



October, 2017

On Earth, in the Air and beyond





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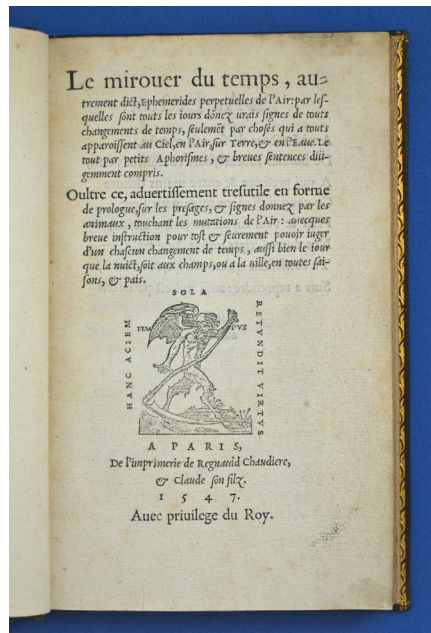
In this dossier can be found a sample of scientific publications from 1547 onwards which let us know both how men's vision on physical world was changing, and some examples on how they took control of natural forces to obtain results for their benefit.

As always, we trust it is to your liking.

Pamplona, October 11, 2017

1547 Antoine Mizauld (1510-1598)

Meteorology, 'or, if you prefer, comments on all things of the Air'



Passionate on Medicine, Agriculture and Astronomy, Mizauld himself translated into French his first work, *Phenomena, sive aeria Ephemerides*, published in Latin the year before (Paris, 1546).¹ In

¹ Antonii Mizaldi Monsluciani Phaenomena, siue Aeriae ephemerides omnium aerae commotionum signa ab his quae in caelo, aere, aqua, & terra palam apparent, quatuor aphorismorum sectiunculis, metodo saepequam facili & perspicua, diebus singulis fideliter ab oculis ponentes.

Le mirouer du temps, autrement dict, Ephemerides perpetuelles de l'Air: par lesquelles sont tous les iours donnez vrais signes de tous changements de temps, seulement par choses qui a tous apparroissent au Ciel, en l'Air, sur Terre, & en l'Eau. Le tout par petits aphorismes, & breues sentences diligemment compris. Oultre ce, aduertissement tresutile en forme de prologue, sur les presages, & signes donnez par les animaux, touchant les mutations de l'Air: avecques breue instruction pour tost & seurement pouvoir iuger d'un chascun changement de temps, aussi bien le iour que la nuict, soit aux champs, ou a la uille, en toutes saisons, & pais. - A Paris: De l'imprimerie de Regnaud Chaudiere, & Claude son filz, 1547.

1st ed. in French.- 8° (167x102mm).- 94, [6] l.; sign.: A-M8, N4; Chaudiere's printer device in title-page, motto 'Tempus. Hanc aciem sola retundit virtus'.

Romantic binding; ribbed back with gilt label and date; boards embossed with fringes of fillets and floral ornaments; gilt board edges; six free endpapers in front and back. Lightly brushed joints. Magnificent copy, completely clean with no more stains, annotations, marks or underlining, than a couple of very discreet calls.

Prov.: Armorial exlibris glued on front pastedown end paper, etched by Ad. Noel, from Merry de Bellegarde's library.

Refs.: Brunet, III, 1778; Caillet, 7614; Cantamessa, 3^a, 5121, altre; Nicéron, XL, 202 (not saw). La Lande, p. 65-66 (only Latin editions), and Houzeau, 4836, (only ed. 1548).



it, with the fame of being the first book of Meteorology published in French – and, apparently, the first apparition in French of the term 'météorologie', "or, if you prefer, comments on all things of

Eiusdem Prolegomena, in quibus nonnulla de brutorum praesagitione, & praedicendarum aeris mutationum seria metodo, ex solis phaenomenis. - Parisiis: ex officina Reginaldi Calderij, & Claudij eius filij, 1546.

the Air”,² Mizauld instructed by aphorisms, in order the teachings could be remembered easier, how meteorological forecasts could be made from the environment by observing the stars, the sky and the landscape, or the behavior of plants and animals. It is not a scientific work because it does not call to any type of instrumentation nor to the realization of experiments, but he oriented it to be useful for farmers and sailors to best manage their activities.

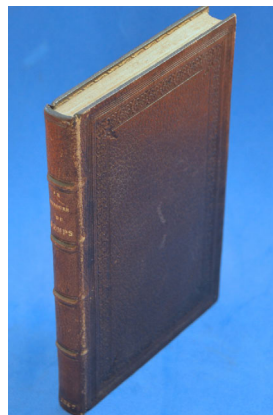
In a delightful dedicatory to Catherine de Medici, in which he makes a beautiful panegyric of the goodness of having practical books translated into mother language (‘or, if you prefer, into the language of the country’), because in Greek or in Latin they were of no use to ordinary people, he sums up the very content of the book (in French, in the original): “your Majesty will may know ... all the mutations of the air and the changes in the weather which may arise wherever you may stayed, by certain signs, evident to all, which appear in the sky, in the air, in the water or on the land. In the sky, by the things that can be seen around the sun, the moon and the stars when they rise or lie down. In the air, by the colours of the clouds, their situation and their nature, as well as by the winds, lightnings, thunders and the likes; on the country, by the signs coming from animals, so wilds and savages as domestics, as well as from the birds, mountains, trees, plants and from the infinite other things appearing to us every day. In the water, by which are the fishs and birds that inhabit it, the vapors it produces and other

similar things.”

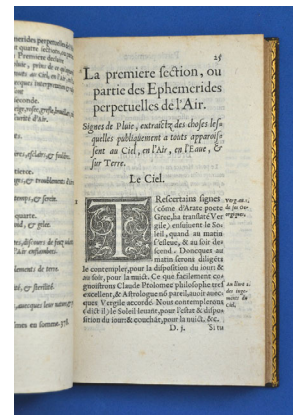
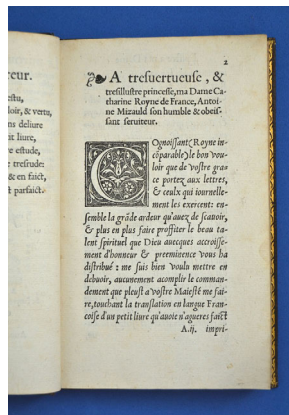
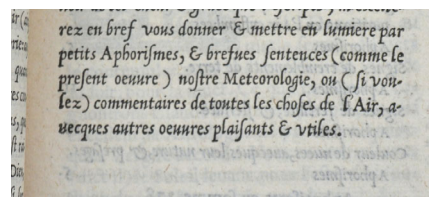
What Mizauld did not say in his dedicatory was that, to the (explained) aphorisms he offered, he added as a coda a brief compilation of the most arcane activity of the forecasts, collecting the signs (both from weather and meteors) announcing catastrophes, earthquakes or periods of fertility or sterility.

Just as in the original Latin edition Mizauld had declared from the beginning his authorship (and being born in Monluçon) this time his name does not appear except in the octave to the reader which is in the title–page verso, signed with an anagram of his surname, ‘Ault miz’, and in the dedication to Catherine de Medici, where he filled his full name.

There are no more than ten copies preserved in public collections all over the world.

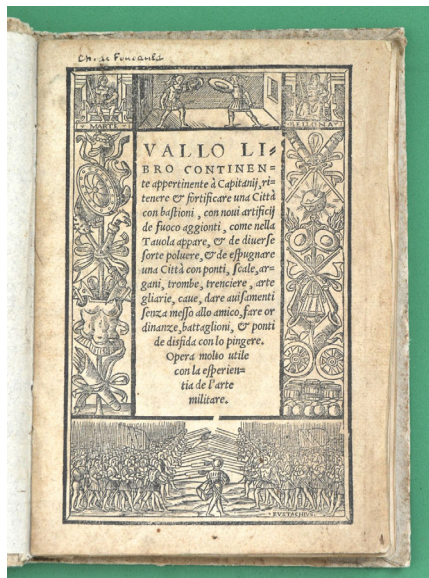


² Leaf 24r, line 23, in this edition.



1550 Battista della Valle (1470-1550)

The birth of artillery books



Vallo libro continente appertinente à Capitanij, ritenere & fortificare una Città con bastioni, con noui artificij de fuoco aggiunti, come nella Tauola appare, & de diuerse sorte poluere, & de espugnare una Città con ponti, scale, argani, trombe, trenciere, arte gliarie, caue, dare ausamenti senza messo allo amico, fare ordinance, battaglioni, & ponti de disfida con lo pingere. Opera molto utile con la esperientia de l'arte militare.- [Colofón: Stampata in Vineggia per gli heredi di Piero Rauano, & compagni, MDL (i.e. 1550)]

8°, (150x115 mm.).- [8], 71, [1] l.; sign.: i8, A-I8; alegoric xylographic border in title-page, signed 'Eustachivs' [Eustachio Celebrino]; woodcut initial letters; 46 illustrations interspersed in the text, of which 21 are woodcuts—ten of them in full page, and 25 are compositions of military formations made with printing types; roman italics; at the end, in I8 verso, printer device of a mermaid.

XVIIIth c. mute cardoard binding. Small break (7mm.) in A2 fore margin; very slight ancient dampstain in right bottom tip from A3 to D8; A7 bottom tip remargined. Full of I8 with the printer device in its verso.

Prov.: Handwritten exlibris in title-page verso, dated 158X, 'questo libro jo franco. Riuda compré a Roma l'ano 158X...'; very little handwritten exlibris in title-page upper margin and in last page bottom, 'Ch. de Foucauld'.

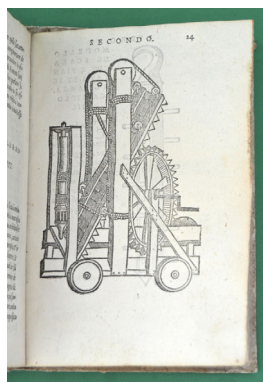
Refs.: Brunet, V, 1063; Cockle, 765. For the title-page border, Masséna, V, 2096 y 2226.

First published in the unfindable Neapolitan edition of 1521, the treatise by della Valle had more than 20 editions in 100 years, being translated into French in 1529, and 1554 and into German in 1620 and 1644. Also, it has been suggested that *El perfeto capitan, instruido en la ciencia militar, y nueva ciencia de la artilleria*—published in 1590, although written by Diego de Álava and Viamont several years earlier—, was

in part a translation into Spanish, but despite the likeness of the title it is not true.

The work of della Valle, the first of its genre, is closely related to the fact that in the sixteenth century there were two drastic novelties in Military art. The first one, the weight conferred until then to both cavalry and open field battles as the core of the wars, gave way to the importance of both the small sieges and the in-





fantry equipped with artillery. The second, that the science of fortifications, which had hitherto been the subject of architectural treatises, became a necessity to be developed during military actions, not only because of the sieges (both to carry them out and to resist them), but also by the necessity to consider all related to the artillery and the ballistics: canyons existence forced soldiers to think about how to use them to better damage the enemies' fortresses and, simultaneously, how to better fortify the owned villages to minimize the effects of the enemy cannonballs. Both circumstances were related to the fact that the XVI was a century in which the 'national' armies were dispersed in many outbreaks, so that the captains in command in each depended on their own technical knowledge for the necessary strategic approaches. Not without reason, the sixteenth century will see the appearance of academies for officers, with

Mechanics and Mathematics among the taught disciplines.

Della Valle work is not properly a treatise about fortifications or artillery, but - as the title said, an advice for the development of military actions, gathering the knowledge that should be available to an officer to maintain discipline, to carry out sieges or to defend themselves against them, to combine the attacks of troops and artillery or to resist them, to protect troops and machinery in trenches, etc., with the illustration of the necessary means. It even features a snorkel model with a breathing tube for underwater attacks!

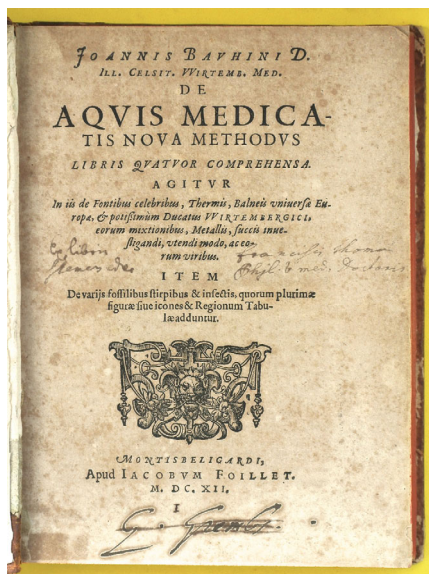
The xylographic border printed in the title page, the same included in all the issuings of the book of della Valle made by the Rauano, with Mars and Bellona in the presidency, is that which had been carved by Eustachio Celebrino for the edition printed by Gregory of Gregory

in 1524.¹ From his workshop passed to the printing press run by Marchio Sessa and Piero della Serena who, in turn, used it in their 1525 editions both of Della Valle's work, and Paride del Pozzo's *Duello: Libri de re*. The border reloaded when Piero della Serena broke away from Sessa and went on to sign as Piero Rauano in the printing press he installed with his brother Victor, appearing, from then on, in all successive issuings printed by them and their successors.

¹ The prince of Essling suggested in his studies on the engraving in the Venetian printing press (in the 6-volume edition of 1907-1914) that Gregory had previously employed it in the title-page of the 1523 edition of Paride del Pozzo's *Duello: libri de re*, but we doubt about since, on the one hand, we do not locate any copy that could ratify it and, by the other, its iconography seems more related with della Valle's work contents.

[1598] 1612 Johann Bauhin (1541-1613)

Fossils, minerals, apples, pears and insects

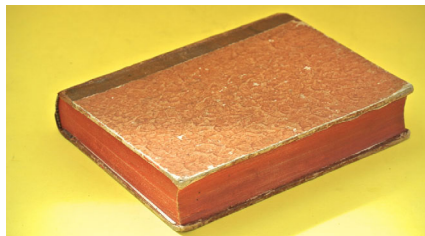


The Swiss physician Johann Bauhin (brother of the botanist Caspar Bauhin), who moved from Basel to the court of Duke Frederick I of Württemberg to provide him with his services, was classified in the Index of 1632 as a class 1 author, which for Catholics implied a complete ban of reading any of his works. Nevertheless, the Index established an exceptio, this we are offering, *Historia novi et admirabilis fontis balnei-*

De Aqvis medicatis nova methodvs libris qvatvor comprehensa. Agitur In iis de Fontibus celebribus, Thermis, Balneis universae Europae, & potissimum Ducatus VVirtembergici, eorum mixtuionibus, Metallis, succisinuestigandi, vtendi modo, ac eorum viribus. Item de varijs fossilibus stirpibus & insectis, quorum plurimae figurae siue icones & Regionum Tabulae adduntur.- Montisbeligardi: Apud Iacobvm Foillet, M.DC.XII. [1612].- [Sigue:] Historiae fontis et balnei admirabilis Bollensis Liber qvartvs. De Lapidivus metallicis qve miro natvrae artificio in ipsis terra visceribvs figuratis, nec non de stirpibus, insectis, aubus, aliisquam animalibus, partim in putei penetralibus, dum eius venas aquileges fodiendo perscrutantur, partim in vicinia inuentis & obseruatis, quorum multa nunquam visa viuis iconibus expressa hic oculis suiiciuntur.- Montbeligardi: apud Iacobum Foillet, MDCXII. [1612]

4°, (188x138mm.); *De Aqvis...* (24), 291, (1); sign.:)(4,)(4, 2):(4, a-z4, Aa-Nn4, Oo2.- *Historiae fontis...* (8), 222, (26) p.; sign.: a-z4, Aa-Ff4, *-4, G-H4, I-I2 [*4, blank, missing]; 336 woodcuts interspersed in the text; complete with the usually missing 'Paralipomena' appendix in sheet *.

XVIIth c. half quarter binding with marbled paper; smooth back decorated with seven quarters – six of them with a gilt sun – and red moroccan label in the seventh; red edges. Brushed head, foot, edge boards and corners; front free end paper, detached; first signature, acidified; bottom third of the second work title-page broken with loss, and roughly repaired; the leaves of the last two signatures (with the end of the fourth book, the 'Paralipomena' appendix and indexes) are bound in disorder.



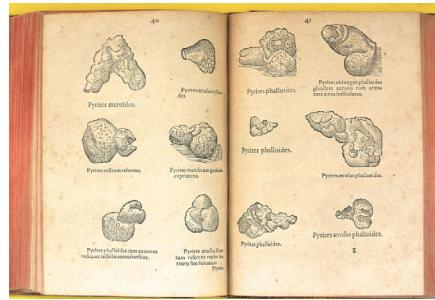
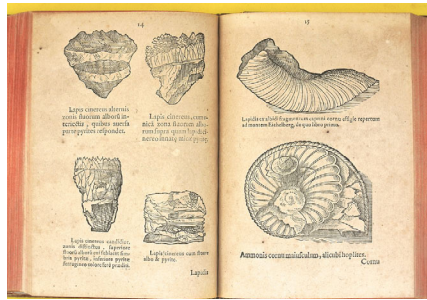
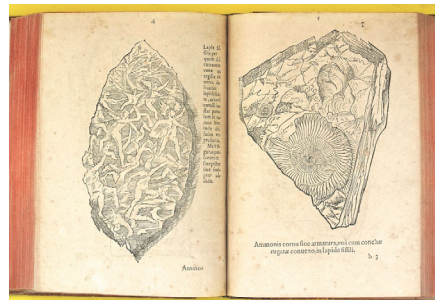
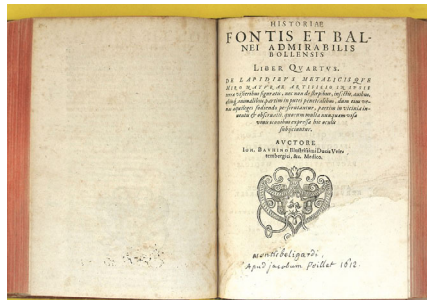
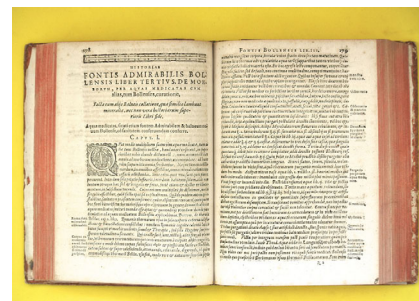
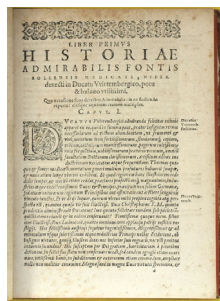
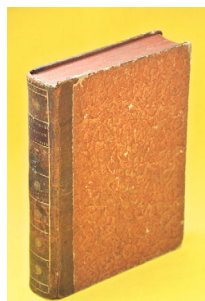
Prov.: Handwritten exlibris in first title-page, with XVIIth c. lettering, of the Philosophy and Medicine doctor Francisci Shomer (?).

Refs.: Agassiz & Strickland, I, pp. 212-213; Banks, I, p. 244; Carrère, 81; Gatterer, I, pp 72-73; Melvin & Jahn, p. 10; Pritzel, 500; Schuh, *Jean Bauhin*; VD16 B 850 y B 853, ZV 1127; Vosmaer, p. 1; *Walleriana*, 786.

que Bollensis.

The work is structured in four books of which the first three, without illustrations, are collected in one imprint, and the fourth, stuffed with them, in other. If the first imprint includes the history of the Boll Bad spa - the famous spa of the Duke Frederick I, (nowdays soothes of the Evangelical-Lutheran diaconate of Württemberg) -, giving an account of its thermal springs, the medical use of their waters and the diseases treated with them, the second surpasses: it is a vaste repertoire of the fossils, fauna and flora that could be found in its surroundings. In his repertoire, Bauhin constantly made allusions to the works of other classical and contemporary authors, criticizing many of the latter because they do not “walk” to collect samples and “to see reality”.

To give a better illustration, he included 214 fossil and mineral woodcuts (pp. 1-54), although his ‘reading’ about was pre-scientific because he generalized the physical appearance of the specimens he found, pointing out that they could adopt forms so curious as ‘representing angels’, in the form of ‘glans with foreskin’, or ‘like a human torso’. To these woodcuts he added those of 56 different kinds of apples – saying also which were their taste and in what state of maturity they were the day he tasted them, usually in September – (pp. 56-101), 41 classes of pears (pp. 102-138), and other 22 engravings – including an impressive cabbage (p.165), 13 of insects and 7 of 3 types of mushrooms (pp. 214-216) –, while offering a list with more than 500 types of plants, fruits and animals that could be found in the surroundings, to finish with the



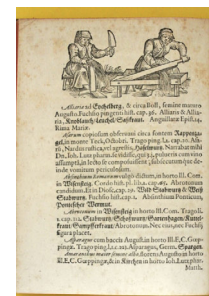
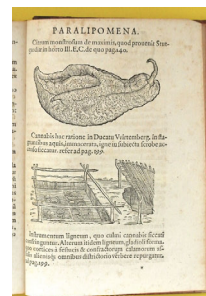
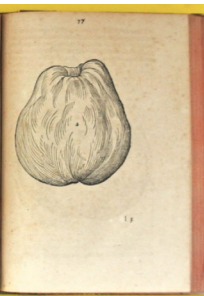
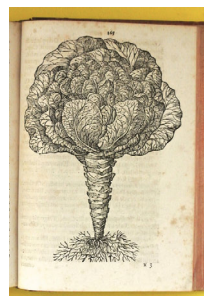
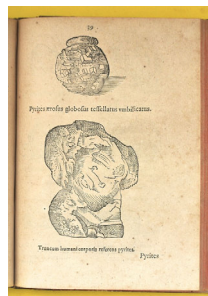
hemp and three engravings of its handling in Württemberg to give it utility.

However, the identification of this work – which stands at the head in the bibliographies of pomology or fossils, and appears in those about medicinal waters, geology, or botany – has brought a few headaches because it has the appearance of have been published several times as two different simultaneous imprints sold almost always as a single one. Although we haven't seen that has ever been brought, the source of troubles can be placed in that the work was printed only one time. Today we feel that such an extraordinary and peculiar work had to arouse the greatest interest, but the truth is that either the initial print run was exaggerated, or at the time it was a business failure, because regardless of the date and titles in their title-pages, absolutely all copies correspond, from the permits and laudations to the tables, to a same and only typographic composition made in 1598, to which, on so many occasions as at least in 1600, 1605, 1607-1608 and 1612, the first double leaf - and sometimes the first double leaf of the second work - was replaced to change its title to give the book the appearance of being a new edition, when they were only repeated attempts to give way to the remaining stocks of the original issuing.¹

¹ Schuh came closer, but he did not notice the specimens he handled varied in how they were bound, nor did he find that signatures were all of the same run. The initial title of the first imprint in 1598 was *Historia novi et admirabilis fontis balneique Bollensis in Ducatu VVirttembergico ad acidulas Goepingenses...*, being altered in 1600 to *De thermis aquisq[ue] medicatis Evro-pae praecipuis opus succintum atque utiliss...*, again in 1607 to *De medicatis noua methodus Ioan. Baubini d. ill. celsit. vuirtemb. med. libri quatuor comprehensa*; and one time more in 1612 to *De*

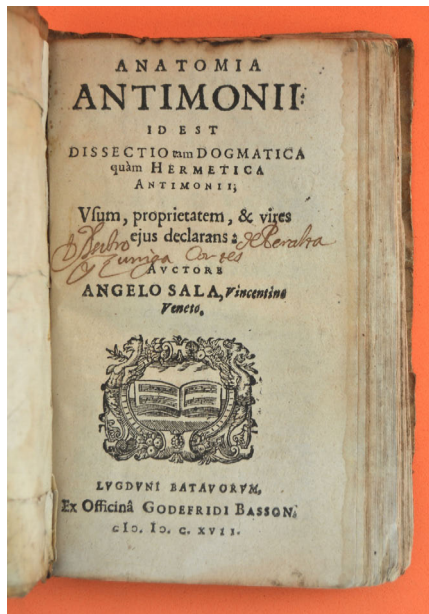
The first title-page issue carried a portrait of Bauhin in its back, absent in the rest, and the 'Paralipomena' (omissions) supplement, absent in 1598, was published for the first time, as late, for the second selling wave, when the title-page was changed the first time in 1600.

Aquis medicatis new methodus libris quatuor comprehensa. For its part, the second imprint (with the fourth book), which in 1598 was printed titled as *Historiae fontis et balnei admirabilis Bollensis Liber quartus. Of Lapidivus metallicis q[ue] miro naturae artificio in ipsis terra visceribus figuratis...*, was abbreviated in 1600 to *Lapidivus metallicisq[ue] miro naturae artificio in ipsis terrae visceribus figuratis...*, regaining the original title-page in 1608 and 1612.



1617 Angelo Sala (1576-1637)

The first chemist to stop focusing on nonsense



Physician, alchemist, chemist, Angelo Sala fits in all these categories and escapes all of them. Son of Spaniards born in Vicenza, he had to migrate from Italy to Geneva for his Calvinist faith. In 1608 he published the first of his works – a very true statement, *Tractatus duo de variis tum chymicorum, tum galenistarum erroribus in praeparatione medicinali commissis* (Two

Anatomia antimonii: id est dissectio tam dogmatica quàm Hermetica Antimonii; Vsum, proprietatem, & vires ejus declarans: Avctore Angelo Sala, Vincentino Veneto.- Lvgdvni Batavorvm [i.e. Leiden]: Ex Officinâ Godefridi Bassoni, clō.16.c.xvii. [1617]

1st ed.- 8°, (153x95mm).- [32], 145, [7] p.; sign.: *-**8, A-I8, [4]; typographical ornament in title-page; woodcuts for friezes and initial letteres at the beginning of each part.

Contemporary parchment; illegible title on the spine. Very deteriorated but compact binding; upper edge burned; browned paper, with old dampstains; a lot of ancient reminder calls; crudely restored losses in the bottom half of the last four leaves (final *admonitio* final to avoid Chemistry lovers) affecting text. Poor copy.

Prov.: Handwritten previous owner name with XVIIIth c. lettering in title-page, and in pages 43 and 132, 'Pedro de Peralta y Zuniga Cortes, de Mexico'.

Refs.: Ferguson, I, 316; Waring, I, 235.

treatises on various errors committed by Chemists and Galenics in drugs preparation),¹ and in 1609 his most famous work, *Anatomy vitrioli*.² In both medicine and chemistry, Sala was characterized by calling for to avoid presumptions

¹ It has been speculated on the existence of an edition of 1602, but the doubts would come from some copy of the 1649 edition, MDCIL, with the foot of the last L in a blurred condition.

² The first edition, impossible to find, was *Anatomia vitrioli in duos tractatus divisa in quibus vera ratio vitrioli in several substantias resolvendi accuratissime traditur: Accedit arcanorum complurium ex substantiis istis deductorum, tum ad conservandam valetudinem, tum ad propulsandam gravissimorum morborum vim et intemperiem sylva.* - Aurelia Allobrogum [ie Genève]: In officina Fabriana, 1609.

and to be demanding in the preparation of both compounds and experiments. He is considered the first who associated the corpuscular philosophy with chemistry, when he explained how to synthesize the vitriol and discompound it below into its original components, although he never got to develop (or at least to publish) an articulated corpuscular theory of matter.³ In the medical field, he always worked as a private physicist for different noble and wealthy bourgeois living in cities of the present territories

³ Antonio Clericuzio: *Elements, Principles and Corpuscles: A Study of Atomism and Chemistry in the Seventeenth Century.* - New York: Springer, 2013, p. 3 y 21-23.

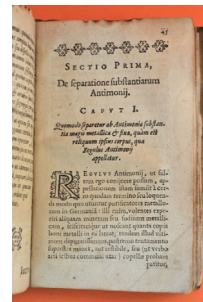
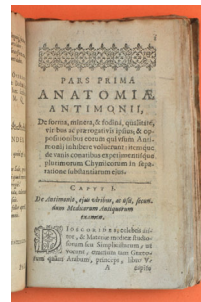
of Germany, Switzerland and the Netherlands (Dresden, Sondrino, Nürnberg, Frauenfeld, Genève, Nassau, The Hague, Oldenburg, Hamburg...). Sala finished his moving out when it was contracted in 1625 in Rostock by the Duke of Mecklenburg, family with which he remained until his death in 1637, having published about thirty works about the vitriol, the plague, the opium, the antimony, distillation, preparation of compounds, antidotes and the basic anatomy of plants.

At the end of his first longest period in the same city – The Hague, 1612–1617 –, where he taught to prepare compounds,⁴ he published the one we offer, his *Anatomia Antimonii*. Although it is generally attributed to Valentinus Basilus being the first on describe the antimony production starting from one of the compounds in which he appears (in his ‘Antimony’s Triumphal carriage’⁵), the first section of the second part of Sala’s *Anatomia Antimonii* is devoted to explain ‘De separatione substantiarum antimonii’ (Separation of substances from antimony), beginning with ‘Quomodo separetur ab Antimony substantia magis metallica et fiji, qua est reliquum ipsius corpus, quae Regullus Antimonii appellatur’ (How to separate the part antimony metallic of the rest of the body that Regu-

lus called Antimony) and following by 'Modus et ratio aperiendi corpus antimonii, et separandi substantias eius unam ab alteram' (Rule and way to open the body of the Antimony and to separate its substances from each other).

In addition to his discoveries in Chemical Analysis and Synthesis, Sala was also a forerunner in other fields of Chemistry such as the sugar fermentation, the darkening of silver nitrates in reaction to light (basic Chemistry of photography), or the different reaction of different metals in front of the same acids. The quality of his work, his ability to undertake research without ceasing in them, and his willingness on find out, led Hermann Conring to tell he was the first to move Chemistry out of its follies, something the physiologist Albert Haller repeated saying Sala was the first chemist to stop focusing on nonsense, while Boerhaave praised him as an author so very accurate in his preparations as conscientious in describing the compounds.⁶

We know the condition of the copy we offer is very poor, but not only it is very rare, but also this may be the only copy of any work of Sala before leaving The Hague offered in first edition in the last half century.



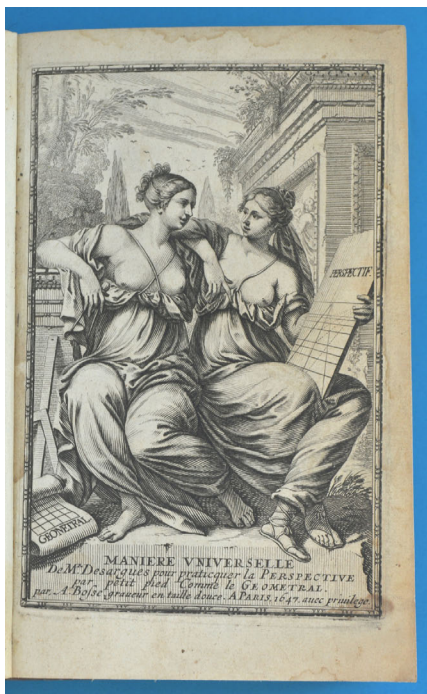
⁴ In the final *Admonitio*, dated June 1617, he recommended his readers to attend his friend Clemens Overschie, saying he will be who will take his place. This was the reason Overschie, who had a pharmacy in Delft where he worked on making preparations, sold it in early July and moved to The Hague.

5 *Triumph-Wagen Antimonii Allen*, so den Grund der Ubralten
Medicin suchen, auch zu der Hermetischen Philosophie Beliebnis
tragen, zu gut publiciret, und sammt noch sieben andern gleichmä-
sig höchstnützlichen Tractätlein an den Tag gegeben durch Johann
Thölden.- Nürnberg, Lochner für Hoffmann 1676.

6 Information taken from the reference about Sala in Ferguson's *Bibliotheca Chemica*. Original expressions can be found in Hermann Conring: *In Universam Artem Medicam singulæque*. - Helmsstädti [i.e. Helmstädt]: Georg-Wolfgang Hammii, 1687, p. 288; Herman Boerhaave: *Methodus discendi medicinam*. - Londini: [s.n.], 1726 [p. 206 in Londini, 1744]; and Albert von Haller: *Bibliotheca Botanica Quæ scripta ad rem barbariam facientia a rerum initis recensentur*. - Tiguri [i.e. Zurich]: Orell, Gessner Fuessli et Socci., 1771, t. 1 p. 416.

1648 Abraham Bosse (1602-1676) ; [Girard Desargues (1591-1661)]

Two Bosse's classics bound together



Prov.: No data.

Refs.: Andersen, p. 741; Brunet, I, 1127.

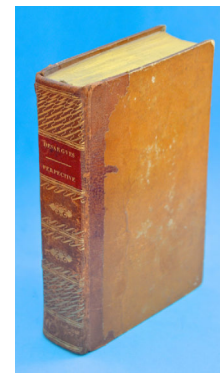
Manière universelle de Mr Desargues, pour pratiquer la perspective par petit-pied, comme le Géométral. Ensemble les places et proportions des Fortes & Foibles Touches, Teintes ou Couleurs. Par A. Bosse, Graveur en Taille Douce, en l'Isle du Palais....- A Paris: De l'Imprimerie de Pierre Des-Hayes, MDCXLVIII [1648].- **[Signe:]** Moyen universel de pratiquer la perspective sur les tableaux, ou Surfaces Irrégulières. Ensemble Quelques particularitez concernant cet Art, & celuy de la graveure en Taille-Douce. Par A. Bosse.- A Paris: Chez ledit Bosse, MDCLIII [1653]

Two first editions bound together.- 4° minor, (172x110mm.):

- *Manière universelle*....: [16], 1-176, [2], [6, with double numeration each, from 173 to 184], 193-342, [2] p.; sign.: [2], [a4], e4, A-Z4, Bb-Uu4; two title-pages, the first, engraved; first page of dedicatory, engraved; 159 full page engravings, the first acting as title-page for the others, which are numbered 1 to 156 (plates 151 and 156, repeated, printed twice); last plate explanation is an added engraving covering near the full Uu4 recto; between pp. 321-338, is recorded the text of 'Girard Desargues: *Exemple de l'une des manieres universelles du S.G.D.L. touchant la pratique de la perspective sans employer aucun tiers point, de distance ny d'autre nature, qui soit hors du champ de l'ouvrage*.- Paris, 1636'.

- *Moyen universel*....: [2], 79, [1] p.; sign.: [1], A-K4; engraved frontispice and 33 engravings, the first acting as title-page for the others, 30 of them in full page and 2 in double page.

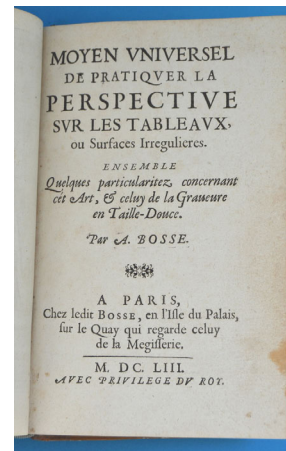
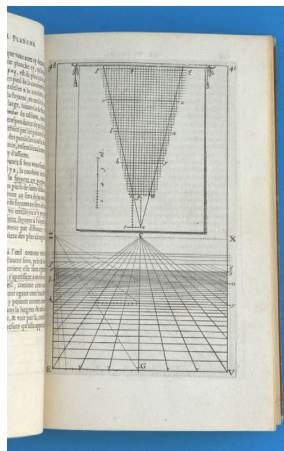
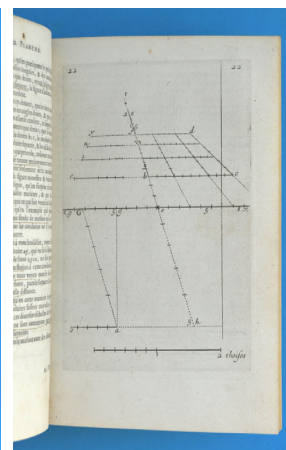
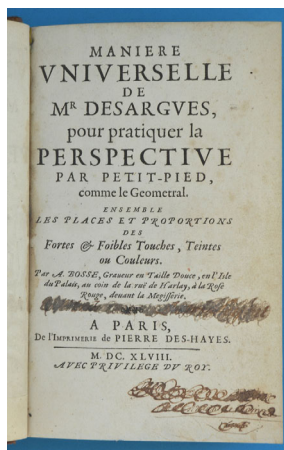
XIXth c. quarter binding; gilt ornaments and red moroccan label on spine; yellow edges; silk bookmark remains. Corners and boards' paper, brushed, with losses on front board. Two ancient owner names crossed out in first work title-page.; small margins; frequent and very slight reminders; old moisture traces old moisture traces in the inner margin of the two first signatures and in the bottom margin of some pages, without affection; some sporadic stains; browned trace in fore margin between pp. 43-49 of the second work.



The volume brings together two engraving masterpieces, by Abraham Bosse, in which engraving is used for perspective's teaching. The first is in fact an explanatory treatise on Girard Desargues' Projective geometry, who is considered its founder for being the first to adopt a point of the infinite as a reference element. Bosse, who trained in the subject with Desargues himself, had previously dedicated, in 1643, two works to graphically spread his theory.¹ In fact, in the initial note dated October 1647 which precedes the text of the first of the works binded in this volume, *Manière universelle de Mr Desargues, pour pratiquer perspective petit-pied, comme le Géométrique*, Desargues himself wrote he feel fully understood and well interpreted.

Bosse did so by dividing his treaty into two parts: *Première partie de la regle de la pratique de la perspective, pour les truit des figures, D'assiette, d'eslevation, de profil & d'ombre ou d'ombrage* and *Seconde partie de la Regle de la pratique de la perspective, pour les places et proportions des Fortes & Foibles Touches, Teintes ou Coleurs*, and by including within the work, in pages 321-338, the reprint of the short treatise on geometrical theorems known as 'Perspective', which Girard Desargues had published in 1636 under the title *Exemple de l'une des manieres universelles du S.G.D.L. touchant la pratique de la perspective sans employer aucun tiers point, de distance ny d'autre nature, qui soit hors du champ de l'ouvrage*.

¹ Both of them, *La Pratique du trait à preuves de Monsieur Desargues Lyonnois, pour la coupe des pierres en l'architecture*. Paris: Pierre Des-Hayes, 1643, and *La manière universelle by M. des Argues Lyonnois pour poser l'essieu & placer les beures*.- Paris: Pierre Des-Hayes, 1643, were apparently conceived as the first two volumes of a serie that did not continue.

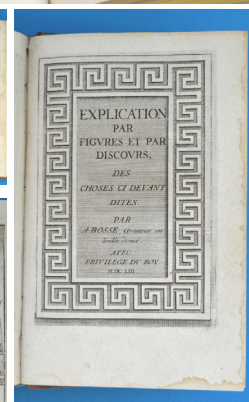
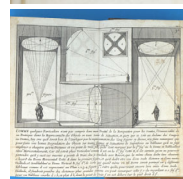
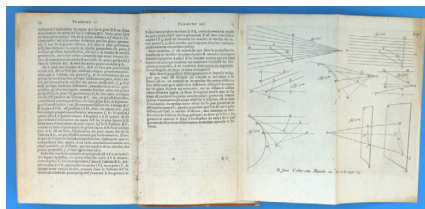
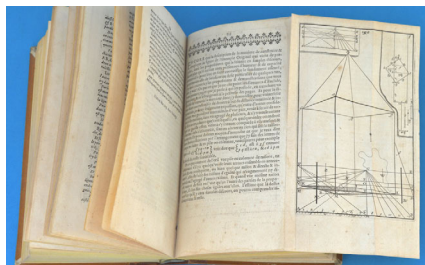
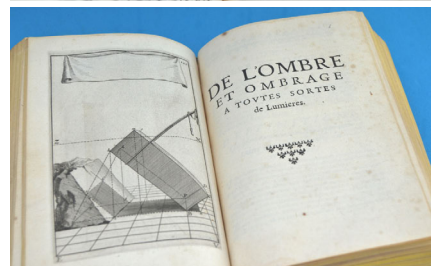
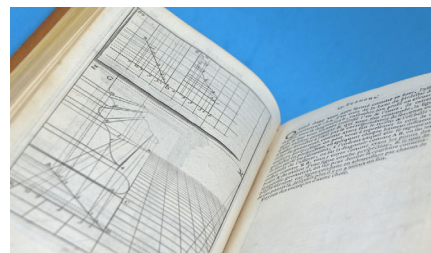


The printing of the *Maniere universelle* suffered from several errata in the numbering of pages and signatures, so that whether the whole was ordered by the pages or ordered by the signatures, the book remained messed up for torture of the bookbinders. The booklet Aa was printed as Y; and the booklet Z was paginated with two page numbers in each one in a series that, moreover, begins with a number that had already been given. A copy well bound by the content, obviating what pages and signatures say, would offer the following pagination: [16], 1-168, [2], [6, numbered twice per page 173 to 184], 169-176, 193-342; and would offer the following signatures: [2], [a4], e4, A-X4, Z4, Y4, Bb-Uu4 [Z2 denoted Y, Z2].

The second of the works binded in this volume, *Moyen universel de pratiquer la perspective sur les tableaux, ou Surfaces Irrégulières*, came to light five years after Bosse began teaching as Perspective professor at the Académie royale de peinture et de sculpture, founded in 1648 and directed by Charles le Brun. In publishing it, Bosse fueled the controversy he had with Le Brun almost since the founding of the Académie about the relative importance of genius and technique in the works of art, which would conclude eight years later with the dismissal of Bosse (although there are those who say that such a result was strongly influenced by the scene of a 'Huguenot of provinces' in an academy of 'Parisian Catholics'). This was because Bosse developed a practical treatise on the forms that had to be given to the figures to be painted over irregular surfaces (including the curved and concave surfaces of the murals and of the

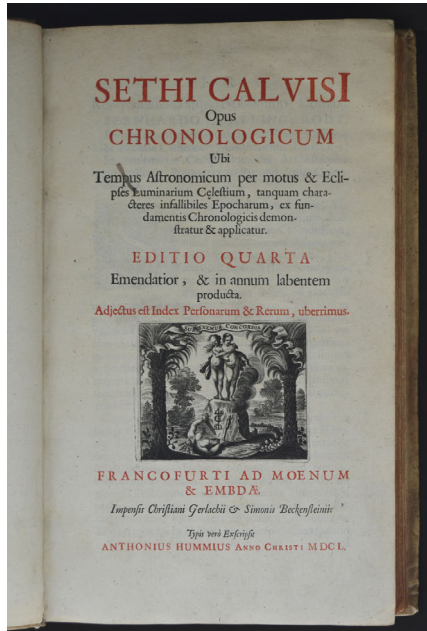
frescoes) – to facilitate the observer to perceive them less deformed, in which he did not refrain from criticizing the uses of the famous painters of the moment by taking care, although in view it is uselessly, on to give their names.

Two interesting expositions about the contribution of Bosse to Desargues theories and their pictorial application, as well as on the Desargues innovation on taking one point of the infinity as reference and its application by Bosse, can be found in Judith Veronica Field: *The Invention of Infinity: Mathematics and Art in the Renaissance*.- New York: Oxford University Press, 1997 and in Kirsti Andersen: *The Geometry of an Art: The History of the Mathematical Theory of Perspective from Alberti to Monge*.- New York: Springer Science & Business Media, 2007.



1650 Seth Kallwitz [Sethus Calvisius] (1556-1615)

Eclipses, Calendars, History



Being mathematics lover, musicologist and astronomer, Kallwitz's work that has lasted the longest proceeds from his facet of musicologist and his work on rhythms and bars. But at the time, his 'Chronology' caught so much attention that it was considered a work deserving to be kept up to date. This was because the work

Sethi Calvisii Opus chronologicum Ubi Tempus Astronomicum per motus & Eclipses Luminarium Coelestium, tanquam characteres infallibiles Epocharum, ex fundamentis Chronologicis demonstratur & applicatur. Editio quarta Emendatio, & in annum labentem producta. Adjectus est Index Personarum & Rerum, uberrimus.- Francofurti ad Moenum & Embdae: Impensis Christiani Gerlachii & Simonis Beckensteinii: Typis verò Exscripsit Anthonius Hummius, Anno Christi MDCL [1650].

Folio, (345x200mm); [8], 1030 [i.e. 1032], [100] p. (page numbers 191-192, repeated); sign.: A4, A-5A6 5B8; half-title; chalcographic printer vignette in title-page, motto 'Sustinemur concordia' (Harmony unites us); two inked title-page; woodcuts for friezes and initial letters.

Contemporary vellum binding; six raised bands spine; embossed boards; red edges. Head and front upper joint slightly opened. Very good copy, very clean, without stains nor reminders.

Prov.: Armorial exlibris glued on front board end paper of the 'Plummer of Middlestead' library, motto 'Consulto et audacter', and label of Sunderland Hall.

Refs.: Houzeau, 12831; La Lande, p. 230; Poggendorff, I, c. 364 (para la 1^a ed.); VD17, 3:606852N.

of Kallwitz could be ascribed to the current now known as "systematic chronology", formed by those who focused on the computation of time and the compilation of meteor phenomena as milestones in order to date historical events. For these authors, the succession of eclipses or the passage of comets no longer had a character of omen, but they were a necessary object of study in themselves because, after Copernicus' work, it was known that there was a

precise cadence which allowed them to be used to measure times.

These authors chronology concept was based on what Scaliger had proposed in his *De Emendatione Temporum* in 1583, where he went to the celestial movements in order to date historical events and managed to 'revolve' the concept of History in force in the European mentality to make it a common bed for all civilizations. Until then, history was only that of Greeks and La-

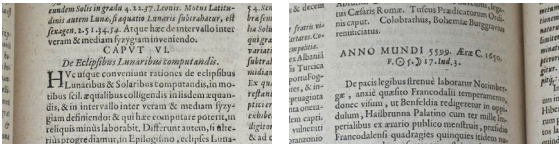
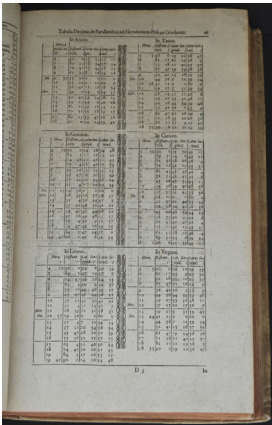
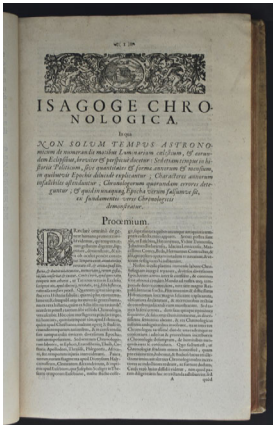
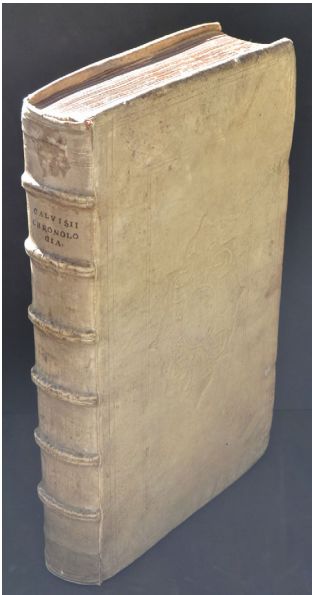
tins; that of the Jewish people belonged to the Religion; and that of the peoples of the East were little more than legends. Sharing the criteria, Kallwitz did not hesitate to state that, as “historians often recorded eclipses, accounting for them in the histories of kings and emperors, these are presented to us as the best witness both to establish the duration of a given reign, as to certify the true development of events. Eclipses provide infallible certainty, since they can be astronomically calculated and dated for any age”.¹

This was the main objective of his *Opus chronologicum*, in which, after an extensive initial chapter intended to teach how to calculate both solar and lunar eclipses, and to show exhaustively the types of calendar used in ancient cultures and the Near East, their correspondences and how to move from one to another, he fixed, by dating about 300 eclipses, the dates of multitude of events described by historians since the day that in the Julian calendar was October 26, 3949 BC, the date in which the world would have begun, the first day of Genesis.

Calvisius made use of the Julian calendar, because the one advocated by Gregory XIII in 1582 had only begun to be applied in Catholic territories, while in the rest the ‘Julian’ was still used. Moreover, disagreeing with the scientific basis used for calculating the Gregorian calendar, he made at least a couple of improvement proposals to get rid of some errors. Proposals that were not taken into consideration.²

¹ Quoted by Anthony Grafton: ‘Some Uses of Eclipses in Early Modern Chronology’, in *Journal of the History of Ideas* 64 (2003): 213-229.

² *Elenchus Calendarii Gregoriani*.- Francofurti Marchionum: Iohannis Eichorn, 1612, and *Formula Calendarii Novi*.- [Lei-



Kallwitz / Calvisius published his work in 1605 and when it was reprinted after his death, so in the 1620 edition as in 1629 and 1650 – the date of this fourth edition, the work was increased without any data about who did so. In this one we offer, the eclipses included with the associated events are presented updated until the same year of 1650.



pzig]: G. Voegelini, 1613.

1662 Georg Andreas Böckler (1617-1687)

Böckler's show of machines with XVIIIth c. handwritten French translation



Famous compilation belonging to the 'Theaters of machines' subgenre, that had a great publishing success since the end of XVIth c., for the variety with which image and knowledges were combined. The 'Theaters of Machines' belonged to the greater genre of the 'Theaters', whose contents could be about any subject (we may recall the Moral Theater with the engravings of van Veen, see our refs C-0393 and C-0592), whose common denominator was to be collections of engravings wishing to illustra-

Theatrum machinarum novum, exhibens aquarias, alatas, ivmentarias, manuaras; pedibus, ac ponderibus versatiles, plures, et diversas molas. Variis frumentis commolendis, Chartæ, & nitrato pulveri apparando, diversis tundendis, ferrendis, terebrandis, panno constipando, decorando, aliisque usibus destinatas, adaptatas... Annexis prætereà organorum, utensilium necessariorum, & utilium, ad hæc apparanda, figuris & explicationibus... Per Georgium Andream Bocklerum, architectum & ingeniarium. Ex Germania in Latinum recens translatum Operâ R. D. Henrici Schmitz, ...- Coloniae Agrippinae: Sumptibus Pauli Principis, Technempolaei Noribergici, 1662.

1st Latin edition.- Folio, (330x220mm.); [14], 55, [1] p., 154 l.; sign.: [2], ¶4, ¶¶, A-G4; two title-pages, with printed one preceded by other engraved by V. Sommer, from a design by Böckler himself; 154 154 engraved leaves on mechanic and hydraulic machines, 30 signed in several ways by Balthasar Schwan and 8 by Eberhard Kieser.

XVIIIth c. full leather binding (from 1709, maybe); six raised bands spine with gilt label and ornaments; gilt edge boards; marbled edges; so big margins. Front board slightly brushed; weak edges; minimal remargination of leaf ¶4 fore margin; ancient remargination of the top tips engraving leaves from 143 to 154.

Prov.: Engraved exlibris glued on front board end paper of Charles Dollfus private library with the image of a Newcomen pump; two previous ownership signatures: one dated 1709, 'Dalton', on folio [1], and one illegible, dated July 1884, on front board end paper.

Refs.: Brunet, I, 1024; Graesse, I, 459.

te the reader on the subject matter.

Georg Böckler, architect and engineer in Nuremberg, wanted to present in this work the practical mechanics suitable for different activities, focusing especially on mills and hydraulic machines, especially water pumps. For this reason, as he points out in the prologue, he took into account two works. The first, the work by

James of Strada (Roman settled in the service of the emperors Maximilian II and Rodolfo II), that had published its nephew Octavio de Strada – although appeared years after his death – with the title *Kunstliche Abriß allerhand Wasser Wind Roß und Handt Mühlen*.¹ In this case, Bök-

¹ *Kunstliche Abriß allerhand Wasser Wind Roß und Handt Mühlen*.- Franckfurt am Mayn: Paulo Jacob, 1617-1618, 2 v.

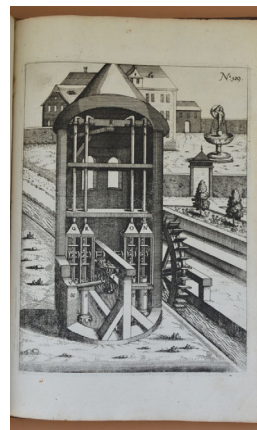
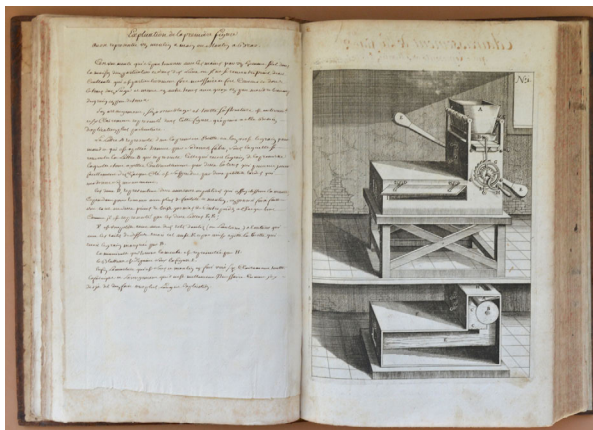
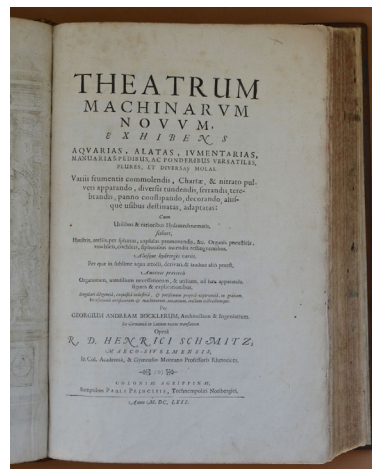
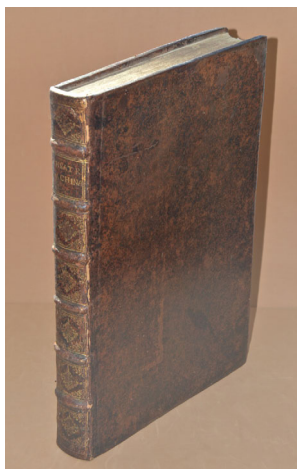
kler not only took the work into account, but also he retrieved part of the plates with which it had been printed to use them in his own. For example, Eberhard Kieser's etch number 133, or Schwan's engraving number 8, which appeared with the numbers 67 and 86, respectively, in volume 2 of the Stradas work.

The second work Böckler took into account was the third part of *Theatri machinarum* which Heinrich Zeising published in Leipzig between 1607 and 1614, dedicated to the mills.

In these works and, therefore, in the recovery carried out by Böckler, the engravings are presented in a novel way, incorporating a stage to the machines, as well as manipulators and observers, so that the reader could have an idea of how they would be in their actual application and could admire them.² The very frontispiece designed by Böckler shows Archimedes and Mechanicus opening a curtain behind which appears a village benefiting from numerous hydraulic devices. The Böckler compendium also included the design of machines that could guarantee the persecuted 'perpetual motion' (see prints 150 to 153) or the application of a rather novel fire bomb (engraving 154) invented few years earlier.

As the works by Strada and Zeising had been published only in German language, they had a quite reduced market and diffusion, so the success obtained by Böckler's work could be attributed to the fact that he published his also

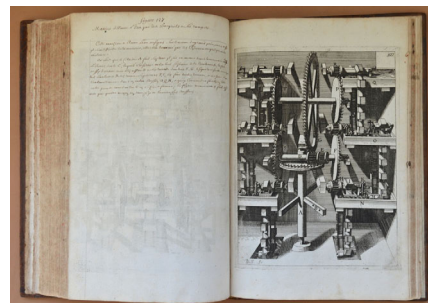
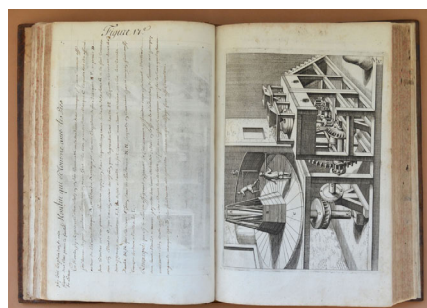
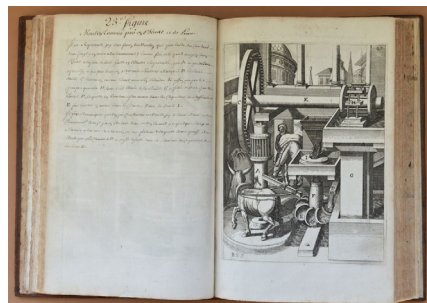
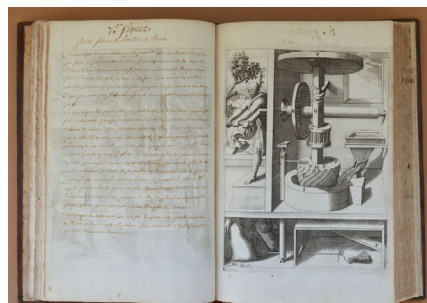
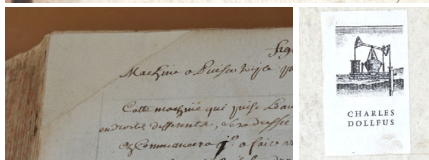
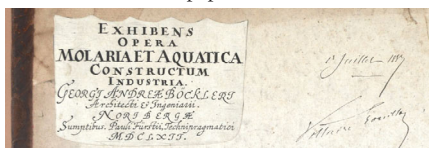
² For those interested in the scientific illustration of machinery in the XVIIth c., Helmar Schramm, Ludger Schwarte, Jan Lazardzig: *Instruments in Art and Science: On the Architectonics of Cultural Boundaries in the 17th Century*.- Berlin; New York: Walter de Gruyter, 2008.



in Latin.

Since the work was only published in German and Latin, that is why the copy we offer is so attractive. It presents, in front of each engraving, in the verse of the previous plate, a handwritten translation into French in XVIII-th century's lettering of the Latin explanatory text appearing in the text part of the work. Its owner could check then the engraving of each machine with the description that Böckler had made about, allowing the reading of this work in a language, French, in which no other copy permits, as far as we know.

Formally, in this copy the frontispiece appearing is not the one that would correspond to it, with the chart dated 1662 printed in Latin, but the frontispiece with the chart printed in German, corresponding to the first 1661 edition. However, the printed chart of the 1662 Latin frontispiece, *Exhibens Opera Molaria et Aquatica Constructum Industria, Georg Andreae Böcklerg Architecti & Ingeniarii Norbergae Sumptibus Pauli Fürstii Technipragnatici MDCLXII*, is glued on the front board end paper.



1681 Claude-François Ménéstrier (1631-1705)

Comets: Pedagogy against catastrophism



Jesuit, heraldist, musicologist, historian, scholar of decoration and ceremonials, the author of the lovely *Bibliothèque curieuse*, Claude-François Ménéstrier also published some minor works whose common criterion was to dismantle trickeries, from books falsely attributed to a lyonesse cathedral to the prophecies of Saint Malachy, passing through this call to pay attention against

Lettre d'un gentil-homme de province à une dame de qualité, sur le sujet de la comète.- A Paris: Chez Estienne Michallet, MDCLXXXI. [1681]

1^a ed.- 4^o, (280x150mm).- 21 p.; sign.: A-F2 [leaf A2 named A1, leaf F no signaturized, F2 blank]; typographical ornament in title-page; frieze and initial letter by woodcut; marginal apostilles.

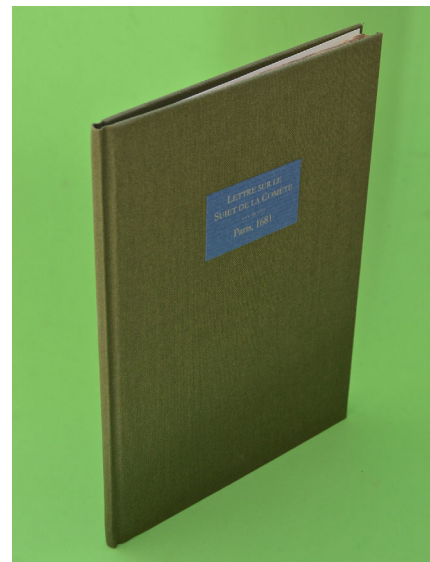
Modern cloth binding; paper label over front board; smooth spine. Very weak paper, especially in the edges which have breaks; short fore margins occasionally affecting marginal apostilles.

Prov.: No data.

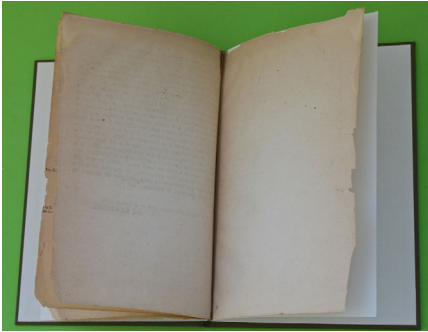
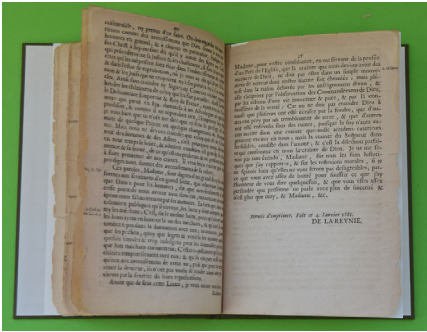
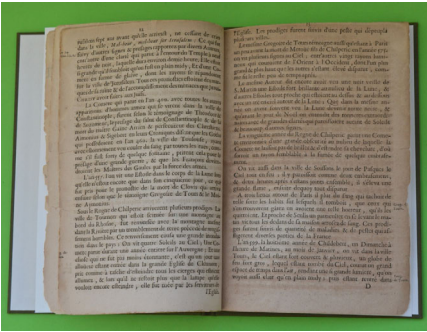
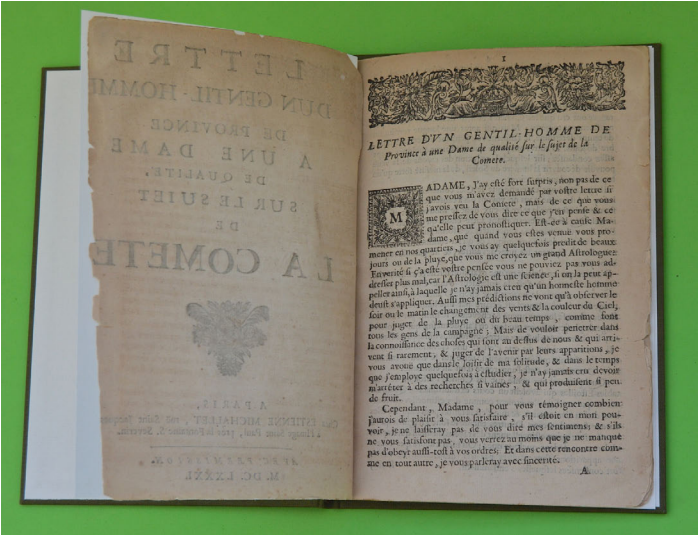
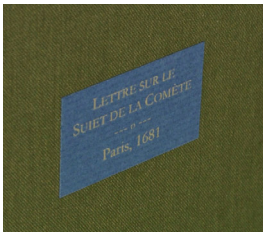
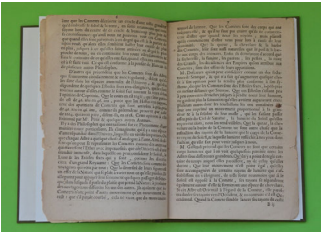
Refs.: Allut, 75; Barbier, II, c. 1153d; Cantamessa, 3^a, 5121; Houzeau, 5014; La Lande, p. 302.

catastrophic omens associated with meteors. For this reason, in this writing allegedly addressed to a lady, but posed pedagogically without doubt for the common people, he begins with a brief consideration: "Astrology is a science, if it can be called so, which I have always thought no honest man can devoted to".

With this starting point, in the first few pages he makes an excellent and simple exposition of what philosophers and scientists had said, from Pythagoreans, Aristotle and Seneca, to Copernicus, Kepler, Descartes and Gassendi. And after summarizing on what occasions comets had been spotted and what events have been associated with them, he said everyone could rest quietly regarding comets, because they brought neither goods nor evils nor general nor particular ones. Of course, as he considered - as so

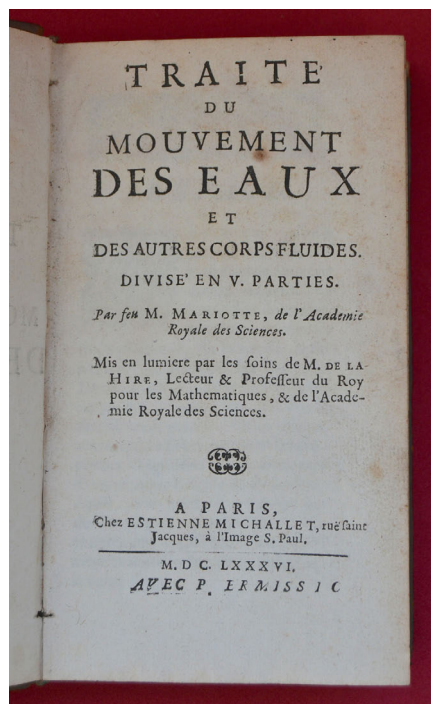


many then - that comets lacked a regular route, he asked the astrologers why they could not predict their arrival as they did with Sun and Moon eclipses. For Ménestrier, one thing was the great prodigies made by God to warn his people - as stopping the sun in the middle of the sky - and another the bad omens of the astrologers who fell into stripping people of their free will by making their will and their fate reliant on the influence of the stars. God did not warn with earthquakes.



1686 Edme Mariotte (1620-1684)

On Fluids Dynamics: Last Mariotte's Treatise



Edme Mariotte, commemorated in the name of Boyle-Mariotte's law which refers the inverse relation existing in the gases between pressure and volume that he stated by specifying an

Traite du mouvement des eaux et des autres corps fluides. Divisé en V. parties. Par feu M. Mariotte, de l'Academie Royale des Sciences. Mis en lumiere par les soins de M. de la Hire, Lecteur & Professeur du Roy pour les Mathematiques, & de l'Academie Royale des Sciences.- A Paris: Chez Estienne Michallet, MD-CLXXXVI. [1686]

12° major, (162x91mm.); [12], 408, [20] p.; sign.: a8, A-R12.- Half-title; numerous figures inserted in the text.

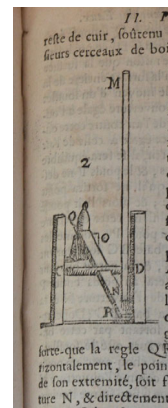
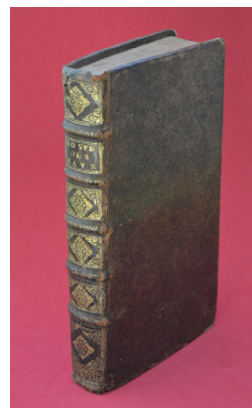
Contemporary full leather binding; fully gilt ornate spine, with raised bands and label gilded; gilt board edges; marbled edges. Small break in head; slightly open corners; some scattered oxidation points; small transfer of types from page 130 to 131 (see photo). Clean, free of reminders and underlines.

Prov.: No data.

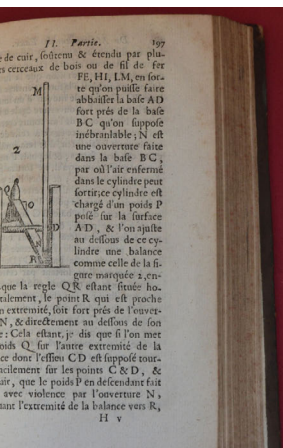
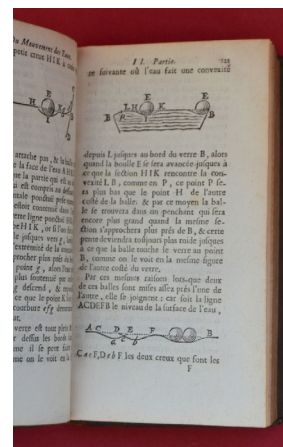
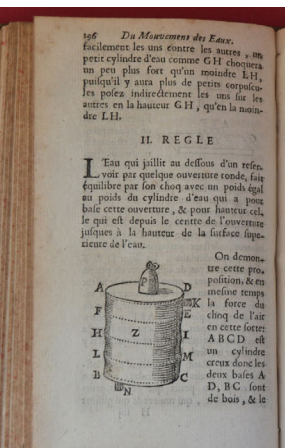
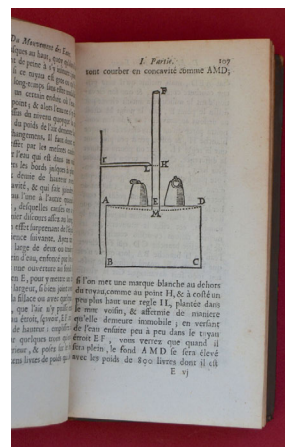
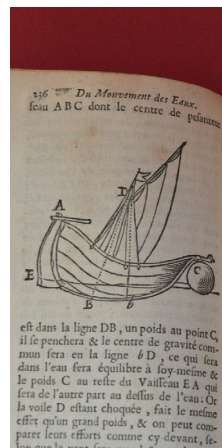
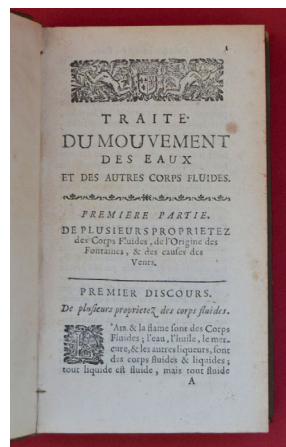
Refs.: *Bibliotheca Mechanica*, p. 217; Surgot, 3; *Walleriana*, 11398.

observation made by Robert Boyle, was the last of the scholars summoned by Prime minister Colbert to constitute the Académie royale des sciences in 1666. That call remains a mystery, as Mariotte life before that call also it is. Who and why did he summon Mariotte as *élève* ('attached'), who was neither a professor nor published any scientific or other work before the date? It is ignored. But it seems clear, however, that he was right, because in the following 20 years or so until his death he was a great physicist capable of proposing the best analysis from the most accurate experiments.

This *Traité du mouvement des eaux et des autres corps fluides*, full of practical will, which was the last of his works and was unpublished

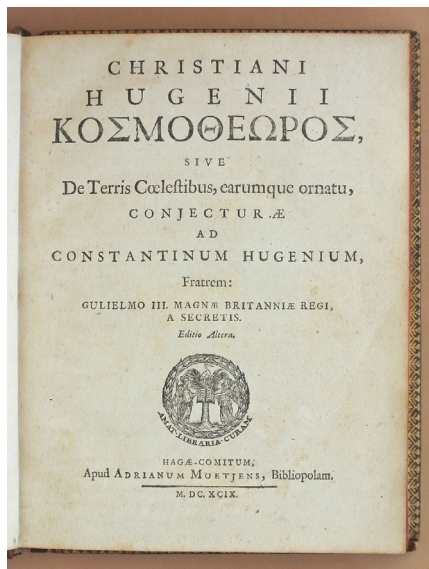


at his death time, was brought to light by the efforts of Philippe de la Hire, also a member of the Académie des sciences, who received such a commission from Mariotte when he was on his deathbed. In his *Traité*, Mariotte offers a presentation of the nature of the different fluids, titled "Of the different properties of the gases, the origin of the sources and the causes of the winds", to be able to give way to what today we would call Engineering of fluids, with four parts dedicated, respectively, to the equilibrium of the fluid bodies, to the way of measuring water gurgling and water currents, to the height of the jets and to water channeling (and the resistances offered by their pipes), a case that concludes with specific solutions for the distribution of running water in a city. It is, therefore, an effective example of the conception of science in fostering advancement with which the eighteenth and nineteenth centuries have been characterized, but which was born outright in the seventeenth.



1699 Christian Huygens (1629-1695)

Cosmotheoros



Cosmotheoros, the famous posthumous Huygens' work, published in 1698, was his contribution to the debate on life existence outside the Earth which Fontenelle had popularized in 1686 with his *Entretiens sur la pluralité des mondes*. In fact, Huygens began to take the first notes for the book while reading the one by Fontenelle that same year of 1686. One of the most curious circumstances of this debate is that it

Christiani Hugenii ΚΟΣΜΟΘΕΩΡΟΣ, sive De terris Coelestibus, earumque ornatu, conjecturae ad Constantinum Hugenum, Fratrem: Gulielmo III. Magnae Britanniae regi, a secretis. Editio Altera.- Hagae-Comitum: Apud Adrianum Moetjens, Bibliopolam, MDCXCIX [1699]

4°, (201x151mm.); [2], 144 p.; sign.: [1], A-S4; 5 folding plates; printer device in title-page, motto 'Amat libraria curam'.

Full leather contemporary binding; fully gilt ornate spine, with raised bands and red moroccan label; gilt board edges; red edges; heavy boards. Thick paper. Head lossed; ripped joints; boards with consolidated leather losses; some dispersed oxidation points. Nevertheless, very nice copy.



Prov.: No data.

Refs.: La Lande, p. 334; Poggendorf, I, c. 1165.



was performed around which were the planets in which there would be life and how they would be their inhabitants and civilizations: all participants shared the initial conviction that there was extraterrestrial life, which has its explanation in the inherited solution of the medieval debates on the God's power, which were solved with the argument that since it could not be denied Him the power of to have arranged life in other worlds, surely it there was (since what did not fit in their image of God was that He was capricious).

Unlike Fontenelle, Huygens rejected the idea on there were people in the Moon (Selenites whom Fontenelle imagined as under ground rodents who fed on stones) on the grounds of, as it had neither atmosphere nor water, therefore no possibility of life. However, he not only defended it's presence in the rest of the planets, but he imagined their inhabitants analogous to the terrestrials, with the same kind of intelligence, concerns, abilities and knowledge. It has been pointed out how, interestingly, the exposition of scientifically argued data on dimensions

and physical characteristics of the different solar system planets that Huygens was throwing up served rather to reject the idea that there was life than to defend it, as he effectively did.¹ Such optimism relied on what he called probability: he thought that if in other planets there were environments similars than those on Earth in which there were animate beings, the law of nature was such that in them similar results could be fulfilled, from which it was agreed that such animate beings should be given. And if they should exist, by the same argument their nourishing and reproducing would surely be resemble (the time that he takes advantage to account for the very recent discovery of spermatozooids through microscope!).

With similar analogies, he assumed that among them there would be beings endowed with senses and with the pleasure of rising above them, thus arriving at the hypothesis that there would undoubtedly be different types of beings endowed with different types of reasoning. He did not hesitate to bring as proof the claim that on Earth man is not the only rational being, 'since in all these creatures [dog, monkey, beaver, bees, some birds ...] we perceive an ability to reason, previous and independent from apprenticeship and practice'.

And in his deductive (actually, abductive) enthusiasm, Huygens took the analogies to the extreme of imagining that they would even dress and have astronomical knowledges surely simi-

lars to those of humans on Earth ... Certainly Huygens left headroom by saying their faculties probably would not be all identical to those of humans, so would not have some of the human products, but thanks to those that were different they would surely have invented suitable tools with which could also do things that on Earth were unthinkable.

One gets the feeling that Huygens was not

intervening in a debate about the existence of inhabitants in other worlds, rather this was the excuse to expose his perspective on the nature of the Earth and the development of the human being on it: a deist perspective, a mentality that would only take root in the next century.



¹ As is reflected in the delicious introduction to Michael J. Crowe: *The Extraterrestrial Life Debate 1750-1900: The Idea of a Plurality of Worlds from Kant to Lowell*. - Cambridge: Cambridge University Press, 1986.

1724-1727 Jacob Leupold (1674-1727)

The Mechanical Engineering leap from the Renaissance to Modernity



Theatrum Machinarum.- [Leipzig: Christoph Zunkel, 1724-1727]

1^a ed., (1724-1727).- 8 tomes bound in 4 vols.; Folio, (377x242mm.); 445 folded engraved leaves with 447 “tables”, signed [David Ulrich] Bocklin [1688-1748], [Ernst Ludwig] Creite, [Johann Gottfried] Krügener [1684-1769] and [Gabriel] Uhlich [1682-1741]; title-page in two inks, red and black.

Contemporary uniform full leather binding in four heavily volumes; non ornate spine with six raised bands and red moroccan gilt label; red marbled edges. Folded engravings in his full size (464x377mm.). Board panels with saturated losses; small galleries in interior board panels and first free end papers in all the volumes; text leaves browned in diverse degree; some folded plates shows an acidifated line in the inner margin besides the first crease, without affection to engravings. All half-titles remain, each one with its tome privilege date handwritten in. Rigorously full of all its plates, including, of course, the mobile elements of plate 4 in vol. 1 t.1 and of the plate 3 in vol. 4, t. 7.

Prov.: No data.

Refs.: Brunet, III, 1033; Graesse, IV, 188; Poggendorff, I, c. 1438.

Magnificent first-edition copy, rigorously complete, with the unfolding plates bound unfurled, of the superb *Theatrum Machinarum* by Jacob Leupold, member of the Saxon and Prussian Academy of Sciences (Preussischen und Sächsischen Akademie der Wissenschaften).

The work is admirable for being at the same time a review of the History of machines design and a repertoire of proposals for their improvement. Leupold defined himself as Mathematician and Mechanic – what we today would call Engineer – because he did not produce machines in his pursuits, but he studied them, corrected the errors he warned in those designed by

others and designed machines and solutions of his own.

As he understood that mechanics was not only for war but also to help happiness achievement in peace time, improving production and increasing well-being through the improvement of commerce, factories and mines – as he said in the prologue of the first volume, so with this work Leupold pursued to popularize mechanics. His idea on Mechanics was, into today's words, to replace hand-drive machines with machine tools in a way that the effort of the operator was both minimized, and moved to the machine in order it was which did so. And

for this, the simplest composition had been looked for, the most effective with the least complication: machines had to be simple, functional and profitable.

In this way, throughout the volumes, making sure that each one could be understood independently of the others, he developed both the history of the machines, and the problems there were inside some of its designs.

To better inform, he included the preface Konrad Dayspodius had arranged in his *Heron Mechanicus* of 1580 and, as he criticized the crane design of Jacques Besson (1540-1573) (*Theatrum instrumentorum et machinarum*,

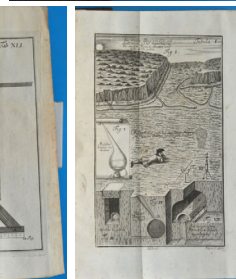
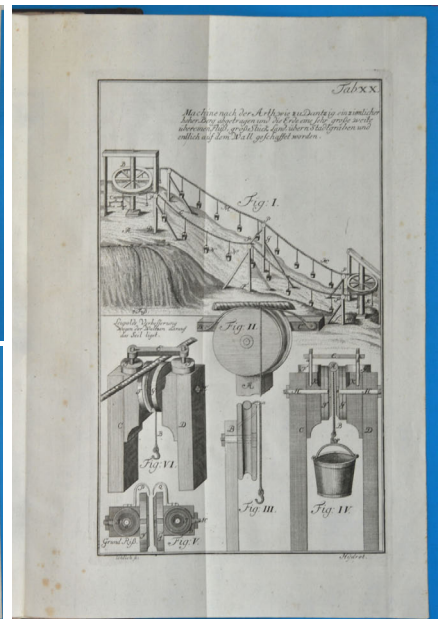
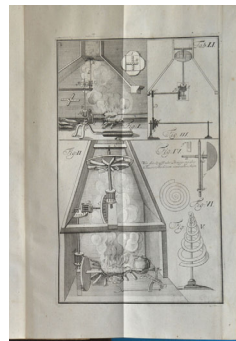


The page contains six numbered diagrams illustrating mechanical lifting devices:

- Diagram 1:** A crane with a large wheel and a long arm, labeled "Fig. 1. Cranae".
- Diagram 2:** A crane with a large wheel and a long arm, labeled "Fig. 2. Cranae".
- Diagram 3:** A crane with a large wheel and a long arm, labeled "Fig. 3. Cranae".
- Diagram 4:** A crane with a large wheel and a long arm, labeled "Fig. 4. Cranae".
- Diagram 5:** A crane with a large wheel and a long arm, labeled "Fig. 5. Cranae".
- Diagram 6:** A crane with a large wheel and a long arm, labeled "Fig. 6. Cranae".

Each diagram is accompanied by a block of text in a historical script, likely describing the operation and components of the device.

And four years later, in 1739, Joachim Ernst Scheffler wrote a supplement alien to Leupold also, in which half the volume were indices to



handle both his text and the contents of Beyer's volume and Leupold's eight volumes. Its printer, Bernhard Christoph Breitkopf, also imitated the composition of the title-page, the structure of the book and the typography of the content of Leupold Theaters.

As Scheffler index covered the three works, in 1774 his printer reissued the work of Leupold and the Beyer supplement, selling all them joined with the Scheffler Index which remained unsold, as if the set was a complete work. Thus,

when in 1981 the publisher Schäfer printed a facsimile edition, he welcomed the joint composition, reproducing the first edition of each one

Despite that, the great Engineer who Leupold was can be found only in the first eight volumes published by Christoph Zunkel, whose first editions, which compound this splendid set, are the following:

- (v. 1, t.1).- *Theatrum Machinarum Generale. Schau-Platz des Grundes Mechanischer Wissenschaften, Das ist: Deutliche Anleitung zur Mechanik oder Bewegungs-Kunst, Darinnen nicht nur die fünf einsachen Rüst-Zeuge und die dabey nöthigen Lehr-Sätze deutlich erklärt, alle vorfallende Begebenheiten umständlich bemerkt, und deren application an besondern Maschinen erwiesen, sondern auch die so genannten äusserlichen Kräfte, als der Menschen, Thiere, Luft, Feuer; Wasser; Gewicht*



und Federn, nebst ihren hierzu dienlichen Eigenschafften und gehörigen Maschinen beschrieben werden; Alles mit viel nützlichen Anmerkungen und besondern neuen Inventionibus und Maschinen vermehret, und mit vielen Figuren deutlich vor Augen gestellt von Jacob Leupold, Planizia Misnico, Mathematico und Mechanico...- Leipzig: druckts Christoph Zunkel, 1724.

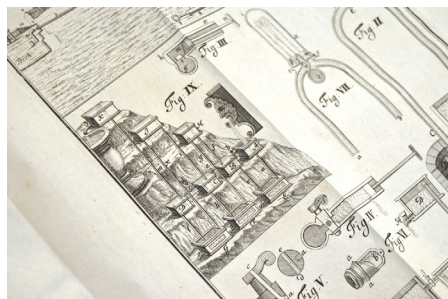
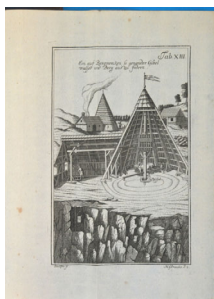
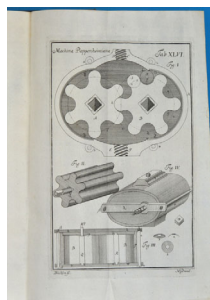
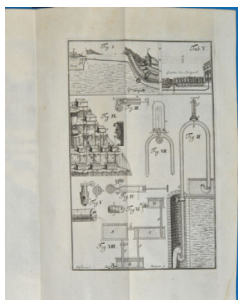
(20), 240, (4) p.; sign: [1],*-*9, A-Zz2, Aaa-Ppp2; 71 folding engravings; great initial woodcut letters in privilege and dedication; engraved frieze with a mechanical figure in the first two chapters; dedicatory dated in December 31, 1723.

Some handwritten notes, especially on p. 31 and 33; plate 4 mobile remains; plate 41 crease crashed with loss (see central photo in previous page); plate 63

bottom margin ripped with no affection, anciently restored.

(v. 2, t. 2).- *Theatrum Machinarum Hydrotechnicarum. Schau-Platz der Wasser-Bau-Kunst, oder: Deutlicher Unterricht und Anweisung desjenigen was bey dem Wasser-Bau, und absonderlich der Damm-Kunst, zu wissen nöthig ist ...* Alles mit mechanischen, mathematischen und physikalischen Anmerkungen deutlich beschrieben, und mit sehr vielen saubren Figuren vor Augen gestellt. ... ausgefertigt von Jacob Leupold, Mathematico und Mechanico...- Leipzig: druckts Christoph Zunkel, 1724.

(6), 184, (4) p.; sign: a-c2, A-Zz2, Aaa-Aaa2; 51 folding engravings; great initial woodcut letters in privilege and dedication; great woodcut frieze in cap. 1,



with the motto 'Quae natura dedit reddito' above a palm tree; privilege, April 24, 1725.

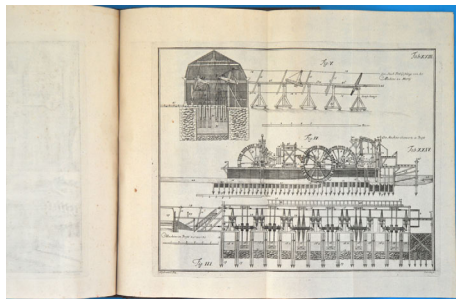
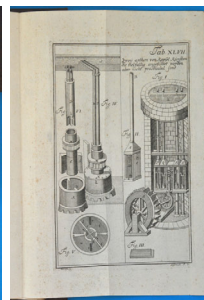
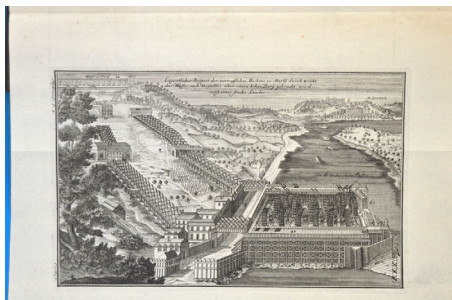
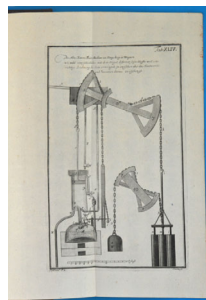
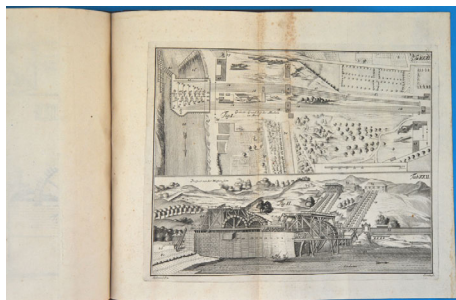
Slight water trace in fore margin, without affecting, till page 33; water trace in plate 7; fore margin of plates 26, 27 and 42, browned.

(v. 3, t. 3-1).- *Theatri Machinarum Hydraulicarum. Tomus I. Oder: Schau-Platz der Wasser-Künste. Erster Theil. Bestehend In einer vollkommenen Beschreibung und Unterricht meist aller erfundenen Maschinen die Wasser dadurch in die Höhe zu treiben oder aus der Tiesse zu erheben...* Ausgefertiget und mit vielen Figuren versehen von Jacob Leupold, Mathematico & Mechanico...- Leipzig: druckts Christoph Zunkel, 1724.

(14), 172, (2) p. [p. 25 and 107 badly numbered 52 and 10]; sign.: [4],)*(-)*(2,)*(0)*(, A-ZZ, Aa-uu2, [1]; 53 folding plates.

Water trace in the preliminars upper margin with no affection; very slight water trace in plates' bottom tips with no affection

(v. 4, t. 3-2).- *Theatri Machinarum Hydraulicarum Tomus II. Oder: Schau-Platz der Wasser-Künste. Anderer Theil. Bestehend in fernerer Forsetzung de Künst und Maschinen, womit die Wasser aus der Tieffe zu erheben oder in die Höhe zu treiben ... beobachten, und wie das Teatrum machinarum hiebey zu gebrachen...* Ausgefertiget und mit vielen Figuren versehen von Jacob Leupold, Mathematico und Mechanico...- Leipzig: druckts Christoph Zunkel, 1725.



(20), 165, (3) p. [p. 35 badly numbered 53]; sign.: [2],)(-)000(2, A-Z2, Aa-Tt2; 52 folding plates numbered I-LIV (plates 21 and 22 in the same folding; plates 23 and 24, in the same folding).

Plate VI upper tip, loss with no affection; water trace in the bottom tips of plates 14, 27, 45 and 46, with no affection; plate 20 inner margin ripped with no affection nor lossing.

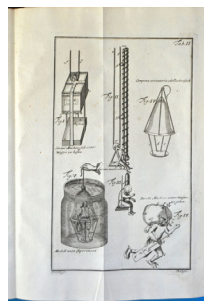
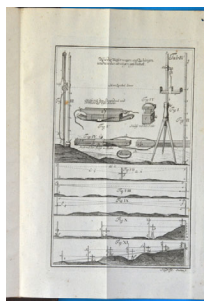
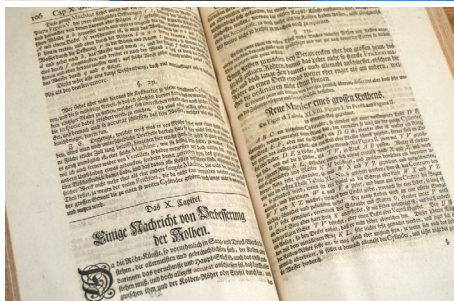
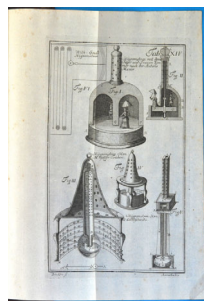
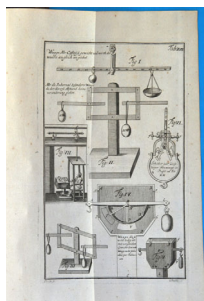
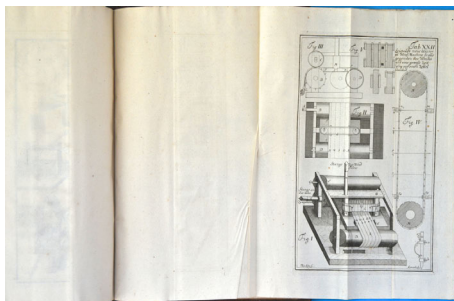
(v. 5, t. 4).- *Theatrum Machinarium, oder: Schau-Platz der Heb-Zeuge, In welchem nicht nur angewiesen wird Mie durch Menschen und Thiere gemalte ... Alles nach mechanischen Fundament beschrieben, beurtheilet und berechnet von Jacob Leupold. Mathematico und Mechano...* - Zu finden bey dem Autore and John. Friedr. Gleditschens

seel. Sohn. Leipzig: gedruckt bey Christoph Zunkel, 1725.

(12), 162, (4) p.; sign.:)(-)000(2, A-Z2, Aa-Tt2; 56 folding plates; privilege, September 12, 1725.

1mm. hole in the fore margin of all the text block with no affection. Anciently restoration of page 7 upper margin with no affection; fore margin of plates 1, 2, 6, 18 and 25 brushed with no affection; water trace in plate 4 inner margin.

(v. 6, t. 5).- *Theatrum Staticum Universale. [Pars I-IV]. Pars I. Theatri Statici Universalis, sive Theatrum Staticum, Das ist: Schau-Platz der Gewicht-Kunst und Waagen... Pars II. Theatrum hydrostaticum, oder, Schau-Platz der Wissenschaftt und Instrumenten zum Wasser-Wägen... Pars III. Theatrum aërostaticum, oder, Schau-Platz der Machinen zu Abwiegung*



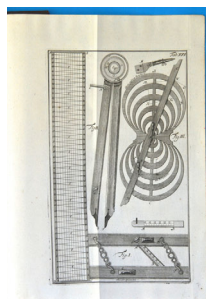
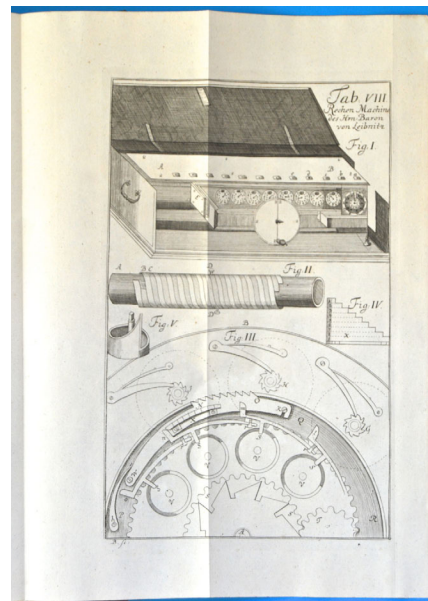
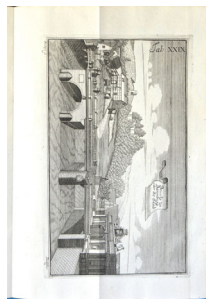
und Observirung aller vornehmsten Eigenschafften der Lufft... Pars IV. Theatrum horizontostaticum sive libellationis, oder; Schau-Platz von Wasers- oder Horizontal-Waagen... von Jacob Leupold, Mathematico und Mechanico...- Leipzig: gedruckt bey Christoph Zunkel, 1726.

(12), 1-92, (4) 197-236, (4), 241-308, (4), 313-332 (4) p. [numbering errata: pages 97-196 jumped, and page 306 numbered as 296]; sign.: [1-2], [a-a2], b-b2, A-Zz2, Aaa-Nnn2; 19, 7, 23, 8 folding plates; each part with its own title-page, only the first in two inks, red and black; all parts with correlative pagination; privilege, April 24, 1726.

Page 244 fore margin stained; fore margin of plates 1 and 3, with dirt and tears, without affecting; plate 19 of the third part, water stained; plate 1 bottom margin of the fourth part plate 1 bottom margin of the fourth part, grease

stained with no affection.

(v. 7, t. 6).- *Theatrum pontificiale, oder Schau-Platz der Brücken und Brücken-Baues, Das ist: Eine deutliche Anweisung, wie man nicht nur aus mancherley Artb über Gräben, Bäche und Flüsse gelangen, auch so gar in Wassers-Noth mit gewissen Maschinen und besondern Habit sein Leben retten kan .. mit vielen Exempeln und denen vornehmsten Brücken in und ausser Teutschlandes, absonderlich aber mit einer vollkommenen Beschreibung derer Pontons vorgestellt und in 60 Kupffer-Platten erläutert von Jacob Leupold.- Leipzig: gedruckt bey Christoph Zunkel, 1726.*



(16), 153, (5) p. [p. 101 numbered 97]; sign.: [4],)(-)(2,)()(-)(2, A-Z2, Aa-Pp2, [1], Rr2; 60 folding plates numbered I-LVII, plus IIa, XVIa and XLa; privilege, September 20, 1726

Plate 1 bottom tip, dirt with no affection.

(v. 8, t. 7).- *Theatrum arithmetico-geometricum, das ist, Schau-Platz der Rechen- und Mess-Kunst, Darinnen enthalten dieser beyden Wissenschaften nöthige Grund-Regeln und Handgriffe so wohl, als auch die unterschiedene Instrumente und Maschinen, welche theils in der Ausübung auf den Papier, theils auch im Felde besonderen Vorthail geben können : insonderheit wird hierinnen erkläret, der Nutzen und Gebrauch des nicht gnugsam zu preisenden Proportional-Zirkels ... mit vielen deutlichen Figuren*

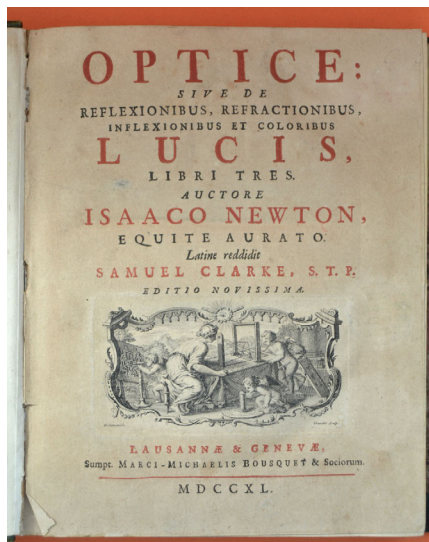
in 45 Kupffer-Platten gegreifflich gemacht und vorgestellt von Jacob Leupold, Mathematico und Mechanico...- Leipzig: gedruckt bey Christoph Zunkel, 1727.

(14), 200, (4) p. [p. 200 numbered 300]; sign.: [4],)(-)(2,)()(-)(2, A-Zz2, Aaa-Eee2; 45 folding plates numbered I-XLIII; numbers XX and XXI used two times as a and b; privilege, May 5, 1727.

Plate III mobile, remains; vertical tear in plate IV fore margin, with paper loss without affecting, with a water trace in upper zone; water trace in plate V fore margin with no affection; vertical tear in plate XXII fore edge with paper loss without affecting; plate XXXI inner margin, dirt next to the engraving without affecting.

1740 Isaac Newton (1643-1727)

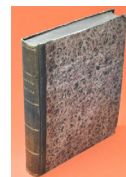
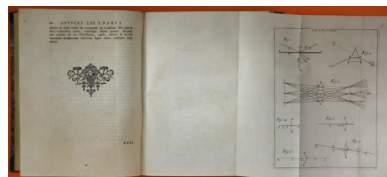
When Newton let be known his Philosophy of Nature



Optice: sive de reflexionibus, refractionibus, inflexionibus et coloribus lucis, libri tres. Auctore Isaaco Newton, equite aurato. Latine reddidit Samuel Clarke, S.T.P. Editio novissima. - Lausanne & Genevae: Sumpt. Marci-Michaelis Bousquet & Sociorum, MDCCXL. [1740]

4°, (242x190mm.); [2], XXXII, 363, [1] p.; sign.: [pi]2, [cruz]-4[cruz]4, A-Z4, Aa-Yy4, Zz2; engraved portrait signed Daudet lacks in this copy]; title-page in two inks, red and black; vignette signed 'Delamoncin; Daudet, sculp.' in title-page; friezes and initial letters from woodcuts signed 'Papillon'; 12 folded engravings.

XVIIIth c. quarter leather binding with corners and marbled paper; smooth spine with gilt borders and label; yellow edges; engravings bound at the end of each part; thick paper diaphanous edition. Brushed edge boards; first signature, in different paper, browned; Newton portrait lacks in this copy.



Prov. No data.

Refs.: Gray, 182.

Although Newton's plan for his *Opticks* goes back to 1690, the first edition did not appear until 1704. Its beginning and its end were very eloquent. If he began saying that "My design in this book is not to explain the Properties of Light by Hypotheses, but to propose and prove them by Reason and Experiments", he closed it by doing something unusual: by arranging at the end of the third book sixteen open 'questions' in which he dropped his thoughts on the

ultimate nature of things. With these sixteen questions, he partly supplanted a projected fourth book which was apparently intended to demonstrate the existence of multiple forces operating at a distance.

In order to disseminate his *Optics* across the continent, Newton sought and obtained from the celebrated philosopher Samuel Clarke its translation into Latin (with a payment of £ 500), but in the meantime he revised the content and

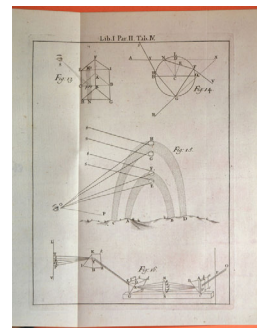
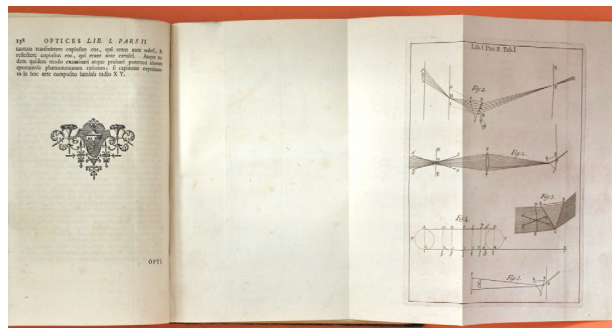
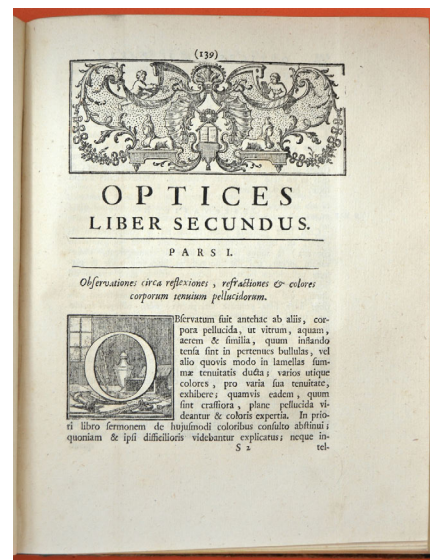
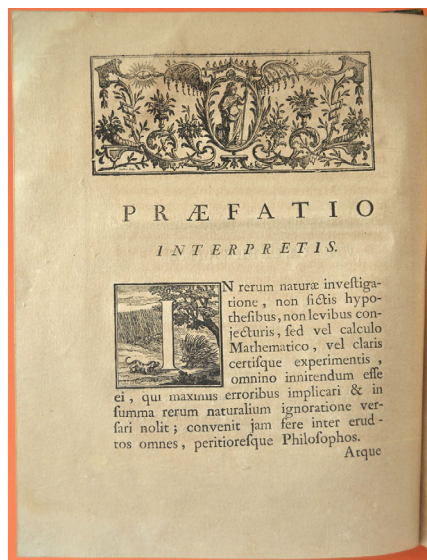
added seven other 'questions' to the sixteen of the original edition. In them he made clearer what he thought so much about the nature of light, holding a corpuscular theory - criticizing Huygens - as well as on the dynamics of nature - against the Cartesian mechanistic view - with multiple active forces that kept the world in motion (gravitational, electric, magnetic, and even ensuring the existence of others that were still unknown because they acted at distances

too small to be observable with the eye - chemical forces), and on God's relationship with nature.

A dozen years later, in the 1718 second English edition, Newton still added eight other questions (which he intercalated by numbering them 17 to 24), leaving a total of thirty one, which implied a new Latin edition, the second and definitive, in 1719. The new questions were meant to postulate the ether existence and to recover somewhat more of the projected fourth book by exposing more facets of its natural philosophy (to be read, Physics, Chemistry and Biology, even if we are in a treatise on Optics) concealed as a program of research that would be necessary.

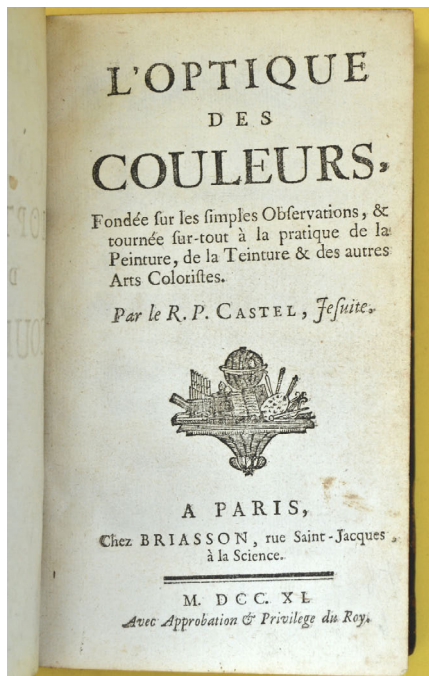
During Newton lifetime was published another English edition in 1721, but, although it self identifies as corrected, as it did not carry any newness, it did not generate a new Latin edition, so that this one from 1740 is the first edition published in Latin after Newton's death and includes the latest version of the *Optics*. It is also the first to retrieve and perhaps improve the elegance of the first English edition lost in the other.¹

¹ It's enormous what has been written on Newton, but a very good approximation to his person (and get with it the glance to read his works) which we dare to recommend is that offered in Richard S. Westfall: *The life of Isaac Newton.* - Cambridge university Press, 1993.



1740 Louis Bertrand Castel (1688-1757)

Tones and their colours



If Newton had written in his *Optics* (see our ref. C_0602) that the colours of the bodies were the result of their white light absorption and reflection, a light that splintered spectrally in seven colours, Castel - philosophically antinewto-

L'optique des couleurs. Fondée sur les simples observations, & tournée sur-tout à la pratique de la Peinture, de la Teinture & des autres Arts Coloristes. Par le R. P. Castel, Jesuite.- A Paris: Chez Briasson, MDCCXL. [1740]

8°, (162x96 mm).- XVIII, 487, [7] p.; sign.: à10, A-A8/4; Aa-Rr8/4, Ss-Tt4; typographical ornament in title-page; 2 plates – one folding, signed Desbruslins.

Contemporary full marbled leather binding; labelled spine with raised bands, gilt ornated; red edges. Spine and joints, cracked; corners with small restorations; slight residual trace from the printing time in the inner margin of the first two pages and last two pages of some of the signatures; very sporadic oxidation points; good margins; copy free of reminders and underlined.

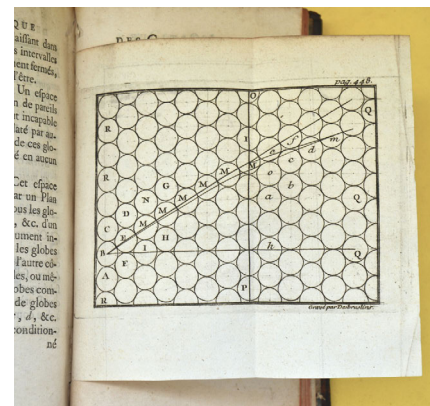
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Refs.: Conlon, 40:370; Poggendorff, I, c 394.

nian jesuit in charge of the criticism of scientific books in *Journal de Trevoux* – began his study by focusing in material colours rather than in incorporeos ones, which is what he called those who could be seen in rainbows and prisms.

He though the colours were on a scale between white and black, in the middle of which stood blue, red and yellow – which he qualified 'heavenly', 'fire' and 'earth', respectively – insisting that the seven-colour spectrum Newton spoke about was only a specific result of the mixture of the previous ones when leaving the prism dependent on the distance between the source of the light source and the prism.

From this ground of composition, Castel developed, being the first to do so, the concept of

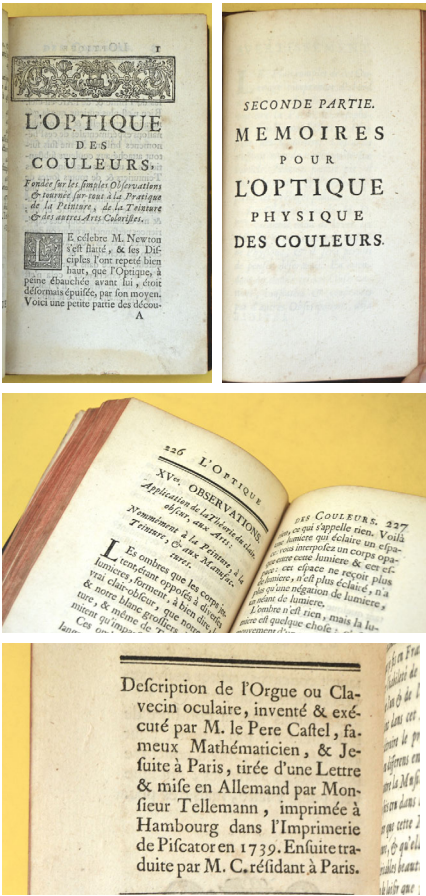
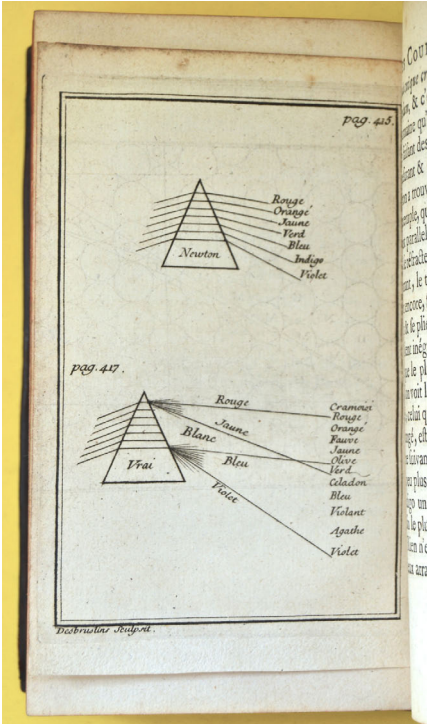


the colour wheel (the real antecedent of today's colour charts), in which the substance was the 'tone' and the accidental the 'hue' (the colour, properly). He arranged a wheel with twelve quarters in which he placed the three primaries and several mixtures between them (three between blue and yellow, two between red and blue, and five between red and blue) and a gradation also with twelve cases from the black to white with distinct mixtures of both. The combination of the primary wheel and the black-white gradation provided 144 blends, so that each colour had twelve tones and in each tone twelve colours could be seen.

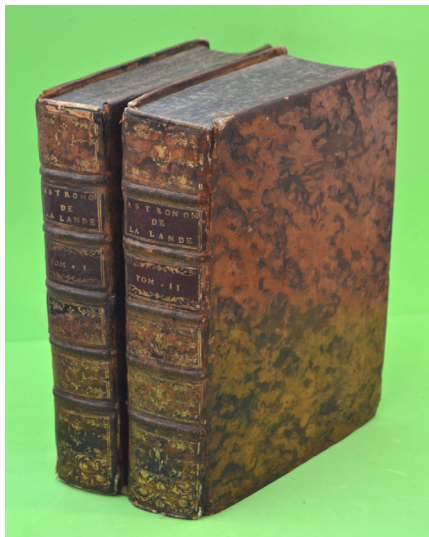
However, although Castel's approach was not the result of an examination of light, nor part of an Optics because he sought a theory of color that could be useful in painting and dyeing processes, he had no choice but to contrast his theories with the Newtonian approach and try to explain the experimental results obtained by Newton with the basis of his theory, to which he devotes the brief second part of his work.

Finally, as Castel abounded in the idea extended by Kircher of a close interrelationship between the musical notes and the colours, arriving to affirm that each one of its twelve tonal bands was an octave and that each of those octaves corresponded with each one of the twelve octaves of the organs, fifteen years ago had proposed that it would be possible to build an organ of colours, the 'oval harpsichord'. Castel included as a colophon of his *Optique des couleurs* the text with the description of such harpsichord, which composer Georg Philipp Telemann had publis-

hed in Hamburg the previous year after receiving it from one of his friends.



1764 Jérôme La Lande (1732-1807)



When La Lande himself published his Bibliography of Astronomy in 1803,¹ in the entry corresponding to the first edition of his *Astronomie*, which had been issued 40 years before, he gave the following comment: "This work, designed to replace those of Cassini,"² Le

Astronomie, par M. de La Lande, Conseiller du Roi, Lecteur Royal en Mathématiques; Membre de l'Académie Royale des Sciences de Paris; de la Société Royale de Londres; de l'Académie Impériale de Pétersbourg; de l'Académie Royale des Sciences & Belles-Lettres de Prusse; de la Société Royale de Göttingen; de l'Institut de Bologne; de l'Académie des Arts établie en Angleterre; &c. Censeur Royal. Tome premier [-second].- A Paris: Chez Desaint & Saillant, Libraires, MDCCLXIV [1764].

1^a ed.- 2 vols., 4°, (250x195 mm); vol. I: XLVIII, 752, 44 p.; sign.: [a]4, b-f4, A-BBBbb4, a-l2; 11 folding plates numbered Tabla I-XI; last pages sequence corresponds to "Table des mouvements du soleil et de la lune pour le méridien de Paris; Suivies du Catalogue des principales Etoiles".- Vol. II: [4], 753-1544, XXXIV, [2] p.; sign.: A-GGggg4, a-d4, e2; 25 folding plates numbered XII-XXXVI; typographical ornaments in title page and at the end of chapters; engraved friezes and initial letters; marginal apostilles.

Contemporary full marbled leather; double labelled and gilt ornated spine with five raised bands; marbled edges; silk bookmarks remained. Heads lost; brushed board fore edges and corners; joints partially open; very fine text block, with great margins, clean and free of reminders, notes and underlined; sporadic oxidation points; some signatures more browned than others, especially in t. 2.- Tome I: bottom margin of p. 15, broken without loss; bottom tip of p. 43, scissored; acid reaction in last page bottom margin ancient restoration; handwritten call number in last free end paper verso, 'N 305 L 28'; bottom margin of plate 1 crease, ripped without loss.- Tome II: One of the plate XII creases, ripped without losses in upper and bottom margins; vintage ink traces on p. 1080; ancient faded ink stain on plate XXXIV.

Prov.: Exlibris de tampón, 'Hans ... Koch' en portadilla de tomo I; etiqueta de donación, s. XIX, 'Dono del M.R. Signor Car. Chicco D. Francesco', en portadillas de ambos tomos; exlibris de tampón, 'G.M.R.', dos en portada de tomo I, y tres en portada, verso de portada y última página de las adiciones en el tomo II; exlibris manuscrito en verso de guarda delantera de tomo II, 'G. M^a. Zerran'fan'.

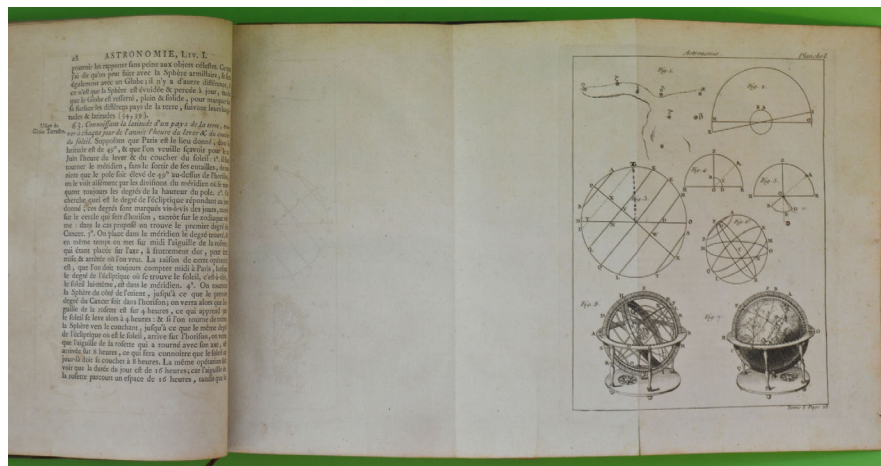
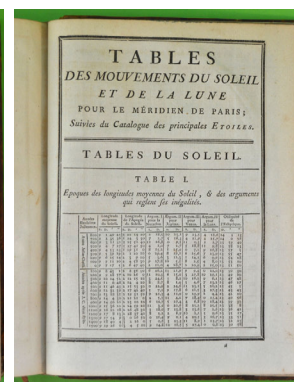
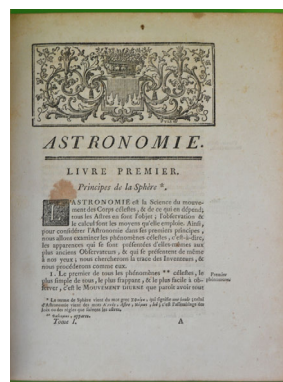
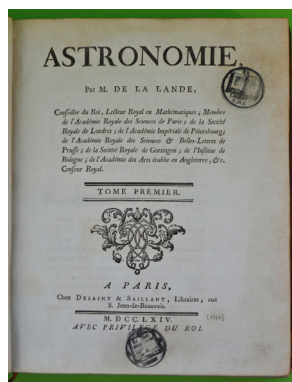
¹ Jérôme de La Lande: *Bibliographie astronomique avec l'histoire de l'astronomie depuis 1781-1802*.- Paris: de l'imprimerie de la République, An XI-1803.

² Jacques Cassini: *Éléments d'Astronomie*.- Paris: Imprimerie Royale, 1740.

Monnier³ and La Caille,⁴ contains all the parts of theoretical and practical astronomy, explained in an elementary way and has been useful to train practically all the astronomers that exist today.” Although he was commenting on himself, he was being objective because, in the face of attractive works for the common such as those by Fontenelle (*Conversations on the Plurality of worlds*) or Pluche (*The spectacle of nature*), or too intricate (as that by his master, Le Monnier), La Lande complied with what he wrote: “J’omettrai sans regret tout ce qui est trop métaphysique & trop abstrait, ou trop algébrique, sans avoir une relation immédiate ou au progrès de l’Astronomie, ou aux besoins de la vie; je donnerai au contraire une étendue particulière aux objets qui s’y rapportent le plus, tels que la mesure du temps & la maniera d’observer. Mon plus grand soin a été de rendre mes explications faciles à entendre.”

This desire to communicate with precision and simplicity is surely due to the fact that he got to become astronomer by conviction: when he was a teenager, he had tried to become a Jesuit in order to dedicate himself to Astronomy, but his parents opposed forcing him to pursue a career in Law, in which he arrived to practice law.

However, La Lande reconciled them with other activities as helping Joseph-Nicolas Delisle (who had installed his observatory in the



³ Pierre Charles Le Monnier: *Institutions astronomiques ou leçons élémentaires d'Astronomie*.- Paris: Hippolyte-Louis Guéin & Jacques Guérin, 1746

⁴ Nicolas-Louis La Caille: *Leçons élémentaires d'astronomie géométrique et physique*.- Paris: frères Guérin, 1746 (reed. 1755, 1761).

same building where La Lande was lodged) in his astronomical observations, attending the Astronomy course Delisle was teaching at Collège de France and attending the one on Mathematical Physics taught by Le Monnier at Collège Royal.

And when the great Le Caille announced his travel to southern Africa to make measurements that would lead to obtain the parallax of the Moon and asked European astronomers to make measurements in the same dates so as to combine them and give exactness to the results, Le Monnier offered him to go to Berlin, which was almost at the same meridian as Cape Town, carrying with him his telescope and other instruments – those then existing at Berlin were of insufficient quality, to make the measurements corresponding to the north quarter of the meridian. But when his offer was accepted, the journey was authorized, and his entrance was accepted by Prussia, Le Monnier regretted it, and achieved the transfer of the mission to his pupil, La Lande: in the end, in order to take and write down the data...

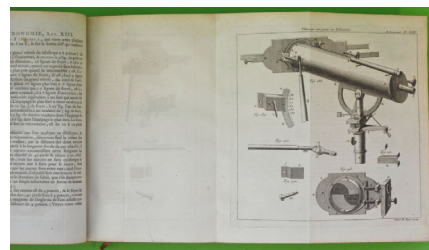
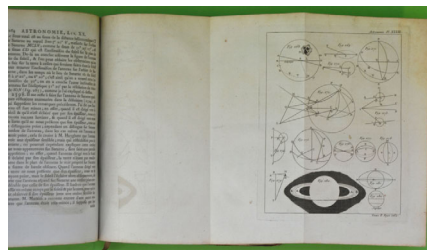
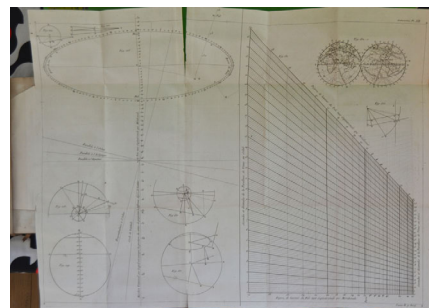
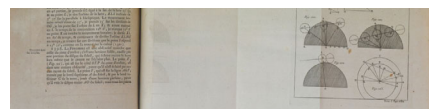
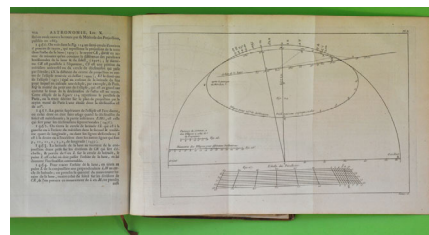
So, the Academy of Sciences of Berlin, spoiled by Frederick of Prussia, saw surprised the arrival of a young man of 20 years to do the works, but as she had to let him do them, for this to happen, she received him like member of the Academy, where he will coincide, among others, with Maupertuis, Lamettrie, Voltaire, and Euler – to whose analysis classes he joined immediately.

His rigor in the publication of his results and the correction he made to one Euler's formula (which had been printed and consequently

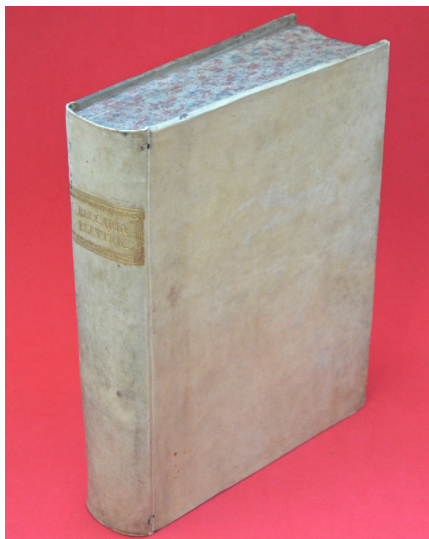
transmitted erroneously) earned him both the general recognition and the Le Monnier unrest, and, after a bitter dispute – on the correction to Euler – of which it was victorious, in 1753, he was received in the Academy of Sciences of Paris like Astronomer when he was only 21. Sentence had been handed down on his future, and it was not ten years before, in 1762, that he replaced his master Delisle at the head of the Astronomy chair at Collège de France.

This first edition of his *Astronomie* is, precisely, the complete treatise he developed for the orientation of his courses.

As a bibliographical anecdote, it should be noted that it was La Lande who undertook the writing of the volumes belonging to the Descriptions des Arts et Metiers undertaken in 1761 by the Académie des Sciences dedicated to everything related to the art of the book: *The art of making paper*, *The art of making parchment*, *The art of making carton*, *The art of tanning*, *The art of making Moroccan* ... And, as a malicious anecdote, it can be remembered also that La Lande was who founded, together with Helvetius, the Grand Orient de France Masonic Lodge of the Sciences.



1769-1775 Giambatista Beccaria (1716-1781)



Elettricismo artificiale di Giambatista Beccaria delle Scuole Pie all'altezza reale del signor Duca di Chablais.- [Colofón:] In Torino: nella Stamperia Reale, MDCCLXXII [1772]. Il primo di giugno.- [Signe:] Experimenta, atque observationes, quibus electricitas vindex late constituitur, atque explicatur.- [Colofón:] Augustae Taurinorum: Ex Typographia Regia, [s.d., i.e. 1769].- [Signe:] Della elettricità terrestre atmosferica a cielo sereno. Osservazioni di Giambatista Beccaria delle scuole pie dedicate a sua altezza reale il signor principe di Piemonte.- [Torino: s. n., 1775]

Three first editions bound together; 4°, (252x200mm.).- *Elettricismo...* VIII, 439, [1] p.; sign.: [4], A-Zz4, Aaa-Iii4; XI folding chalcographic engravings.- *Experimenta...* [4], 66 p.; sign.: [2], A-G4, H3, I2; 1 table and 1 chalcographic engraving folded.- *Della elettricità...* [8], 54, [1] p.; sign.: [4], A-G4 [first leaf [1], blank].

Contemporary vellum Italian binding in Roman style; smooth spine with gilt engraved label; red and blue marbled edges. Thick paper a little browned. No annotations, nor marks or underlining.

Prov.: No data.

Refs.: Eandi, 27, 25 y 30; Poggendorff, I, c. 124; Wheeleriana, I, 435bis, 424, 435bis.

The first of the works collected in this volume, *Elettricismo artificiale*, is the great work of Beccaria, a complete treatise on what was known of electricity to the date, providing some novelties, as there is always static electricity on the surface of the conductives.

In 1775 he expanded its contents with the publication of the third of the works bound in this volume, *Della elettricità terrestre atmosferica a cielo sereno*, where, beginning with the paragraph number following the last one of *Elet-*

tricismo artificiale, he exposed the peculiarities of the electricity detectable in the air in absence of meteorological phenomena. He showed how in both serene and stormy weather the air has an electric charge, rather with different sign, generating positive charge discharges in serene weather, and alternations of positive and negative charge in stormy weather.

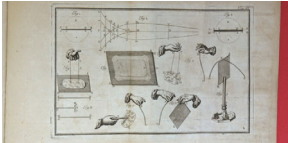
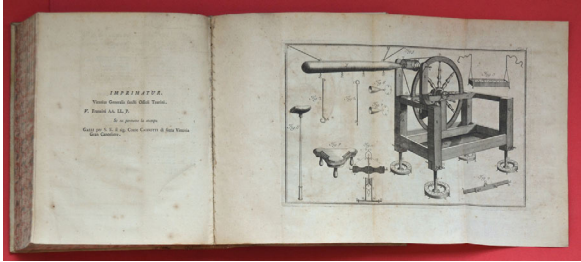
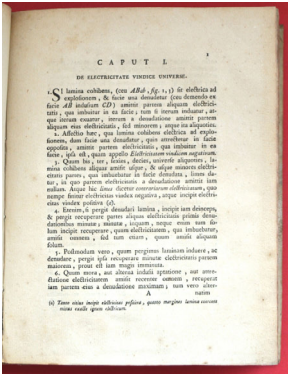
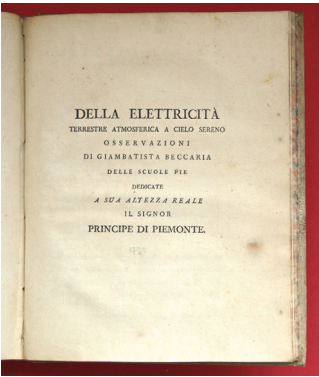
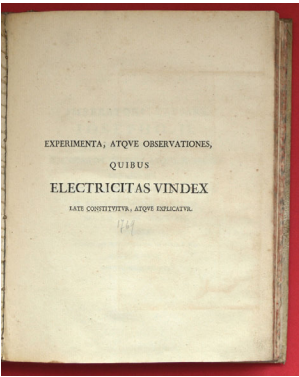
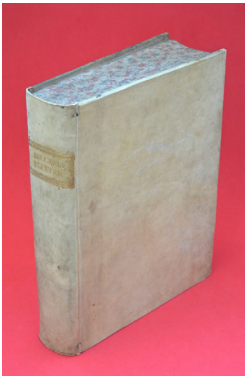
Benjamin Franklin praised so much the work of his friend Beccaria - a couple of decades ago he had been the most fervent supporter of



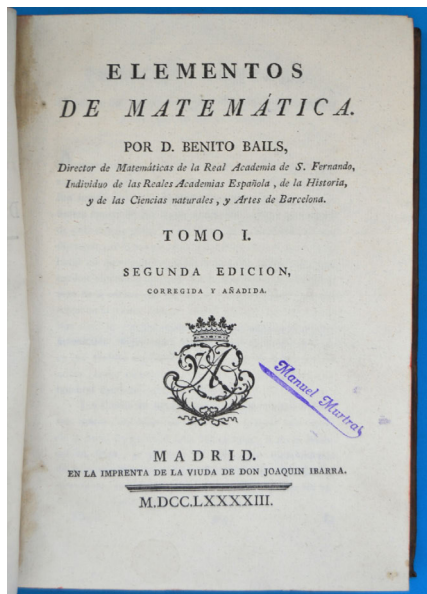
Franklin's theories versus of Nollet's, who caused the Treaty and its addendum to be translated into English, being published in London, in 1776.¹

The second of the bound works, *Experimenta...*, is a laborious demonstration on the reversibility of polarity ('electricities swing', he said) to explain in the terms of Franklin's theories the observations of the so-called *Peking Experiments*, as alternative to the explanations provided by Robert Symmer, Gianfrancesco Cigna and others.

1 It was translated as *A Treatise upon Artificial Electricity, in which are given Solutions of the Number of Interesting Electric Phenomena, hitherto unexplained. To which is added, an essay on the Mild and Slow Electricity which prevails in the Atmosphere During Serene Weather* (London: printed for J. Nourse, 1776). At the end of 1773, Franklin had already finished the translation with the collaboration of some friends and asked Beccaria if he could send him 500 copies of the engravings to illustrate it, which he should have done, because the plates collected in the translated edition are the originals. (On the Franklin request, see Giuseppe Antonio Eandi: *Memorie Storiche Intorno gli Studi di Father Giambattista Beccaria*.- Torino: Stamparia Reale, 1783, pp. 149-151).



1775-1804 Benito Bails (1730 o 1731-1797)



Elementos de Matemática. Por D. Benito Bails, Director de Matemáticas de la Real Academia de S. Fernando, Individuo de las Reales Academias Española, de Historia, y de la de Ciencias Naturales, y Artes de Barcelona. Tomo I [-X].- Madrid: Por D. Joachin Ibarra, impresor de Cámara de S.M., 1775-1781 [t. 2-8]: En la imprenta de la viuda de Don Joaquin Ibarra, 1790-1804 [t. 1, 9-10].

10 tomes in 11 vol.- 8° mayor, (218/225x161/165 mm).- Rigorously full with the half-title in each volume and its 5 folding tables and its 309 folding plates, most of them unsigned, with 2202 figures. [Sometimes is said that the third tome should have 28 plates and 21 the fourth, but after verifying plates sequences, figures sequences and the calls to them from the text, it is with no doubt a mistake].

- V. 1, t. 1 (2ª ed. added and corrected, 1793): [4], LXVIII, 597, [3] p.; sign.: a-d8, c4, A-Z8, Aa-Oo8, Pp4 [Pp4, blanca]; 29 folding plates with 178 figures bound at the end of the volume.

- V. 2, t. 2 (1ª ed., portada 1779): [4], XXXV, [1], 518 p.; a-b8, c4, A-Z8, Aa-Jj8, Kk3; 11 folding plates with 100 figures.

- V. 3, t. 3 (1ª ed., portada 1779): [4], XLIV, 579 p.; sign.: a-c8, A-Z8, Aa-Nn8, Oo2; 2 interspersed folding tables, and 25 folding plates with 288 figures bound at the end of the volume.

- V. 4, t. 4 (1ª ed., 1780): [4], XLIV, 534 p.; 20 folding plates with 259 figures, bound at the end of the volume.

- V. 5, t. 5 (1ª ed., 1780): [4], XLIV, 604 p.; sign.: a-c8, A-Z8, Aa-Oo8, Pp6; 18 interspersed folding plates, with 202 figures.

- V. 6, t. 6 (1ª ed., 1781): [4], XX, 624 p.; sign.: a8, b4, A-Z8, Aa-Qq8; 48 folding plates with 512 figures bound at the end of the volume.

- V. 7, t. 7 (1ª ed., 1775): [4], XL, 816 p.; sign.: a-b8, c8, A-Zz8, Aaa-Eee8; 21 folding plates with 195 figures -2 of them interspersed, and 19 at the end of the volume.

- V. 8, t. 8 (1ª ed., 1775): [4], XIV, 662 p.; sign.: a9, A-Z8, Aa-Ss8, Tt3; 3 interspersed folding tables, and 20 folding plates with 147 figures bound at the end of the volume (someone disordered).

- V. 9, t. 9.1 (2ª ed., corrected by the author in 1796): [2], VI, 888 p.; sign.: *4, A-Zz8, Aaa-Iii8, Kkk4; 64 folding plates with 232 figures, bound at the end of the volume (someone disordered), some signed 'Nemesio Lopez Saavedra', 'Rodz' (José Rodríguez), 'Josef Muntaner' y 'J.f. Giraldo'; published in origin without half-title.

- V. 10, t. 9.2 (1ª ed., 1790): [4], XVI, 418 p.; sign.: a10, A-Bb8, C9; 51 folding plates with 82 figures, bound at the end of the volume, some signed 'J. Rz' (José Rodríguez), 'Navia' o 'Na' (José Gómez Navia), y 'Fabregat' (Josep Joaquim Fabregat).
 - V. 11, t. 10 (2ª ed., 1804): [2], XII, 531p.; sign.: A4, B3, a-zz8, aa-vvv4, xxx2; 1 folding plate with 7 figures; published in origin without half-title.

Contemporary full leather binding (excepts t. 2); raised bands spine with double label red and tobacco, and gilt ornated quarters; gilt boards edges; red edges; good laid paper without reminders nor underlining. Some board panels, brushed; someone minimal sporadic hole; slight occasional rubbing in heads (t. 6, 8 and 9.1) and in labels (t. 7 and 9.2); rude reinforcements of the hinge made with paper pieces glued in some volumes (t. 1 -prior and rear hinges-, and 3, 7 y 10 -only in rear hinge-); ancient restoration of the tips of t. 4 first eight leaves; some ancient water traces (t. 1, upper inner margin, pp. 246-420; t. 9.2, in the whole volume inner margin, occasionally rude); slight dispersed acidification beginnings (more frequent in t. 9.1); some browned signature (t. 9.2); some sporadic stain (t. 10, p. 386). Unfortunately, a previous owner, Manuel Murtra, set his stamp on edges, title-pages, first chapters, some random pages and margins of part of the plates, especially in the first volumes. The included tome 2 allows its binding to the measure of the whole, including the guillotine, because it is uncutted and unopened (242x180mm.).

Prov.: Exlibris de tampón de anterior propietario, 'Manuel Murtra'.

Refs.: Palau, 21926-21927; Poggendorff, I, c. 89-90.

Beautiful example (completed with a volume 2 which does not came from the same set, but which is untrimmed) of the author's definitive versions of the 11 volumes of the great *Elementos de Matematica* by the Barcelonian Benito Bails, director of Mathematics at the Real Academia de San Fernando in Madrid, since being appointed by intervention of his master and friend Jorge Juan, until his death in 1797.

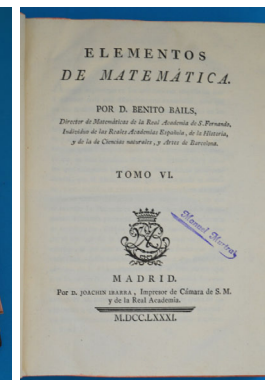
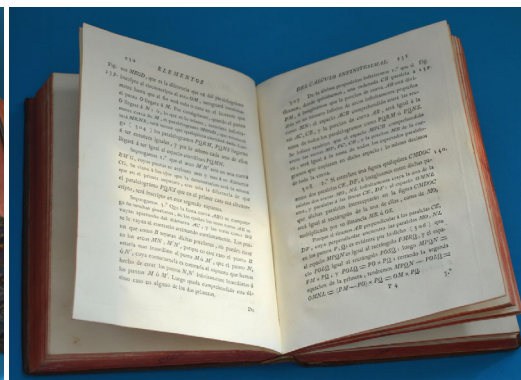
Although *Elementos...* in whole did not bring new developments to Mathematics – not in vain Bails was not specialist in many of its bran-

ches he tackled, Bails compilation of the state of the art turned out, not only remarkable, but overwhelming and, above all, updated. Thus, different studies have shown the choice of the sources reproduced for the different areas, from Bézout for Arithmetic, to Euler for Mathematical Analysis, passing trough Milizia, Blondel or Frézier for Architectur,¹ for example. But, in spite of this work of translation – a far from

non-negligible effort to update the information

¹ See the introductory critical study by Pedro Navascués Palacio to the Bail's *Arquitectura Civil* facsimile edition, Murcia, Colegio de Aparejadores, 1983.





in a Spain lacking readings in Spanish, Benito Bails' enormous exhibition was in itself also the first presentation in Spain of Euler's infinitesimal analysis, the first systematic exposition of differential calculus,² and – tristently – the first complete exposition in Castilian of an astronomy based on the Copernican system – printed in 1775 but unpublished until 1799, which had no precedent other than the equally belated brief exposition by Jorge Juan, posthumously published in 1774, which nobody dared to repugn.³

2 Carlos O. Suárez Alemán: *Aceptación en España de los criterios rigurosos del Análisis Matemático durante los siglos XIX y XX.* Tesis.- Universidad de Cádiz, 2007, p. 385.

3 *Estado de la Astronomía en Europa, y juicio de los fundamentos sobre los que se erigieron los sistemas del mundo para que sirva como guía al método en que debe recibirlos la nación, sin riesgo de su opinión, y de su religiosidad.* Madrid: Imprenta Real de la Gaceta, 1774. Unfortunately, the volume, printed in 1775, did not was published until 1799. His contents can be compared

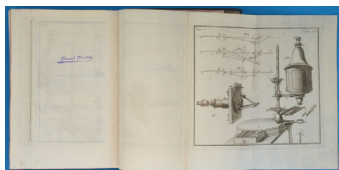
Thus, as far as the content is concerned, the volumes refer to the different mathematic's branches and to the sciences which depend on them in the following way: 1, Arithmetic, Geometry, Flat Trigonometry and Practical Geometry; t. 2, Algebra, Series and Logarithms; t. 3, Conic sections, Infinitesimal calculus and Spherical trigonometry; t. 4, Dynamics; t. 5, Hydrodynamics; t. 6, Optics; t. 7, Astronomy; t. 8, Physical Astronomy, Chronology, Geography, Gnomonics, Perspective, and Speculative Music; t. 9.1, Civil architecture; t. 9.2, Hydraulic architecture; and t. 10, Tables of logarithms. All of them illustrated, adding as many folding plates as 309 with 2202 figures, and 5 folding tables.

with *Discurso de Astronomía*, by Carlos Le Maur, 1762, whose author made keen efforts to explain the laws from Kepler and Newton's theories, without mention to the Copernican model, and keeping Earth centrality.

About Bails' *Elementos*, most of sources point out either that several editions were published, or that there was a second complete edition published in 1793-1794 either (following Palau 21927), but it must be said that none of this is true.

The various dates appearing in different copies of the same volumes actually correspond to a number of concomitant circumstances which made their marketing timing became highly bizarre. Firstly, the volumes were not published when they were printed – the majority of them were printed between 1772 and 1776, but they only began to be issued in 1779,⁴ after two

4 See the press ads on the publication of the first three volumes in *Gaceta de Madrid*, 10-9-1779, pp. 640-650; on volume IV, in *Mercurio histórico y político*, 1780, June, p. 128, and *Gaceta de Madrid*, 9-6-1780, p. 408; on volume V in *Gaceta de Madrid*, 13-3-1871, pp. 229-230; and on volume VI in *Gaceta de Madrid*, 8-3-1872, p. 200.



failed attempts in 1775 and 1776 - for which the title-page of some volumes was changed in part of the printed copies (there are copies of the first three volumes with different dates in title-pages, although all of them come from the same print run, as for volumes 1 and 2: 1775, 1776 and 1779, and for vol. 3: 1776 and 1779)-;⁵ secondly, the publication of some volumes was delayed even more due the disease that had prostrated Bails, his arrest by the inquisition, his banishment to Granada and due to his priorities;⁶ and, finally, that Bails really

⁵ Bails (vol. 1, 2nd. ed., p. XVIII) collects the dates in which the volumes were printed, saying they were not published at the time, also that volume 9.2 contained only the first part of the *Hydraulic Architecture* - but he never completed it, and that volume X lacked the Astronomical Tables - which he never published either. Thus, volume IV, for example, printed in 1773 and of which all known copies had a title-page dated in 1780, began to be sold, effectively in May of this last year.

⁶ On Bails detention and exile, see Claude Bédar: 'Don Benito Bails, director de matemáticas de la Real Academia de San Fernando desde 1768 a 1797', in *Boletín de la Real Academia de Bellas Artes de San Fernando*, 27 (1968): 29-50. Related with the extreme delay in the commercialization of some volumes, volumes VII and VIII, printed in 1775, had not yet been put on sale in March 1787 (cf. *Diario curioso, erudito, económico y comercial*, 31-3-1787, pp. 3-4), and in fact they were not published until much later, 1799, when Bails had died (see the publisher's warning at the beginning of volume VII and *Gaceta de Madrid*, 23-4-1799, p. 316) although they did so with the title-page printed and dated more than twenty years earlier. The actual printing and publishing dates for each volume are

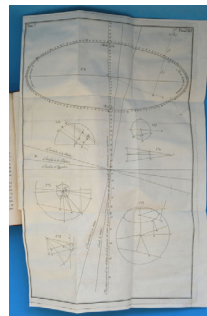
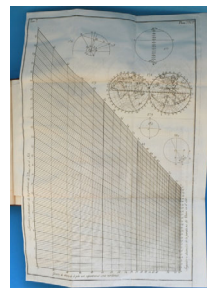
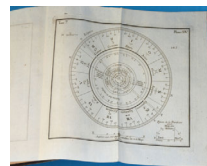
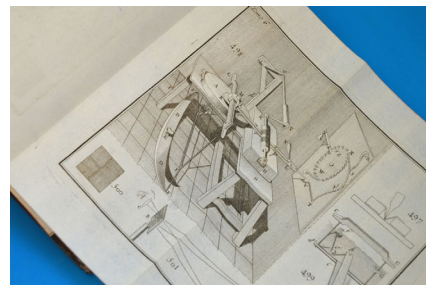
did a second revised edition, but only for three of the volumes and in dissimilar dates (tome 1, 1793, tome 9.1, 1796, and tome 10, published posthumously in 1804).⁷

The copy we offer includes therefore the definitive version of each and every one of *Elementos de Matematica* volumes.

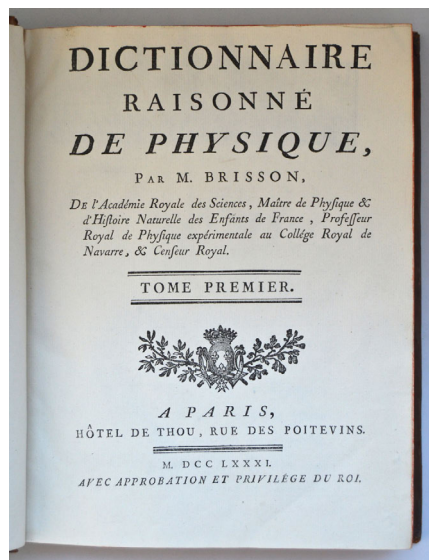
summarized in the following table:

T.	1st ed.				2nd ed.	
	Printed	Title-page 1	Title-page 2	Title-page 3	Issued	Printed & Issued
1	1772	1775	1776	1779	1779	1793
2	1772	1775	1776	1779	1779	
3	1772	1776	1779		1779	
4	1773	1780			1780	
5	1774	1780			1781	
6	1775	1781			1782	
7	1775	1775			1799	
8	1775	1775			1799	
9.1	1783	1783			1783	1796
9.2	1790	1790			1790	
10	1787	1787			1787	1804

⁷ The first volume grew from LX, 549 p. to LXVIII, 597 p. In its preliminaries, he changed the first volume's specific prologue wording, added an extensive note at the end of *Elogio de Jorge Juan*, extended the index to several more pages to let it less compressed, and reviewed the text almost entirely with minor corrections. In Volume 9.1 second ed., he eliminated the two pages of errata from the prologue and the *Declaración reducida de algunos términos* that occupied 9 pages, because he composed a new separate work, *Diccionario de Arquitectura Civil*, published posthumously in 1802. In volume X, he only modified the prologue of 1787 (and, may be, it was not him)



1781 Mathurin-Jacques Brisson (1723-1806)



Dictionnaire raisonné de physique, par M. Brisson, De l'Académie Royale des Sciences, Maître de Physique & d'Histoire Naturelle des Enfants de France, Professeur Royal de Physique expérimentale au Collège Royal de Navarre, & Censeur Royal. – A Paris: Hôtel de Thou, M. DCC LXXXI. [1781]

1st ed., 1st state. – 2 vols. plus Atlas, 4^o mayor, (260x197mm.). – v.1: [4], 708 p.; sign.: [2], a-b4, A-Zzz4, Aaaa-Tttt4, Vvvv2. – v. 2: [4], 769, [1] p.; [2], A-Zzzz4, Aaaaa-Dddd4, Eeeee1. – Printed in double column; vignettes in preliminars and at the begining of the dictionary; errata for the two volumes at the end of the second. – Atlas, with his own half-title: 'Planches du dictionnaire de physique de M. Brisson'; [2], V-VI p.; 90 plates (1 folding), several signed 'Fossier Del.' y/o 'Benard Direxit'.

Contemporary full marbled calf binding; raised bands spine with two wine moroccan labels and gilt ornaments; boards embossed in triple fillet; double gilt fillet in board edges; red edges; silk bookmarks remain. Very little holes in joints and board edges; brushed corners. It seems Atlas volume received a blow, slightly affecting to rear board fore edge and to last five plates fore edge, and causing a rip of 1 cm. at the fore margin of plates 2 to 17 (see photo).

Prov.: No data.

Refs.: Poggendorff, I, c. 301.

Brisson, whose studies had been on Theology in a seminary, escaping from them at the time of the ordination ceremony as deacon, incorporated himself into scientific activity from the hand of a brother-in-law of his aunt, the naturalist René Antoine Ferchauld de Réamur (1683-1757), when this last hired him in 1749 as assistant and cicerone of his Cabinet of Natural History, a cabinet gathering, among others,

a splendid collection of stuffed birds.¹ Brisson worked there for eight years, devoting himself also to zoological classifying,² until his 'godfa-

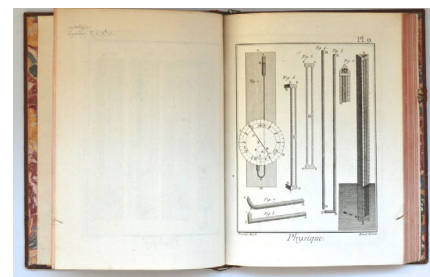
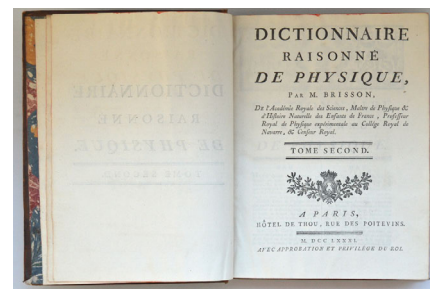
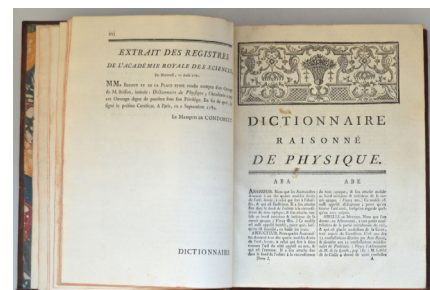
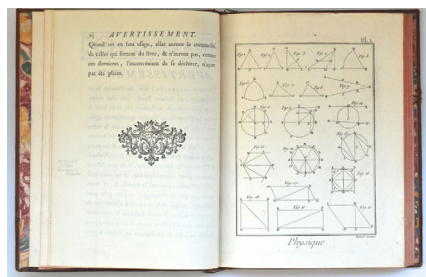
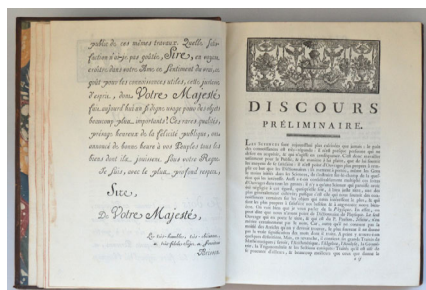
¹ Arthur Birembaut: "Les liens de famille entre Réamur et Brisson, son dernier élève", in *Revue d'Histoire des Sciences* 11 (1958) 2: 167-169.

² In fact, Brisson's first publication was *Le regne animal divisé en IX classes, ou méthode contenant la division générale des Animaux en IX Classes, & la division particulière des deux premières Classes ... : aux quelles on a joint une courte description de chaque Espèce, avec les Citations des Auteurs qui en ont traité.* – Paris: Bauche, 1756.

ther' died in 1757. The collection was owned by the Académie Royale des Sciences because Réamur, who has been its director and deputy director sequentially since 1714, had linked it to her years before, and she was who was paying the 600 pounds of salary to Brisson. But when Réamur died, the king published a decree ordering the collection were moved to the Cabinet

du Roi (the botanical garden), whose caretaker was Georges Louis Leclerc (Count of Buffon from 1772), estranged from old with Réamur and therefore with Brisson. So, as Leclerc / Buffon did not want enemies or competitors, he did not offer Brisson his renewal. By the time this demeanor occurred, Brisson had already written his extensive and precise *Ornithologie*,³ but even so, he had got to say goodbye to both, the collection and the ornithology: without birds at hand, it was impossible get on with Ornithology. In 1760 the abbé Nollet - the celebrated scholar on electricity - came to his aid, welcoming him into his Physics seminary at the Colegio de Navarra. Two years later, Brisson was already a teacher and dedicated the rest of his life, more than forty years, to experimental physics, without re-dealing with any natural history branch, acquiring well deserved fame, mainly for his *Dictionnaire de Physique* and his monograph on the 'heaviness' of bodies.⁴ He died in 1806.

Although not mentioned inside the work, Brisson prepared his *Dictionnaire* hired by Panckoucke to inaugurate and promote the subscription to the *Encyclopédie méthodique*, the



³ *Ornithologie ou Méthode contenant la division des oiseaux en Ordres, Sections, Genres, Espèces & leurs Variétés. A laquelle on a joint une description exacte de chaque Espèce, avec les Citations des Auteurs qui en ont traité, les Noms qu'ils leur ont donnés, ceux que leur ont donnés les différentes Nations, & les Noms vulgaires.* Par M. Brisson, de l'Académie Royale des Sciences. Ouvrage enrichi de Figures en taille-douce. Tome I [-VII]. - A Paris: chez Cl. Jean-Baptiste Bauche, Libraire, à l'Image Sainte Geneviève & S. Jean dans le Désert, MDCCCLX [1760]

⁴ *Pesanteur spécifique des corps. Ouvrage utile à l'histoire naturelle, à la physique, aux arts et au commerce.* - Paris: Imprimerie royale, 1787.

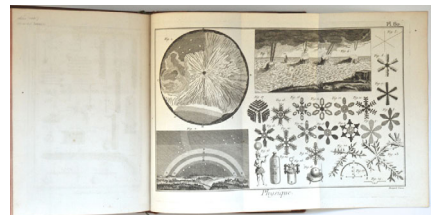
editorial megaproject with which the publisher of the Hôtel de Thou wanted to update the scientific information gathered in the Diderot's *Encyclopédie*. The dictionary body's printing was finished in 1780 (as it appears in the colophons of the volumes of text), but between Panckoucke and Brisson there had been strong disagreements: Panckoucke had conceived his new encyclopedia as a succession of closed dictionaries, in which would not be included terms of other sciences; on the other hand, Brisson held strongly that it was not possible to isolate one science from the others, and that the understanding of some parts of one of them required prior information on some parts from other sciences. Before the end of the year, Panckoucke decided to disconnect Brisson's dictionary from the *Encyclopédie méthodique* project and, as early as January 1781, to hire the elaboration of another one to Gaspard Monge, which was not published until 1793.

Having decided such autonomous life for the brisson's *Dictionnaire*, Panckoucke arranged a title-page in part of the copies to attend the advertisement and the subscriptions previously committed and, in order not to race with himself, he sold the rest of the edition to the booksellers Michel Le Boucher and Pierre-Michel Lamy, for whom he prepared a new title-page that, in some copies, provided an errata on the date, which appeared as 1761. Then, sometime between 1781 and 1783, Le Boucher and Lamy commissioned a new printing of the Atlas, in laid paper, with the engravings hand-coloured, selling those sets at least three times the price

of the sets bound with the uncoloured engravings.

Finally, three years later, in 1784, they published the brief supplement which Brisson prepared for his dictionary, entitled *Observations sur les nouvelles decouvertes Aerostatiques, et sur le probabilité de pouvoir diriger les Ballons*, which thereafter they added at the end of the second volume.⁵ In 1787 they sold the rest of the edition to Volland, who arranged a new title-page announcing the work as if it were a new augmented edition, changing the title to *Dictionnaire raisonné de toutes les parties de la Physique*. But, in fact, Brisson had not intervened and would made no revision of his dictionary until years later. The true second edition, in six volumes in 8° plus Atlas, was published in 1800, by the Parisian Librairie Economique.⁶

The beautiful copy we offer corresponds to the first edition with the first title-page issued, with the mention of Hotel de Thou, the Panckoucke's publishing home.

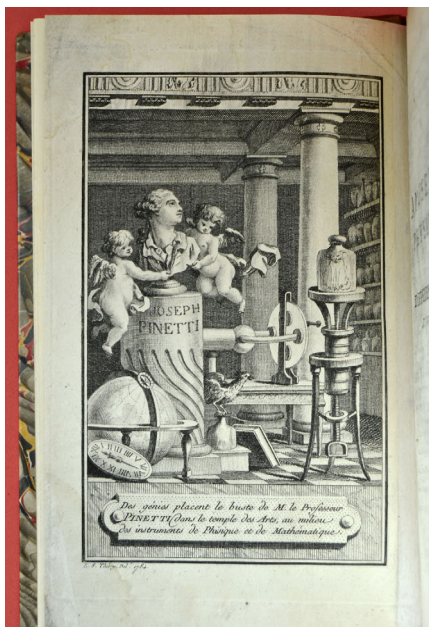


⁵ The 34 pages supplement collected the entry 'Aerostate', as well as another 14 entries to be added to the *Dictionnaire*.

⁶ See the very nice Hugues Chabot (2006): "La Physique dans l'Encyclopedie methodique" in *L'Encyclopédie méthodique (1782-1832): des lumières au positivisme*.- Geneve: Droz, pp. 467-492.

1785 Giovanni Giuseppe Pinetti (1750-ca.1803)

Magic under Science's umbrella



If throughout XVIIIth c. one of the habits attached to the cabinets of curiosities was the practical demonstrations of physical experiments that surprised by their results, in a similar way began to appear artists of the magic that added scientific resources to their sleight of hands. One of them, pioneer in bringing the

Amusemens physiques, et différentes expériences divertissantes, composées & exécutées, tant à Paris que dans les diverses Cours de l'Europe; par M. Joseph Pinetti de Willedal, Romain, Chevalier de l'Ordre-Mérite de Saint-Philippe, Professeur de Mathématiques & de Physique, Protégé par toute la Maison Royale de France, Pensionnaire de la Cour de Prusse, &c. Nouvelle édition, Augmentée par l'Auteur de six nouvelles Expériences physiques, & de nouvelles Gravures.- A Paris: Chez Hardouin, Libraire de S.A.S. Madame la Duchesse de Chartres: Chez Gattey, Libraire, M.DCC.LXXXV. [1785]

8°, (205x124mm).- [1] h., XII, [13]-108 p.; sign.: [1], [A]8, B-F8, G6; engraved frontispiece 'L.8. Thiery. Del. 1784'; half-title; printer device un title-page; 2 engravings out of text signed 'L.V. Thiery. Del. 1785'; typographical ornaments at chapters beginning and end.

Last XXth c. quarter leather vbinding with marbled paper by Ch. Muller, in Nancy; smooth ornated spine with green label; lais paper. Frontispice bottom tip, restored; very slight acidification. Beautiful copy

Prov.: No data.

Refs.: Caillet, 8690 (1784); Evans, p. 547; Querard, *France Littéraire*, 7, p. 129.

magic to theaters and author of some of the tricks today continue being done, was Giuseppe Pinetti, whose hazardous life would well deserve a film.

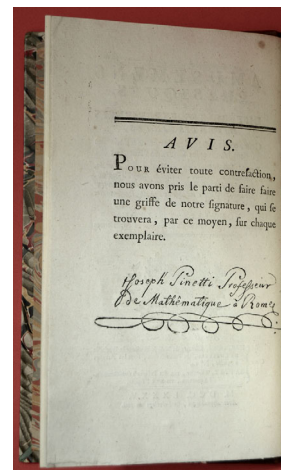
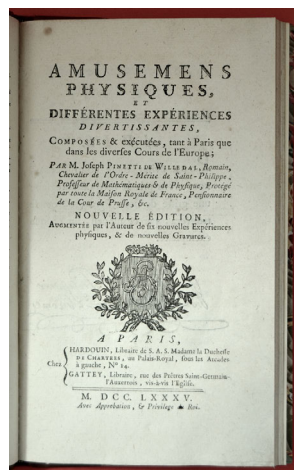
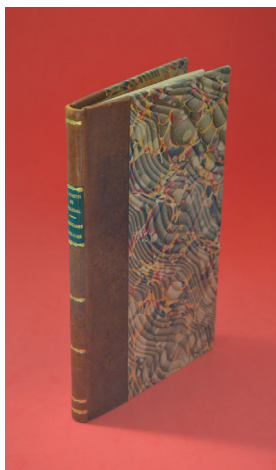
The origin of this work is to be found in the book *La magie blanche dévoilée*, by Henri Decremps, published in March 1784,¹ designed

¹ Henri Decremps: *La magie blanche dévoilée ou explication des tours surprenants, qui sont depuis peu l'admiration de la Capitale et de la Province, avec des réflexions sur la Baguette divinatoire des Automates joueurs d'échecs, &c. &c.* - A Paris: chez Langlois, 1784.



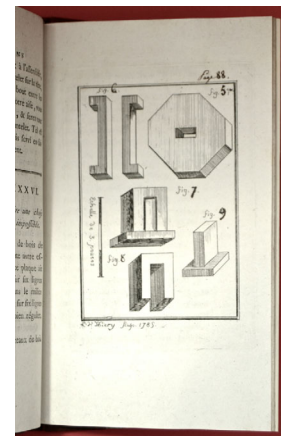
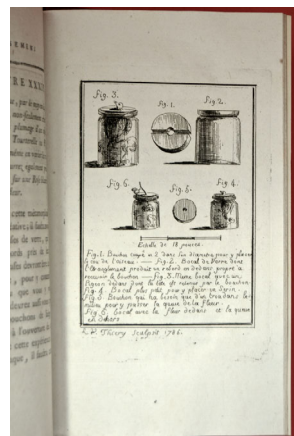
to prevent the candid spectators of charlatanry and the deception in which, according to him, the tricksters wanted to plunge them, starting with Pinetti, for which he began his book by gutting one after another the acts of the show that Pinetti offered in a Parisian theater, accusing him of using the hidden help of another person. Pinetti replied only two months later, before leaving the capital to go to London, with his *Amusemens physiques*,² in which he offered new tricks (and explained how they could be executed without hidden help from third parties) in order to free himself from the blemish of being a charlatan. Decremps responded with a supplement published in early 1785³ and Pinetti did the same with this, the second expanded edition of his *Amusemens* (six new tricks and two explanatory engravings).

Even today, even among the magicians, there are defenders and detractors of Pinetti, although no one rejects that he was one of the great magicians of the eighteenth century.



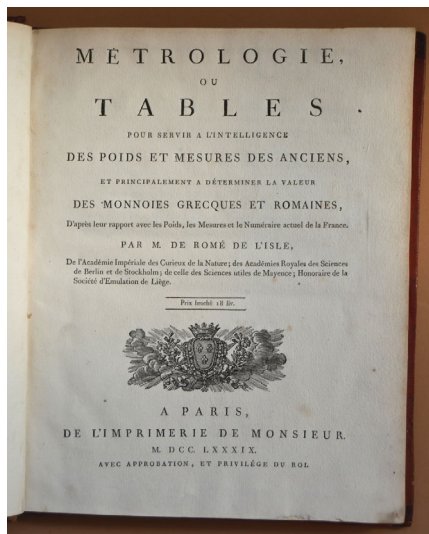
² Joseph Pinetti: *Amusemens physiques, et différentes expériences divertissantes, composées & exécutées, tant à Paris que dans les diverses Cours de l'Europe.* - A Paris: Chez Hardouin, M.DCC.LXXXIV.

³ Henri Decremps: *Supplément à la magie blanche dévoilée. Contenant l'explication de plusieurs tours nouveaux joués depuis peu à Londres, avec des éclaircissemens sur les artifices des Joueurs de profession. Les Cadrans sympathiques, le Mouvement perpétuel, les Chevaux savans, les Poupées parlantes, les Automates dansants, les Ventriloques, les Dabots elastiques. &c. &c.* - A Paris: Chez l'Auteur, 1785.



1789 Jean-Baptiste Romé de l'Isle (1736-1790)

The geologist who loved the measurements



Among the works dedicated to establishing equivalences between the different systems of measures, that of Romé de l'Isle is one of the most peculiar by its method and, probably, one of those that had a fate worse. In fact, in the following month to its publication the French Revolution ensued, and with it the change from the prior interest on the equivalence between systems of measures to that of the adoption of a unified one, ever since Talleyrand proposed in 1790 to adopt one by law to combat feudal

Métrologie, ou Tables pour servir à l'intelligence des poids et mesures des anciens, et principalement à déterminer la valeur des monnoies grecques et romaines, D'après leur rapport avec les Poids, les Mesures et le Numéraire actuel de la France. Par M. de Romé de l'Isle, De l'Académie Imperiale des Curieux de la Nature; des Académies Royales des Sciences de Berlin et de Stockholm; de celle des Sciences utiles de Mayence; Honoraire de la Société d'Emulation de Liège.- A Paris: de l'Imprimerie de Monsieur, M.DCC.LXXXIX. [1789] (Se trouve a Paris: Chez Didot jeune, imprimeur de Monsieur: Chez Debure, libraire de la Bibliothèque du roi: Chez Théophile Barrois jeune, libraire: Chez Croullebois, libraire)

1^a ed.- Folio minor, (254x200mm).- XXXXV, [3], 214, [1] p.; sign.: [a]2, b-m2, A-Z2, Aa-Kk2, Ll-Oo1, Pp-Zz2, Aaa-Kkk2; royal coat of arms in title-page; several tables, four of them folding.

Quarter red leather binding with corners;sooth spine ornated with double fillets and and gilt florets; black moroccan label 'Traité des poids et monnoi'; laid paper. Bord edges and tips slightly brushed; boards slightly brushed and discoloured; very sporadic oxidation points; small gap in bottom tip of p. 207; minimum ancient moisture trace in fore margin of three last leaves. Clean copy, without marks, annotations nor underlining.

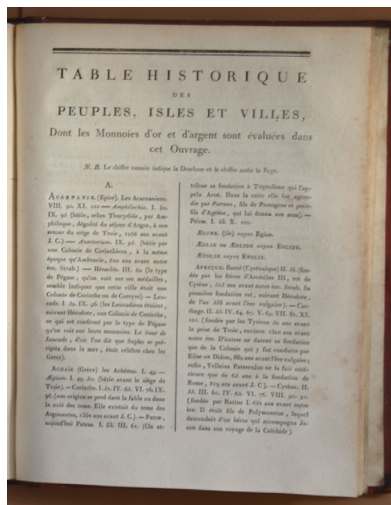
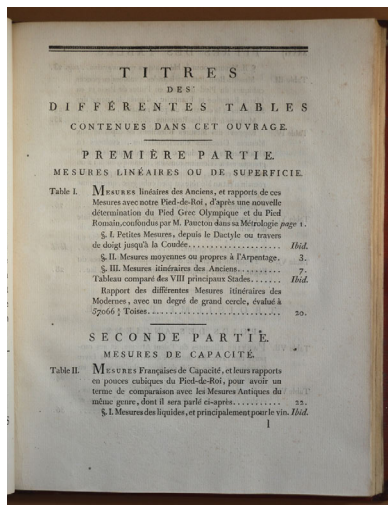
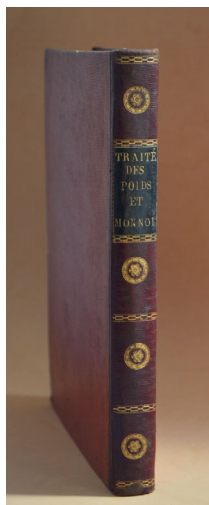
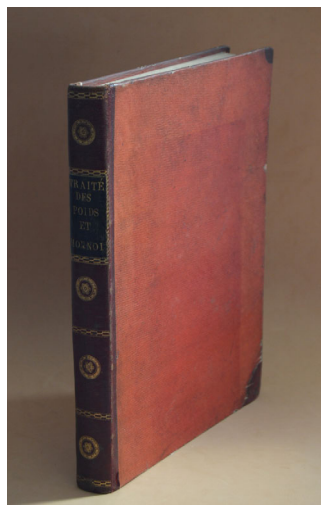
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Refs.: Not in Goldsmiths'-Kress.

prerogatives in the determination and management of transformations between measures involved in both local market and local taxes.

Its content's peculiarity comes from the fact that his author was mineralogist and applied to his research the use of scientific calculation. In fact, Romé de l'Isle, who had enrolled in administrative work on a French army ship when he was barely twenty, a ship which was seized in India during the seven-year war against England, did not return to France until 1764,





after having spent the previous years moving through Asia. When he returned he did so with a good collection of minerals and natural curiosities and began to study science with the then young Parisian chemist and mineralogist Balthazar Georges Sage. Then the merchant and naturalist amateur Pedro Franco Dávila contacted Sage to commission him to write the catalog of the collection of pieces that made up his cabinet of curiosities because he wanted to give it to the king of Spain, but Sage, little interested, recommended him to Romé de l'Isle, who effectively took over his wording.¹ In doing

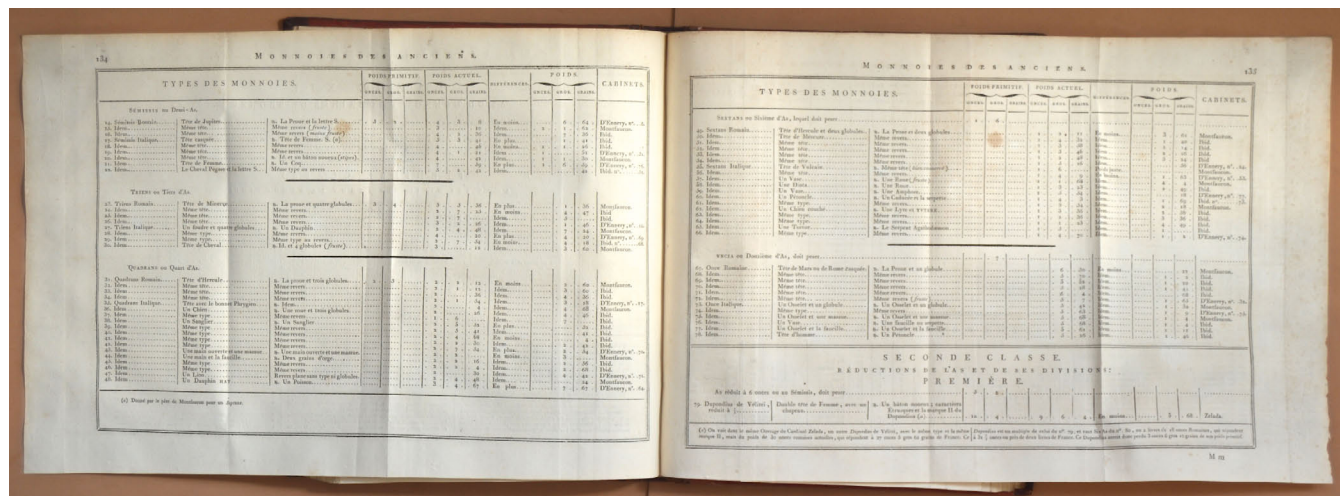
this work, Romé de l'Isle became friends with Abraham Joseph Michelet, seigneur d'Ennery, a great collector of coins friend of Franco Dávila, who proposed him to take him to his home. With something to fall back on, as Romé continued to study and describe collections of

son, 1767, 3 v. Thanks to this catalog, Pedro Franco Dávila, avid collector and amateur naturalist, sold part of his collection to paid the debts he had. When he did so, he stopped and began to buy new ones. In 177, after several failed attempts, he could give his collection to the King of Spain, who in return appointed him as lifelong director of his Real Gabinete de Historia Natural – now the Spanish Museum of Natural Sciences, with a gratification of 1,000 ordinary doubloons by year. See Javier Sánchez Almazán (coord.): *Pedro Franco Dávila (1711-1786). De Guayaquil a la Royal Society: la época y la obra de un ilustrado criollo.* – Madrid: CSIC, 2012, esp. pp. 62-85.

minerals (among others his own), with such a constant observations he could obtain the data which made him able to publish, in 1772, the *Essai de cristallographie* which gave him international celebrity and placed him as one of the founders of this branch of Geology. A work that he culminated years later with his monumental *Cristallographie, ou Description des formes propres à tous les corps du regne minéral, Dans l'état de Combinaison saline, pierreuse ou métallique*, in four volumes, which had two editions in the same year of 1783.

His patron d'Ennery died in 1787 and Romé himself in 1790, but the previous year he had published, with the same printer of his

¹ *Catalogue systématique et raisonné des curiosités de la nature et de l'art qui composent le cabinet de M. Davila.* – Paris: Chez Briasson, 1767, 3 v. Thanks to this catalog, Pedro Franco Dávila, avid collector and amateur naturalist, sold part of his collection to paid the debts he had. When he did so, he stopped and began to buy new ones. In 177, after several failed attempts, he could give his collection to the King of Spain, who in return appointed him as lifelong director of his Real Gabinete de Historia Natural – now the Spanish Museum of Natural Sciences, with a gratification of 1,000 ordinary doubloons by year. See Javier Sánchez Almazán (coord.): *Pedro Franco Dávila (1711-1786). De Guayaquil a la Royal Society: la época y la obra de un ilustrado criollo.* – Madrid: CSIC, 2012, esp. pp. 62-85.



extraordinary Crystallography, this we offer, his last work, *Métrologie, ou Tables pour servir à l'intelligence des poids et mesures des anciens*.

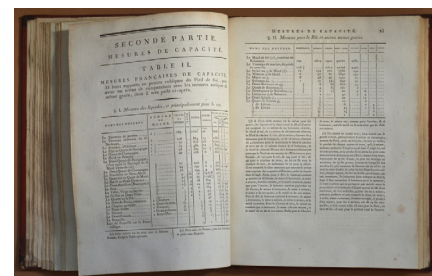
About its cause, Romé says that he had measured and weighed all the pieces of d'Ennery's collection of medals and coins, to help the people who were preparing his catalog. While doing so, he figured that in order to correctly determine the equivalence of values between ancient and modern coins, one should resort to the weight of the metals with which they were manufactured, taking it from the best specimens.

He soon saw that the nominative value of an

old currency was the fraction of a volume, so that in order to determine the actual equivalence of its weight it was necessary to know the capacity measures of that time and that, in order to know them, it needed to know the current equivalence of the old linear measures of which the volume depended.

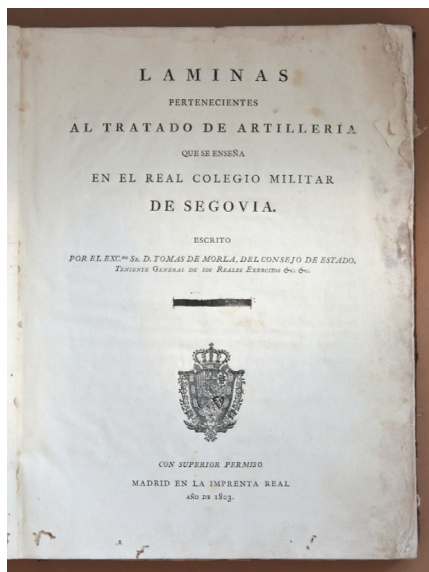
So, he had objectified in measurable qualities, and not in appeals to literary authorities, the determination of the values. Hence the enormous peculiarity of a work that brought in full the verifiable science to a field to which it had been as foreign as it was the one of the still denominated antiquarians, and that offers

the most splendid transformation of the linear measures, of capacity and of weight from antiquity to prevailing in prerevolutionary France.



1803 Tomás de Morla y Pacheco (ca.1747-1811)

Artillery engravings by Joaquín Ballester, Fernando Selma and Juan Moreno Tejada



Tomás de Morla, Civil Governor of Cadiz and Captain General of Andalusia, was acclaimed at the beginning of the Spanish War of Independence for his victories over Napoleon's army in the celebrated battle of Bailen and in the defense of Cadiz, and later reviled for entering the orders of Jose Bonaparte.¹ Morla had published in 1 To learn on Tomás de Morla, see María Dolores Herrero Fernández-Quesada: *Ciencia y milicia en el siglo XVIII. Tomás de Morla, artillero ilustrado*.- Segovia: Patronato del Alcázar, 1992.

Laminas pertenecientes al Tratado de artilleria que se enseña en el Real Colegio Militar de Segovia. Escrito por el Excmo Sr. D. Thomas de Morla, del Consejo de Estado, Teniente General de los Reales Exercitos.- Madrid: en la Imprenta Real, año de 1803.

1st ed.- Great folio, (360x270mm.); [10] p., 119 plates (43 in full page, 70 in double page and 6 folding) signed 'J[oaquín]. Ballester', 'F[ernando]. Selma' and 'J[uan]. Moreno [Tejada]'.

Very tired full calf binding. First and last leaves affected by old mold (removed) with fragile margins. Old moisture trace in upper and fore margins of the plates, entering the footprints, without affecting the figures; plate fourth of article XII with spots; fore margin of twelve last plates in poor condition. Poor, but very complete copy of all engravings. The gaps in their numbering, which there are, are due to the fact that these engravings were never stamped, as indicated in the volume index itself.

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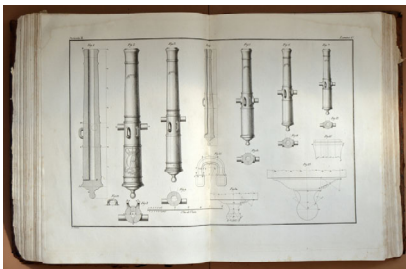
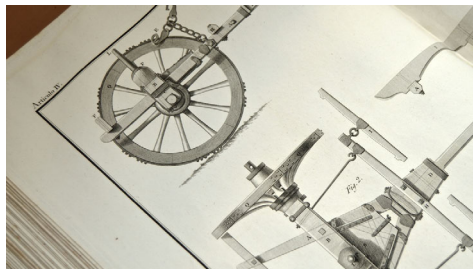
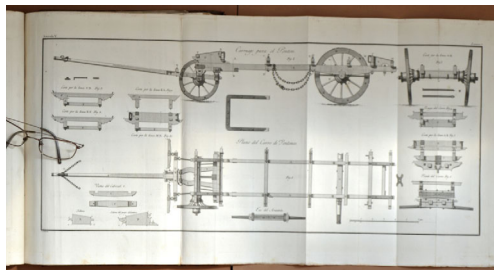
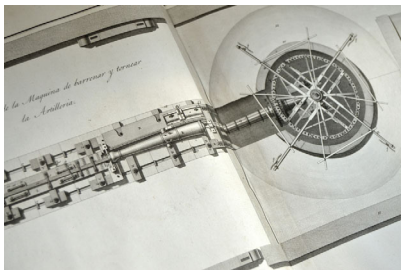
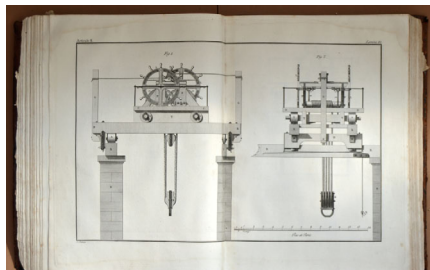
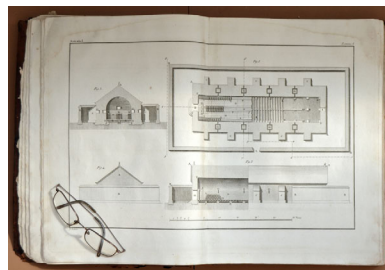
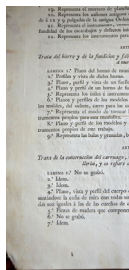
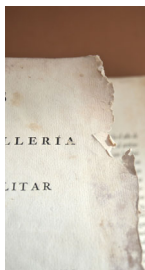
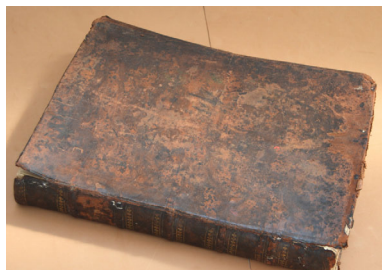
Refs.: Aguilar Piñal, XVIII, 5, 5988.

Segovia, between 1784 and 1786, a four volumes *Tratado de artilleria para el uso de la Academia de caballeros cadetes del Real Cuerpo de Artillería, dividido en quatro tomos, que tratan de las principales funciones de los Oficiales de este Cuerpo en Paz, y en Guerra*, of which the third volume was actually written by Vicente de los Ríos, and the fourth volume should be a collection of plates.

However, the printing of the engravings was delayed and the three volumes of text that had been printed were kept in wait. Finally, as time went by, they were published in 1792, accompanied by a volume entitled *Láminas pertenecientes*

al artículo XII de minas, y a los seis artículos de la segunda parte del Tratado de Artilleria que se enseña en el Real Colegio Militar de Segovia, printed in Madrid by the widow of Joaquín Ibarra, which had 21 plates. Thus, Morla was intended to give time himself to finish the revision of the rest of the plates, to prepare some tables and to modify the text with advances coming from the chemistry, and with some novelties he learned during his recent trips across Europe.

Entering the nineteenth century, Morla realized that he could not assume the preparation of such a second edition, nor to conclude the work



of explain the plates that there were already etched. Thus the engravings volume - the volume we offer - was finally published in 1803, almost twenty years after the first volumes were prin-

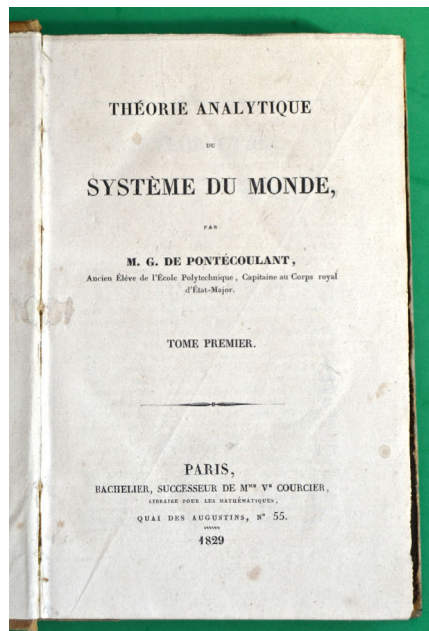
ted, eleven later than they were published. This fourth volume had to have 131 plates, but, as the printed index which opens the volume says, twelve of them, referred to carriages, utensils and as-

semblies that had remained in disuse, were never etched. In 1816, when Morla was already dead, this Artillery treaty was again printed in Segovia, without the volume of plates, accompanied by a so-called volume V containing the explanations of the plates which Francisco de Dátoli had left written before the Independence war, reviewed by someone who remains unknown.²

² Colección de las explicaciones de las láminas del Tratado de Artillería para el uso de la Academia de Caballeros Cadetes del expresado Real Cuerpo.- [s.n.: s.l., s.d., but Segovia: Josef Espinosa, 1816]

1829-1846 Philippe Gustave le Doulcet, comte de Pontécoulant (1796-1874)

The System of the World and Lunar motion



The publication by Pontécoulant of his *Théorie Analytique du Système du Monde* lasted in a rare way: the first two volumes appeared in 1829, the third in 1834 and the fourth in 1846, on resulting the rarity of the first edition's complete sets. In 1856 he published a second augmented edition (Paris: Mallet-Bachelier) of

Théorie analytique du système du monde, par M.G. de Pontécoulant, Ancien Élève de l'École Polytechnique, Capitaine au Corps royal d'État-Major.- Tome Premier [-quatrième].- Paris: Bachelier, 1829-1846.

1st ed.- 4 vols.- (214x134mm.).- Vol. I: XXVIII, 508, 27, [1] p.- Vol. II: XIII, 504, 57, [3], 8 p.- Vol. III: XXI, [3], 563, [1], 8 p.- Vol. IV: XXVIII, 664, 8 p.

Contemporary beige half percale binding (dull); smooth spine with dried fillets and gilt labels. Boards and edges, brushed; corners open; small call numbers glued to spines; paper with oxidations, more abundant in the first volume; paper of the fourth volume slightly browned. No owners signatures, nor annotations or underlining.

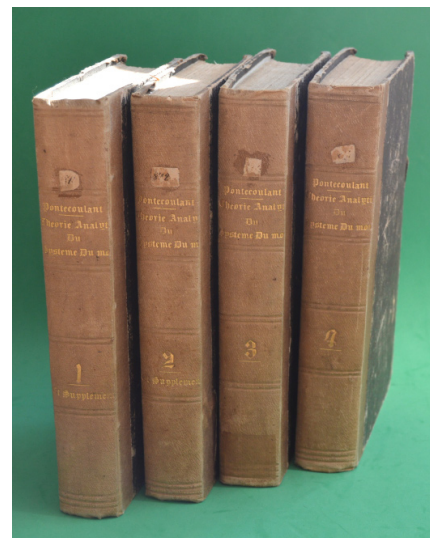
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Refs.: Poggendorf, II, c. 499.

the first two volumes only, and even in 1860 a 'supplement to Book VII' – also Paris, Mallet-Bachelier, to participate in the debate about secular equation of the moon by proposing an analytical solution.

Like so many other pupils of the École polytechnique, Pontécoulant was a genuine ideologue, heir to Lavoissier, Laplace, Destutt de Tracy..., a supporter of the analytical method, which he attempted to carry to its simplification regardless observation data, to explain the system of the world and the planetary dynamics.

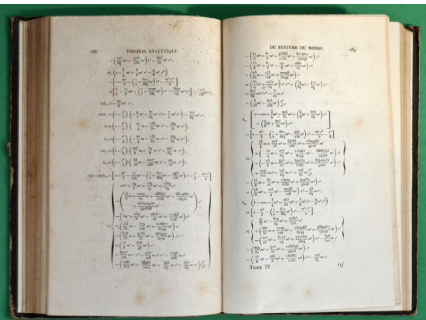
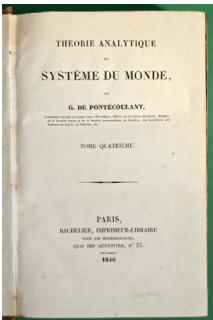
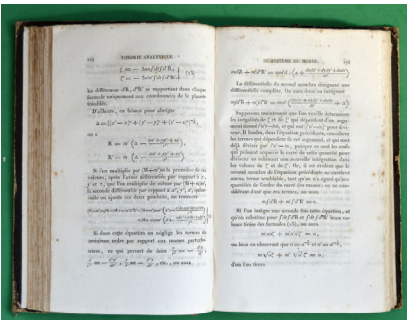
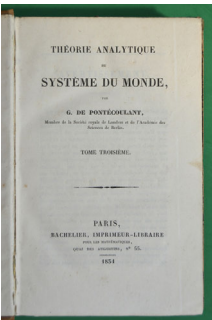
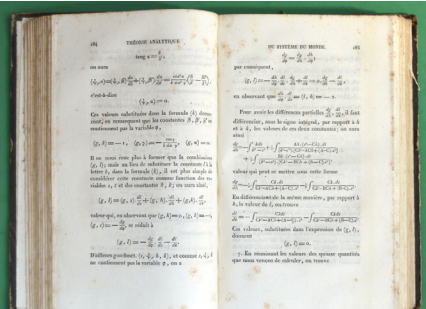
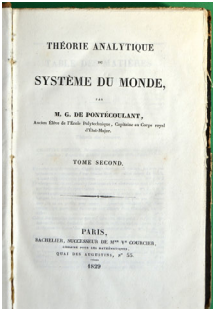
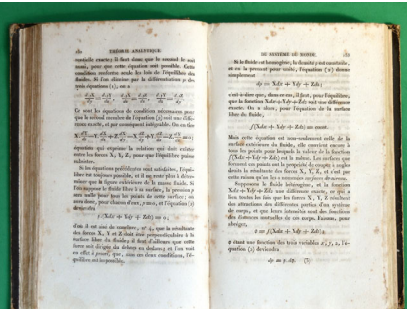
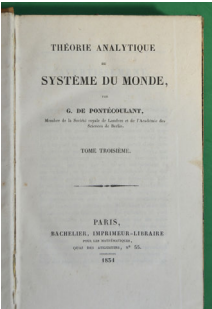
One of the calculations he obtained with his debugging of equations before 1829 was about the date of the Comet Halley perihelion on his return in 1835 (vol 2, p. 500), in which he was wrong in only two days, being the more appro-



ached result to the very moment of all were exposed.

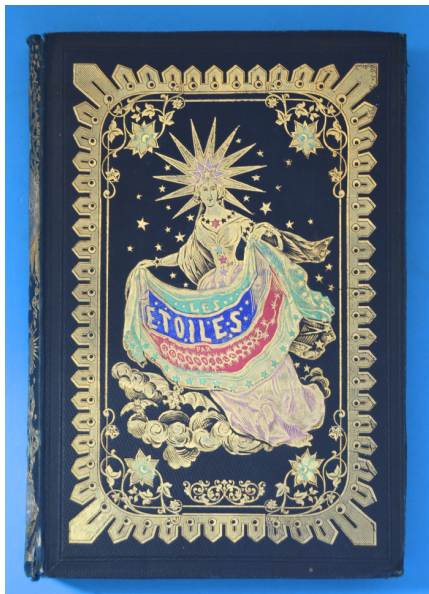
The first volume of his 'Theory' is devoted to the general laws of motion and balance, and to the orbital motion of celestial bodies; the second, to the theory of comets, the rotation motions of celestial bodies and their figures; the third to complete his theory of planetary dynamics; and the fourth to a complete analytical theory of Moon dynamics.

Pontécoulant's analytical developments were followed by other partisans of Analysis, as in the case of the integration of movement's equations by John Pratt to expose the planetary dynamics in his successful *The Mathematical Principles of Mechanical Philosophy, and their application to the Theory of Universal Gravitation* (Cambridge, John Parker, 1836).



**1849 J.J. Grandville [Jean Ignace Isidore Gérard] (1803-1847) ; Joseph Méry (1797-1866);
Comte Foelix [Louis-François Raban] (1795-1870) ; Charles Geoffroy (1819-1882)**

What if the stars had soul?



Posthumous publication, commissioned by Nancy's City Hall, of the designs of the last notebook that drew the famous caricaturist and illustrator Grandville before passing away.

Celebrated by Baudelaire and the surrealists, sought after by the editors, feared for its anti-

Les étoiles, dernière féerie, par J.-J. Grandville, texte par Méry. *Astronomie des dames* par le Cte Foelix.- Paris: G. de Gonet, éditeur: Martinon, libraire; A Leipzig: Chez Charles Twietmeyer, [1849].

1st ed.- 2 partes in 1 vol. (265x183 mm).- [2], XVI, 252, [4], 186, [2] p.; 2 extra title-pages (one for each part), 15 hand-colored engravings, of which 2 are the extra title-pages, 1 the portrait of Grandville, 11 represent celestial stars personified as women and 1 is an astronomical woman cabinet, signed, most, by Grandville, who designed them, and Charles Geoffroy, who etched them; each engraving with its protective leaf; scores of two songs 'Epithalame sur le lac' and 'L'étoile du marin' (lyrics by Méry, music by Emmanuel Brice).

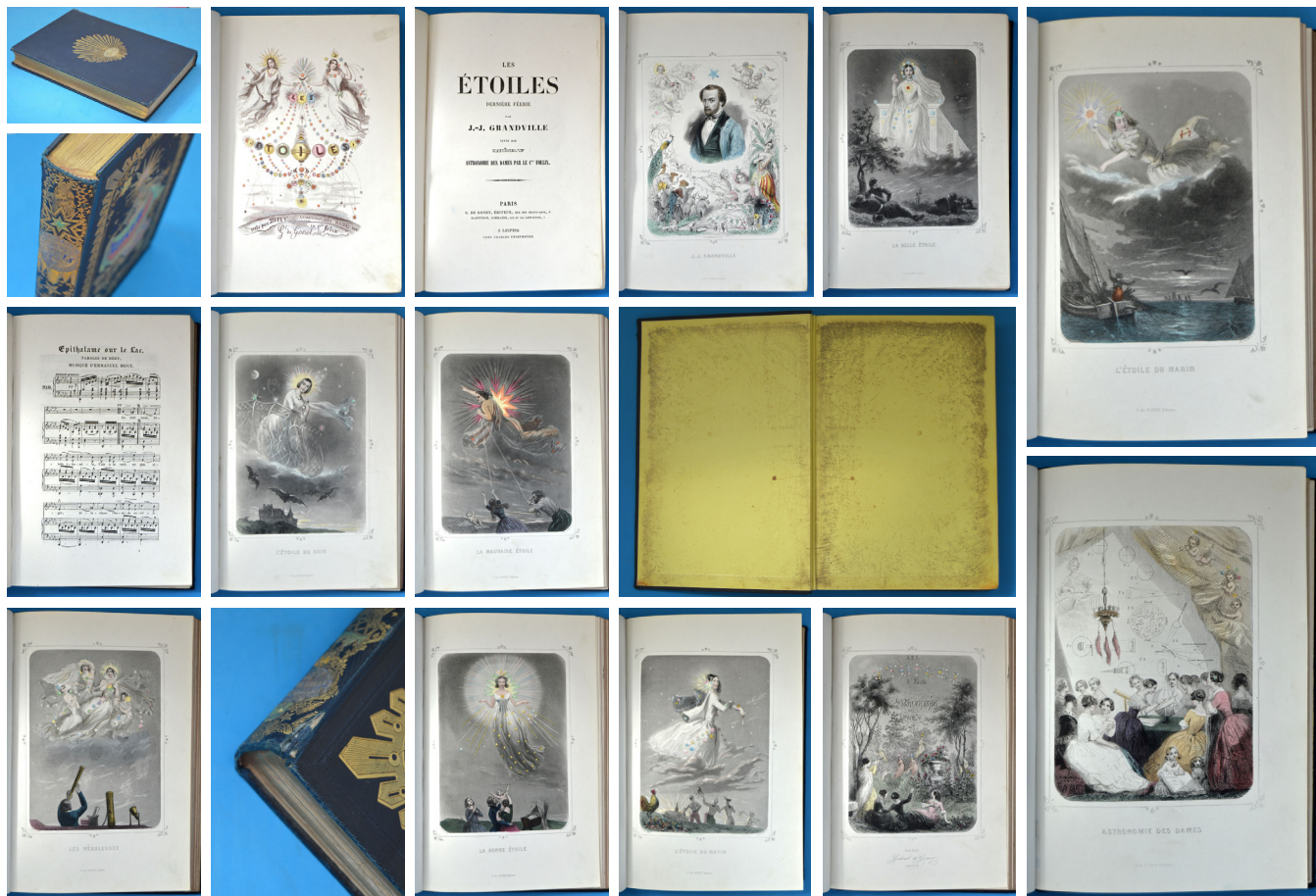
Dark blue cloth publisher binding; boards and spine gilt embossed and hand coloured; gilt edges; original yellow guards; original blue protective leaves for engravings. Head and corners slightly worn; slight breaks at the ends of the joints; end papers contaminated by the glue used in their binding; interior in extraordinary state; immaculate prints. Beautiful copy.

Prov.: No data.

Refs.: Vicaire, V, 770.

clerical and republican biting, these are perhaps his only 'sweet' drawings spread at the time with those on Animate flowers since, although in the existing collection at the Library of Nancy numerous notebooks with original drawings that are also, those that he published were practically always in works of critical or satirical content.

The second part, entitled 'Les étoiles. Second partie. *Astronomie des dames*, par le Comte Foelix', has in its turn a second part; 'Météorologie des dames' (pp. 133-186). As a curiosity, Library of Congress notes that the supplementary engraved title-page of the first part would be the only known wood engraving stamped in sepia and hand coloured.





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- For references with an asterisk (*), a delay of ten days must be provided for the shipment.
- For the rest of the items, the administrative procedure we have to follow until receiving the export permit causes delays up to 45/60 days.

Due to this circumstance beyond our control, we do not issue invoices nor request payments of any item until we receive its export permit.

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1550	C-0379	Vallo libro continente appartenente à Capitaniij...	2.000,00
[1598] 1612	C-1067	Bauhin. De Aqvis medicatis nova methodvs...	5.000,00
1617	C-0969	Sala. Anatomia Antimonii	2.000,00
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1764	C-0799	La Lande. Astronomie	2.200,00
1769-1775	C-0078	Beccaria. Elettricismo...	2.200,00
1775-1804	C-0360	Bails. Elementos de Matemática	4.500,00
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1785	C-1016	Pinetti. Amusemens Physiques	2.900,00
1789	*	C-0985 Romé de L'Isle. Metrologie	2.700,00
1803	*	C-0447 Morla. Láminas del Tratado de artillería	1.800,00
1824-1846	*	C-0458 Pontécoulant. Théorie analytique du monde	750,00
1849	C-0815	Grandville. Les étoiles	700,00

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