

7. Sur les Substitutions Bromés. (By Berthelot and Werner). 16 pp.  
 8. Notice Historique sur la vie et sur les travaux de Ernest-Francois Mallard, Membre de l'Institut de France. 1896. 36 pp.

and :

ARMSTRONG (Henry) Edward).

Marcellin Berthelot and Synthetic Chemistry. In : Journal of the Royal Society of Arts, Vol. 76, No. 3919, December 30, 1927, pp. 145-171.

BERTHIER (Pierre).

Traité des Essais par la voie sèche ; ou des Propriétés, de la Composition et de l'Essai des Substances Métalliques et des Combustibles. A l'usage des Ingénieurs des Mines, des Exploitans et des Directeurs d'Usines. Paris, Thomine, Libraire, Rue de La Harpe, No. 88. 1834.

2 vols. 8vo. Pp. xxiii, (1), 654. With 13 folding plates, designed and engraved by J. J. Olivier. Pp. xxxv, (3), 1008.

First Edition.  
Bolton I, 306.

BERTHOLLET (Claude-Louis).

Essay on the new method of bleaching, by means of Oxygenated Muriatic Acid, with an account of the nature, preparation, and properties, of that acid and its application to several other useful purposes in the arts. From the French of Mr. Berthollet. With figures of all the necessary apparatus and explanatory notes by Robert Kerr, F.R. & A.S.S.E. Edinburgh, Printed for William Creech and G.G.J. & J. Robinson. 1790.

8vo. (28) pp., 139 pp., 1 folding plate.

First Edition in English. The process was discovered by Berthollet. This is a literal translation of his essay to which has been added a supplementary chapter based on a memoir by Chaptal on the same subject.

Éléments de l'Art de la Teinture. A Paris, Chez Firmin Didot, libraire pour l'artillerie et le génie. 1791.

8vo. 2 vols. I : 8, 50, 336 pp. II : 7, 404 pp., 1 leaf.

First (?) issue of the First Edition, printed in large type.  
Hoefer II, 555.  
Bolton I, 306.

The first modern book on dyeing and the first general theory of its principles.

Éléments de l'Art de la Teinture. A Paris, Chez Fimin Didot, libraire pour l'artillerie et le génie. 1791.

8vo. 2 vols. I : 8, 48, 311 pp. II : 7, 365 pp.

Second (?) issue of the First Edition, printed in slightly smaller type than the preceding issue.

Essai de Statique Chimique, par C. L. Berthollet, Membre du Sénat Conservateur, de l'Institut, etc. De l'Imprimerie de Demonville et Soeurs. A Paris, Rue de Thionville, No. 116, Chez Firmin Didot, Libraire pour les Mathématiques, l'Architecture, la Marine, et les Editions Stéréotypes. An XI-1803.

2 vols. 8vo. Pp. viij, 555 ; viij, 543.

Autograph presentation copy, inscribed on the front wrapper to vol. 1, to Sir Charles Blagden, sometime Secretary to the Royal Society and assistant to Cavendish. Blagden was an intimate friend of Berthollet's and died at the latter's house at Arcueil in 1820.

Bolton I, 307.

" Against Bergman's ideas and especially against the assumption that affinity is independent of the masses of integrating substances, Berthollet raised a lively objection. Setting out, like Bergman, with the hypothesis that affinity is identical with gravity, he went on to emphasise the undeniable conclusion that the forces of chemical affinity, like those of general attraction, must be proportional to the masses of the acting substances. The further deductions from this principle he worked out with masterly clearness in the Essai de Statique Chimique.' "-E. von Meyer. Berthollet's speculations in this work led directly to Prout's investigations which yielded a knowledge of definite chemical proportions and thus played a very important part in preparing the way for the development of the Atomic Theory on which the whole of modern chemistry is based.

BERTHOLLET (Claude-Louis), VANDERMONDE (Charles-Auguste), & MONGE (Gaspard).

Avis Aux Ouvriers En Fer, Sur La Fabrication De L'Acier, Publié par ordre du Comité de salut public. (At the end :) De l'Imprimerie du département de la guerre, rue de la Michodière, no. 3. (1793).

4to. 31 pp., 5 plates.

See : Annales de Chimie, Vol. 19, p. 1.

Avis Aux Ouvriers En Fer, Sur La Fabrication De L'Acier. Publié par ordre du Comité de Salut Public. A Paris, De l'Imprimerie du Département de la Guerre, rue de la Michodière, No. 3. (1793).

4to. 34 pp., 1 blank leaf. 5 plates, Sellier sc.

BERTOSSI (Giuseppe).

Delle Terme Padovane volgarmente dette Bagni d'Abano. Venezia, Seb. Coleti. 1759.

4to. 10 leaves+104 pp. Folding map.

BERZELIUS (Johan Jacob).

Traité de Chimie Minérale. Paris. 1829-33.

8 vols. 8vo.

The work is profusely illustrated with plates.  
The first volume comprises " Opérations et Appareils Chimiques."

An excellent survey of the work of this very great Swedish chemist is to be found in E. von Meyer's History of Chemistry (London, 1906), pp. 212-23, 243-51, 257-63.

Lehrbuch der Chemie aus der schwedischen Handschrift des Verfassers übersetzt von F. Woehler. Dritte umgearbeitete und vermehrte Original-Auflage. Dresden und Leipzig, in der Arnoldischen Buchhandlung. 1833-41.

8vo. 10 vols. Plates.

Bolton, 309.

Traité de Chimie Minérale, Végétale et Animale, Seconde Edition Française traduite avec l'assistance de l'auteur par MM. Esslinger et Hoefler sur la cinquième édition que publie M. Berzelius à Dresde et à Leipzig. Paris, Firmin Didot Frères. 1845-50.

8vo. 6 vols. Plates.

Bolton (309) mentions 8 vols., but this is an error. The book is complete in six volumes, whereas the earlier French edition consisted of 8.

The Letters of Jöns Jakob Berzelius and Christian Friedrich Schönbein, 1836-47. Edited by Georg W. A. Kahlbaum, Basie, translated by Francis W. Darbishire, Ph.D. and N. V. Sidgwick. London, Williams & Norgate. 1900.

8vo. 112 pp.

BESANT (Annie), P.T.S., and LEADBEATER (Charles W.).

Occult Chemistry. Clairvoyant Observations on the Chemical Elements. Revised Edition edited by A. P. Sinnett. London, Theosophical Publishing House. 1919.

8vo. Pp. iv, (1, 1 blank), 109, x, (1). With 5 plates and numerous figures in the text.

BESARD (Jean-Baptiste).

Antrum Philosophicum, In Quo Pleraque arcana physica, quae ad vulgatiore humani corporis affectus curandos attinent, sine multo verborum apparatu, ad experimenti legem breuiter, & sincerè reuelantur. Quibus Ordine Alphabetico annotatis, diuersa medicamenta tam è mineralibus, quàm vegetabilibus conficiendi modus immediatè subiicitur. Atq; huic, Tractatus de Rebus quae Humano corpori eximiam, & venustam formam inducunt. De variis Mineralium, & Metallorum praeparat. Déq; plurimis experimentis, quorum speculatio candidioris est ingenii, breues, sed fideles annectuntur. (At the end) : Augustae Vindelicorum imprimebat Daud Franck Impensis Authoris. 1617.

4to. Pp. (23, 1 blank), 248. With fine woodcut title, Da : Döring scu. Ao 1617, L. Kilian F. Woodcut of furnace at p. 216.

Schmieder, p. 359.

Hoefler II, 323.

Hirsch I, 437. " Sehr seltenes Buch."

Rosenthal Nr. 148.

Bezard, lawyer and doctor, was born at Besançon about 1576. His book is rare and deals with the remedies for various diseases and methods for preserving one's beauty—subject to the stars being favourable. Several important chapters are devoted to the metals and alchemy. Langlet-Dufresnoy (III, 122) calls this book " Livre de médicore réputation."

BEUGHEM (Cornelius à).

Bibliographia Medica & Physica Novissima : Perpetuo Continuanda sive Conspectus Primus Catalogi Librorum Medicorum Chymicorum, Anatomicorum, Chyrurgicorum, Botanicorum ut & Physicorum, &c. Quotquot Currente hoc Semisaeculo, id ab Anno Reparatae Salutis 1651. (inclusive) per universam Europam, in quavis Lingua, Orientali tum Graeca, Latina, Gallica, Hispanica, Anglica, Germanica & Belgica, Aut Novi aut Emendatioris & Auctiores Typis prodierunt . . . Amstelædami, Apud Janssonio-Waesbergios. 1681.

12mo. 4 leaves, 503 pp.

Bolton I, 3.

Only this first instalment of this bibliography of medical, chemical, botanical and physical writings from 1650-81 was published ; it is classified alphabetically in order of the various languages.

BEVIS (John), M.D., F.R.S.

An Experimental Enquiry concerning the Contents, Qualities and Medicinal Virtues of the two Mineral Waters, lately discovered at Bagnigge Wells, near London, with directions for drinking them and some account of their success in obstinate cases. The second edition with additions . . . London, Printed for J. Newbery . . . 1767.

8vo. 2 leaves, 64 pp.

Waring II, p. 780.

Pp. 4-27 contain details of various experiments carried out with a view to determining the mineral contents of the waters and their chemical nature. This is the only work on these waters, situated where the Kings Cross Road now runs. Although Bevis (1693-1771) studied medicine as a profession, he is best known as an astronomer and expert on optics. He was an intimate friend of Halley.

BIBLIOTHECA CHEMICO-MATHEMATICA. See under : CATALOGUE.

BIBLIOTHECA ESOTERICA. See under : CATALOGUE.

BICCHIERAI (Alessandro).

Dei Bagni di Montecatini. Trattato di Alessandro Bicchierai Fiorentino. Firenze, Per Gaetano Gambiagi Stampetore Granducale. 1788.

4to. 4 leaves, 347 pp. Double-page view of the bath-houses by Vescellini after Terreni, folding map and two folding plates.

BILLICH (Anton Günther).

D.O.M.A. De Tribus Chymicorum Principiis, et Quinta Essentia Exercitatio. Anton. Gunther. Billichi Medicinar. Licent. & Med. Oldenburg. ordin. Bremae Apud Thomam Villerianum. Anno 1621.

8vo. Pp. (8), 69, (1 blank, 1, 1 blank). With publisher's device at the end.

First Edition.

Ferguson (I, 107) refers to Billich as " a good chemist and a clear expounder of facts and principles."

In this scarce treatise he investigates the fundamental properties of Sulphur, Salts, Mercury and other substances and critically attacks some statements by his predecessors : Beguin, Quercetanus, Paracelsus and others.

Bolton I, 313.

De Natura et Constitutione Spagyricis emendatae. Exercitatio. Helmaestadi, Typis heredum Iacobi Luci, Impensis Zachariae Raben. 1623,

4to. (60) pp. With printer's mark.

First Edition.  
Ferguson I, 107.  
Gmelin I, 595.  
Mentioning Paracelsus, Beguin, a.o.

Observationum ac Paradoxorum chymiatricorum Libri Duo : Quorum Unus medicamentorum Chymicorum praeparationem : Alter eorundem usum succincte perspicueque explicat. Lugduni Batauorum. Ex officina Ioannis Maire. 1631.

4to. Pp. (1-10), 11-173, (1). The title-page is engraved, Gerart Muntinck sculp.

First Edition.  
Ferguson I, 107.

Thessalus In Chymicis Redivivus : Id est, De Vanitate Medicinae Chymicae, Hermeticae, seu Spagiricae Dissertatio Fundamentalitatis : Ex Ipsismet Artis Chymicae proceribus Quercetano, Beguino, Crollio, &c. deducta, . . . accessit Anatomia Fermentationis Platonicae Apodictica & Paradoxologa Eiusdem Authoris. Francofurti ad Moenum, Impensis Johannis Beyeri, Typis Casparis R6telii. 1640.

8vo. Pp. (16), 318.

Ferguson I, 107.  
Apparently the second edition of the two works contained in this edition, the second of which is dedicated to Hermann Conring.

#### BIOT (Jean-Baptiste).

Introduction aux Recherches de Mécanique Chimique dans lesquelles la lumière polarisée est employée auxiliairement comme réactif. Extrait des Annales de Chimie et de Physique 3e série, t. 59 (Paris, 1860).

8vo. 141 pp. Folding plate.

This important treatise sums up Biot's investigations on the effect of polarized light on a number of organic compounds.

Presentation copy to Sir John Herschel, "son ancien ami," with a few pencil remarks by the latter.

#### BIRCH (Thomas).

The History of the Royal Society of London for Improving of Natural Knowledge, from its first rise in which the most considerable of those papers communicated to the Society, which have hitherto not been published, are inserted in their proper order, as a supplement to The Philosophical Transactions. London, Printed for A. Millar in the Strand. 1756.

4to. 4 vols. I : 3 leaves, 511 pp. 4 folding plates. II : title + 501 pp. 3 folding plates. III : title + 520 pp. IV : title 558 pp.

The most important early work on the Royal Society.

#### BIRELLI (Giambatista).

Opere. Tomo Primo. Nel qual si tratta dell' Alchimia, suoi membri, utili, curiosi, & dilettevoli. Con la vita d'Hermete, con due tavole, l'una de Capitoli, & l'altra delle cose notabili. In Fiorenza. Appresso Giorgio Marescotti. (at the end :) 1601.

4to. 18 leaves, 552 pp., 8 leaves. With 19 fullpage woodcuts and woodcut border to titlepage.

First Edition.  
Although the title says "Tomo Primo," this appears to be the whole work. The Life of Hermes at the end has a portrait.  
Ferguson (I, 108) describes a German edition of 1603.

#### BIRINGUCCIO (Vannuccio).

De la Pirotechnia. Libri X dove ampiamente si tratta non solo di ogni sorte & diversita di Miniere, ma anchora quanto si ricerca intorno à la pratica di quelle cose di quel che si appartiene a l'arte de la fusione over getto de metalli come d'ogni altra cosa simile à questa. Composti per il S. Vanoccio Biringuccio Sennese. . . (at the end :) Stampata in Venetia per Venturino Roffinello. Ad instantia di Curtio Navo. & Fratelli. Del 1540.

4to. (8) leaves +168 leaves. Woodcut title border and 84 woodcuts.

First Edition.  
Brunet I, 954 : "Ce traité, qui a eu beaucoup de succès dans le temps, se trouve difficilement, quoiqu'il en ait été fait plusieurs éditions."  
This is the First Edition of a famous book on metallurgy and mining, containing (f. 123-132) interesting chapters on Alchemy and illustrated by very fine woodcuts. Hoefer (II. 49-51) gives a detailed description of the contents. Kopp, Gesch. d. Chemie, III, 221, states that we know nothing about the author. As may be seen from the title of this book he was a nobleman of Siena. Lippmann (Entstehung u. Ausbreitung der Alchemie, I, 505) gives the dates of his birth and death as 1480 and 1539 ? respectively. He did not believe in Alchemy.  
This book is very fully dealt with by Stillman (The Story of Early Chemistry, pp. 328-336). One of the most interesting features to which S. draws attention is that it has been usual in the past to ascribe to Basilius Valentinus the credit for being the first author to describe antimony in detail : recent research points to the latter having written his treatise some half a century later than Biringuccio and it is therefore to the Italian author that credit should go, as he treats at some length on Antimony.

Hoover (Translation of Agricola's De re metallica, 1912, page 614) devotes some space to this important work and notes that Biringuccio should be credited with the first description of silver amalgamation and liquation, and that he was the first to mention cobalt blue and manganese.

Pirotechnia. Li dieci libri della Pirotechnia, Nelli quali si tratta non solo la diuersita delle minere, ma ancho quanto si ricerca alla pratica di esse : e di quanto s'appartiene all' arte della fusione ouer getto de metalli, e d'ogni altra cosa a questa somigliante. Composti per il S. Vannuccio Biringuccio, nobile Senese. Col Privilegio Apostolico, e della C. Maesta, e dell' Illuss. Senato Veneto. (at the end :) In Vinegia, per Giouan Padoano, a instantia di Curtio di Nauò. 1550.

4to. Ff. (8), 167, (1). With fine woodcut-border surrounding the title, 84 woodcuts in the text and publisher's large device at the end of the book.

The second edition.

Pirotechnia del S. Vannuccio Biringuccio Senese ; nella quale si tratta non solo della diversita delle minere, ma ancho di quanto si ricerca alla pratica di esse. E di quanto s'appartiene ail 'arte della fusione, à getto, de metalli. Far Campane, Artgelierie, fuochi

artificiati, & altre diverse cose utilissime. Nuovamente corretta, et ristampata. Con la tavola delle cose notabili. In Venetia. Appresso P. Gironimo Giglio, e compagni. 1559.

8vo. 352 leaves. With numerous woodcuts.

The Fourth Edition (see Bibliotheca Chemica, No. 420).

La Pyrotechnie, ou Art du Feu, contenant dix livres, ausquels est amplement traicté de toutes sortes & diversité de minieres, fusions & separations des metaux : des formes & moules pour getter artilleries, cloches & toutes autres figures : des distillations, des mines, contremines, pots, boulets, fusees, lances ; et autres feuz artificiels, concernans l'art militaire, & autres choses dependantes du feu. Composée par le Seigneur Vanoccio Biringuccio Siennois. Et traduite d'Italien en François, par feu maistre Iaques Vincent. A Paris, Chez Guillaume Iullian, pres le college de Cambray. à l'enseigne de l'Amitié. 1572.

4to. 172 leaves. Many woodcuts.

The second French edition.

Brunet I, 954. There is an earlier French edition of 1554.

The Pyrotechnia of Vannoccio Biringuccio translated from the Italian with an introduction and notes by Cyril Stanley Smith and Martha Teach Gnudi. Publication sponsored by the Seeley W. Mudd Memorial Fund. New York, The American Institute of Mining and Metallurgical Engineers. 1942.

4to. 26 + 476 pp., 1 leaf. Woodcuts.

The first complete translation into English of this classic work on the history of chemistry and alchemy. One thousand copies of this well produced book were printed by C. P. Rollins, printer to Yale University.

#### BIRKHOLZ (Adam Michael).

Die ganze höhere Chemie und Naturwissenschaft in allgemeinen Grundsätzen, nach den drei Uranfängen und Grundkräften der ganzen Natur. Aus dem Lateinischen übersetzt, mit beigefügten Anmerkungen von AdaMah Booz. Leipzig, bei Johann Friedrich Junius. 1787.

8vo. 8 leaves, 366 pp.

Ferguson I, 108.

Contains translations of Nuysement's "De Vero Sale Secreto" and Sendivogius's "Novum Lumen."

#### BIRRIUS (Martin).

Tres Tractatus de Metallorum Transmutatione. Quid singulis contineatur, sequens pagina indicat. Incognito Auctore. Adjuncta est Appendix Medicamentorum Antipodagricorum & Calculifragi. Quae omnia ad bonum publicum promovendum nunc primum in lucem edi curavit Martinus Birrius, Philosophiae & Medicinae Doctor, Practicus Amstelodamensis, apud quem Medicamenta ista reperiuntur. Amstelodami Apud Johannem Janssonium a Waesberge & Viduam Elizei Weyerstræct. 1668.

8vo. Pp. (15. 1 blank), 110 pp. 1 blank leaf.

Ferguson I, 109.

This volume contains the following tracts ascribed to Eirenaeus Philalethes, and translated by the editor from the English "De Metallorum Metamorphosi," "Brevis Manuctio ad Rubinum Coelestem," "Fons Chemicæ Philosophiæ."

There is a fine folding portrait of the author by Chr. Hagens, but this may possibly have been inserted, and not form part of the book. It is not in the copy described by Ferguson.

#### BISCHOFF (Erich).

Der Sieg der Alchymie. Das wiederentdeckte Geheimnis, aus unedlen Metallen echtes Gold zu machen. Eine Wanderung aus Nacht zum Licht. Berlin, W. 30, Hermann Barsdorf Verlag. 1925.

8vo. Pp. 160.

At the end of the book (p. 151-156) there is a short bibliography and an explanation of alchemical terms.

#### BLACK (Joseph).

The supposed effect of boiling upon water in disposing it to freeze more readily, ascertained by experiments by Joseph Black, M.D., Professor of Chemistry at Edinburgh in a Letter to Sir John Pringle, Bart., P.R. S. (Extract from the Philosophical Transactions, 1775).

4to. Occupies pp. 124-128.

The only paper which Black ever communicated to the Philosophical Transactions. Bound up with Sir Charles Blagden's : "Experiments and Observations in a heated Room."

Experiments upon Magnesia Alba, Quick-Lime and other Alkaline Substances . . . to which is annexed An Essay on the Cold produced by Evaporating Fluids and of some other means of producing cold by William Cullen, M.D., Professor of Medicine at the University of Edinburgh. Edinburgh, Printed for William Creech. 1782.

8vo. 135 pp., 2 leaves advertisements.

The second separate edition of a work first published in the "Essays and Observations" of the Edinburgh Medical Society in 1756. It was an enlarged version of Black's graduation thesis submitted in 1754.

Bolton I, 316.

This copy was formerly in the library of Sir John Hall.

Directions for Preparing Aerated Medicinal Waters, by Means of the Improved Glass Machines made at Leith Glass-Works. Edinburgh, Printed for William Creech, 1787.

8vo. 12 pp. and advertisement leaf, 1 plate.

This pamphlet was formerly in the library of Sir John Hall, who has written on the titlepage "Suppd. by Dr. Black." In the preface to Black's "Lectures on the Elements of Chemistry," the editor (Robison) mentions that Black was intimate with the manager of the Leith glass works.

Lectures on the Elements of Chemistry, delivered in the University of Edinburgh, by the late Joseph Black, M.D. . . . now published from his Manuscripts by John Robison, LL.D. Edinburgh, Printed by Mundell & Son for Longman & Rees, London, and, William Creech, Edinburgh. 1803.