen; but whereas the role of hæmoglobin is to transport oxygen in the blood stream, that of myoglobin is to store it temporarily within the cells (a function particularly important in diving animals such as whales, seals and penguins, the dark red tissues of which contain large amounts of myoglobin, and which have been our principal sources of the protein). Both molecules include a non-protein moiety, consisting of an iron–porphyrin complex known as the hæm group, and it is this group which actually combines with oxygen; hæmoglobin, with a molecular weight of 67,000, contains four hæm groups, whereas myoglobin has only one. This, together with about 152 amino-acid residues, makes up a molecular weight of 17,000, so that myoglobin is one of the smaller proteins. Its small size was one of the main reasons for our choice of myoglobin as a subject for X-ray analysis.

In describing a protein it is now common to distinguish the primary, secondary and tertiary structures. The *primary structure* is simply the order, or sequence, of the amino-acid residues along the polypeptide chains. This was first determined by Sanger using chemical techniques for the protein insulin[1], and has since been elucidated for a number of peptides and, in part, for one or two other small proteins. The *secondary structure* is the type of folding, coiling or puckering adopted by the polypeptide chain: the α-helix and the pleated sheet are examples. Secondary structure has been assigned in broad outline to a number of fibrous proteins such as silk, keratin and collagen; but we are ignorant of the nature of the secondary structure of any globular protein. True, there is suggestive evidence, though

Illustrated. 213 x 140 mm. Without wrappers as issued. **(3)** Collection of 17 offprints, pamphlets, etc., including a presentation copy, an item from Kendrew's library, and items from the libraries of Max Perutz (1914-2002), J. D. Dunitz, and Peter Pauling (1931-2003). Complete listing available. Overall very good to fine. $15,000

First Editions of the first solution of the three-dimensional molecular structure of a protein, for which Kendrew received the 1962 Nobel Prize in chemistry, together with his friend and colleague Max Perutz, who solved the structure of the related and more complex protein, hemoglobin, two years after Kendrew's achievement. Kendrew's discovery was one of the greatest landmarks in the history of molecular biology. Understanding the means of storing the genetic information in the cell nucleus, and the means of transferring the genetic information (the double helical structure of DNA, messenger RNA, the genetic code), solving the structure of proteins which construct themselves following instructions from the nucleus, and recombinant DNA and its technological applications, remain central elements of molecular biology. Today

roughly 100,000 people worldwide are involved in scientific research solving the structure of proteins, which evolved out of Kendrew's and Perutz's pioneering work.

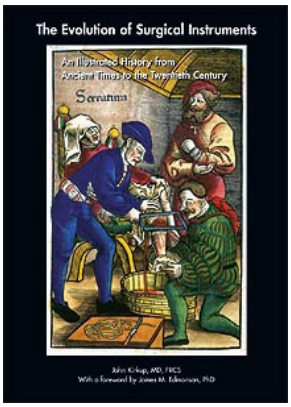
Kendrew began his investigation into the structure of myoglobin in 1949, choosing this particular protein because it was "of low molecular weight, easily prepared in quantity, readily crystallized, and not already being studied by X-ray methods elsewhere" (Kendrew, "Myoglobin and the structure of proteins. Nobel Prize Lecture [1962]," pp. 676-677). Protein molecules, which contain, at minimum, thousands of atoms, have enormously convoluted and irregular formations that are extremely difficult to elucidate. In the 1930s J. D. Bernal, Dorothy Hodgkin and Max Perutz performed the earliest crystallographic studies of proteins at Cambridge's Cavendish Laboratory; however, the intricacies of three-dimensional protein structure were too complex for analysis by conventional X-ray crystallography, and the process of calculating the structure factors by slide-rules and electric calculators was far too slow. It was not until the late 1940s, when Kendrew joined the Cavendish Laboratory as a graduate student, that new and more sophisticated tools for attacking the problem became available. The first of these tools was the technique of isomorphous replacement, developed by Perutz during his own researches on hemoglobin, in which certain atoms in a protein molecule are replaced with heavy atoms. When these modified molecules are subjected to X-ray analysis the heavy atoms provide a frame of reference for comparing diffraction patterns. The second tool was the electronic computer, developed during World War II, which Kendrew introduced to computational biology in 1951. In 1951 Cambridge University was one of only three or four places in the world with a high-speed stored-program electronic computer, and Kendrew took full advantage of the speed of Cambridge's EDSAC computer, and its more powerful successors, to execute the complex mathematical calculations required to solve the structure of myoglobin. Kendrew was the first to apply an electronic computer to the solution of a complex problem in biology.

Nevertheless, even with the EDSAC performing the calculations, the research progressed remarkably slowly. It took Kendrew and his team until the summer of 1957 before they were able to succeed in creating a three-dimensional map of myoglobin at the so-called "low resolution" of 6 angstroms. Myoglobin thus became "the first protein to be solved" (Judson, p. 538). "A cursory inspection of the map showed it to consist of a large number of rod-like segments, joined at the ends, and irregularly wandering through the structure; a single dense flattened disk in each molecule; and sundry connected regions of uniform density. These could be identified respectively with polypeptide chains, with the iron atom and its associated porphyrin ring, and with the liquid filling the interstices between neighboring molecules. From the map it was possible to 'dissect out' a single protein molecule . . . The most striking features of the molecule were its irregularity and its total lack of symmetry" (Kendrew, "Myoglobin," p. 681).

The 6-angstrom resolution was too low to show the molecule's finer features, but by 1960 Kendrew and his team were able to obtain a map of the molecule at 2-angstrom resolution. "To achieve a resolution of 2 Å it was necessary to determine the phases of nearly 10,000 reflections, and them to compute a Fourier synthesis with the same number of terms . . . the Fourier synthesis itself (excluding preparatory computations of considerable bulk and complexity) required about 12 hours of continuous computation on a very fast machine (EDSAC II)" (Kendrew, "Myoglobin," p. 682).

We are offering here a collection containing Kendrew's initial papers describing his 6-angstrom and 2-angstrom myoglobin images, for which he won the Nobel Prize, plus 17 other offprints and related items representative of Kendrew's protein studies from 1949 to 1964. This extensive collection of rare offprints documents the development of Kendrew's work leading to and following up on his key discovery. 1949 to 1964 was Kendrew's most fruitful period from the standpoint of pure science, since shortly after winning the Nobel Prize he abandoned research to found the European Molecular Biology Organization and to take up the post of editor-in-chief of the *Journal of Molecular Biology.* The collection includes one item with Kendrew's presentation inscription, and another from his library. Several of the offprints in the collection are from the library of renowned British crystallographer Jack David Dunitz, who was one of the first people in 1953 to see the double-helix model of DNA constructed by Watson and Crick. Other items in the collection were once owned by Peter Pauling (son of Nobel Laureate Linus Pauling) and Max Perutz, with whom Kendrew shared the Nobel Prize. Judson, *The Eighth Day of Creation,* pp. 535-540. James, *Nobel Laureates in Chemistry*, pp. 428-434. 40991

73. Kirkup, John. The evolution of surgical instruments: An illustrated history from ancient times to the 20th century.



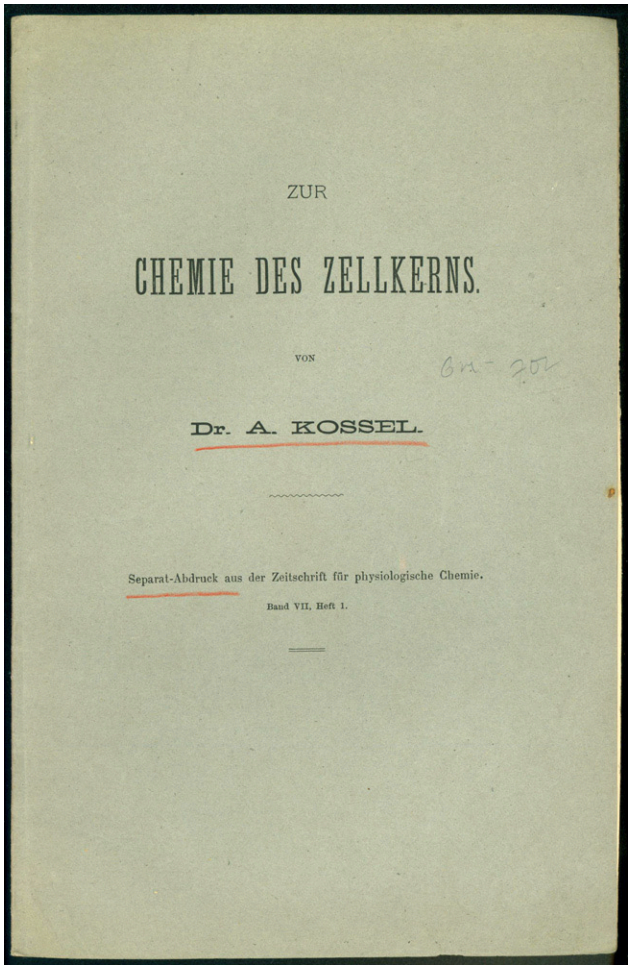
Introduction by James Edmonson. xvi, 507pp. Frontispiece, 30 color illustrations, 527 black and white illustrations. Bibliography. Index. Novato: Historyofscience.com, 2006. 8-1/2 × 11". Cloth, dust jacket, acid-free paper. ISBN 978-0-930405-86-1. $275

With over 500 illustrations, this work describes the evolution of surgical instruments from ancient times to the present, with detailed commentary by an eminent historian of surgical technology. 38632

Miescher's Copies of Kossel's papers on Nucleic Acids

74. Kossel, Albrecht (1853-1927). **(1)** Zur Chemie des Zellkerns. Offprint from *Zeitschr. phys. Chem.* 7 (1882). 7-22pp. Original printed wrappers. **(2)** Weitere Beiträge zur Chemie des Zellkerns. Offprint from *Zeitschr. phys. Chemie* 10 (1886). 248-264pp. Original printed wrappers, vertically creased. **(3)** 14 offprints detailing Kossel's researches on nucleins (nucleoproteins). 1879-1912. Complete listing available. One of the offprints is **signed by Kossel;** 8 of the offprints bear the booklabel and stamp of Johann Friedrich **Miescher** (1844-95), discoverer of nuclein; see Garrison-Morton 695.

$12,500


ZUR

CHEMIE DES ZELLKERNS.

VON

Dr. A. KOSSEL.

Separat-Abdruck aus der Zeitschrift für physiologische Chemie.

Band VII, Heft 1.

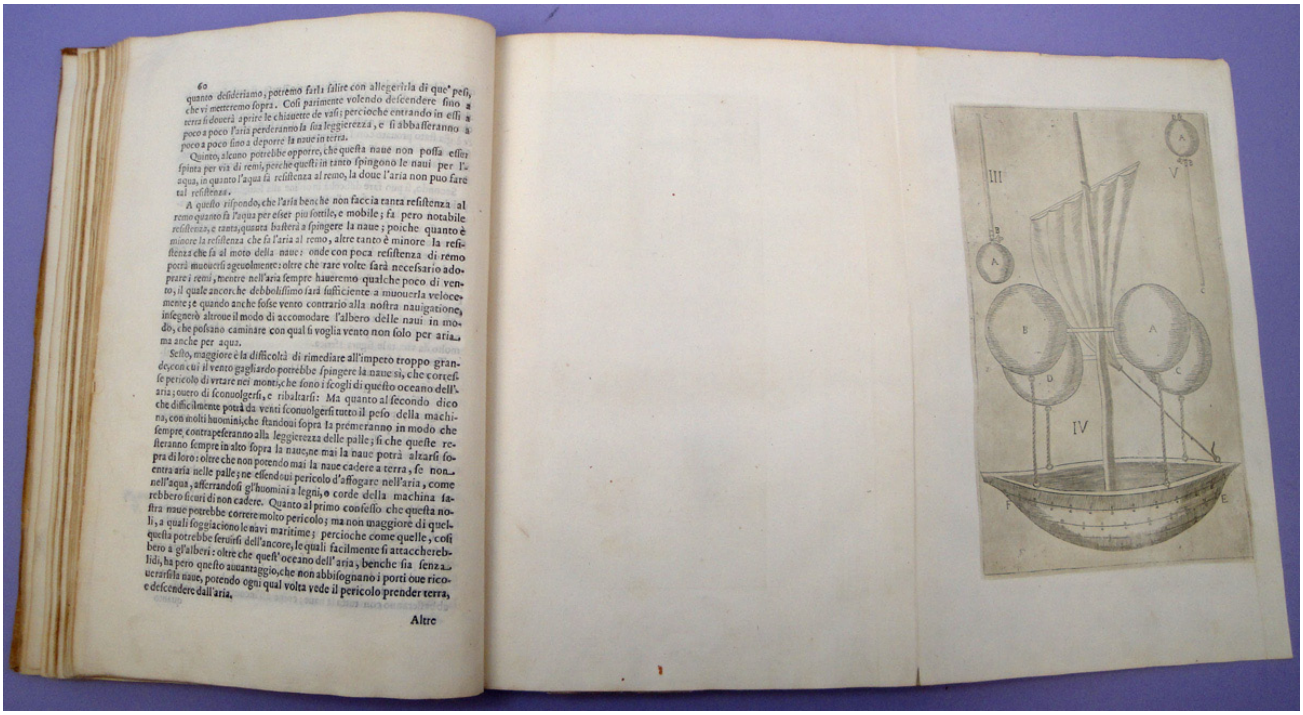
First Editions, Offprint Issues. G-M 702 (nos. [1] and [2]). Kossel was awarded the Nobel Prize in 1910 "in recognition of the contributions to our knowledge of cell chemistry made through his work on proteins, including the nucleic substances" (nobelprize.org/nobel_prizes/medicine/laureates/1910/index.html). His researches on "nucleic substances" represent an early stage in the development of molecular biology.

In 1869 J. F. Miescher, then working in Felix Hoppe-Seyler's biochemical laboratory in Tübingen, discovered in the cell nucleus an acid-insoluble, alkali-soluble, high-phosphorus containing substance that he named nuclein; we now know it as DNA. Kossel's researches on nuclein, begun ten years after Miescher's discovery, led to the development of reliable methods for isolating, purifying and analyzing the nucleus, identification of the chemical makeup of nuclein, and the discovery of the nitrogen bases adenine, thymine, cytosine and uracil, familiar to us now as some of the fundamental components of DNA and RNA (guanine, the remaining DNA nitrogen base, had been discovered previously). Kossel and his students working in Berlin

> demonstrated that these, together with xanthine, hypoxanthine, and guanine (sarcine), are breakdown products of nucleic acids, which can be used to distinguish between the true nucleins of the cell nucleus and the spurious nucleins found in milk and egg yolk, which he termed "paranucleins." . . . From physiological studies Kossel correctly concluded that the function of nuclein is neither to act as a storage substance nor to furnish energy for muscular contraction; rather, it must be associated with the formation of fresh tissue [i.e. the production of proteins] (DSB).

By the end of the nineteenth century, Kossel had characterized nucleins as unique substances—acidic substances, for which Richard Altmann introduced the term "nucleic acid" in 1889. Our collection of offprints includes seven of the papers on nucleins cited in the DSB's article on Kossel (nos. 1, 2, 3, 4, 5, 6, 8 below), plus two of the three papers cited as Garrison-Morton 702 (nos. [1] and [2] above). Kossel never specifically linked his work on nucleic acids to heredity, but he was aware of their general role in the production of proteins. After his receipt of the Nobel Prize he speculated publicly on the source of biological specificity, particularly in his Herter Foundation lecture (no. 14 below), in which he "clearly recognized the potential diversity of polypeptides and saw in the structure of proteins the chemical basis of biological specificity" (DSB).

Eight of the offprints in this collection bear the ownership marks of Miescher, whose discovery of nuclein in 1869



is referenced above. Both Miescher and Kossel had been students of Felix Hoppe-Seyler, a founder of the science of physiological chemistry. Magill, *Nobel Prize Winners* (phys. & med.), pp. 139-47. Wolf, "Friedrich Miescher, the man who discovered DNA." *Bizgraphic CD Content*. Web. 19 Jan. 2011. 40021

75. Lana Terzi, Francesco (1631-1687). Prodromo overo saggio di alcune inventioni nuove premesso all'arte maestra. Brescia: Rizzardi, 1670. Folio. [8] 1-252 pp. 20 engraved plates. 305 x 210 mm. Vellum c. 1670, all edges gilt., somewhat darkened. Minor original paper flaw on leaf Ooo causing appearance of old minor paper repair, but no repair and no loss of text. Fine, clean, crisp copy. Ownership inscription of the Society of Jesus in Vienna, dated 1671 on title.

$12,000

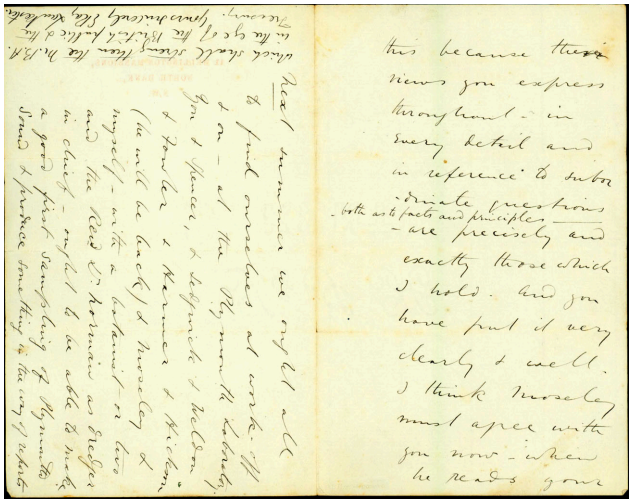
First Edition. Lana Terzi's *Prodromo* is best known for presenting the earliest concept of flight derived from demonstrable aerostatic principles. He determined by experiment that a vessel may be made lighter by reducing the air density within it, and proposed to build a "flying boat" suspended from four large spheres of thin copper, from which all or part of the air would be evacuated to achieve buoyancy.

Although the theory behind Lana Terzi's reasoning was sound, and his work is discussed in virtually every history of flight, his design was unworkable, for, as Hooke, Leibnitz, Borelli and other scientists pointed out, the copper spheres would not be able to withstand the enormous amount of atmospheric pressure. In any case Lana never attempted to construct his "flying boat," not because of its impractical design, but because he believed that God would forbid it as inimical to civil government and peace. While Lana apparently originated the method of reducing air density in a vessel by heating it, the implications of this phenomenon in relation to flight were not fully understood until the Montgolfier brothers' ballooning experiments a century later. Dibner, *Heralds of Science* 176. Davy, *Interpretive History of Flight* pp. 31-33. Haskell F. Norman Library 1272. 40919

76. Lankester, E. Ray (1847-1929). Autograph letter signed to Gilbert Charles Bourne (1861-1933). Lonson, Sept. 5, n.y. [ca. 1890]. 4pp. Light soiling along creases, but fine otherwise.

$750

Letter with excellent scientific content from Lankester, invertebrate zoologist, evolutionist and third Director (after Richard Owen and William Flower) of the Natural History Museum in London. A disciple of Huxley, Lankester was Jodrell Professor of Zoology at University College London from 1874 to 1890, served as Linacre Professor of Comparative Anatomy at Oxford from 1891 to 1898, and was Director of the Natural History Museum from 1898 to 1907. He was enormously influential as a teacher of evolutionary theory; among his distinguished students were Edwin S. Goodrich, Julian Huxley and W. F. R. Weldon (see below).



Lankester's correspondent was fellow invertebrate zoologist Gilbert Charles Bourne, coiner of the term "mesogloea" [mesoglea] to describe the translucent, inert substance that makes up most of the bodies of jellyfish, comb jellies and certain primitive sea creatures in the phylum Cnidaria. Bourne introduced the term, which had been suggested to him by Lankester, in an 1887 paper published in the *Quarterly Journal of Microscopical Science* (a journal that Lankester edited). Bourne later contributed to Part II, on the porifera and coelentera, of Lankester's multi-volume *Treatise on Zoology* (1900-1909).

Lankester's letter reads as follows:

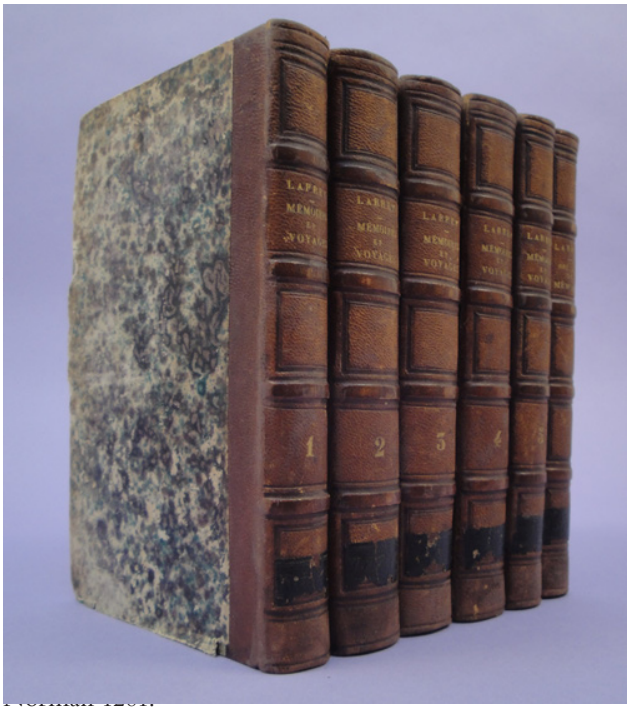
> My dear Mr. Bourne, I received your MS on my return from Switzerland & have just read your final chapter on "Mesogloea": it is admirable. Perhaps I am led to say this because the views you express throughout—in every detail and in reference to subordinate questions both as to facts and principles—are precisely and exactly those which I hold. And you have put it very clearly & well. I think Moseley must agree with you now—when he reads your statement. I did not remember that I had suggested "mesogloea" and judged of it quite impartially until the last paragraph where you refer to our conversation. I think it hits the nail on the head.
>
> I hope you have been having a pleasant summer. Next summer we ought all to find ourselves at work off & on—at the Plymouth Laboratory. You & Spencer, & Sedgwick & Weldon & Fowler & Harmer & Hickson (he will be back) & Moseley & myself—with a botanist or two and the Revd. Dr. Norman as dredger in chief—ought to be able to make a good first sampling of Plymouth Sound & produce something in the way of reports which shall strengthen the M.B.A. in the eye of the British public & the Treasury. Yours sincerely E. Ray Lankester

In the second paragraph Lankester refers to the Marine Biological Association of the United Kingdom (M.B.A.), which he had helped to found in 1884. The Association is based in Plymouth, where it maintains a laboratory. Among the scientists mentioned in the paragraph are Henry N. Moseley (1844-91), Linacre Professor of Zoology at Oxford; Walter Frank Raphael Weldon (1860-1906), evolutionary biologist and co-founder with Galton of the science of biometry; George Herbert Fowler (1861-1940), Lankester's assistant and interim director of the M.B.A.'s Plymouth laboratory; and zoologist Adam Sedgwick (1854-1913). 41089

Rare Complete Set of Larrey's Memoirs of Military Surgery, Reporting on Fifty-Three Years of Service

77. Larrey, Dominique Jean, *Baron* (1766-1842). **(1)** Mémoires de chirurgie militaire, et campagnes . . . 8vo. 4 vols. xxviii, 382; [4], 512; iv, 500; viii, 500pp. No pp. 481-484 in vol. 4 as usual. 17 plates, incl. folding map. Paris: Smith . . , 1812-17. **(2)** Recueil de mémoires de chirurgie. 8vo. xvi, 319pp. 4 engraved folding plates, the last printed in 2 colors, with explanation leaves. Paris: Compère jeune, 1821. **(3)** Relation médicale de campagnes et voyages, de 1815 à 1840. [4], 412pp. 2 folding plates. Paris: J.-B. Baillière, 1841. Together 6 volumes, uniformly bound in quarter morocco, marbled boards ca. 1841, light wear to edges and corners. Moderate foxing. Library stamp on title page of Mémoires volume 4. A few leaves of Vol. III carelessly opened, but very good. "W. J. Hoyt" on leather label at foot of spines. $8500

(1) First Edition. The greatest classic in military medicine, with the often-missing fourth volume published five years after the first three. Larrey's *Mémoires*, modeled after those of Paré, combine medicine and military adventure while recounting his experiences Surgeon-in-Chief of Napoleon's Grande Armée—Napoleon said of Larrey that "c'est l'homme le plus virtueux que j'ai connu." The *Mémoires* also describes Larrey's his youthful adventures in North America as chief surgeon on the frigate *Vigilante*, as well as his activities after the defeat of Napoleon. The memoirs provide a fascinating record of the Napoleonic campaigns—including perhaps the best eyewitness account of the disastrous invasion of Russia—along with Larrey's methods of dealing with the numerous medical problems he encountered on the battlefield.

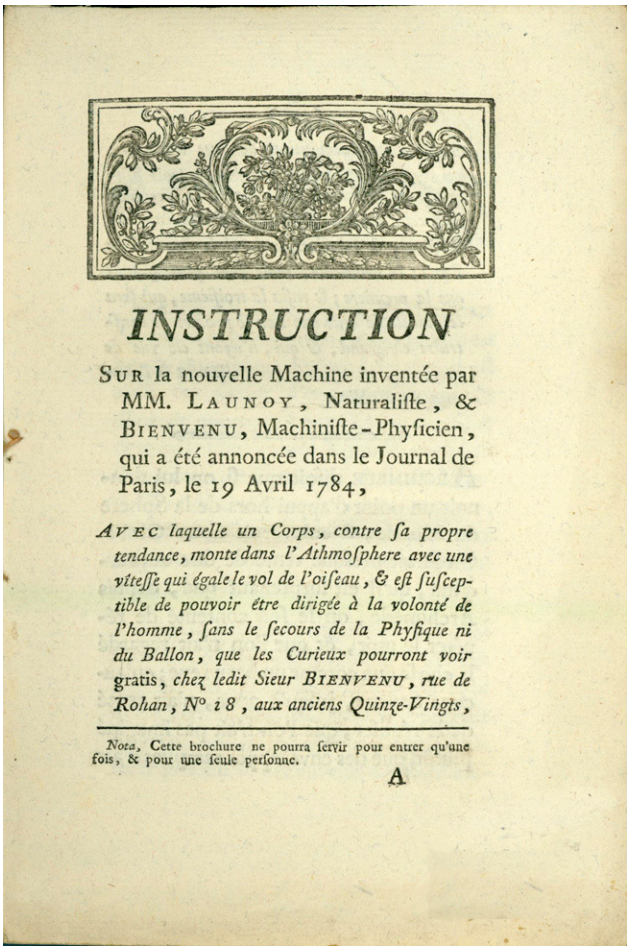


(3) First Edition. Issued 24 years after the publication of Volume IV of the *Mémoires, Relation médicale* serves as the fifth and final volume of that work. In the opening pages, Larrey states that the work contains "le récit des événements qui se rattachent à ma carrière chirurgicale, et dont j'ai été témoin, depuis le départ de l'empereur Napoléon pour l'île d'Elbe jusqu'à sa translation à celle de Sainte-Hélène, et successivement jusqu'à la fin de décembre 1840. Cette relation, qui ajoute un cinquième volume à l'Histoire de mes campagnes . . . complète pour moi une période de cinquante-trois ans révolus de services effectifs" [the narrative of events connected with my surgical career, and those I have witnessed, from the departure of the Emperor Napoleon to the island of Elba to his removal to St. Helena, and afterwards up to the end of December 1840. This account, which adds a fifth volume to the history of my campaigns . . . completes for me a period of fifty-three years of actual service].

This is the only time in more than 40 years of trading that we have ever seen all six volumes of Larrey's memoirs offered for sale together in matching bindings. 40966

The First Helicopter

78. Launoy & Bienvenu. Instruction sur la nouvelle machine inventée par MM. Launoy, naturaliste, & Bienvenu, machiniste-physicien, qui a été annoncée dans le Journal de Paris, le 19 avril 1784 [caption title]. 8vo. 15 [1]pp. N.p., n.d.



INSTRUCTION

SUR la nouvelle Machine inventée par MM. LAUNOY, Naturaliſte, & BIENVENU, Machiniſte-Phyſicien, qui a été annoncée dans le Journal de Paris, le 19 Avril 1784,

AVEC laquelle un Corps, contre ſa propre tendance, monte dans l'Athmoſphere avec une viteſſe qui égale le vol de l'oiſeau, & eſt ſuſceptible de pouvoir être dirigée à la volonté de l'homme, ſans le ſecours de la Phyſique ni du Ballon, que les Curieux pourront voir gratis, *chez ledit Sieur* BIENVENU, *rue de Rohan, N° 18, aux anciens Quinze-Vingts,*

Nota, Cette brochure ne pourra ſervir pour entrer qu'une fois, & pour une ſeule perſonne.

A

[Paris, 1784]. 195 x 133 mm. Marbled wrappers ca. 1784, tear in front wrapper. Insignificant staining, otherwise fine. Boxed. $7500

First Edition, and *rare,* with no North American copies cited in OCLC (OCLC lists copies in two German libraries and in the Bibliothèque nationale). Description of the first successful European helicopter prototype, a small device or toy consisting of twin two-bladed rotors contra-rotated by a bow-string mechanism. The device was demonstrated before the Académie des Sciences and at the 1784 Paris Exposition by the inventors Launoy and Bienvenu, of whom nothing else is known. Launoy and Bienvenu's device provided the inspiration for Cayley's 1796 helicopter design, the first flying machine he ever constructed.

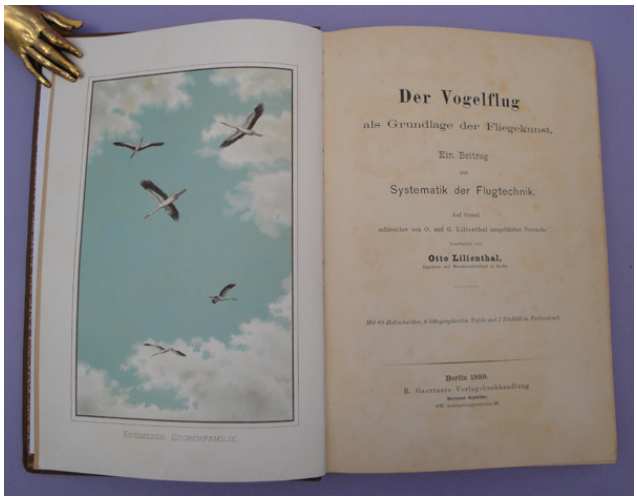
Purchase of this pamphlet granted the buyer entry to the display of three of Launoy and Bienvenu's flying machines, housed at M. Bienvenu's residence in Paris. The first machine was the one demonstrated at the Académie des Sciences; the second a larger machine three times the size of the original; and the third a model of a proposed machine, "réservée essentiellement à l'examen du Public" (p. 2). Gibbs-Smith, *Sir George Cayley's Aeronautics,* pp. 1-3. 40963

79. Le Clerc, Sébastien (1637-1714). Engraving depicting Louis XIV's visit to the Academie Royale des Sciences circa 1670, from Claude Perrault's *Memoires pour server à l'histoire naturelle des animaux* (1671-76). Framed. Visible portion of image measures 417 x 308; frame measures 602 x 484 mm. Fine. $2750

Le Clerc, one of the outstanding artists of the seventeenth century, was Louis XIV's official engraver. 11701

80. Ley, Willy (1906-1969). Die Möglichkeit der Weltraumfahrt. viii, 344pp. 2 plates, text illustrations. Leipzig: Hachmeister & Thal, 1928. Original cloth, some spotting, light wear, minor finger-soiling. Very good copy, from the library of Frederick I. Ordway III, with his bookplate. $650

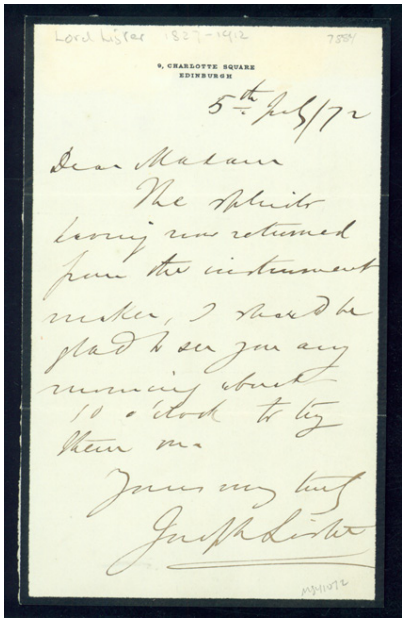
First Edition of this pioneering collection of papers on the possibility of space travel, edited by Willy Ley, one of the founders of Germany's influential Verein für Raumschiffahrt (Rocketry Society) and a highly effective popularizer of spaceflight in the first half of the twentieth century. The collection includes contributions from Karl Debus, Hermann Oberth, Walter Hohmann, Guido von Pirquet and Fr. W. Sander-Wesermünde. This copy was owned by Frederick I. Ordway III, space scientist and well-known author of books on spaceflight. 40951



81. Lilienthal, Otto (1848-1896). Der Vogelflug als Grundlage der Fliegekunst. viii, 187pp. Chromolithograph frontispiece, 8 lithograph folding plates, text illustrations. Berlin: R. Gaertner, 1889. 229 x 155 mm. Original brown bead-grain cloth stamped in black and gilt, gilt-lettered spine and front cover. Minor foxing, but very good. Ownership inscription of Dr. Paul Pallme König, dated 1908, on front flyleaf; König's annotations and underlining in ink throughout. $3000

First Edition. Lilienthal's study of the method and aerodynamics of bird flight was the first textbook of mechanical flight. Lilienthal applied the results of his bird-flight studies to the problem of human flight, constructing one-man gliders based on the shape of a bird's wing. The experiments he conducted with these from 1891 until his tragic death in a glider accident in 1896 demonstrated the practical application of his theories of flight and inspired others to build upon his initial investigations. "Lilienthal's book [became] one of the chief bibles for the aeronautical world after he demonstrated that his theories could be put into practice. . . . It was the basis on which the Wrights first started building their aerodynamic work, and they were always high in praise of its pioneering value, even when they were led to modify Lilienthal's

findings" (Gibbs-Smith, p. 23). This copy was once owned by Paul Pallme König, a physicist who published a thesis on "The resistance of bismuth in variable magnetic fields and variable measurement currents" (1907), and whose researches on bismuth are cited in the *Annalen der Physik* (Volume 7 [1909], issue 7, p. 337). Brockett, *Bibliography of Aeronautics,* p. 520. Davy, *Interpretive History of Flight,* pp. 116-120. Gibbs-Smith, *The Invention of the Aeroplane (1799-1909),* pp. 23-25. Norman 1353. 41009


9, CHARLOTTE SQUARE
EDINBURGH

5th July/72

Dear Madam

The Splints having now returned from the instrument maker, I should be glad to see you any morning about 10 o'clock to try them on.

Yours very truly

Joseph Lister

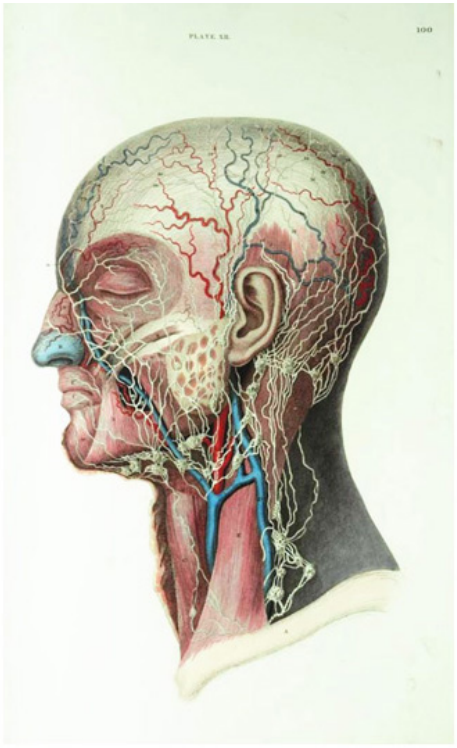
"The Splints Having now Returned from the Instrument Maker . . ."

82. Lister, Joseph (1827-1912). Autograph letter signed to an unidentified correspondent. Edinburgh, July 5, 1872. 1 sheet. 160 x 98 mm. Traces of mounting on blank verso, but very good. $950

From the founder of the antiseptic principle in surgery (see Garrison-Morton 5634, *Printing and the Mind of Man* 316c) and the antiseptic prevention of wound infection (see Garrison-Morton 5635). The letter, which Lister wrote in his professional capacity as a surgeon, reads as follows:

> Dear Madam, The splints having now returned from the instrument maker, I should be glad to see you any morning about 10 o'clock to try them on. Yours very truly Joseph Lister.

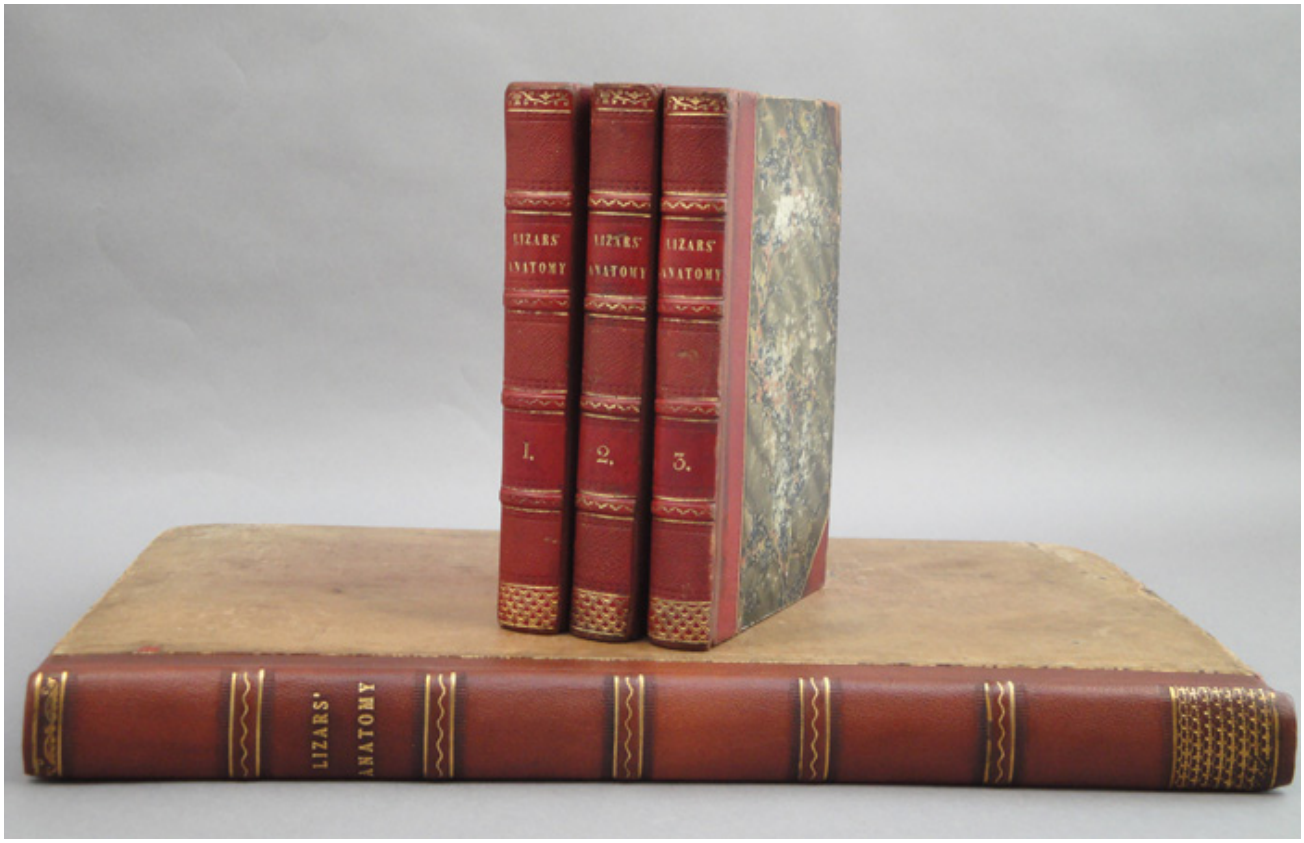
41072



With 101 Spectacular Hand-Colored Plates

83. Lizars, John (ca. 1787-1860). A system of anatomical plates of the human body. 8vo text, 12 parts in 3 volumes, plus folio atlas with engraved title and 101 hand-colored plates engraved by **William Home Lizars** (1788-1859); detailed pagination information available on request. Edinburgh: Printed for Daniel Lizars . . . , 1822-26. 214 x 133 mm. (text); 451 x 285 mm. (atlas). Text in 19th century half red morocco, marbled boards, rebacked retaining original gilt spines, a little rubbed; atlas in original cloth boards, corners worn, rebacked in red morocco to match text. A few minor dampstains in text volumes, some minor foxing to the plates, plate edges a little dust-soiled and frayed, but a fine copy of this very rare work with the plates in the atlas untrimmed. Small circular stamps of the King's College, Newcastle medical library on atlas title and plate versos. $15,000

First Edition of this impressive and highly successful collaboration between anatomist John Lizars and his brother William Home Lizars, a talented artist and head of the publishing and engraving firm established by the



brothers' father, Daniel Lizars (1754-1812). John Lizars studied under John Bell and later became a partner in Bell's anatomy school. The partnership with Bell was eventually dissolved but Lizars continued to teach on his own, and also maintained a private surgical practice. In 1825 Lizars became the first surgeon in Britain to perform an ovariotomy (see Garrison-Morton 6026), and in 1831 he was appointed professor of surgery at the Royal College of Surgeons in Edinburgh. Like many other Scottish teachers of anatomy, Lizars was active in the effort to reform Britain's antiquated laws governing the procurement of cadavers for medical schools, the excessive restrictions of which had for decades been forcing anatomists to wink at grave robbing and even murder. To this end he dedicated the atlas of his *System* to George IV, using his dedication as a platform to urge the king to lend his support to the cause. The crisis was finally brought to a head with the sensation Burke & Hare serial murders which took place in Edinburgh from November 1827 to October 1828, only one year after Lizars's atlas was completed.

Lizars's *System of Anatomical Plates* was by far his most successful work, going through many editions; "the sale of the book in its various forms was reported to be immense" (Roberts & Tomlinson, p. 505). The text of the work was originally issued in 12 parts in octavo format, which were then bound together in book form with engraved title; in later editions the text was reset in folio and bound with the plates. We have noted two issues of parts 2 and 3 of the text: this copy of these parts are of the earlier issue, with imprint reading "Printed for Daniel Lizars, 61, Princes Street, Edinburgh; and S. Highley, 174, Fleet Street, London." The later issue's imprint has "Hodges and M'Arthur, Dublin" added at the end; the pagination of the two issues of the text also varies.

The first edition of the folio atlas illustrating Lizars's *System* was issued in both uncolored and hand-colored versions, although the 15 plates devoted to the brain and spinal cord are colored in all copies of the first edition. All copies of the first edition of this work are rare, and because the plates were issued in folio, and the text of the first edition was issued in 12 parts in octavo, most often the first edition of the atlas is not found with the text.

This is the first copy of the first edition with the all the plates hand-colored that we have handled in 40 years of trading. It is probable, because of the high expense of hand-coloring, that only a small number of copies of this edition were issued in this form. In this copy all of the plates are brilliantly, even spectacularly hand-colored, and even the plates of the brain and nervous system—found colored in both the all-colored and the black and white versions—exhibit more detail and shading than those in the regular black and white edition. The plates in this colored copy are also printed on a better grade of paper than that used in the uncolored copies.

Roberts and Tomlinson are incorrect in their suggestion that the plates in Lizars's atlas were printed using W. H. Lizars's "*alto relievo*" method, in which copper plates are etched in such a way as to leave the part to be printed in relief (the opposite of the far more commonly used intaglio method, in which the part to be printed is incised into the plate). Roberts and Tomlinson base their speculation on the mistaken observation that "the printed page [of Lizars's atlas] shows no plate marks" (p. 504); however, in our copy of the atlas the plate marks are clearly visible and the inked parts of the image are raised above the surface of the paper, as one would expect to find in a plate printed by the intaglio method. In some copies of the atlas the plates have paste-on numbers 1-101 instead of printed numbers. In our copy the earlier plates are numbered by hand, while the later plates have printed numbers.

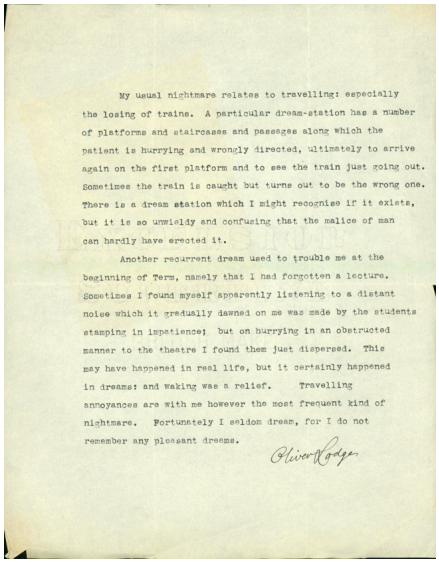
For the artist William Home Lizars see the extensively illustrated article in the Walter Scott Digital Library at the Edinburgh University Library site on the Internet. Lizars's fame as engraver led John James Audubon to engage Lizars to engrave the plates for the elephant folio *Birds of America*; however, after Lizars had engraved the first ten plates, he recommended to Audubon that this enormous project (requiring over 76,000 elephant folio hand-colored plates for the 175 copies in the edition) be turned over to Robert Havell in London. This extremely rare completely hand-colored copy of Lizars's atlas represents the highest quality of artistic production available in Scotland at this date. On our Catalogues and Special Items web page we have posted a downloadable PDF showing all the color images from the Lizars atlas. Roberts & Tomlinson, *The Fabric of the Body,* pp. 504-8. 40902

84. Lodge, Oliver (1851-1940). Typed document signed. N.p., n.d. 1 sheet. 261 x 205 mm. Light creasing, a few marginal tears, but very good. $450

By British physicist Oliver Lodge, best known for his pioneering work in radio—he was one of the first in Britain to demonstrate the transmission of radio signals, and he patented both the tuner and the moving-coil loudspeaker. He is also remembered for his studies of psychic phenomena and his involvement in spiritualism, which intensified after the death of one of his sons in World War I.

Lodge's document describes two recurring dreams—more properly nightmares—that had long troubled him:

> My usual nightmare relates to travelling: especially the losing of trains. A particular dream-station has a number of platforms and staircases and passages along which the patient is hurrying and wrongly directed, ultimately to arrive again on the first platform and to see the train just going out. . . Another recurrent dream used to trouble me at the beginning of Term, namely that I had forgotten a lecture. Sometimes I found myself apparently listening to a distant noise which it gradually dawned on me was made by the students stamping in impatience . . . waking was a relief. . . .


My usual nightmare relates to travelling: especially the losing of trains. A particular dream-station has a number of platforms and staircases and passages along which the patient is hurrying and wrongly directed, ultimately to arrive again on the first platform and to see the train just going out. Sometimes the train is caught but turns out to be the wrong one. There is a dream station which I might recognise if it exists, but it is so unwieldy and confusing that the malice of man can hardly have erected it.

Another recurrent dream used to trouble me at the beginning of Term, namely that I had forgotten a lecture. Sometimes I found myself apparently listening to a distant noise which it gradually dawned on me was made by the students stamping in impatience; but on hurrying in an obstructed manner to the theatre I found them just dispersed. This may have happened in real life, but it certainly happened in dreams: and waking was a relief. Travelling annoyances are with me however the most frequent kind of nightmare. Fortunately I seldom dream, for I do not remember any pleasant dreams.

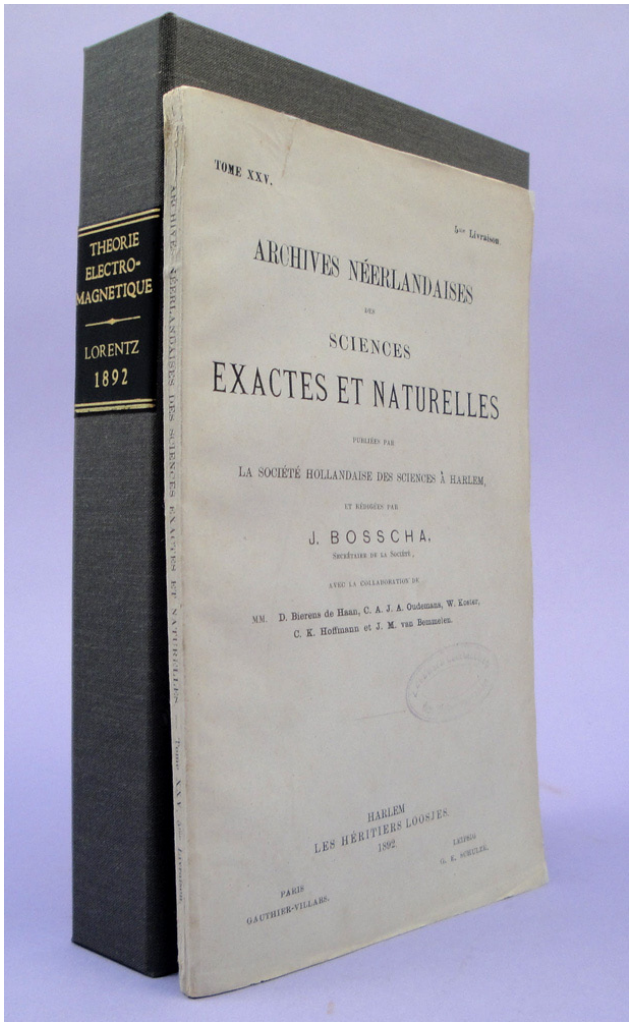
Oliver Lodge

41091

The Electron Theory

85. Lorentz, Hendrik Antoon (1853-1928). La théorie électromagnétique de Maxwell et son application aux corps mouvants. In *Archives néerlandaises des sciences exactes et naturelles* 25 (1892): 363-551[Lorentz's paper occupies the entire number]. 8vo. Harlem: Les héritiers Loosjes, 1892. 241 x 152 mm. (uncut & unopened). Original wrappers, a few minor marginal tears repaired; boxed. Library stamp on front wrapper and first leaf. Fine copy. $9500

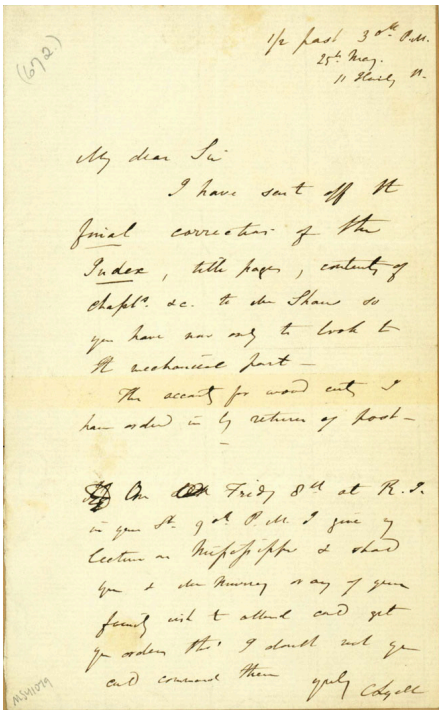
First Edition of Lorentz's seminal paper on the relationship of matter to electricity. appearing in journal form prior to the book-form version cited as *Printing and the Mind of Man* 378a. The book-form version appeared later in 1892, and not in 1893 as PMM states. This paper and Lorentz's paper of 1895 (PMM 378b) embodied the first systematic appearance of the electrodynamic principle of relativity. In applying Maxwell's electromagnetic theories to moving bodies Lorentz made the fundamentally new assumption that the behavior of light and matter could be understood in terms of charged particles. Maxwell (1864) had argued that radiation was produced by the oscillation



of electric charges, and in 1887 Hertz showed this to be true for radio waves, which he formed by causing electric charges to oscillate. But if light was an electromagnetic radiation after the fashion of radio waves, where were the electric charges that did the oscillating?

By 1890 it seemed quite likely that electric current was made up of charged particles, and Lorentz thought it quite possible that atoms of matter might also consist of charged particles. He hypothesized that visible light was produced by the oscillation of charged particles within the atom; if this was so, then placing a light in a strong magnetic field ought to affect the nature of the oscillations—and therefore the wavelength—of the light emitted. In 1896 Lorentz's hypothesis was demonstrated experimentally by his pupil Pieter Zeeman, who shared the Nobel Prize with Lorentz in 1902.

Lorentz also postulated that there are contractions of length with motion, and that the mass of a charged particle such as an electron depends upon its volume—the smaller the volume, the greater the mass. Arguing that mass increases with velocity led to the conclusion that the velocity of light in a vacuum is the greatest velocity at which any object can travel. Lorentz's equation describing how mass varies with velocity was adopted by Einstein in his *Special Theory of Relativity* (1905), in which he showed that the Lorentz mass-increase with velocity holds not only for charged particles but for all objects, charged or uncharged. *Dictionary of Scientific Biography*. Weber, *Pioneers of Science,* pp. 12-14. Magill, ed., *The Nobel Prize Winners: Physics*, pp. 35-42. 41098



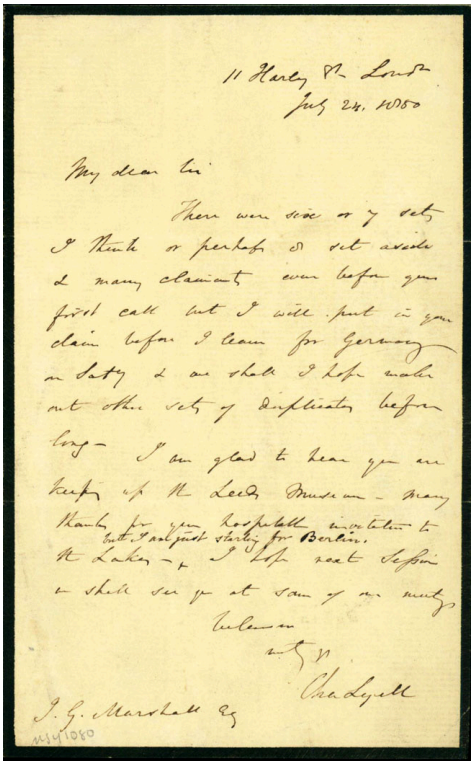
86. Lyell, Charles (1797-1875). Autograph letter signed to an unidentified correspondent (most likely a member of John Murray's publishing firm). [London,] 11 Harley St., 25 May, n.y. [1849]. 1 sheet, mounted. 186 x 114 mm. Fine. $950

From Charles Lyell, the foremost British geologist of the nineteenth century and author of *Principles of Geology* (1830-33), a work that revolutionized the science and had a profound effect in shaping the scientific thinking of Charles Darwin. The letter was most likely written in connection with the publication of Lyell's *A Second Visit to the United States of North America*, published by John Murray in 1849. The letter reads as follows:

> My dear Sir, I have sent off the final corrections of the Index, title pages, contents of chapts. &c. to Mr. Shaw so you have now only to look to the mechanical part—
>
> The account for wood cuts I have ordered in by return of post.

On Friday 8th at R. I. in your St. 9oc P.M. I give my lecture on Mississippi & should you & Mr. Murray or any of your family wish to attend cd get you orders tho' I doubt not you cd command them. Yrs truly CLyell.

The final paragraph refers to Lyell's lecture "On the delta and alluvial plain of the Mississippi, ancient and modern," delivered at the Royal Institution on Friday, 8 June 1849 (see "Letter 1242 — Darwin, C. R. to Lyell, Charles, [14–28 June 1849] :: Darwin Correspondence Project." *:: Darwin Correspondence Project*. Web. 06 Jan. 2011). 41079



87. Lyell, Charles (1797-1875). Autograph letter signed to James Garth Marshall (1802-73). 1 page, docketed on verso of sheet. London, July 24, 1850. 188 x 114 mm. Fine apart from faint soiling. $850

Lyell's correspondent was the prominent Yorkshire politician James Garth Marshall, M.P. for Leeds from 1847 to 1852. Marshall was also a Fellow of the Geological Society and served as the Leeds City Museum's curator of geology from 1837 until his death.

Lyell's letter reads as follows:

My dear Sir, There were six or 7 sets I think or perhaps 8 set aside & many claimants even before your first call but I will put in your claim before I leave for Germany on Saty. & we shall I hope make out other sets of duplicates before long.

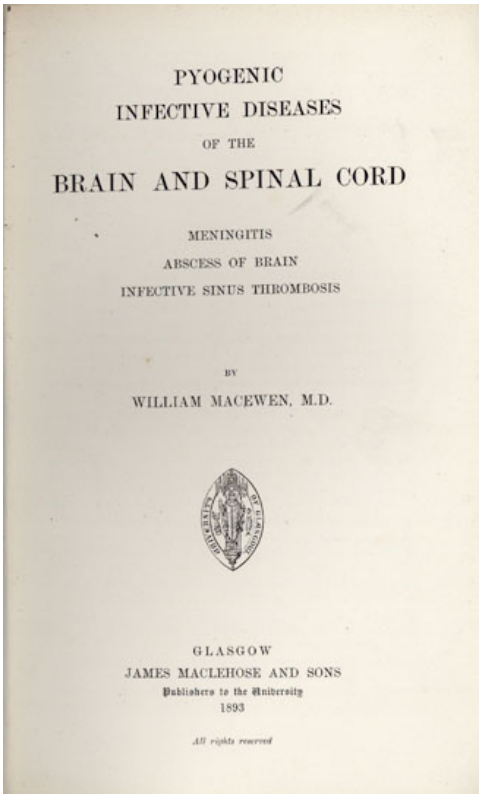
I am glad to hear you are keeping up the Leeds Museum—many thanks for your hospitable invitation to the Lakes but I am just starting for Berlin--& I hope next Session we shall see you at some of our meetings. Believe me truly yrs Cha Lyell.

J. G. Marshall Esq.

41080

88. Lyell, Charles (1797-1875). Autograph letter signed to H. Dixon, Esq. London, March 4, 1863. 2pp. plus integral blank. 145 x 114 mm. Fine. $500

"I write to ask whether I left my purse in your office as I had it when I paid my cab at the door & immediately on leaving took another cab & found I had no purse. My pocket may have been picked in Cursitor St. . . ." 41093

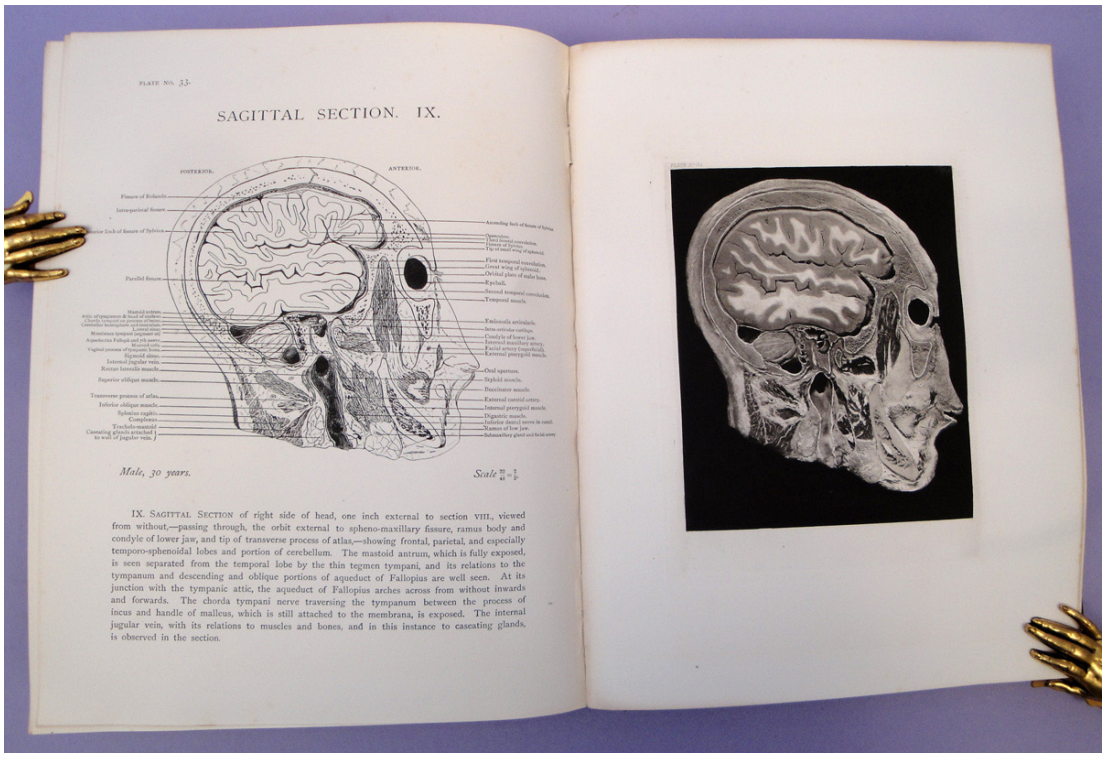

PYOGENIC
INFECTIVE DISEASES
OF THE
BRAIN AND SPINAL CORD

MENINGITIS
ABSCESS OF BRAIN
INFECTIVE SINUS THROMBOSIS

BY
WILLIAM MACEWEN, M.D.

GLASGOW
JAMES MACLEHOSE AND SONS
Publishers to the University
1893

89. Macewen, William (1848-1924). **(1)** Pyogenic infective diseases of the brain and spinal cord. 8vo. xxiv, 354pp. 37 plates & text illustrations. Glasgow: Maclehose, 1893. 225 × 145 mm. Original cloth, worn but sound, corners a little bent. Minor dust-soiling and fraying, but very good. Advertisement for Macewen's *Atlas of Head Sections* tipped to the front free endpaper. **(2)** Atlas of head sections. 4to. xiii pp.,



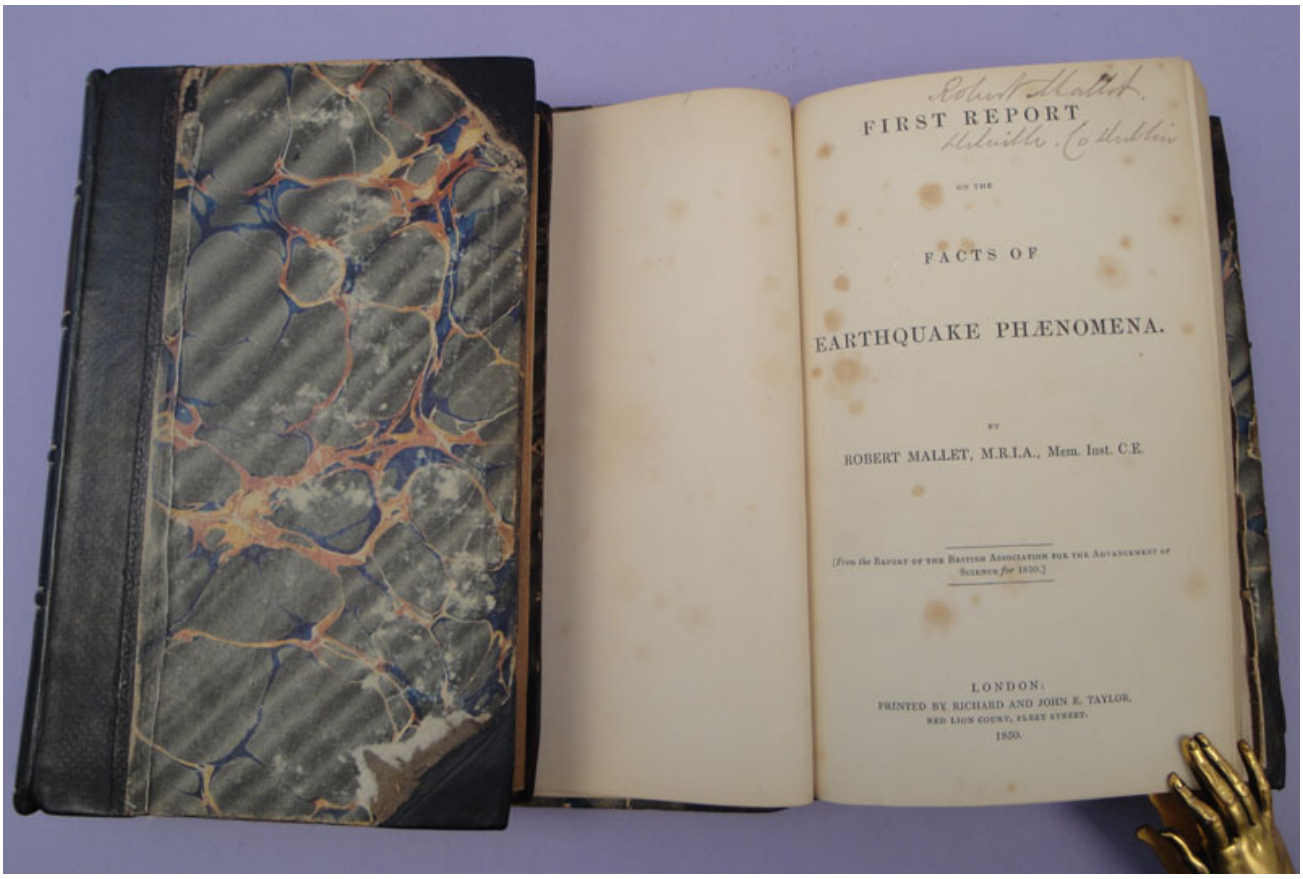
53 copperplate engravings each with separate printed outline key, 4pp. (index). Glasgow: Maclehose, 1893. 280 x 220 mm. Original cloth. Minor foxing, otherwise fine. Signature of British surgeon George Grey Turner (1877-1951) on the front free endpaper. $4500

First Editions. Garrison-Morton 4872, 431 (*Atlas*). Cushing considered Macewen the "chief pioneer in craniocerebral surgery." His experience with meningitis, abscess of the brain and infective sinus thrombosis was summarized in his seminal *Pyogenic Infective Diseases of the Brain and Spinal Cord* of 1893, which gave sixty-five detailed cases together with operative procedures. His *Atlas of Head Sections*, published the same year, was intended to supplement and illustrate *Pyogenic Infective Dseases.* This copy of the *Atlas* was once owned by British surgeon George Grey Turner, for whom "Turner's sign"—local areas of bruising and induration of the skin about the navel and loins in hemorrhagic pancreatitis—is named. 39273

Foundation Work of Seismology—Author's Copy

90. Mallet, Robert (1810-81). **(1)** First [-third] report of the facts of earthquake phaenomena. Offprints from *Report of the British Association for the Advancement of Science for 1850* (1850), *Report of the British Association for the Advancement of Science for 1851* (1852) and *Report of the British Association for the Advancement of Science for 1852* [-54] (1852-55). [2], 87; [2], 273-320; [2], 176, [1], 118-212, 326pp. 6 plates, numbered 12-17. 218 x 135 mm. Three items in 2, bound in 19th century marbled boards rebacked and recornered in calf, slightly rubbed. Light toning, edges of some plates a little frayed, but very good. *Mallet's copy,* with his signature on the title of the first report; the first two reports interleaved with both autograph and printed corrections inserted throughout; autograph note on p. 153 of the third report. **(2)** [with John William Mallet.] The earthquake catalogue of the British Association, with the discussion, curves, and maps, etc. . . . Being third and fourth reports. Offprint from *Transactions of the British Association for the Advancement of Science* (1852-58). [2], 176, [1], 118-212, 326, 136pp. 15 plates. 221 x 140 mm. Original boards, cloth spine with paper label, rebacked, one corner bent. Light toning, but very good. $2750

First Separate Editions. Mallet, an Irish engineer and inventor, was a pioneering researcher on earthquakes, and his four reports on earthquakes, published in the

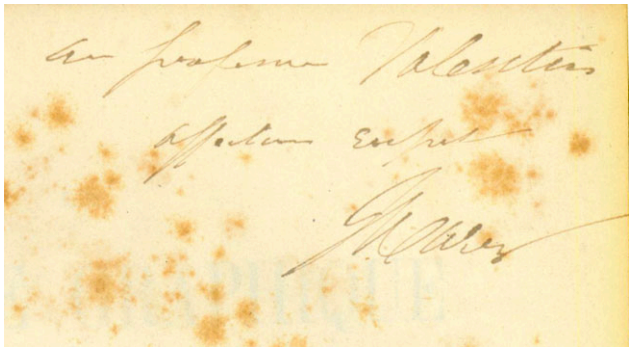


journals of the British Association for the Advancement of Science, represent the first scientific work on the subject. Mallet coined the term "seismology" to describe the scientific study of earthquakes, and was also responsible for the terms "epicenter," "seismic focus" (the point at which an earthquake originates), "angle of emergence," "isoseismal line" (contour or line on a map bounding points of equal intensity for a particular earthquake), and "meizoseismal area" (area of maximum earthquake damage). "He produced an experimental seismograph in 1846. Important elements of his model, which was never actually used, were incorporated in the seismograph that Luigi Palmieri made in 1855. Between 1850 and 1861 Mallet set off explosions in different locations to determine the rate of travel of seismic waves in sand (825 feet per second), solid granite (1,665 feet per second) and quartzite (1,162 feet per second). According to A. Sieberg (1924), Mallet should be considered the founder of the physics of earthquakes. . . . Mallet presented his most important seismic results in four *Report[s] to the British Association* (1850, 1851, 1852-54, 1858) and in four editions of the *Admiralty Manual of Scientific Enquiry* (1849, 1851, 1859, 1871). Between them, they contain an extensive catalog—which he prepared and debated with his son, John W. Mallet—of 6,831 earthquakes reported between 1606 B.C. and A.D. 1858 and his seismic map of the world" (*Dictionary of Scientific Biography*).

We are offering Mallet's copies of his first, second and third reports, with his corrections and emendations. Accompanying these is the *Earthquake Catalogue of the British Association,* which incorporates Mallet's third and fourth reports. 41052

91. Marey, Etienne-Jules (1830-1904). La méthode graphique dans les sciences expérimentales et principalement en physiologie et en médecine. xix, 673, [3, incl. errata]pp. Text illustrations. Paris: G. Masson, [1878]. 237 x 155 mm. Quarter cloth, mottled boards ca. 1878, remains of handwritten paper label on spine, light edgewear, spine a bit faded. Light to moderate foxing, but very good. *Presentation copy, inscribed by Marey to Gabriel Gustav Valentin* (1810-83) on the half-title: "A Professeur Valentin affection & respet E. J. Marey." $6000

First Edition. Marey pioneered the use of graphical recording in the experimental sciences, using instruments (many of his own invention) to capture and display data impossible to observe with the senses alone, and to record visually the progression of such data over time. He began by applying graphical recording methods to problems in

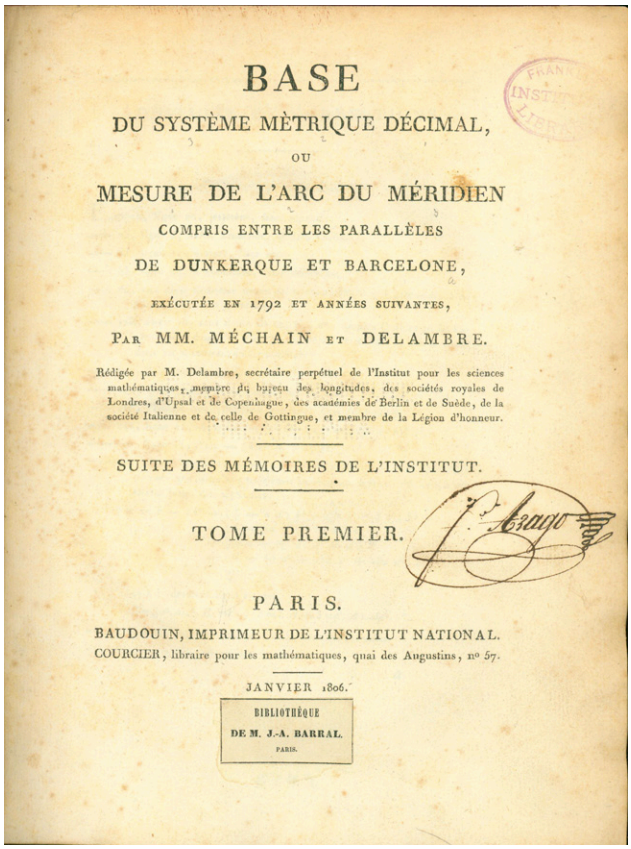


physiology, using machines to investigate the mechanics of the circulatory, respiratory and muscular systems. After 1868 he turned to the study of human and animal locomotion, and in the 1880s he began using cinematography to record animal motion, making him one of the pioneers in this field.

Marey's graphical recording methods, at first looked on askance by the French medical establishment, eventually led to Marey's election to the Académie des Sciences, where he occupied the chair in the medical and surgical section once held by Claude Bernard. In the same year Marey published his *La méthode graphique*,

> an encyclopedic summary of all of his research and results so far. It began, as did all Marey's publications, with a scrupulous history in which he enumerated his predecessors and described what he had borrowed from each. He then defined the purposes of his inscribing machines and showed how they were able to describe both movement and force as well as to store the information as material for comparison and research. He described the circulatory and locomotion phenomena he had studied, but this time he focused on methods of recording them. He reviewed the function of the mechanical models he had created, and finally he explained the locomotion of humans, horses, birds and insects and showed the devices for registering their movements. "There is nothing," wrote Marey, "that can escape the methods of analysis at our disposal" (Braun, p. 40).

An uninscribed copy of Marey's *Méthode graphique* (together with its 1885 supplement) was sold at the Tufte sale (Christie's Dec. 2, 2010) for $15,000. We are offering the copy that Marey presented to Gabriel Gustav Valentin, professor of physiology at the University of Bern and co-author, with J. E. Purkyne, of a classic paper on ciliary epithelial motion (see Garrison-Morton 602). *Dictionary of Scientific Biography.* Braun, *Picturing Time: The Work of Etienne-Jules Marey*, pp. 39-40. 41059


BASE

DU SYSTÈME MÈTRIQUE DÉCIMAL,

OU

MESURE DE L'ARC DU MÉRIDIEN

COMPRIS ENTRE LES PARALLÈLES

DE DUNKERQUE ET BARCELONE,

EXÉCUTÉE EN 1792 ET ANNÉES SUIVANTES,

PAR MM. MÉCHAIN ET DELAMBRE.

Rédigée par M. Delambre, secrétaire perpétuel de l'Institut pour les sciences mathématiques, membre du bureau des longitudes, des sociétés royales de Londres, d'Upsal et de Copenhague, des académies de Berlin et de Suède, de la société Italienne et de celle de Gottingue, et membre de la Légion d'honneur.

SUITE DES MÉMOIRES DE L'INSTITUT.

TOME PREMIER.

PARIS.

BAUDOUIN, IMPRIMEUR DE L'INSTITUT NATIONAL.

COURCIER, libraire pour les mathématiques, quai des Augustins, nº 57.

JANVIER 1806.

BIBLIOTHÈQUE DE M. J.-A. BARRAL. PARIS.

The Metric System, Ex Libris François Arago, Hero of the Project

92. Méchain, [Pierre F. A.] (1744-1804) & **Delambre, [Jean B. J.]** (1749-1822). Base du système mètrique décimal. 3 vols. **With**: **Biot, [Jean Baptiste]** (1774-1862) & **Arago, [François]** (1786-1853). Recueil d'observations géodésiques, astronomiques et physiques. Together, 4 vols., 4to. c. 2500pp. 30 mostly folding engraved plates. Full period-style calf, elaborately gilt. Minor spotting. From the library of **François Arago,** with his signature on the title and his annotations on some of the folding plates. Bookplate of chemist Jean Augustin Barral (1819-84), who prepared the collected works of Arago, on the titles of all four volumes. Unobtrusive perforated stamp of the Franklin Institute Library on titles of vols. 1-3 & on 2 or 3 other leaves, ink stamp of the library on title of vol. 1 & a few other leaves. Very good set. Paris: Baudouin, 1806-10; veuve Courcier, 1821. $42,500

First Edition of the complete series establishing the metric system, *from the library of François Arago*, who

was responsible for completing the project, and who experienced heroic hardships and adventures to preserve the data. *Printing and the Mind of Man* 260.

In 1788 the French Academy of Sciences, at the suggestion of Talleyrand, proposed the establishment of a new universal decimal system of measurement founded upon some "natural and invariable base" to replace Europe's diverse regional systems. This project was approved by the National Assembly in 1790 and a basic unit or "meter" of measurement proposed, which was to be one ten-millionth of the distance between the terrestrial pole and the Equator. In 1792 Méchain and Delambre were appointed to make the necessary geodetic measurements of the meridian passing through Dunkirk and Barcelona, from which the meter would be derived. The project was hampered by France's political revolution, by the death of Méchain in 1804, and by the tedious calculations involved in converting one system to another; it was not until 1810 that Delambre was able to complete the final volume of the *Base du système mètrique décimal*.

Méchain and Delambre had determined the length of the meter by taking measurements over a meridian arc of 10 degrees. After Méchain's death in 1804, the Bureau of Longitudes proposed that the meter's length be redetermined more accurately by extending measurement of the arc of the meridian south to the Balearic Islands of Mallorca, Menorca and Ibiza. François Arago and Jean Baptiste Biot were assigned to this task. Arago was twenty years old at the start of this project. In 1806 he and Biot journeyed to Spain and began triangulating the Spanish coast. Their work was disrupted by the political unrest that developed after Napoleon's invasion of Spain in 1807. Biot returned to Paris after they had determined the latitude of Formentera, the southernmost point to which they were to carry the survey. Arago continued the work until 1808, his purpose being to measure a meridian arc in order to determine the exact length of a meter.

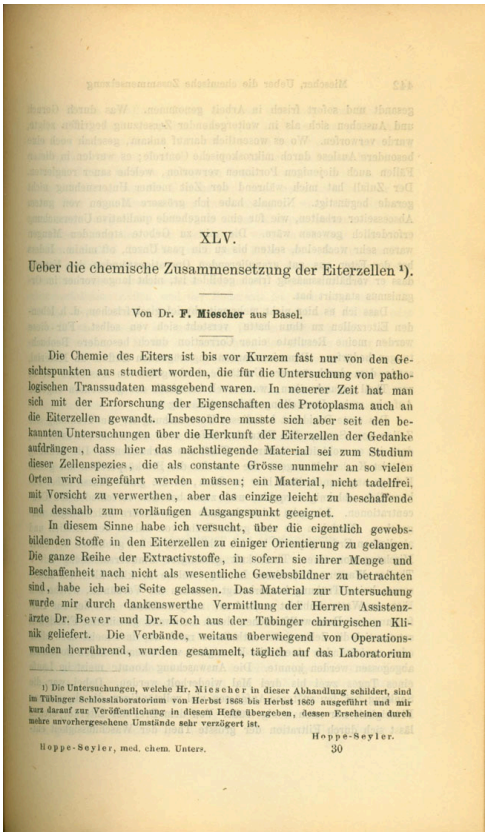
After Biot's departure, the political ferment caused by the entrance of the French into Spain extended to the Balearic Islands, and the population suspected Arago's movements and his lighting of fires on the top of mola de l'Esclop as the activities of a spy for the invading army. Their reaction was such that he was obliged to give himself up for imprisonment in the fortress of Bellver in June 1808. On July 28 Arago escaped from the island in a fishing boat, and after an adventurous voyage he reached Algiers on August 3. From there he obtained a passage in a vessel bound for Marseille, but on August 16, just as the vessel was nearing Marseille, it fell into the hands of a Spanish corsair. With the rest the crew, Arago was taken to Roses in Catalonia, and imprisoned first in a windmill, and afterwards in a fortress, until the town fell into the hands of the French, and the prisoners were transferred to Palamós.

After three months of imprisonment, Arago and the others were released on the demand of the dey (ruler) of Algiers, and again set sail for Marseille on the November 28, but when within sight of their port they were driven back by a northerly wind to Bougie on the coast of Africa. Transport to Algiers by sea from this place would have required a delay of three months. Arago, therefore, set out over land, on what had to be a strenuous journey, guided by a Muslim imam, and reached Algiers on Christmas Day. After six months in Algiers, on June 21, 1809, Arago set sail for Marseille, where he had to undergo a monotonous and inhospitable quarantine in the lazaretto before his difficulties were over, roughly one year after he had first been imprisoned. The first letter he received, while in the lazaretto, was from Alexander von Humboldt--the origin of a scientific relationship which lasted over forty years.

In spite of the successive imprisonments, voyages, and other hardships he endured, Arago had succeeded in preserving the records of his survey; and his first act on his return home was to deposit them in the Bureau des Longitudes in Paris. As a reward for his heroic conduct in the cause of science, he was elected a member of the Académie des sciences at the remarkably early age of twenty-three, and before the close of 1809 he was chosen by the council of the École Polytechnique to succeed Gaspard Monge in the chair of analytic geometry. At the same time he was named by the emperor one of the astronomers of the Obsérvatoire royale, which remained his residence till his death, and in this capacity he delivered his remarkably successful series of popular lectures on astronomy from 1812 to 1845. Most of his later scientific contributions were in physics, particularly optics and magnetism: he discovered the phenomena of rotary magnetism (the greater sensitivity for light in the periphery of the eye) and rotary polarization, invented the first polariscope, and performed important experiments supporting the undulatory theory of light. In his capacity as secretary of the Académie des Sciences, he championed the photographic process invented by Louis Daguerre, announcing its discovery to the Académie in 1839, and using his influence to obtain publicity and funding for its inventor.

Arago's results, together with geodetic data obtained in France, England and Scotland, were published in the *Recueil d'observations géodésiques*, issued as a supplement to Méchain and Delambre's work 11 years after he carried the data back to France, in 1821. Political opposition to the new system of measurement may have contributed to the unusually long delay in publication. As a tribute to Arago's contribution, in 1994 the Arago Association and the city of Paris commissioned a Dutch conceptual artist, Jan Dibbets, to create a memorial to Arago. Dibbets came up with the idea of setting 135 bronze medallions (although only 121 are documented in the official guide to

the medallions) into the ground along the Paris Meridian between the northern and southern limits of Paris: a total distance of 9.2 kilometres/5.7 miles. Each medallion is 12 cm. in diameter and marked with the name ARAGO plus N and S pointers. One of these was shown in the film *The Da Vinci Code*. *Dictionary of Scientific Biography* under Biot. Daumas, *Arago: La jeunesse de la science,* ch. IV. Norman 1481. Alder, *The Measure of the World* (2003). 40311



XLV.

Ueber die chemische Zusammensetzung der Eiterzellen [1]).

Von Dr. **F. Miescher** aus Basel.

Die Chemie des Eiters ist bis vor Kurzem fast nur von den Gesichtspunkten aus studiert worden, die für die Untersuchung von pathologischen Transsudaten massgebend waren. In neuerer Zeit hat man sich mit der Erforschung der Eigenschaften des Protoplasma auch an die Eiterzellen gewandt. Insbesondre musste sich aber seit den bekannten Untersuchungen über die Herkunft der Eiterzellen der Gedanke aufdrängen, dass hier das nächstliegende Material sei zum Studium dieser Zellenspezies, die als constante Grösse nunmehr an so vielen Orten wird eingeführt werden müssen; ein Material, nicht tadelfrei, mit Vorsicht zu verwerthen, aber das einzige leicht zu beschaffende und desshalb zum vorläufigen Ausgangspunkt geeignet.

In diesem Sinne habe ich versucht, über die eigentlich gewebsbildenden Stoffe in den Eiterzellen zu einiger Orientierung zu gelangen. Die ganze Reihe der Extractivstoffe, in sofern sie ihrer Menge und Beschaffenheit nach nicht als wesentliche Gewebsbildner zu betrachten sind, habe ich bei Seite gelassen. Das Material zur Untersuchung wurde mir durch dankenswerthe Vermittlung der Herren Assistenzärzte Dr. Bever und Dr. Koch aus der Tübinger chirurgischen Klinik geliefert. Die Verbände, weitaus überwiegend von Operationswunden herrührend, wurden gesammelt, täglich auf das Laboratorium

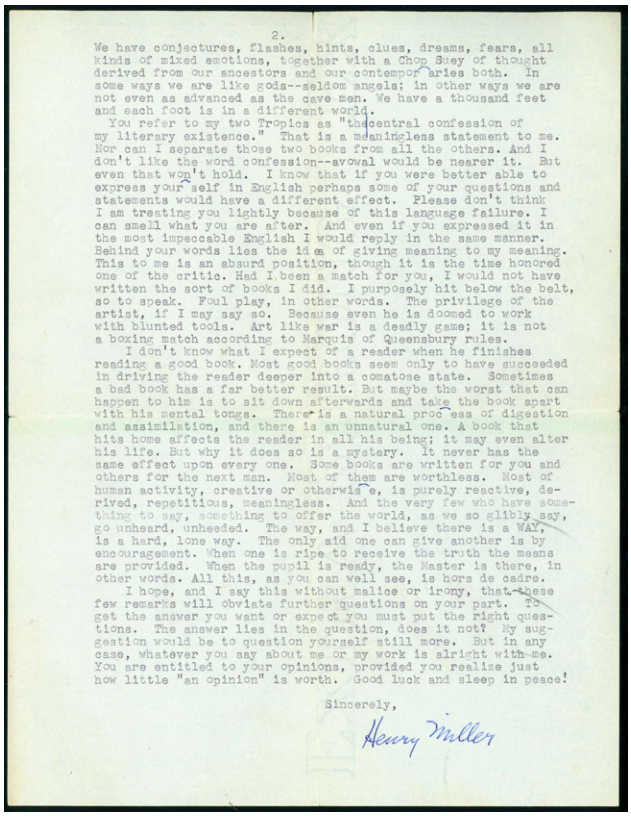
1) Die Untersuchungen, welche Hr. Miescher in dieser Abhandlung schildert, sind im Tübinger Schlosslaboratorium von Herbst 1868 bis Herbst 1869 ausgeführt und mir kurz darauf zur Veröffentlichung in diesem Hefte übergeben, dessen Erscheinen durch mehre unvorhergesehene Umstände sehr verzögert ist.
Hoppe-Seyler.

Hoppe-Seyler, med. chem. Unters. 30

Discovery of DNA

93. Miescher, Johann Friedrich (1844-95). Ueber die chemische Zusammensetzung der Eiterzellen. In Hoppe-Seyler, Felix, ed., *Med.-chem. Untersuchungen* , vol. 4 (Berlin: Hirschwald, 1866-71): 441-60. Whole volume, 8vo. [16, variously numbered], 593pp. 3 lithographed plates. 219 x 138 mm. Quarter morocco, marbled boards in period style. Moderate toning, margins of plates a little foxed. Very good. $4750

First Edition. G-M 695. One of the earliest significant contributions to the field that would eventually be called molecular biology. "Miescher's first and most important discovery was a new class of compounds rich in organic phosphorus and forming the major constituent of cell nuclei. He rightly concluded that these 'nucleins,' as he called them, were as important a center of metabolic activity as the proteins" (*Dictionary of Scientific Biography*). Miescher's "nuclein" (nucleoprotein) was later demonstrated to be the hereditary genetic material (DNA). He also was the first to suggest the existence of a genetic code. 39490



2.

We have conjectures, flashes, hints, clues, dreams, fears, all kinds of mixed emotions, together with a Chop Suey of thought derived from our ancestors and our contemporaries both. In some ways we are like gods--seldom angels; in other ways we are not even as advanced as the cave men. We have a thousand feet and each foot is in a different world.

You refer to my two Tropics as "the central confession of my literary existence." That is a meaningless statement to me. Nor can I separate those two books from all the others. And I don't like the word confession--avowal would be nearer it. But even that won't hold. I know that if you were better able to express yourself in English perhaps some of your questions and statements would have a different effect. Please don't think I am treating you lightly because of this language failure. I can smell what you are after. And even if you expressed it in the most impeccable English I would reply in the same manner. Behind your words lies the idea of giving meaning to my meaning. This to me is an absurd position, though it is the time honored one of the critic. Had I been a match for you, I would not have written the sort of books I did. I purposely hit below the belt, so to speak. Foul play, in other words. The privilege of the artist, if I may say so. Because even he is doomed to work with blunted tools. Art like war is a deadly game; it is not a boxing match according to Marquis of Queensbury rules.

I don't know what I expect of a reader when he finishes reading a good book. Most good books seem only to have succeeded in driving the reader deeper into a comatose state. Sometimes a bad book has a far better result. But maybe the worst that can happen to him is to sit down afterwards and take the book apart with his mental tongs. There is a natural process of digestion and assimilation, and there is an unnatural one. A book that hits home affects the reader in all his being; it may even alter his life. But why it does so is a mystery. It never has the same effect upon every one. Some books are written for you and others for the next man. Most of them are worthless. Most of human activity, creative or otherwise, is purely reactive, derived, repetitious, meaningless. And the very few who have something to say, something to offer the world, as we so glibly say, go unheard, unheeded. The way, and I believe there is a WAY, is a hard, lone way. The only aid one can give another is by encouragement. When one is ripe to receive the truth the means are provided. When the pupil is ready, the Master is there, in other words. All this, as you can well see, is hors de cadre.

I hope, and I say this without malice or irony, that these few remarks will obviate further questions on your part. To get the answer you want or expect you must put the right questions. The answer lies in the question, does it not? My suggestion would be to question yourself still more. But in any case, whatever you say about me or my work is alright with me. You are entitled to your opinions, provided you realize just how little "an opinion" is worth. Good luck and sleep in peace!

Sincerely,

Henry Miller

"I Resist All Explaining"

94. Miller, Henry (1891-1980). **(1)** Very densely typed letter signed with a few autograph ms. corrections, together with postmarked cover addressed in Miller's hand, to Frank Heidtmann. Lausanne, April 19, 1961. 2 pp. typed single space. 270 x 210 mm. A few tiny marginal tears along folds, some small scattered spots, cover torn, with stains from clear tape. Overall very good. **(2)** Typed letter (carbon) from Heidtmann to Miller. Braunschweig, 7/11/61. 1-1/2 pages on single sheet. 298 x 211 mm. Small marginal tear along fold, but very good. **(3)** Collection of supplementary materials; complete listing available. $1250

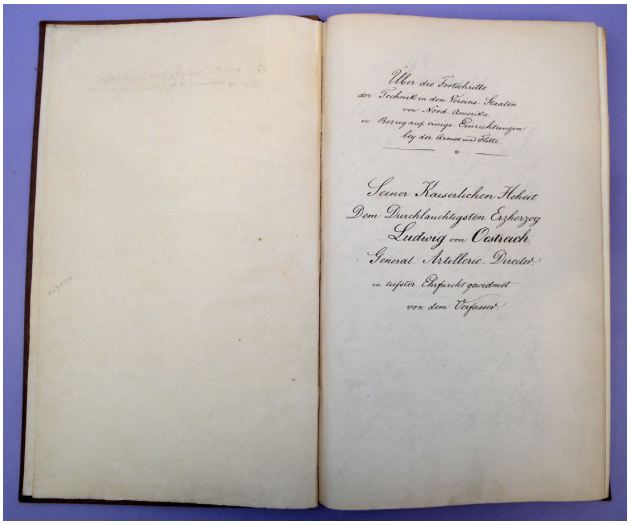
From the author of *Tropic of Cancer* and other groundbreaking literary works, discussing his philosophy of writing, the impossibility of assigning particular meanings

or interpretations to his writings, and the uselessness of literary analysis. Miller's correspondent, Frank Heidtmann, was attempting to write a critical appreciation of Miller's works for German readers, and had written to Miller with several questions about his books. Miller answered him as follows:

> I am trying to give you some answers. But it is difficult. First of all, I only barely understand the questions. That is, I know what the words mean but cannot put them together in a way which makes sense to me. Much of this is due to my inability to grapple with the thinking of intellectuals. Words, for example, like mythos, existentialism, the historical being, and so on, are just words to me . . .
>
> If I wished to, I could play this game with you and others who try so hard, rightly or wrongly, to give meaning to their ideas, ideas which in my opinion are not stateable in words but can only be apprehended in moments of extreme lucidity, trance, intuitive flashes. (Although perhaps a man like Aldous Huxley is capable of putting into language even the most tenuous idea.) Anyway, I am not of that stripe. I do not even know if I understand what I say myself sometimes, particularly when I write. One of the unconscious aims of a writer, it seems to me, is to express what he is incapable of expressing, that is, communicating in a roundabout way, often in an obscure way, or better yet in a purely nonsensical way . . .
>
> Of course I have thought much, at times, about history and the meaning of history—and the "end of history." And I have also thought of fear, in all its aspects. And about freedom too—though frankly I don't know what "absolute" freedom signifies. Or any absolute. Or for that matter, relativity. Certainly not as these terms are dished out to us by so-called "thinkers." Maybe I could explain myself better, though I resist all explaining, by saying that I believe—I do not know—that man's thinking is tainted, suspect, the product of a divided being—and this is from time immemorial . . .

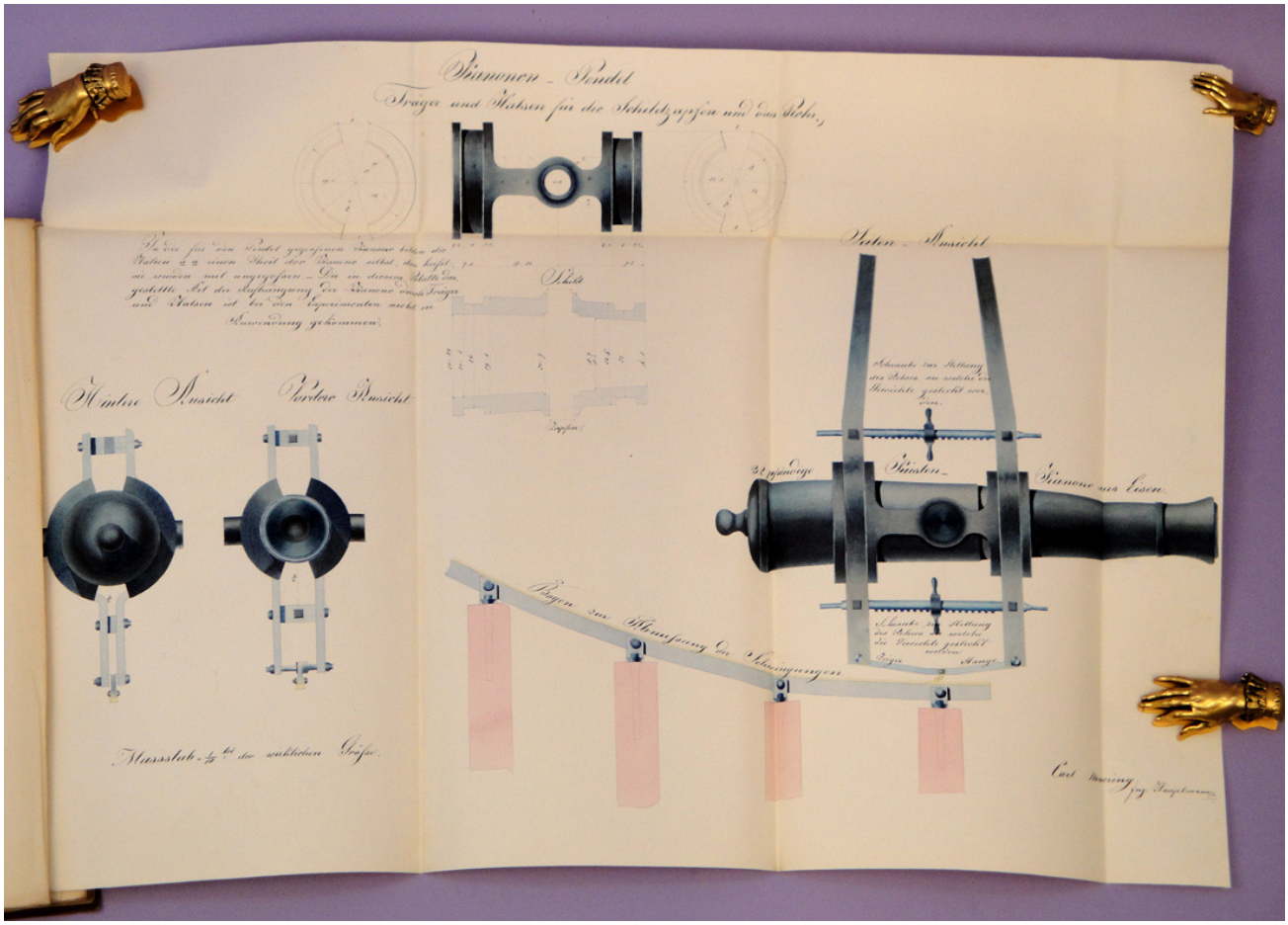
Heidtmann, perhaps discouraged by this reply, abandoned his critical study of Miller and later became a professor of library and information science at the University of Berlin. His response to Miller's letter, included here, expresses his deep respect and admiration of Miller's writings, which at that time were still not well known in his country—"I was and I am still very impressed by your writing and at the same time I was very disappointed that you are widely unknown in Germany and of [sic] you are known, then only sometimes as a writer in obscenety [sic] or something worse like that."

Miller's letter and Heidtmann's reply are offered here with a collection of related materials; a complete listing is available. 41016



95. Möring, Karl (1810-70). Über die Fortschritte der Technik in den Vereins-Staaten von Nord-Amerika in Bezug auf einige Einrichtungen bei der Armee und Flotte [On technological progress in the United States of North America with regard to some mechanisms in the army and navy]. Manuscript signed (probably autograph), in German. 135 numbered pages, 12 beautifully executed and finely detailed folding watercolor and ink paintings each containing several captioned illustrations; mostly signed by Möring. 1844-45. 397 x 242 mm. Cloth c. 1845, spine a bit worn and faded. Light dust-soiling at edges, minor marginal tear in first drawing, otherwise fine. $25,000

According to a note in the author's hand on the flyleaf, this is one of two copies of this extraordinary manuscript created by the author. The other, which Möring donated to Archduke Ludwig of Austria, is now in Austria's Kriegsarchiv. Karl Möring (his signature appears as "Carl Moering" on p. 135) was an Austrian lieutenant field marshal, diplomat and journalist who played a significant role in the Revolution of 1848 as it played out in the Habsburg Empire. An 1829 graduate of the Ingenieur-Akademie in Vienna, Möring was a member of the Austrian army's engineering corps, participating in military building projects in Milan, Split, Venice and Vienna; he also took part in the Austrian invasion of Syria. During this time he became increasingly disenchanted with the Austrian Empire's corrupt and reactionary regime, headed



de facto by Prince Metternich, and risked the disapproval of his superiors by expressing his liberal ideas on the political, social and economic questions of his day. In 1841-43 Möring was sent on a tour of Western Europe and North America in order to learn about technological advances in these regions. His observations of the technological innovations he saw while visiting American military bases and arms factories are recorded in the present manuscript; they were also published in 1848 under the title *Armee und Flotte der Vereins-Staaten bezüglich einiger technishcen Einrichtungen* (Vienna: Tendler). This work must have been published in a very small edition as no copies appear in the online databases of OCLC and RLIN. A search of the Austrian, German and Swiss libraries included in the Karlsruher Virtueller Katalog shows only two listings: the Oesterreichische Landesbibliotheken and the Union Catalog of Northern Germany (GBV).

During the 1848 revolution in Vienna Möring wrote several pamphlets under the pseudonym "Cameo" and published his best-known work, the two-volume *Sybillinische Bücher aus Oesterreich* (1848), in which he attacked the Metternich government and called for the formation of a new Austria. He also served briefly as a delegate to the Frankfurt national assembly. After the collapse of the revolution and the restoration of the monarchy, Möring continued to serve in the army engineering corps. In 1868, two years before his death, he was appointed a governor of Trieste.

The remarkable large colored paintings in Möring's manuscript each contain several detailed illustrations, most with captions, increasing the actual number of illustrations in this work to more than sixty. According to Möring's forward to his manuscript, most of the drawings were made on site. Five of the drawings depict innovations made by the American navy (Ericsson's steam engine and ship's propeller, W. W. Hunter's steam frigate "Union," etc.), and the remaining seven show technological improvements made by the American army. *Neue deutsche Biographie*. 39530

First Full Treatise on the Medical Plants of the New World

96. Monardes, Nicolás (ca. 1493-1588). Dos libros, el uno que trata de todas las cosas que traen de nuestras de nuestras Indias occidentales, que sirven al uso de la medicina . . . 8vo. [140] f., plus "Tassa" leaf inserted between leaves A2

and A3. Woodcut portrait of Mondardes on title, woodcut head- and tailpieces and initials, printer's device. Seville: Hernando Diaz, 1569. 167 x 108 mm. Limp vellum c. 1569, title lettered in ink on spine, spine reinforced, a few small holes and chips. Title, "Tassa" leaf and lower corner of leaf L2 repaired, all with some loss, a few minor repaired tears in some other leaves. Very good copy apart from the repairs.

$6000

Second edition of Monardes's treatise on the medical plants of the New World, first published in 1565. *Both editions are rare in commerce.* Monardes, a physician living in Seville, Spain, never traveled to America but was able to study a large number of New World plants due to Seville's control over the navigation and commerce operating between Spain and the Americas. He maintained a botanical garden in which he grew both native and exotic plants, and made scientific studies of the pharmacological properties of such New World species as tobacco, coca, sunflower, sarsaparilla, ipecacuanha, cinchona and sassafras. Monardes's *Dos libros* was "the first full treatise on these drugs, and for many years the most important study of the medicinal plants of Central America" (Mann, *Modern Drug Use,* p. 202). It was through Monardes's writings that the American materia medica began to be known, and his books were widely read and translated. The English version, translated by John Frampton, was published in 1569-71 under the title *Joyfull Newes out of the Newe Founde Worlde. Dictionary of Scientific Biography.* Morton, *History of Botanical Science,* p. 120. *Catalogue of Botanical Books in the Collection of Rachel McMasters Hunt*, I, 106. 40647

First Monograph on a Natural Family of Plants—Signed Presentation Copy to Sir John Middleton

97. Morison, Robert (1620-83). Plantarum umbelliferarum distribution nova, per tabulas cognationis et affinitatis ex libro naturae observata & detecta. Folio. [10], 91, [1]pp. 8 engraved tables with letterpress explanations on the versos of tables 1-7, 12 engraved plates with 5 unnumbered pages of explanatory text. Oxford: E Theatro Sheldoniano, 1672. 404 x