



# MATHEMATICS AND SCIENCE

A short list from stock

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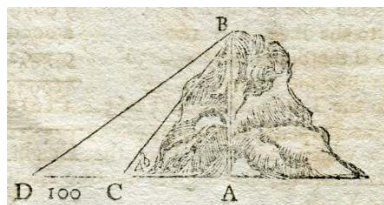
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1 **COCKREL, Richard.** An introduction to plain trigonometry, with its application to heights and distances: containing an explanation of the three varieties of right angled triangles, and the four cases of oblique : together with a variety of questions interspersed by way of exercise. ... Darlington: printed and sold by M. Heavisides, for the author... 1792. **£ 450**



**FIRST EDITION.** 8vo, pp. [ii], iv, [ii], 99, [1] errata; with three folding engraved diagrams, and numerous woodcuts throughout the text; minor worming in gutter at head to final four leaves (not affecting the text), otherwise apart from some light dust-soiling in places, a clean copy throughout; in contemporary sheep, expertly rebaked with spine ruled in gilt with morocco label lettered in gilt, corners rubbed and some surface wear, but still a very appealing copy.

Scarce first edition of this little known provincial work on trigonometry, by Richard Cockrel, 'Teacher of the Free School, Lartington'.

In his introduction Cockrel states his two reasons 'for sending this Work abroad in to the World' when so there are so many 'publications extant treating on Trigonometry':

'I. That the books for the most part which contain anything of Plain Trigonometry, are books which treat of one or more of the other mathematical sciences, as mensuration, navigation, astronomy, &c. and thereby the price of the books becomes 5, 6, or perhaps 7s. 6d. purchase. Now I have by treating of this branch singly, reduced the purchase, several shillings - an object you know to those in poor circumstances! And II. The way which I have treated this subject, is entirely new, I mean as to the Plan. And as far as I see ... it is so plain and easy that to be comprehended it need only to be read. I have taught by this method for nearly 6 years, and with such success, that I am induced to lay it open to the World, in hopes that it may facilitate the acquisition of so useful a science' (pp. i-ii).

OCLC records four copies worldwide, three in the UK at Newcastle, NLS and the BL, and one in North America, at the University of Victoria (McPherson Library); ESTC adds one further copy, at the Radcliffe Science library in Oxford.

2 **COLONIUS, Johann Philipp.** Systema Arithmeticum Speciosum. Das ist: Ein auf die neueste Art wohlengerichtetes Vollkommenes Rechen-buch, Worinnen Alle Aufgaben durch eine Allgemeine Regel, Vermittelst der Teutschen Heb-Kunst, so nur in dreyen Regeln bestehet, ohne die sogenannte Italienische, oder Welsche Practica, durch alle Arithmetische Regeln, so in vita communi nütz-und nötig sind ... Frankfurt am Mayn, zu finden bey Johann Leonhard Buchner, 1748. **£ 750**

Das Cubische Einmahl Eins.

1 mahl	1 ist	1 und	1 mahl	1 ist	1
2 mahl	2 ist	4 und	2 mahl	4 ist	8
3 mahl	3 ist	9 und	3 mahl	9 ist	27
4 mahl	4 ist	16 und	4 mahl	16 ist	64
5 mahl	5 ist	25 und	5 mahl	25 ist	125
6 mahl	6 ist	36 und	6 mahl	36 ist	216
7 mahl	7 ist	49 und	7 mahl	49 ist	343
8 mahl	8 ist	64 und	8 mahl	64 ist	512
9 mahl	9 ist	81 und	9 mahl	81 ist	729
10 mahl	10 ist	100 und	10 mahl	100 ist	1000

**FIRST EDITION.** 8vo, pp. [xxxviii], 808; title printed in red and black; some soiling in places, but generally clean and fresh; in contemporary vellum, with title in gilt on spine; boards soiled, upper joint loose.

Rare first edition of this comprehensive guide to arithmetic by the Lutheran priest and mathematician Johann Philipp Colonius.

In addition to explaining the principles of arithmetic and the

basic functions, Colonus also offers at the end, an algebraic puzzle, using a type of number alphabet, which occupies the last two pages. Otherwise, he describes the techniques and theory behind counting, addition, subtraction, multiplication and division, and shows the various types of arithmetical and geometrical progression. Many applications of arithmetic are also featured, including currency exchange, phases of the moon, the calculation of net and gross weights, and reasonably basic algebra.

OCLC records three copies worldwide, two in Germany and one in the Czech Republic.

**3 DEXTER, Thomas E.** Portable Museum of Natural Substances, Raw and Manufactured, from the Mineral, Vegetable, and Animal Kingdoms. Illustrative of the Imports, Exports, Productions and Manufactures, of Great Britain and her Colonies. Compiled and Arranged by Thomas E. Dexter, Royal Military Asylum, Chelsea. [Chelsea, n.d. c.1857]. **£ 4,500**



*Oak rectangular form cabinet with two doors opening to reveal six small drawers, each draw with green label lettered in black.*

Fascinating survival of a mid Victorian 'portable museum of natural substances', compiled and arranged by Thomas E. Dexter of the 'Royal Military Asylum, Chelsea'.

The items in the cabinet are arranged in six drawers, and labelled 'Manufactured Articles' (including samples of 'British and foreign woods', 'Buttons', 'Cotton Goods', 'Silk', 'Leather' and 'Hardware'), 'Animal Substances' (including samples of 'Bees wax', 'Wool', 'Seal oil', 'Whale bone', 'Tortoiseshell' and 'Cochineal'), two drawers of 'Vegetable Productions' (including samples of 'Hemp seed', 'Flax', 'Sago', 'Terra Japonica', 'Raw cotton', 'Dextrine or British gum', 'Coquilla nut' and 'Chocolate nuts and cocoa'), and two drawers of 'Mineral & Metals' (including samples of 'Zinc', 'Copper ore', 'Milled lead', 'Pewter', 'Manganese', 'Flint', 'Rotten stone' and 'Wrought iron').

'This collection will be found invaluable in pointing out the extent and variety of our import and export trade, the source of our commercial greatness, and useful in every branch of that sound and practical education which has for it object the preparation of the pupil to enact his part in the busy scences of life.

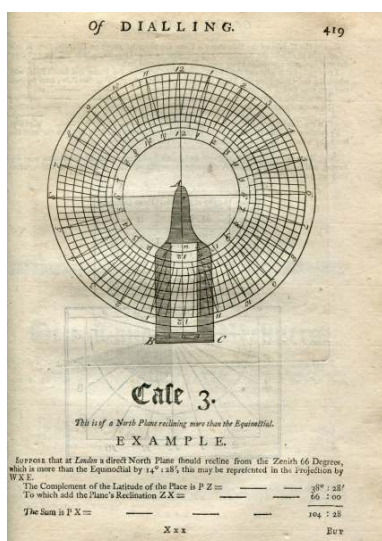
The objects should be placed before the children while they read the account of them, the teacher giving a series of suitable questions. The elder children should be required to reproduce the principal portion in writing, which will be found a source of great improvement in orthography and composition. All classes of children may be profitably instructed by means of object lessons, the intelligent and judicious teacher varying the amount of his instruction with the campacities of his pupils' (*Animal and Vegetable Substances used in the Arts and Manufactures, illustrative of the imports and exports of Great Britain & her colonies, and explanatory of Dexter's Cabinet of Objects*, London, Groombridge and Sons, 1857, p. iv).

We can find little information on the compiler Thomas Dexter, a teacher at the Royal Military Asylum in Chelsea. He notes in the preface to his descriptive account of the animal and vegetable substances in his cabinet that 'having been engaged in the arduous duties of an elementary teacher for upwards of a quarter of a century, [he] can bear testimony to the good

effects produced on the minds of his pupils by the use of these object lessons' (*ibid*, p. iv).

Evidently Dexter's *Portable Museum* was a success, as he notes that it 'is now in use in the Normal, Model, Regimental, and Garrison Schools of the British Army; in Schools of the Honourable East India Company; in various Training Institutions in Great Britain; in Commercial and Elementary Schools; and many private families' (*ibid*, p. iv), although we have been able to find few examples appearing for sale in auction records.

An unusual, rare and appealing item.

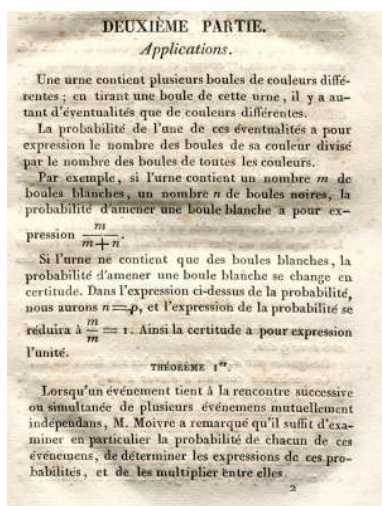


**4 DOUGHARTY, John.** *Mathematical Digests. Containing the Elements and Application of Geometry, and Plane Trigonometry, whether by Instrumental Construction, or by Calculation, to the Measuring of Heights and Distances, &c. And the Stereographic Projection of Spheric Trigonometry; with numerical Solutions, and the Application thereof, to several curious and important Problems in Astronomy, Navigation and Dialling. With Tables for finding the Place, and Eclipses of the Sun and Moon, according to the last Improvement of the Newtonian Theory; and many practical Problems in each Branch. Design'd for a plain, methodical familiar Course of Instruction in the above mentioned Parts of the mathematical Science; very useful to Lovers thereof ...*, London, Printed and Sold by E.Owen, [1748]. **£ 750**

**FIRST EDITION.** 4to, pp. [2], 451 (recte 445), [3], 4, supplement, with one engraved plate, large engraved coat-of-arms of the dedicatee and numerous illustrations in the text in engraving and woodcut; p. 135/6 with paperflaw and old repair; minor browning or spottin in places only; a well-preserved and clean copy in contemporary half-calf; rebacked, extremities with restorations.

Sole Edition and rare. John Dougharty (1677-1755), of Irish extraction 'was a mathematical teacher at his school in Burdley [i.e. Bewdley], Worcestershire. The manuscript notes he prepared for his students were collated and put into book form after he retired' (Aked and Severino, *Checklist of Dialling References*, p. 182). On page 204 begin the *Astronomical Tables of the Motion of the Sun and Moon, According to the last Improvement of The Newtonian Theory*, which is followed by examples of astronomical calculations therewith. This rare and beautifully produced book gives us an insight into the practice of teaching mathematics at eighteenth-century schools on England. The engraved plate, actually a sheet in the size of a third of a leaf is bound in after the preliminaries and apparently unrecorded.

Wallis, *Biobibliography of British Mathematics*, 707DOU49.



**5 GAUTHIER D'HAUTESERVE, M.** *Traité Élémentaire sur les Probabilités; Paris, Bachelier 1834.* **£ 450**

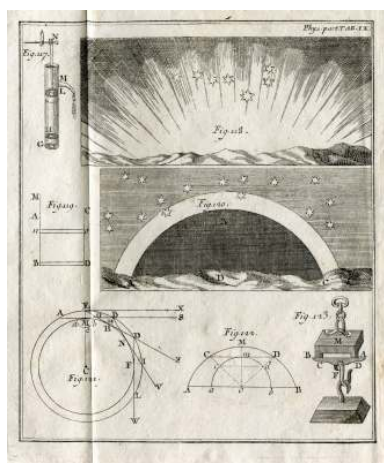
**FIRST EDITION.** 8vo, pp. iv, 120; some spotting and foxing throughout, with one small wormhole throughout, occasionally with partial loss of letter; in later brown calf-backed boards, spine lettered and ruled in gilt.

First edition of this uncommon treatise on probability, by the

French mathematician and politician Gauthier d'Hautereserve.

Dividing his work into four parts, Gauthier first examines the principles underlying the calculus of probabilities, and discusses the work of other mathematicians, including the St Petersburg problem illustrated by Bernoulli, before proposing a number of solutions to various problems concerned with probability. He then examines the application of the theory of probability to questions concerning annuities, depreciation, and interest, while the final chapter gives a series of examples of the ways in which probability works in the game of whist.

OCLC records copies at Toronto, Chicago, Michigan, Nevada, and Brown.



**6 HORVATH, Keresztély János.** *Physica Particularis, auditorum usibus accomodata a Jo. Bapt. Horvath Presb. ... Editio Prima Veneta.* Venetiis, excudebat Antonius Zatta, MDCCLXXXII [1782]. **£ 450**

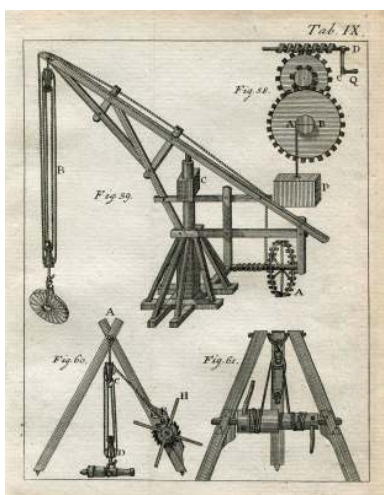
**FIRST VENICE EDITION.** 8vo, pp. viii, [ii] errata, 576; with ten folding leaves of plates; aside from some occasional spotting, clean and fresh throughout; in contemporary carta rustica, with yellow paper spine and handwritten paper label; significant wear to joints and spine.

First Venice edition, expanded with two extra leaves of plates from the first of 1770, of this influential physics textbook by the Hungarian Jesuit Johann Baptiste Horvath (1732-1799)

Following on from his earlier *Physica generalis* (1767), which dealt with classical and celestial mechanics, the *Physica particularis* contains sections on fluid mechanics, heat transfer, and optics. Of special interest, however, is the attention paid to electricity; Horvath is one of the earliest central European writers to link electricity to magnetism, and emphasises the importance, in common with other Jesuits, of experimental physics, citing Franklin's electrical experiments among others.

OCLC records North American copies at Berkeley, Oklahoma, Harvard, New York Public Library, and Wisconsin (Madison).

**7 KREBS, Heinrich Johannes.** *Anfangsgründe der Mechanick. Erster Theil* [all published], die Mechanick im allerngsten Verstande, oder eigentlich die Statick. Zum Gebrauche bey seinen Vorlesungen abgefaßt ... Mit 12 Kupfertafeln. Copenhagen und Leipzig, Bey Johann Heinrich Schubotho, 1802. **£ 450**



**FIRST EDITION.** 8vo, pp. [xii], 183, [1] errata; with twelve folding leaves of plates; aside from some occasional spotting, clean and fresh throughout; in contemporary sheep-backed boards; spine tooled in gilt with label lettered in gilt; extremities bumped, but still a good copy.

First edition of the first part, all that appeared, of this attractively illustrated introduction to mechanics by the Danish mathematician Heinrich Johannes Krebs (1742-1804), particularly concerned with the science of statics, published to accompany the lectures Krebs gave at the Military Academy at Copenhagen, where he was professor of mathematics and military sciences.

After a brief introduction to the subject, Krebs describes simple machines and the principles behind them, before going

on to examine the mechanics of wind and water mills and steam engines, clocks, rotisseries, and other applications. The work is illustrated with twelve folding plates depicting all manner of cogs, pulleys, and machines.

OCLC: I4993896 records just one copy, at the Smithsonian.



**8 LEQUIEN, E.A.** *Éléments d'arithmétique, ouvrage devise en six parties ...* A Paris, chez l'Auteur, rue de la Tacherie...1815. **£ 450**

**FIRST EDITION.** 8vo, pp. [iv], 236; apart from some minor marking at head of final gathering, a clean copy throughout; in contemporary sheep backed mottled boards, spine tooled in gilt with red label lettered in gilt, small library label at foot, lower hinge partially cracked (but holding firm), otherwise an appealing copy.

First edition of this rare introduction to arithmetic, by E.A. Lequien, better known for his various works on grammar, ranging from elementary French grammar to studies of verbs, participles, punctuation, and homonyms.

This interest in the mechanics and structures of language clearly informs Lequien in his introduction to arithmetic; he explains the principles of numeration, the various types of calculation, and the rules underlying arithmetical operations. He goes on to explain arithmetical applications, in particular giving a detailed explanation of the decimal system in measures and in currency, showing its relation to the previous systems. Lequien's work is notable for the clarity of its arrangement, both in its text and in the tables and examples used.

OCLC records one copy only, at BNF.

**9 McINTOSH, William Carmichael.** *The Marine Invertebrates and Fishes of St. Andrews.* Edinburgh, Adam and Charles Black, 1875. **£ 250**

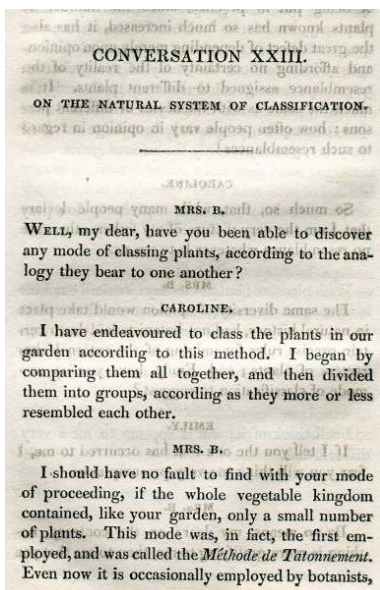


**FIRST EDITION, PRESENTATION AND PROOF COPY.** Large 4to, pp. vi, 186, illustrations in the text (several humorous), 9 lithographic plates (6 chromolithographic) plates avant la lettre with captions and numbering in pencil, probably in the author's hand, each accompanied by a printed explanatory leaf; a little foxed in places, gathering Z bound in after 2A; original publisher's blue pebble-grain cloth, spine lettered in gilt, covers with gilt-stamped ornamentation, lightly rubbed; inscribed by the author to the Marquis of Ailsa and marked in ink as proof copy.

This is a special copy of the first monograph on the marine fauna of that particular part of the North Atlantic, inscribed by the author and with the captions of the proof plates supplied in manuscript. Some text illustrations are most peculiar; they represent marine invertebrates performing charades, riding on each other, or performing circus tricks. These 'funny' illustrations are signed R. M., as well as the design of the binding and the logo of a tiger's head at the centre of a cross on the front cover, which is repeated on the title.

*Provenance:* From the estate of Archibald Kennedy, the third Marquis of Ailsa, an enthusiastic yachtsman, who in the 1870s owned a fleet of yachts, winning more than 100 prizes.

Freeman 2407 (only 5 chromolithograph plates); Nissen 2635.



10 **MAR CET, Jane.** Conversations on Vegetable Physiology; Comprehending the elements of botany, with their application to agriculture. London: Printed for Longman, Orme, Browne, Green, & Longmans, 1829. £ 485

**FIRST EDITION.** 8vo, pp. xii, 286; xii, 304; with four line engraved plates, and 'directions to the binder respecting the plates' tipped in at the end of vol. II; apart from some very minor light foxing in places, a clean copy throughout; in contemporary calf, spines tooled in gilt with morocco labels lettered and numbered in gilt with rubbing with loss at heads, and loss of lower band on vol. II, nevertheless, still an appealing copy with the armorial bookplate of George Phillips on front pastedown of each volume.

Uncommon first edition of Mrs Marcet's introduction to botany for children. Following on from the success and popularity of her first work 'Conversations on Chemistry' of 1806, Mrs Marcet once again employs this format to convey a basic knowledge of the subject, clearly and succinctly, through the conversations between Mrs B and her charges Emily and Caroline. Thirty-one conversations cover topics such as roots, stems, the action of water, the importance of soil, grafting, plant diseases, tree cultivation, 'the cultivation of plants which produce fermented liquors' and culinary vegetables. A short 'Explanation of Scientific Terms' is found in the preliminary pages to further aid the young student.

In the Preface, Mrs Marcet acknowledges her indebtedness to the 'facts and opinions ... of a distinguished Professor of Geneva' (p. v), namely Augustin-Pyramus de Candolle, the renowned Genevan botanist, whose *Cours de Botanique* of 1827 became a standard textbook on the subject.

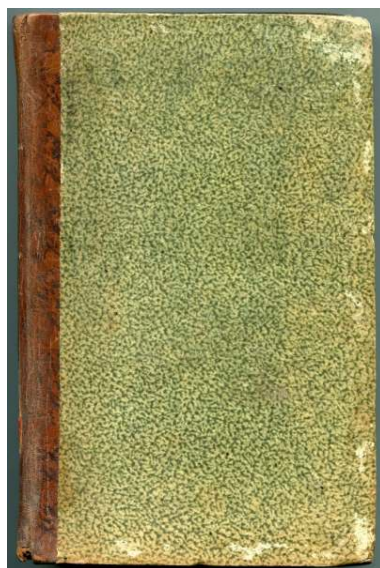
Freeman 2448; OCLC records six copies in the US, at Stanford, UCLA, Nebraska, Oklahoma, Morton Arboretum and the Boston Athenaeum.

11 **[MARZAGLIA, Gaetano].** Fascetto di pratiche matematiche spiegate alle persone popolari per uso del commercio umano, e civile, In questa seconda edizione corretto ed accresciuto di altre molte importanti notizie ... In Verona, Per Dionisio Ramanzini, MDCCLXXX [1780]. £ 1,100

**SECOND EDITION.** 8vo, pp. xvi, 380, with four folding leaves of plates; some light foxing in places, and slight loss to margins of a few leaves, not affecting text, but otherwise a clean, fresh copy, with later stamp on title; in early nineteenth century sheep-backed green boards, spine ruled in gilt with skiver label lettered in gilt

Second edition, considerably augmented from the first of 1754, of this book of applied mathematical problems by the Veronese mathematician Gaetano Marzaglia (1716-1787), heavily influenced by the work of Wolff, who provides the motto to the book, and whose works he edited and expanded.

The work contains arithmetical and geometrical problems applied to mercantile, architectural, and industrial settings, dealing with the nature of money, and of weights and measures, the construction of sundials, and the division of royalties within trading companies, among many other questions. Marzaglia was professor of mathematics at the Military College in Verona, and a correspondant of many of the leading scientists and mathematicians in Europe, in particular with Scipione Maffei.



OCLC records copies at Stanford, Cambridge, and Oxford, with no physical copies of the first edition recorded.



12 [MOREL, Joseph Benoît]. L'Arithmétique Raisonnée ... A Paris, chez Desaint & Charles Saillant, Libraires, rue Saint Jean-de-Beauvais. 1742. £ 600

**FIRST EDITION.** 8vo, pp. [iv], 192; a clean crisp copy throughout, with some neat marginal notes in places; in contemporary sprinkled calf, spine gilt with red morocco lettered in gilt; a handsome copy.

First edition of this rare introduction to arithmetic and calculation by the French writer, mathematician and theologian Joseph Benoit Morel.

Morel's aim is purely educational: his *Avertissement* states: "It is agreed that the science of calculation is useful in almost all circumstances, as it leads us surely to the knowledge of the numbers we need to know by means of the numbers we already know. I have attempted to prevent the objections that a student of this science might make by my means of explaining it. I hope that beginners will understand this work by themselves; provided that they read it with reasonable care, they should be able to follow, pen in hand, all the calculations contained in the book, taking care not to move from one misunderstood rule to the next, but to make each rule familiar through the use of several examples".

OCLC records two copies in North America, at the Auraria Library in Colorado and Michigan.

13 NEWTON, Sir Isaac. La Cronologia degli Antichi Regni Emendata. Opera Postuma del Cavalier Isaac Neuton. Tradotta Dall' Originale Inglese in sua prima Edizione fin dell' Anno MDCCXXVIII. Dal Sig. Paolo Rolli. In Venezia, Appresso Giovanni Tevernin. 1757.

£ 1,250

**FIRST ITALIAN TRANSLATION.** 8vo, pp. xxxii, 272, [2] errata; apart from a few minor marks a clean copy throughout; in contemporary half calf over mottled boards, spine tooled in gilt with label lettered in gilt, some chipping to head and tail and upper joint cracked (but holding firm).

Uncommon first Italian translation of Isaac Newton's *The Chronology of Ancient Kingdoms Amended*, first published in 1728.

Newton had worked on this theme for a number of years, attempting to bring to the woolly subject of ancient chronology the same applied scientific thinking that he had successfully employed elsewhere. He had revised his own chronology several times when an early version of it escaped from private circulation into the clutches of a Parisian bookseller who published it in 1725 without Newton's permission. The ensuing fuss caused Newton to begin work on a revised version for publication, but he died before it was ready and the work was seen through the press by Pemberton. At this remove it is hard to imagine why chronology was such a vexatious, high-profile and hotly contentious issue. However, it is surely significant that Newton should spend so much of his last years employing his astronomical knowledge on this subject, previously the preserve of classicists and divines, and as such representative of the attempt to extend scientific



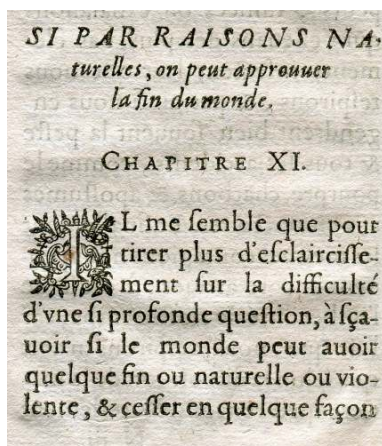


knowledge into new realms, and, perhaps foreshadowing the shattering debate of over a hundred years later that was to admit the geological and fossil records into the arena.

The present Italian translation is by the Italian librettist and poet Paolo Antonio Rolli (1687-1765). Rolli worked in London from 1715 to 1744 where he became Italian tutor to the prince of Wales and the Royal Princesses. During this period, he wrote librettos for numerous Italian operas including Handel's *Floridante* (1721), *Muzio Scevola* (1722), *Riccardo Primo* (1727) and *Deidamia* (1741). In December 1729 he was elected a Fellow of the Royal Society. In 1744 he returned to Italy and wrote poetry, cantata texts, satires and besides the present translation also published an Italian verse translation of Milton's "Paradise Lost", widely considered the finest in any language.

OCLC records two copies in the UK, at the BL and NLS, and three in North America, at Stanford, UCLA and the Burndy Library; see Gray 309 for first edition.

14 **PAGEZ, Jean.** *Les Essais de Maistre Jean Pagez Docteur en Medecine. Sur les miracles de la creation du monde. Et Sur les plus merueilleux effects de la Nature. Dedié a Monseigneur le Cardinal de Richelieu. A Paris, Chez Nicolas Rousset, MDCXXXI [1631].* £ 1,750



**FIRST EDITION.** 8vo, pp. [xvi], [i] blank, 234, [15] table, [1] blank; with occasional mispagnations; aside from some occasional spotting, clean and fresh throughout; in contemporary calf, spine tooled and lettered in gilt, with "MAGH" in gilt on upper board, along with nineteenth century paper library label; spine and boards worn, spine chipped at foot and repaired at head, but still a good copy.

First edition of this very rare survey of creation, strongly influenced by alchemical and hermeticist principles, by the French physician Jean Pagez or Pagès (fl. 1626-1634).

Pagez divides his work into eleven chapters. The first affirms that there is one God who created the fundamental principles of the world, while the second explains the ways in which this creation was effected. In the third chapter, Pagez discusses the ways in which the first elements (earth, air, fire and water) are produced and joined together to create the world, while the fourth examines the nature of the heavens, describing the movement and properties of the stars. The fifth chapter deals with the notions of sympathy and antipathy between substances, following Aristotelian lines, while the sixth discusses the tides in the light of these notions.

In the seventh chapter, Pagez goes on to examine the nature of sympathy and antipathy between elements, metals, minerals, plants, animals, and spirits, while the eighth turns to a discussion of the properties of poisons, and the ninth an examination of contagion. The final two chapters discuss the end of the world; firstly, whether it is possible to prove the end of the world by natural reasons, and finally, a demonstration that the world will only come to an end through the power of God, who created it.

Little is known of the author, who may be the same as the Jean Pagès who published *Oeconomie des trois familles des Mondes Sublunaires* in 1625. This earlier work, however, was largely anti-alchemical in its approach, and heavily criticised the Rosicrucians, which suggests either that the author had a change of heart in the intervening six years, or that the present

work is not by the same Jean Pagez.

“Jöcher calls the author a ‘philosophus’ at Paris, who flourished between 1626 and 1634 (...). (This book) deals first with God and the creation of the universe, angels, the heavens, and after that a large part of the book is taken up with sympathy and antipathy. I have not found anything about the author” (Ferguson).

Ferguson, II, 162; OCLC: 43238175 records only one copy, at Oxford.



**15 RIPA [or RIVA], Lodovico.** *Miscellanea.* Venetiis, apud Dominicum Lovisam. MDCCXXV [1725]. £ 2,500

**FIRST EDITION.** 4to, pp. [viii], 79; with engraved title vignette and one folding engraved plate showing mathematical diagrams; with the Macclesfield library blindstamp on title; a clean, crisp copy in contemporary vellum, title in ink on spine; light soiling to boards, but a very attractive copy with the Macclesfield book-plate on front paste-down.

Uncommon first edition, and a crisp large paper copy, of Ripa's *Miscellanea*, from the Macclesfield library which once held the papers of Newton.

The work consists of four parts, dealing in turn with questions relating to shooting stars, hygrometry, ballistic curves, and general astronomical matters. It was probably of interest to the Earls of Macclesfield due to its relevance to the Newton-Leibniz debate on calculus; the central essay contains a critique of Bernouilli's 1719 paper in the *Acta eruditorum* in which he had solved the ballistic curve with an equation that, to both Bernouilli and Ripa, demonstrated the greater applicability and superiority of Leibniz's calculus over that of Newton, who had only solved the law of resistance.

Lodovico di Ripa, sometimes know as di Riva, was a pupil of the distinguished mathematician Jacopo Francesco Riccati, and taught at Padua. He also published on botany, fluid dynamics, and mathematics.

Houzeau-Lancaster 8847; Riccardi 1/2, 381 u. 1/4, 140; not in Roberts/Trent.

**16 [SCARPELLINI, Feliciano].** *Prospetto delle Operazioni fatte in Roma per lo stabilimento del nuovo sistema metrico negli stati romani dalla commissione de' pesi, e misure.* Edizione unica ufficiale. Roma, presso Mariano de Romanis e figli, 1811. £ 950

A detailed table with multiple columns and rows, titled "IV. Quadro generale del nuovo Sistema Metrico decimale". The table lists various units and their conversions, including "Pesi" (weights) and "Misure" (measures). The text is in Italian and includes numerical data for different categories of measurements.

**FIRST EDITION.** 8vo, pp. viii. 303, [1] blank; with one folding plate and eight folding leaves of tables; some foxing throughout, and repaired paper flaw on title; later ownership inscription on front free endpaper; in contemporary green half calf, spine ruled in gilt with morocco label lettered in gilt; only lightly worn.

First edition of the official prospectus for the introduction of the metric system into the Roman States, compiled by the secretary of both the *Accademia de' Lincei* (which he revived) and the commission of weights and measures of the Papal State, Feliciano Scarpellini (1762-1840).

During the annexation of the Papal territory by the French, the francophile, republican and astronomer set up a commission

for the introduction of the decimal system, and designed a precision scale, for which he was awarded a gold medal by Napoleon. In this long work he explains how the basic units are linked to nature and on what the now obsolete weights and measures - especially those of Rome - had been based. The author then describes the scientific scales constructed by Ramsden and Lavoisier, as well as the hydrostatic one designed by him. The folding plate depicts it and all its separate parts. The chapter on the determination of the weight of one cubic decimeter of distilled water (kilogram) is a contribution by the author's colleague Giuseppe Calandrelli. Pages 89 to the end are conversion tables for weights, measures and currencies.

Emilio De Tiplido, in his 1841 *Biografia degli Italiani illustri nelle scienze, lettere ed arti* praises this work as 'most interesting' and writes that 'it has become quite rare and expensive' (vol.VIII, p. 86).

OCLC records four copies in North America, at the Burndy Library, Harvard, Michigan, and Oklahoma.



17 [SERRA, Luigi]. Lettera Sulle Comete In Occasione Della Cometa Comparsa Quest'anno Diretta A Due Dame dall'abbate Luigi Serra. Genova i.e. Genoa Stamperia Francese-Italiana. [1805?]. £ 685

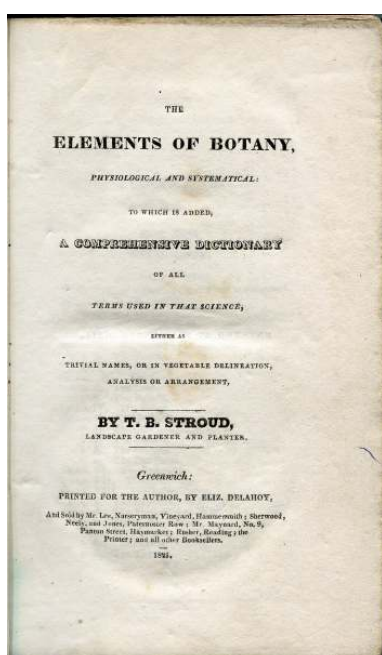
**FIRST EDITION.** 12mo, pp. 21, [1] blank; text within double-ruled borders, title vignette; clean and fresh throughout; in recent wrappers.

Only edition of this rare letter addressed to two noblewomen by the Genoa mathematician and astronomer Luigi Serra (1757-1813), aimed at soothing their fear of comets.

The ladies (alas unidentified) had made a connection between the recent appearance of a comet (probably either comet Encke or comet Biela, both of which appeared in 1805) and a prolonged period of heavy rainfall. Gathering together the combined authority of Newton, Aristotle, Galileo, Flamsteed, and many others, Serra attempts to reassure the ladies that comets posed no threat, and were not connected to more common meteorological phenomena.

Serra was professor of mathematics at Genoa from 1805 until 1809. In addition to the present work, he also published *Inni di libertà* in 1797, and wrote a collection of political satires, which appeared in a new edition in 1994.

Not in OCLC; ICCU records one copy, at the Biblioteca della Società Neapolitan di storia patria.



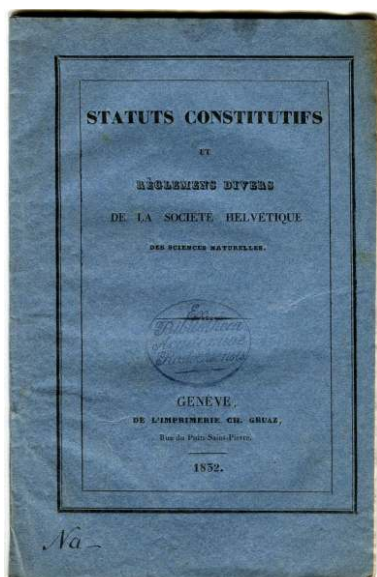
18 STROUD, T.B. The Elements of Botany, physiological and systematical: to which is added, a comprehensive dictionary of all terms used in that science, either as trivial names or in vegetable delineation, analysis or arrangement ... Greenwich: Printed for the Author, by Eliz. Delahoy, and sold by Mr. Lee, Nurseryman, Vineyard, Hammersmith... 1821. £ 385

**FIRST EDITION.** 8vo, pp. [viii], 9-257, [1] blank, [92] Botanical Dictionary; apart from some minor light foxing in places, a clean copy throughout; uncut in the original publisher's boards, expertly rebacked to style with printed paper label, some rubbing and chipping to extremities, but still a very appealing copy.

Uncommon first edition of this useful botanical work by T.B. Stroud, 'Landscape Gardener and Planter'.

The work, printed in Greenwich by a female publisher, is set out in three books: Physiology, Systematic Arrangement and a Botanical Dictionary, the latter of which the author seems particular proud, stating that 'All trivial names are included in this arrangement, excepting such as are derived from old genera, from comparison with other genera, from the names of persons or places, from barbarous languages, and such as are of doubtful origin, all these being improper' (p. vii).

OCLC records six copies in North America, at California State, Vassar College, Oklahoma, Lloyd Library, American Philosophical Society and the Hunt Institute for Botanical Documentation.



19 **[SWITZERLAND]**. Statuts constitutifs et règlements divers de la Société Helvétique des Sciences Naturelles. Extraits des protocoles et réimprimés avec toutes leurs modifications par ordre de la Société et par les soins du comité central de Genève. Genève, de l'imprimerie Ch. Gruaz, 1832. **£ 185**

**FIRST EDITION THUS.** 8vo, pp. 22, [2] blank; some marginal browning; with the library stamp of the Rostok Academy on title-page; in the original printed wrappers.

A good copy of these rare statutes of the Swiss Society of Natural Sciences.

Founded in 1815 outside Geneva, the Society had as its aim "the advancement of the study of natural history in general, in particular that of Switzerland, its propagation and its direction in a way that it might become truly useful to the nation". The present statutes were initially approved in Zürich in 1817, but appear here for the first time in their completed form. They describe, in addition to the Society's aims, the rules for reception of new members, meeting places, the organisation and direction of the Society, and the focus of its activity; the second part contains the rules adopted at Basel in 1821 for the deposit of the Society's archives, while the third contains the rules for the financial administration of the Society.

The society was formed by a group of Genevois around Henri-Albert Gosse, in collaboration with scientists from around Switzerland. By agreement with two Geneva societies, the Société de physique et d'histoire naturelle and the Société des naturalistes, the Society aimed to have its annual meeting each year in a different canton. It was the first of its type in Europe, and influenced societies in Germany, France, and elsewhere. The society changed its name in 1988 to l'Académie suisse des sciences naturelles.

OCLC records copies at Kiel, Dresden, and the British Library.

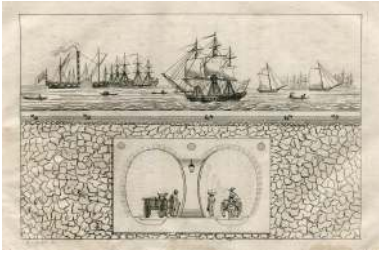
20 **[THAMES TUNNEL]**. **TOLLENARE, Louis Francois de.** Passage sous la Tamise a Londres. [n.p., n.d., but Paris? c. 1826]. **£ 385**

**FIRST EDITION.** 8vo, pp. 15, [1] blank; with an engraved plate loosely inserted; minor light waterstain to plate, and text lightly and evenly browned due to paper stock; in recent boards.

Unrecorded work on the Thames Tunnel, demonstrating the

interest generated by the project throughout Europe.

Tollenare, a prominent French engineer, came to England in 1825-26, where he met Marc Brunel and visited the Rotherhithe site of the Thames Tunnel excavations.



He describes in some detail Brunel's tunnelling techniques, in particular the tunnelling shield, and contrasts the apparent ease with which a major project such as this could be financed and started in Britain, with the hurdles facing engineers in France. It is interesting that in this paper, Brunel is referred to throughout as 'Brunet'! The engraved plate shows a cross-section of the Tunnel, with horses and carts, and shipping, including a steam-powered paddle steamer, on the river above. Tollenare was one of the first French engineers to appreciate the significance of MacAdam's road construction techniques, which he saw while visiting England, and to introduce them into France.

Not in *The Triumphant Bore*.