

**Addenda to Rara arithmetica which described in 1908 such European arithmetics printed before 1601 as were then in the library of the late George Arthur Plimpton / by David Eugene Smith.**

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ADDENDA TO  
RARA ARITHMETICA

DAVID EUGENE SMITH

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ADDENDA TO  
RARA ARITHMETICA





PORTRAIT OF MR. GEORGE A. PLIMPTON IN THE LIBRARY OF  
COLUMBIA UNIVERSITY

# ADDENDA TO RARA ARITHMETICA

WHICH DESCRIBED IN 1908 SUCH EURO-  
PEAN ARITHMETICS PRINTED BEFORE 1601  
AS WERE THEN IN THE LIBRARY OF THE  
LATE GEORGE ARTHUR PLIMPTON, BY  
DAVID EUGENE SMITH



GINN AND COMPANY, PUBLISHERS  
BOSTON AND LONDON, 1939



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## PREFACE

It is now a third of a century since the *Rara Arithmetica* was published, and in that space of time there have been many discoveries in the field of bibliography with which it was concerned. Mr. Plimpton passed away in 1936, and to the last he continued to add to the several branches of his large library — arithmetics printed before 1601, medieval manuscripts relating chiefly to mathematics, books and manuscripts concerned with history, religion, geography, calligraphy, and belles lettres in various languages. Some years before his death he had in mind a list of addenda to the *Rara Arithmetica* which should include the acquisitions made by the library during the preceding period of thirty years. In this he also proposed to add such information relating to other works and editions as had come to his attention through recent catalogues of important public or private libraries or those of prominent and reliable dealers.

Mr. Plimpton was well aware of the value of adding the names of publishers and the value of brief descriptions of such editions as were not in his own library, including complete collations, the names of the libraries consulted, and the present owners in case of permanent collections, but this would require an amount of space that would prohibit wide circulation. As the *Rara Arithmetica* stood it had served and still serves the original purpose of its publication. Today there are few prominent dealers' lists of early literature that fail to refer to the *Rara Arithmetica* as an aid to scholars in the history of this branch of elementary mathematics.



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Since his death the question has arisen how his wishes could best be carried out so as to meet the needs of the many libraries which have copies of the *Rara Arithmetica*. After careful consideration it has seemed best to prepare a list of addenda which could readily be used in connection with such copies.

To assure the success of this undertaking the firm of Ginn and Company has undertaken the publication of this addendum, looking upon it as a memorial to Mr. Plimpton, a man who for a number of years had been the senior member of the firm. The Library staff of Columbia University has willingly joined in the work of extending the bibliography to include the later items pertaining to the collection. In this way Columbia University has recognized in some degree its gratitude to a man who had long been interested in its Library and connected with its Barnard College. His extensive collection, presented to the University, is now placed in a room of noble proportions in the Low Memorial Library, remodeled in accord with his wishes as expressed a short time before his death.

The editor of both the *Rara* and the *Addenda* wishes to express his thanks to Samuel Anthon Ives for his work in compiling a list of such arithmetics, printed before 1601, as were added to the library before Mr. Plimpton's death, the list having been begun by the owner's request. Special mention should also be made of the assistance rendered by Miss Bertha Margaret Frick, Curator of the Plimpton collection. Without such assistance it would have been almost impossible to select the material for the completion of this work.

It is hardly necessary to say that the list of addenda is by no means complete. Such a list in any line can hardly claim to be perfect. Unique publications are possible, and limited editions even of arithmetics are not infrequently found. In the case of the present work, however, this list of addenda, together with

that given in the *Rara Arithmetica* itself, will be found to be fairly complete and fairly accurate.

For the convenience of readers each paragraph has a prominent reference to the related page in the original *Rara Arithmetica*, referred to as *Rara*. Such well-known bibliographies as those of Hain-Copinger, Proctor, and Dr. Klebs's recent *Incunabula Scientifica*, together with such well-known catalogues as those of Tregaskis, Goldschmidt, Sotheran, Quaritch, Stechert, Rosenthal, and Maggs, have been of great assistance in the compilation of the addenda. In general the items containing extended descriptions refer to books in the Plimpton Library.

DAVID EUGENE SMITH



## ABBREVIATIONS

- b., from the bottom of the page  
c., *circa*, about  
cm., centimeters  
ed. pr., *editio princeps*, first edition  
f., ff., folio, folios  
fol., 4<sup>o</sup>, 8<sup>o</sup>, . . . , folio, quarto, octavo, . . .  
ib., *ibidem*, the same place  
l., ll., line, lines  
p., pp., page, pages  
r., recto, the first page of a leaf  
v., verso, the second page of a leaf  
s. a., *sine anno*, without date of publication  
s. l., *sine loco*, without place of publication  
s. l. a., without place or date of publication  
/, or, to, and, as in 1471/2. Often used in the original as the equivalent of a comma.  
//, the end of a line of print  
[ ], uncertain items — names, dates, titles  
*Rara*, the *Rara Arithmetica*

The modern form of *s* is used instead of the long one frequently found in title pages, and the umlaut as in *ä* instead of the older forms. The symbol  $\therefore$  is used instead of various medieval symbols for such terminations as *ium* or *orum*. The mark — over a letter is used to denote a missing letter as usual in early printing.

The spelling *Bullettino* is used for *Bulletino* in Italian works.



## PRINTED BOOKS

### ADDENDA TO RARA ARITHMETICA

A reference like **Page 7** in heavy type at the beginning of a paragraph refers to the *Rara Arithmetica*.

**Page 7. RODERICUS ZAMORA.**

Ed. pr. [1471].

s. l. a. [1471/2].

*Title.* 'Speculum Humanorum.'

*Description.* It has a brief section on arithmetic, but neither this nor the Magni book below should be ranked with the Treviso textbook of 1478 mentioned in the *Rara*.

**Page 7. JACOBUS MAGNI.** Ed. pr.?      Strasburg, [c. 1475].

*Title.* 'Sophologium.'

Mentioned by Hain-Copinger, \*10471, and Proctor, 240. It was printed by Adolf Rush at Strasburg. It contains a section 'De aresmetrica' (Book I, Tract II, chapters 6 and 7).

**Page 9**

*Editions.* There were other editions of the 'tractatus' of Albert of Saxony, Padua, 1477; ib., 1487; Paris, 1485; Rouen, 1493; ib., 1494 and 1500; Venice, 1476; ib., 1494; Trent, 1475, — including Italian and German translations.

**Page 10**

For France (l. 9) read French for greater clarity.

**Page 16**

To the list of Borghi's 'Qui comenza' editions add a sixth edition, Venice, 1509, mentioned on p. 16. It contains 6 pp. of additions.

## 2 ADDENDA TO RARA ARITHMETICA

There are two editions in 1561. In one of them the last two signatures, M and N, have been reset. In 1560 one was set, and in 1561 this was used, the reset ones being used to complete the book. See *Rara*, p. 495.

### Page 23

Klebs gives three editions of the 'Ars Numerandi,' Cologne, 1482; Paris, 1490; Florence, 1491. See also pp. 473, 495, of *Rara*.

### Page 27

In the list of Boethius-Stapulensis editions here and on p. 62 of *Rara*, include 'Arithme//tica specvlativa Boe-//tij per Iacobum Fabrum Stapulen-//sem in compendium redacta.//'' Colophon: 'Basileae . . . Mense Martio, // Anno // M.D.XXXVI.'

**Page 32.** ANIANUS. Ed. pr. 1488.

Paris, 1527.

*Title.* 'Compot<sup>3</sup> nouissi//me ampliatus ac//emendat<sup>3</sup> & fami//liari elucidatus cōmentario: vna // cū manib<sup>3</sup> / figurisq<sup>3</sup> suis in locis // decēter adiectis M.d viii. . . . Compendium deniq<sup>3</sup> su//p additū est N. Bonespei trecēsis // . . . . Au Pellican.'

*Colophon.* 'Impressus pictauis in domo honesti vi//ri. Enguilberti de Marnef Bibliopola // dicte Vniuersitatis ad insigniu<sup>3</sup> // Pellicani . . . Millesimo quingentesimo // Vigesimo septimo.'

*Description.* 9 × 13 cm., 68 leaves, numbered fol. lxvij and 1 unnumbered. This is the 1508 edition mentioned on p. 32 of *Rara*, but reprinted in Paris 1527. It has several illustrations, one of which is given in Fig. 1.

### Pages 33-35

There were at least 70 editions of Anianus before 1600 (34 being before 1501) with or without the added name of Sacrobosco, besides 8 of the 'Cuer de Philosophie' which contains a so-called translation of the Compotus. Among the editions in the sixteenth century some are in verse, — 'Compotus cū commēta familiari.



una cum figuris et manibus necessariis . . . Lugduni, 1509.' In the preceding year (1508) there was one 'Compot<sup>3</sup> nouissi//me ampliatus ac//emendat<sup>3</sup> & fami//liari elucidatus cōmentario: vna//



FIG. 1. FROM THE ANIANUS *Compotus* OF 1527

cū manib<sup>3</sup> figurisq; suis in locis // decēter adiectis M.d viii,' mentioned above. This contains numerous illustrations (see Fig. 1), verses, church calendars, and the length of days. In 'Le Comput Manuel de Magister Anianus,' by D. E. Smith, Paris, 1928, pp. 80-103, these additional editions are listed: Lyons, 1488-9, 2 editions; ib., 1490-3, 6 editions; 1494-5, 4 editions; Paris,



#### 4 ADDENDA TO RARA ARITHMETICA

1483; ib., 1490, 4 editions; ib., 1492, 2 editions. This work was so popular that many other editions appeared before 1601, and later.

##### Page 36

See p. 495 of *Rara*.

##### Page 40

From variations in spelling and other evidence there were two editions in Augsburg, 1526, possibly due to changing type in certain pages while in the process of printing.

##### Page 46

Add to l. 3 of editions: Hain, 125-6, gives two editions s. l. a.

##### Page 53

Add 'Vienna, 1498; ib., 1500.' In first title, for 'Practis' read 'Fractis.' The section 'De Numeris Fractis' seems to be the work of some anonymous writer.

##### Page 53

The arithmetic of Peurbach mentioned as 'Opus Algorithmi' is now in the Plimpton Library. There are 8 leaves,  $15.3 \times 21.4$  cm. The title page reads: 'Opus Algorithmi iucūdissimū // Magistri Georgii Puerbachij wiēnēsis (preceptoris singula-//ris Magistri Joannis de Mōteregio) . . .' The colophon reads: 'Et tantum de hoc opere Algoristico Anno // Christi Jiesu Millesimo quīgentesimo septīo // p Baccalariū Martinū Herpipoleñ īpresso.'

##### Page 56

Paciuolo wrote another book, the 'Libro da Abacho,' Venice, Bern. de Bindoni, 1540; 100 numbered leaves.

**Page 60**

There were three Leipzig editions of 'Algorismus linealis' in 1495 and one in 1500. Probably printed by Landsberg, c. 1495, 33 ll., 11 woodcuts, possibly written by Widman or Licht.

**Page 61**

Add to Editions (of Bradwardin) : Paris, c. 1515. Also 'Regula falsi apud philosophantes augmenti et documenti appellata,' Leipzig, Martin Landsberg, between 1490 and 1495, 20 leaves. The first edition of any work on false position. There was also an algorism, 'Algorismus minutiarum physicarum,' Leipzig, Martin Landsberg, 1490-95, treating of sexagesimal fractions, 6 leaves, possibly the work of Widman. From the same publisher, another 'Algorismus minutiarum vulgarium.' The preface says that it goes back to Campanus, thirteenth century. There is a 'Computus novus,' s. l. a., sometimes quoted as Leipzig, 1495, but it is probably ib., 1499. (See Hain 5600.)

**Page 62**

See p. 495 of *Rara*.

**Page 70**

Add to Portius editions : Rome, 1534.

**Page 81**

Add to Editions, l. 3, after 1510, 'and also an edition in 1514.'

**Page 82**

This copy in the Plimpton Library includes all the arithmetic, but not the folding map of the world. See p. 495 of *Rara*.

**Page 83. CONRADUS NORICUS.**

Ed. pr. 1503.

Leipzig, 1503.

The author was a member of the faculty of Liberal Arts in the University of Leipzig.



## 6 ADDENDA TO RARA ARITHMETICA

*Title.* 'Commentatio Arithmetice commu//nis a Conrado Norico artium libera//lium: academie Lipsensis Magistro . . .'

*Colophon.* ' . . . Vale ex Liptzck Sole in tercia parte aquarij Anno salutis. 1503.'

*Description.* 20.8 × 30.4 cm. It is the 'Textus arithmeticae' mentioned on p. 83 of the *Rara*, acquired by Mr. Plimpton after the *Rara* was printed. Fol., 25 leaves. Bound with two other works, the first being the 'Mathemalogiū pri//me p[r]tis Andree alex//andri Ratisbonēsis // mathematici sup[r] no//uam et veterem loy-//gam Aristotelis,' devoted to the Aristotelian and the [then] modern logic. The second part (38 leaves) treats of perspective and is profusely illustrated with geometric figures. The third part is the work above mentioned and seems to have been published by the same printer as the others — Melchior Lotter of Leipzig, the type, style, and paper being the same. It is divided into two sections, one being related to the theory of numbers and the other to computations, explained by numerous marginal notes in a sixteenth-century hand.

### Page 83. STROMER, HENRICUS.

Ed. pr. 1504.

Leipzig, 1510.

Known also as STROMER AUERBACHENSIS.

*Title.* 'Algorithmus liealis // numerationem Additionem Subtra//ctionem Duplationem Mediationē // Multiplicationē Diuisionē et progressionē vna cum re//gula de Tri perstringens.' This is given on a separate preliminary leaf. The text begins on Aii.

*Colophon.* '∴ Impressum Lyptzk per Jacobum // Thanner Herbipolensem Anno domi-//ni Millesimoquingentesimodecimo.' Followed by the device of Thanner.

*Description.* 4°, 16 × 21.3 cm., 7 leaves. The text includes diagrams of computation by counters.

To the Stromer editions given in *Rara* on page 83, add 'Cracow, 1536.'



**Page 87. HIERONIMUS DE HANGEST.**

Ed. pr. 1508.

Paris, 1508.

*Title.* 'Liber proportio//nū magistri hie//ronimi de han-//gest. . . . Iehan Petit' (with emblem).

*Colophon.* 'Liber proportionum a Magistro hieronymo de hangest editus // Parrhisij nouissime Impressus opera Johannis Barbier . . . feliciter finit. Anno ab orbe redempto Millesimo quingente-//simooctauo. xxij. Junij.'

*Description.* Fol., 20 × 28 cm. 29 fol. The colophon is on fol. d. iiii, v. Then begins a supplement of two pages, 'Antidotum memorie atq; itelle-//ct.'

The book is concerned with the theory of numbers, including proportion, and the relation of numbers to a geometric type of algebra and to the theory of music. It is divided into five books, the 'Liber quintus' being 'De proportionibus harmonicis.' In its field it is one of the best works of the period.

**Page 91**

To *Other works of 1510* add: Ambrosius Lachar, 'Algorithmus mercatorū magistri // Ambrosij Lacher de Mersspurg Mathematici de integro & fracto // numero . . .' *Colophon:* 'Impressum Lyptzigk pr Bac-//calaureū Martinū Herbipolē//sem Anno dñi 1510.'

In 1511 there was printed by Cornelis of Zyrickzee, at Cologne, an 'Arithmeticae Lillium triplicis practice,' which is verbatim like Huswirt's 'Enchiridion' of 1501 illustrated on p. 75 of the *Rara*.

There was also another edition of 'Arithmetice Lillium triplicis practice que pulcherrime ut puta . . .,' Cologne, 1511.

**Page 93**

After the description of Ortega's 'Tratado' insert: There was a translation of the Spanish work, Lyon [1515], 'Euure [Oeuvre] tressubtille .∴ profitable de lart .∴ science de Aristmetiques: .∴ Geometrie translate nouuellement despaignol en frācoys [par moy Frere Glaude Plantin . . .].'

## 8 ADDENDA TO RARA ARITHMETICA

*Colophon.* 'Impr. a Lyon . . . par Estienne Balaud' . . . [1515]. It differs somewhat from the first Spanish edition and may be considered a separate work. The name of the author was L'Ortie or l'Ortega, each meaning 'nettle,' and appears in French as Juan de l'Ortega and Juan de Ortega.

**Page 97.** LANDSHUT, KARL VON (Johann Lanzut, and Lanczut). Ed. pr. 1513. Cracow, 1517.

Known in this edition as JOANNES DE LANCZUT Magister.

*Title.* 'Algorismus linealis // cum pulchris conditiōibus duarū // regula ∴ De trivna de integris: // altera vero de fractis: regl'isq ∴ // socialibus: ∴ semper exem-//plis ydoneis adunctis. // In florētissimo studio // Cracouiensi editus // nō minus litteris // erudit ∴ q3 merca//toribus vtilis.// ∴ maxime // incipientibus.' See Fig. 2.

*Colophon.* 'Impressum Cracouie Opera ∴ impensis // prouidi viri domini Joannis Haller // ciuis Cracouieñ. Anno Cristi.// 17. supra millesimum // quingētesimū.'

*Description.* 4°, 10.4 × 15.8 cm., the text being 9.9 × 14.8 cm. Type Gothic. The date, 'Data Cracouie vi. Kalendas.// martias. M. D. Xv.' is evidently that of the completion of the manuscript copy. The text includes eight diagrams of the abacus and counters.

*Editions.* Hain, no. 828, mentions a possible incunabulum, s. l. a. This may be the *Algorithmus integrorum* mentioned in the *Rara Arithmetica* as of 1504 (p. 83). Other editions of 1515 and 1519 (*Rara*, p. 97). Delete the duplicate list under *Other works of 1513*.

There was another edition of Landshut (Lanzut), Cracow, 1538. See also p. 498 of *Rara*. Joannes Martinus is also called Sciliceus.

### Page 99

In the editions include one by Budaeus and Alciatus, Venice, 1532, and a French edition, 'Summaire ou Epitome du livre de Asse,' Paris, 1522.



# Algorismus linealis

cum pulchris conditionibus duarū

regulaz De trivna de integris:

altera vero de fractis: reglisq;

socialibus: et semper exem-

plis ydoneis adiunctis,

In florētissimo studio

Cracouiensi editus

nō minus litteris

erudit; q̃ merca-

toribus utilis,

et maxime

incipientibus.

¶ Ad Lectorem Octosticon.

Quisq; Arithmeticen optas cōtingere sacram

Quam Samius nimium concelebrauit auus

Hunc (moneo) legito studiosa mente libellum

Lectaq; sub memori rite repone sinu

Hæc nāq; ad reliquas iter amplum dirigit artes

Discutit errores iurgia dira secat

Quam bene qui norit res cunctas nosse putat

Constat em̃ numeris quicqd in orbe viget.

FIG. 2. TITLE PAGE OF LANDSHUT'S *Algorismus* OF 1517



# Tractatus Arithmeti

ce Practice qui dicitur Algorismus cum additioni  
bus utiliter adiunctis



¶ Teneunt in edibus Joannis Gourmontij: e  
regione Collegii Loqueretici

FIG. 3. TITLE PAGE OF THE 1514 EDITION OF THE *Tractatus*

**Page 106**

In l. 2, after '(p. 113)' insert 'also 1519 at Oppenheim or [Frankfort].' In l. 2, before 'Frankfort,' insert 'ib., 1519;' To *Other works of 1514* add Martinez Guijano's 'Arithmetica in theoriam et praxim scissa,' Paris, 1519 and frequently reprinted.

In the *Other works of 1514* the 'Algorithmus linealis Proiectiliū . . .' listed as due to Buschius is due to Joannes Cusanus (Cusa), as shown in the colophon '. . . diligenti opera per Magistrum // Joannem Cusanum . . .'

**Page 106**

Among the *Other works of 1514* include a 'Tractatus Arithmeti//ce Practice qui dicitur Algorismus cum additioni//bus vtiliter adiunctis,' s. l. The book is in the Plimpton Library and the title page is reproduced in Fig. 3. It has 8 leaves in signature A8 and 6 in B6. In this copy the binder has misplaced certain leaves. It is possibly the work referred to in some catalogues under the title 'Arithmeticae practicae Tractatus,' s. l. a., anonymous, but probably by J. Martinez Siliceo. (See page 106 above for change of name.)

**Page 114**

The 1550 edition of Tagliente mentioned in the last line has now been acquired for the Plimpton Library. A facsimile of page 2 is shown in Fig. 4. See also *Rara*, p. 495.

**Page 115**

There was also another edition, Venice, 1570, 'per Francesco de Leon.' One edition in Gothic type s. l. a. See p. 495 of *Rara*.

**Page 122. VOLVMNIVS RODVLPHUS SPOLETANUS.**

Ed. pr. 1516.

Rome, 1516.

*Title.* 'Volvmnii Rodvlphi Spoletani de pro//portione proportionvm // dispvtatio.'





FIG. 4. PAGE FROM THE 1550 TAGLIENTE



*Colophon.* 'Impressum Romæ per Iacobum Mazochium. Anno dñi.// M.CCCCC.XVI. Die XXVII. Septembris.'

*Description.* 12.6 × 19.4 cm. 28 leaves. One of several books of the sixteenth century treating of proportion from the geometric standpoint while at the same time making use of arithmetic. The text is preceded by two Latin poems, and the book is dedicated to 'Amplissimo in Xpo patri / & Dño. D. Laurentio Puccio.// S.R : E. . . .'

*Editions.* There were no other editions.

### Page 123

To the editions of Grammateus add 'Erfurt, n. d., but post July, 1518.' Also in line 2 of Editions read 's. l. a. (Frankfort, 1544).' Also see p. 498 of *Rara*.

### Page 126

In l. 11, for 145 read 146.

### Page 130

The colophon of the *Algorismus* in l. 2 reads: 'In officina Sigismundi Griñ Medici ac // Marci Vuirsung, Augustae Vinde-//licorum. Die. 23. Jañ. An. 1520.'

After l. 8 insert: 'This was probably the first arithmetic printed in French,' and add: 'J. Furst, *Compendiosa ars numerandi*, Vienna, 1520.' See *Rara*, p. 93, for another work by Furst.

### Page 130

In *Other works of 1520* include a small book printed in Paris [1520], entitled 'L Art & sci//ence de arismetique // moult vtille et prffitabile a toutes // gēs & facile . . . imprime a Paris'; see Fig. 5 on page 14. On fol. 6, r, the anonymous author gives 'les cinq rei//gles principales qui sont Nume-//ration. Addition. Sustraction. mul//tiplication. et partition.//'. As a compendium of the operations needed in business it is exceptionally good.

## Page 132. FRANCESCO GHALIGAI.

Ed. pr. 1521.

Florence, 1548.

*Title.* 'Pratica // d'Arithmetica, // di Francesco Ghaligai // Fiorentino. // Rivista & ristampata // con diligentia. // In Firenze, // MDXLVIII.' See Fig. 6.

*Colophon.* 'In Firenze // appresso Bernardo Giunta.'

*Editions.* Add the edition of 1560, Bologna, by Pellegrino Bonardo, which is now in the Plimpton Library. Also insert: There was a Nuova Edizione of the Pratica, Florence, 1552, printed by the Giunti as in the 1548 ed., 'con somma Diligenza ristampata.'

**L'Art & Science de arismetique**  
 moult utile et pffitable a toutes  
 ges & facile a encendre par la plu  
 me & par le gect subtil pour ceulx  
 qui ne scauent l'ye ne escrire nois  
 uellement imprime a Paris.



On les vend a paris en la rue neu/  
 ue nostre dame a lesai de France.

FIG. 5. TITLE PAGE OF *L'Art & Science de arismetique*, PARIS, 1520

and 1563. There was also a revision by Sebastian Kurz (Curtius), Nürnberg, 1610 (the first of his revisions).' See also *Rara*, pp. 495, 496.

## Page 138

Add to l. 4 that Berlet in his biography of Riese gives the date of his birth as 1492.

## Page 139

To the editions No. 2, add 'Frankfort, 1533, 1534, 1559,

'Frankfort, 1533, 1534, 1559,



❁ PRATICA ❁  
D'ARITHMETICA,  
DI FRANCESCO GHALIGAI  
FIORENTINO.

RIVISTA E RISTAMPATA  
CON DILIGENTIA.



IN FIRENZE,  
MDXLVIII.

FIG. 6. TITLE PAGE OF GHALIGAI'S *Pratica* OF 1548



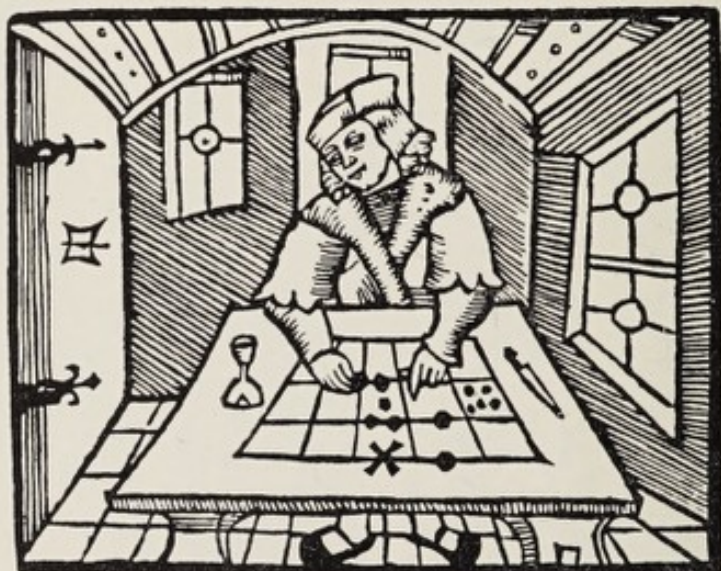
Page 140. CONRAD FEMEN.

Erfurt, 1523.

*Title.* 'Eyn gut new rechen buch-//leyn ist erdacht.' . . . See Fig. 7.

*Colophon.* 'Gedruckt zu Erffordt durch Matthes // Maler

**Eyn gut new rechen buch=**  
 leyn ist erdacht vnd ist nach der schle  
 chte zall gemacht Als hye geschri  
 ben steth Als man hundert  
 nach eynander zelt.  
 ∴



**Gedruckt zu Erffordt durch  
 Matthes Maler.**

FIG. 7. TITLE PAGE OF FEMEN'S *Rechen buchleyn*

nach Christi geburdt. M.// CCCCC. vnnnd ym Drey//vndzwentzigisten // Jar.'

*Description.* 8°, 8.8 × 14 cm. 11 leaves. It is written in rhyme throughout. The author's name appears at the end: 'Gedicht vn volbracht / durch Conradum Femen gemacht.'

**Page 142**

There was also an edition of the Riese-Helm book printed in 1570.

**Page 146. FRANCESCO FELICIANO da Lazesio.**

Ed. pr. 1517 [1518].

Venice, 1524.

*Title.* See Fig. 8.

*Colophon.* 'Stampato nella inclita citta di Vineggia // per Francesco Bindoni, & Mapheo Pa-//sini compagni, Nel anno. 1524.// Del mese di Decembre.'

*Editions.* This is the third edition of the work mentioned on p. 146 of the *Rara* together with other editions. The 1526 edition, pictured on p. 147 of the *Rara*, was probably begun in 1526 and completed in 1527. On p. 150 read Scala for Scalla.

**Page 148**

See p. 496 of *Rara*.

**Page 151**

The ed. pr. of Christoff Rudolff's 'Kunstliche Rechnung' was printed in Vienna in 1526. A copy is now in the Plimpton Library. See Fig. 9. Rudolff also published the 'Behend vnnd Hübsch Rechnung durch die Kunstreichen regeln Algebre, so gemeincklich die coss geneñt werden,' Strasburg, 1525.

**Page 160**

In l. 7, note an edition of 1533. Under Finaeus, the French spelling Fine is generally preferred to Finé.

**Page 164**

Under Alciatus, Editions, l. 5 b., note another edition with Budaeus and Melanchthon, Venice, 1532.



**Libro de Abacho nouamente**  
 composto per magistro Fracescho da Lazefio ve  
 ronese : ilquale insegna a fare molte ragione  
 mercantile : & come rispondeno li Pre/  
 cii : & Monete nouamente stampato.



FIG. 8. TITLE PAGE OF FELICIANO'S *Libro de Abacho*

**Kunstliche Rechnung**  
 mit der ziffer vnd mit den zal pfenni  
 gen/daraus mit allain alles so sich in gemainen  
 kaufmans hendeln zuetregt/sunder auch was zu  
 silber vñ goldt rechnung/was zu schickhung des  
 tegels/was avnem muntzmaister:rechnung  
 belangend:zugehörig / beide durch die  
 Regl de tre(auch nicht on sundere  
 vortail) vnd die Welhisch prac=  
 tick außzurichten/geletrnt  
 wirt.Zu Wienn in Osterreich  
 allen liebhabern  
 diser kunst zu ge=  
 maynem nutz/  
 durch Cristof  
 fen Ruedolf  
 verfer=  
 tigt.

Getruckt zu Wienn/im  
 Jare nach der geburth  
 Christi. 1526.

**Mit S.D.gnad vnd Priuilegien.**

FIG. 9. TITLE PAGE OF RUDOLFF'S *Kunstliche Rechnung*



**Page 165**

Read *van* Ringelbergh.

**Page 167**

To the list of works of 1531 add a 'Visierbuch' by Kern, Strasbourg, 1531. See *Rara*, p. 496.

**Page 168**

Add to the Editions of Psellus: 'Tournon, 1592.'

**Page 178**

Under Editions: Possibly the 'Algorithmus Demonstratus' was written by 'Magister Gernardus.'

The name Albert appears in the Ed. pr. as the German Albrecht and in the 1561 edition, according to Professor Q. Vetter, as Albert, — 'Johannovi Albertovi autoru aritmeticky revněž z r. 1534.'

**Page 180**

To the Albert editions add Wittenberg, 1534, 1541, 1553, 1556; Frankfort, 1541 (colophon 1542).

**Page 180**

Under *Other works of 1534* mention is made of Rabbi Elias Misrachi's arithmetic. The commentary of Schreckenfuchs runs parallel to the Hebrew text, as shown in Fig. 10, where the numbers show the use of the zero in connection with the alphabetic numerals. It is also interesting to observe that the page is numbered at the top in Hindu-Arabic numerals. The book is now in the Plimpton Library.

On l. 13 b., for Schreckfuchs read Schreckenfuchs.

**Page 181**

See *Rara*, p. 496. Also add 'Ein New Behendes und ganz grundtlichs Rechenbüchlin Auff der linien und Federn,' Nicholas Felner, Erfurt.

## חזל אבת

21

כי אין שם החכמה ודרך אל ידועה  
לכן תורה מן המוחזקים לנו להקנות  
לזה בליל כל מיני חכמות חכמים  
עם חכמים איזה חכמים שיהיו  
ער שירגיל כי האדם עצמו .

## חנה חלום הבילל הוא זה

א	ב	ג	ד	ה	ו	ז	ח	ט
ב	ר	ה	ס	א	ב	א	ו	א
ג	ט	כ	א	ח	א	א	ב	ז
ד	ו	א	ס	ב	ד	ב	ג	ו
ה	ח	ב	ס	ג	ה	ג	ד	ה
ו	ו	ג	ב	ד	ה	ד	ח	
ז	ט	ד	ח	ג				
ח	ו							
ט	א							

*Tabula multiplicationis digitorum inter se in qua situs literarum haud aliter quam in cifris est aduertendus, ut ב ס idem est quod 20. ו ג ט 36.*

ואחר שכתב ידעת זה על פה חנה  
בכר תיכל להבנם בדרך ידועה זה  
המין ונאמר שכתב בארנו שחכמא  
הוא קבוצ מספרים נכיס בלתי מ  
מינחים מכללם רק חנה כי לילא  
זה לא גרע איזה מין מספרים הם  
הנקבצ' ולכן יהויב עלינו שנכתוב  
בסור

*Multiplicatio, inquit, est additio multorum numerorum, qui tamē expressi non scribuntur per summas suas, sed semel dūtaxat signamur, et alius multiplicans ducitur in multipliandum.*

Exem

FIG. 10. PAGE FROM MISRACHI'S ARITHMETIC



**Page 182. SIR RICHARD BENESE.**

Ed. pr. 1536.

London, [1562].

*Title.* See Fig. 11.*Description.* Sm. 8°. 8.5 × 14 cm. Black letter. 56 fol.*Editions.* As stated in the *Rara*, p. 182, there were six or seven editions of which this is the fifth. There seems also to have been an edition of 1556 in addition to those in *Rara*, p. 182.

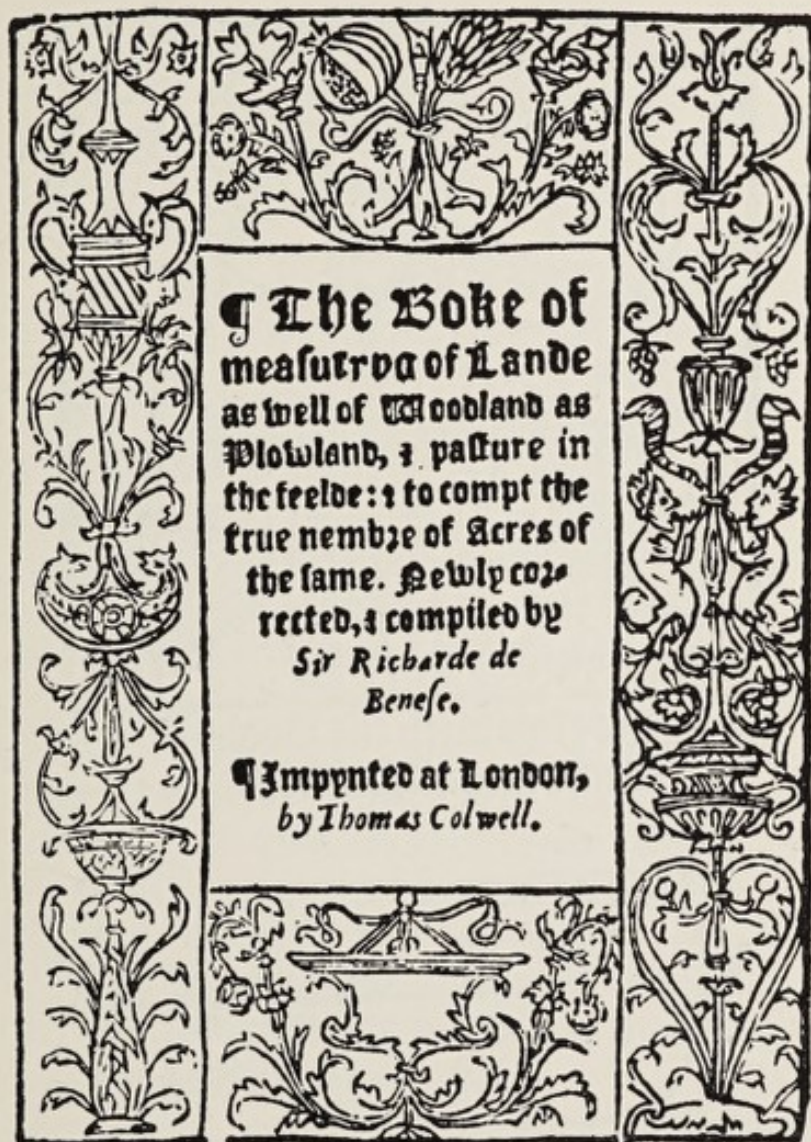
The work is essentially one of land measure, the necessary numerical operations being presupposed. There are numerical tables to avoid computation. The most interesting part is 'The Preface of Thomas Paynell, Chanon of Marton to the gentell Reader,' giving a crude history of the subject. He speaks of 'Pythagoras the fyrst Phylosopher,' 'the noble Archytas,' 'Archimenides,' and other ancients. The book is divided into two sections: (1) on 'The maner of measuryng of Lande,' including 'Of dyuersytie of lynes and angles'; and (2) 'To measure Tymber or Stone.' Because of the interest in this sixteenth-century English arithmetic, three facsimiles have been given (Figs. 11, 12, 13).

**Page 182**

After 'Editions,' l. 2, add 'Wittenberg, 1546.' Add 'J. Schlichtung, Rechnung mit Federen und uff die Reinströmischn und Schilling in Gold . . .' Strasburg, 1536. After *Other works of 1536*, add: There was an anonymous 'Algo-rithmus Linea,' 28 pp., Cracow. The works of Boethius and Morsianus were sections of a work entitled 'Arithmetica speculativa Boetij per Iacobum Fabrum Stapulensem in compendium redacta. // Arithmetica Practica // Christierni Morssiani in quinque // partes digesta. // Prima de numeris integris. // Secunda de fractionibus vulgaribus & physicis. // Tertia de regulis quibusdam. // Quarta de progressionibus & radicum extractione. // Quinta de proportionibus. // Basileae excudebat // Henricus Petrus.' 1536.

**Page 183**

Change 'Ed. pr.' of Vander Hoecke to 1514. An examination of the editions in the British Museum shows that the date 1514 is correct.

FIG. II. TITLE PAGE OF BENESE'S *Boke*





Here foloweth the Booke  
to measure all Landes.

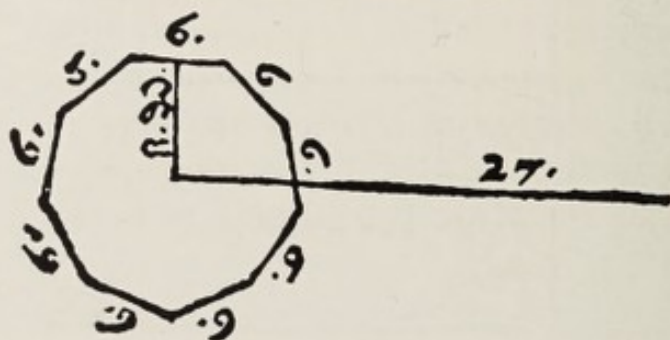


FIG. 12. FROM BENESE'S *Boke*

**The maner of measur-  
ynge of Lande, and coump-  
tynge the numbze of acres  
of the same.**



**B**y cause in measu-  
ringe of Lande, inenp  
men somtyme the sel-  
lers, sel weze measure  
than ryght, somtyme  
the byers by lesse measure thā ryght  
be greatlye Deceiued, by y meaters  
therof, the which be not experie and  
connyng, both in true measurynge  
of Lande, and also in true couptyng  
and summyng the numbze of acres  
of the same. Therfore in this lytle  
booke, ye shall reede certayne rules  
much necessary for y perfecte know-  
ledge bothe of true measurynge of  
Lande, and also of true couptyng  
and summyng the numbze of acres  
of the same.

**¶ Of**

FIG. 13. FROM BENESE'S *Boke*



**Page 192**

Loritus Glareanus also published 'Liber de Asse et partibus eius, cum Rerum et Vocum . . .,' Basel, 1551, which deals with weights as used in current problems.

**Page 193**

There was also another edition of Glareanus, Cracow, 1554.

**Page 195**

In Editions, after Cologne insert '1539; ib.' To *Other works of 1539* add 'Balthasar Wreedt, Ein kurz vnd // behend Rechenbüchlin vff // Linien vnd Ziffern . . .', Collen (Cologne), 1539.

**Page 200**

There were also editions of Gemma Frisius: Wittenberg, 1587; Leipzig, 1595; Cologne, 1578. The 1543 edition is now in the Plimpton Library. It is 'Paris, 1543,' 8°. See Fig. 14.

**Page 214**

To the list of editions of Recorde's 'Ground of Arts,' carried into the seventeenth century because of its importance to English schools, the following have come to the writer's attention: 1540, 1561, 1570, 1575, 1583, 1600, 1607, 1610, 1648, 1652, 1654, 1658, 1662, and ten more in the seventeenth century.

**Page 216**

There was another work in 1542, by Ch. Stiltz, 'Eyn neu Rechenbuch,' Strasburg.

**Page 223**

There was another work in 1543, H. Hoff, 'Ein kunstlich Rechenbiechlin mit der Ziffer und Zallpfenningen, Freiburg im Breisgau.' See p. 496.

ARITHMETICAE  
PRACTICAE METHODVS FA  
CILIS PER GEMMAM FRISIUM  
*Medicum ac Mathematicum.*

*Di Giovanni Federigh*



PARISIIS,  
*Apud Ioannem Lodoicum Tiletanum, ex  
aduerso Collegij Remensis.*

1543

FIG. 14. TITLE PAGE OF GEMMA FRISIUS, 1543 EDITION



**Page 229. LEONHARD GRUEBER.**

Ed. pr. 1544.

Strasburg, 1544.

*Title.* 'Rechenbuechel der // Linien vnnd Zyffer / ... Durch Leonhardū Grueber // Burgerssune zu Oting / Camrer // vnnd Lateinischer Schül-//maister im Closter zu // Sewn gepre-//cticiert.'

*Description.* 38 fol., sm. 8°. A small work for merchants.

**Page 233**

There was a revision of Scheubel's 'Compendium,' Basel, 1560.

**Page 236**

There was also an edition of Sacrobosco at Antwerp, 1559. Other editions, Wittenberg, 1534, 1538, 1545, 1556, 1574, 1588, are in the Columbia University Library.

**Page 238**

Under *Other works of 1545* add Cardan, 'De proportionibus.' Change 'Pedro Espinosa' to 'Petro a Spinosa,' Salamanca, 1545.

**Page 244**

After *Works of 1548* add 'J. Sekgerwitz, Rechenbüchlein auff allerley Hanthierung. Auff's new gebessert.' Leipzig, 1548.

**Page 247**

To the editions of Fischer's 'Arithmeticae Compendium' add s. l. 1562, and Leipzig, 1577. Change Ed. pr. to 1545, and 'Wittenberg, 1592,' to 'Wittenberg, 1545; ib., 1592.'

**Page 249**

In *Other works of 1549*, add: Casper Wueyglerus (Weigler), 'Prima arithmetices practicae rudimenta,' Breslau.

The name Juan de Jciar, Vejar, Yciar is variously spelled. There was another book by him, 'Arte subtilissimo,' Saragossa,

1550, which contains in the second and third editions (ib., 1553, 1559) a brief treatment of arithmetic.

### Page 250

On this page it is stated that Valentin Menher wrote three or four arithmetics, these being there listed, and on pages 249 and 346 two of them are described with analyses of their contents. The Plimpton Library has a fourth revision of the 'Livre // d'Arithme-//tique . . . Reueu par M. Melchior van Elstaer,' published at Antwerp in 1590, sm. 8°, A<sub>1</sub> to H<sub>7</sub>, 9 × 14.4 cm. Printed forty years after his 'Practique,' it is naturally different from that in detail but not in purpose.

**Page 252.** GIOVANNE ROCHA. Ed. pr. 1550. Venice, 1550.

*Title.* 'Libro // . . . abacho il quale insegna fare ogni // ragione mercantile: & pertegare le // terre con larte della geometria & al-//tre nobilissime ragione straordina-//rie con la Tariffa . . . citta di Vinegia Il qua//le Lib. se chiama Thesoro vniuersale.'

*Colophon.* 'Stampata in Vinegia per Giouanni // Padouano. Nell' anno del // Signore.// M.D.L.'

*Description.* Sm. 8°. 80 unnumbered fol. Numerous illustrations. On fol. 79, v, is an address to the reader: 'Giovanne Rocha // allo Lettore.'

A mercantile arithmetic with applications to home, commerce, foreign exchange, and metrical geometry.

### Page 252

For Scheubel's Ed. pr. 1551, read 1550. This appeared as an introduction to Euclid's 'Elements.' Note this under 'Editions.' In l. 23 change 223 to 233. Under Buckley's work note an edition c. 1570, and two editions of Seton's Logic, London, 1599, and Cambridge, 1631.



**Page 253**

To *Other works of 1551* add G. Stichel, 'Arithmetica // Wolgegründete Rech-//nung mit schöner forteiliger Anwei//sung zusammen bracht / Durch Georgium Sticheln // zu Leipzig. M.D.L.I.,' the only arithmetic printed that year in Leipzig.

**Page 257**

To *Other works of 1552* add 1561 to the Frankfort editions; also at the end, 'An Introduction for to learne to reckon wyth the Pen or with counters,' London, 1552; ib., 1562; M. Stötter, 'Ein schön nutzlich Rechenbüchlin auff allerlei Kauffmans Rechnung,' Tübingen, 1552; D. Schedel, 'Ein nutzbar new Rechen und Exempel Büchlein . . .,' Nürnberg, 1552. To the Gülfferich list add 'Frankfort, 1561.'

**Page 260**

To *Other works of 1553* add 'Epitome in Arith. Boëthii, Stapulensis,' Basel, 1553; D. Manzoni, 'La Brieve Risolutione di Arithmetica Universale,' Venice, [1553].

**Page 262**

De Boissière also published 'Art Poetique redvict et abrege en singulier ordre et souveraine methode,' 1554; 'L'Art d'Arythmetique. Le tres excellent et ancien jeu Pythagorique dit Rithmomachie. . . . pour obtenir vsage et prompte habitude en tout nombre et proportion, nouvellement illustre par maistre Claude de Boissière . . . Paris, imp. de A. Brière,' 1554.

**Page 263**

Camerarius also wrote 'De graecis latinisque Numerorum Notis, et praeterea Sarracenici seu Indici . . .,' Leipzig, 1569. Mention may also be made of one of the editions after 1600, Frankfort, 1627.

**Page 268**

Omit the '(?)' after Cathalan's name. It appears in an edition of 1599, which date should also be added to the 'Editions.'

**Page 271. CASPARUS PEUCERUS BUDISSINUS.**

Ed. pr. 1556.

Wittenberg, 1556.

CASPAR (KASPER) PEUCER (1525-1602) was a professor of medicine and mathematics (not at that time an unusual combination).

*Title.* 'Logisti-//ce Astronomi-//ca Hexacontadon et //scrpv-  
lorvm sexagesimo-//rum . . . Item :// Logistice Regvlae // Arith-  
meticae, Qvam Cossam // & Algebram quadratam uocant, . . .  
Avtore Casparo // Pevcero Bvdissino // Vitebergæ . . .  
M.D.LVI.' See Fig. 15.

*Description.* 8°, sign. A-V given to the theory of arithmetic and an introduction to algebra. The copy in the Plimpton Library is bound in parchment with a work by Joachim Camerarius, 'Elementa Rhetoricae, Lipsiae, M.D.LXIII,' of 402 pages and an index. On Camerarius, see *Rara*, pp. 262, 186, 211.

**Page 271**

The Ed. pr. of Spänlin should be given as 1556 without the mark '(?).'

**Page 278**

There was an edition of the 'Quesiti et Inventioni' by N. de Basearini . . . Tartaglia autore . . . 1554, but I have not seen it. It would make the publication extend over seven instead of five years.

**Page 284**

The title page reads: 'L'Arithmetique // De P. Forcadel // de Beziers.// En laqvelle sont traictées // quatre reigles briefves. . . .' In l. 3, read 'Royal.'



LOGIST<sup>1</sup>  
 CE ASTRONOMI<sup>1</sup>  
 CA HEXACONTAD<sup>2</sup>N ET  
 SCRVPVLORVM SEXAGESIMO-  
 rum, quam Algorythmum minutiarum  
 Physicalium uocant, Regulis ex-  
 plicata & demonstra-  
 tionibus,

ITEM:  
 LOGISTICE REGVLÆ  
 ARITHMETICÆ, QVAM COSSAM  
 & Algebram quadratam uocant, compendio  
 tractata & illustrata Exemplis, ut  
 Scholarum usui sit accom-  
 modata.

AVTORE CASPARO  
 PEVCERO BVDISSINO.

VITEBERGÆ EXCVDEBANT HÆ.  
 REDES GEORGII RHAVV,  
 ANNO M. D. LVI.

FIG. 15. TITLE PAGE OF THE *Logistice* OF PEUCERUS

**Page 286**

To *Other works of 1556* add: Ercole Marcello, 'Degli otto modi di Tariffa sopra l'oro e l'argento,' Venice, 8°. (Sometimes given as 1566.)

**Page 290. GIOVANNI FRANCESCO PEVERONE.**

Ed. pr. 1558.

Lyons, 1558.

*Title.* 'Due breui e facili trattati, // Il primo d'Arithmetica: l'altro di Geometria: // ne i quali si contengono alcune cose nuoue // piaceuoli e utili, si à gentilhuomini come ar-//tegiani. Del Sig. Gio. Francesco // Peverone di Cvneo. // In Lione // per Gio. di Tovrnes. // M.D.LVIII.'

*Description.* This is the Ed. pr. described in *Rara*, p. 290, where the portrait of the author appears in the second edition of the book.

In line 1 add to the editions of Frankfort an der Oder, 1563, 1589; s. l., 1564; and Leipzig, 1595. Also add to the Cressfelt list an edition s. l., 1563.

**Page 298**

Among the works of 1560 there may be mentioned one of 48 pp. by Oliviero de Fonduli, 'Pratiche di Fioretti Merchantili,' a kind of commercial handbook of problems involving the weights and measures in various parts of Italy. Also to *Other works of 1560* add: Christofoer Wiltvogel, 'Ein New // Künstlich Re-// chenbuch / Auff den Linien // vnd mit der Federn . . .' [1559-60]. Also, under Editions (1) add 1559. The 1600 edition of Simon Jacob's work has the date 1552 in the Preface.

**Page 298. GASPARO RIZZO Venetiano.**

Ed. pr. 1560.

Venice, 1560.

*Title.* 'Abbaco Nvovo, // molto copioso et // artificiosamente ordi-//nato . . . Con molte belle // proposte . . . Opera vtilissima et vni-//uersalmente in tutte le Citta & Prouincie // molto necessaria. . . '



*Colophon.* . . . 'Opera de Gasparo Rizzo Venetiano.// Stampato in Venetia l'anno del Signore 1560.'

*Description.* 120 leaves, A-O.  $10 \times 16$  cm. Unusual arrangement. The book begins with directions for the use of tables and explanations of the numerical operations. Most of the book is devoted to mercantile problems at the top of each page, the rest of the page being left for computations relating to the problems. The pupil therefore combines instruction with solutions.

*Editions.* There seem to be no others. This one is referred to in the *Rara*, p. 298, but is mentioned here because of its unusual arrangement and the fact that it has lately been secured for the Plimpton Library.

#### Page 310. JUAN PEREZ DE MOYA.

Ed. pr. 1573.

Alcalá, 1573.

*Title.* 'Tratado de // Mathematicas en // Qve se contienen cosas de Arithme-//tica, Geometria, . . . y Philosophia natural.'

This is mentioned, with other works of the same author, in the *Rara*. The title page has a large woodcut of a royal seal and the words 'Con licencia, y priuilegio Real de Castilla y Aragon.// En Alcala de Henares.// Por Iuan Gracian. Año de 1573.' It is in folio form,  $19.5 \times 29$  cm., 752 pp., divided into ten books, with various tables of contents. It contains a considerable amount of historical material and is one of the most interesting works of its kind that appeared in the sixteenth century. This copy was acquired after the *Rara* appeared.

#### Page 310

There was also an edition of the *Arithmetica Practica y Especulativa* of Juan Perez de Moya, Madrid, 1609; and another, Alcalá, 1569.

#### Page 311

To *Other works of 1562* add: Jiřík Mikuláš Brněnský wrote an arithmetic in Bohemian, published at Praha (Prague) in

1562. Also, in l. 6, note editions as late as 1776 and 1784. Under Strigelius, for the date of printing see *Rara*, p. 311, l. 7 b.

**Page 314. WOLFFGANG HOBEL.**

Ed. pr. (1563).

Nürnberg, s. a. (1563).

*Title.* 'Ein nützlich Re-//chenbüchlein / Mit vil schö-//nen Regeln und Fragstücken . . .' See Fig. 16.

*Description.* 8°, 9.8 × 15 cm. The dedication is dated 'Nürnberg / den 29 // Nouemb. im 1563. Jar. // . . .,' but no imprint date is given.

*Colophon.* 'Gedruckt zu Nürnberg // Bey Valentin // Newber. // Durch Wolff Hobel Rechenmeyster // in der Bindergassen woh-//nende / verlegt.'

*Editions.* (1563), 1565, 1577.

To *Other works of 1563* add: A. Lonicer, 'Arithmetices brevis introductio ab autore de integro recognita,' Frankfort, 1563. In 1563 there was published at Vitebergae (Wittenberg) a 'Logistica Astronomica,' written by Sebastianus Theodoricus Winshemius, containing a little arithmetic.

**Page 315**

In 1564 Johann Sthen published s. l. an 'Arithmetices // Evclideae // Liber // Primus,' but on the theory of numbers only. As to Euclid, his 'Elementa' includes some of the theory of number, but is not an arithmetic in the present American use of the term. Such are not in general listed. To the last line add 'the algebra not being included.'

**Page 319**

To *Other works of 1565* add: 'Matthäus Nefe, Arithmetica, zwei neue Rechenbücher, das Erste auff der Linien und Federn. . . . Breslau, 1565.' Add also: H. Henning, 'Gerechnet Rechenbüchlein, darinnen alle yetztgebreuchliche Kauffmans, . . . Nürnberg, 1565.' Ib., J. Kaltenbrunn, 'Ein newgestellt künstlich Rechenbüchlein. 1565.'



# Ein nützlich Re- chenbüchlein / Die vil schö-

nen Regeln vnd Fragstücken / Allen new erfunden/  
auff allerley Kauffschlag. deren vor  
feine an tag kommen. Durch

Wolff Hobel Rechenmeister / der hoch  
löblichen Reichsstat Nürnberg zu ehen/allen lieb-  
habern der Arithmetica zur fürderung  
inn Truck beschriben.



Wolff Hobel, Rechenmeister, Freiheit in 10 Jara alt ward abtunden / Der  
pess 10 m. 10 tigs golte/und verlies 10 Jara Bücher.

FIG. 16. TITLE PAGE OF HOBEL'S *Rechenbüchlein*

In l. 2 b. insert 'Graevius, Ratio computandi per digitos, Paris, 1565.'

**Page 320**

Among Trenchant editions after 1606 add Lyons, 1617, 1618. The first edition should be given as 1563, two copies being in Dublin and Oxford, and probably others not in lists examined.

**Page 322**

The edition of 1575 was printed in Naples. Among the books of 1566 may be noted three by W. Frantz: (1) Jar rechnung, (2) Treidt vnnd Zentner rechnung, (3) Win Rechnung, although they are chiefly composed of numerical tables. See *Rara*, p. 496.

**Page 325**

To the editions of Petri's work add 's. l. 1598.'

**Page 327**

Under Humphrey Baker, change Ed. pr. to 1562, and do the same on pp. 328, 329. To Editions (London) add 1564 and 1598. There are several editions after 1600, the one of Henry Phillippes, greatly enlarged, appearing in 1670. In the Plimpton Library there is an edition 'Now newly perused, augmented, // & amended in all the three parts. At London, // Printed by Tho: Purfoot . . . 1631.' 6 leaves unnumbered + 198 numbered + 12 unnumbered. Sm. 8°. 7.8 × 12.7 cm.

**Page 330**

There was also a reprint of the Ramus work, Frankfort, 1627.

**Page 333**

Besides Rudolphus Snellius, who revised the Arithmetica of Ramus, already mentioned, there was his son Willebrordus



## 38 ADDENDA TO RARA ARITHMETICA

Snellius. He wrote a later work, 'De // Re Nummaria // Liber singularis,' Amsterdam, 1635, 72 pp., and 'P. Rami // Arithmeticae // Libri dvo, // cum commentariis // Wilebrordi Snellii R. F. // Ex Officina Plantiniana // Raphelengii, // M.D.CXIII.' This consists of two 'libri' of 72 and 106 pp.,  $10.2 \times 17$  cm.

### Page 335

The Ramus work also appeared with the Schonerus edition of the geometry at Frankfort in 1627. A Snellius edition also appeared at Antwerp, Plantin Press, in 1613.

### Page 338

Add to the works of 1569: N. Werner, 'Rechen Buch von allerley Kaufmannschlag auff sonderlichen Vorthel der Regel Detri . . .,' Frankfort am Main, 1569.

### Page 340

See *Rara*, p. 497.

### Page 343. PETER BEAUSARDUS.

Ed. pr. (?).

Louvain, 1573.

*Title.* 'Arithmetices // praxis, ad qvam // vetervm permvta ex-//empla revocata expli-//cantur, & illustrantur, // Petro Beausardo, Doct. Med. & Ma-//thematicum Professore Re-//gio, autore . . . Lovanii // . . . M.D.LXXIII. . . .'

*Description.* 8°,  $9.7 \times 15$  cm. 30 pages unnumbered + 119 numbered folios. It is divided into four parts, the first being 'De integrorvm svp-//putatione' (fol. 1, r.), the second 'De fragmentorvm // svppvttatione' (fol. 40, r.), the third 'De praxeos arith-//metices regvlis' (fol. 53, v.), and the fourth 'De rationibvs' (fol. 106, r.). Each part is divided into chapters. For the time a fairly satisfactory textbook.

**Page 347**

There may have been a 1547 edition of Sekgerwitz, or the 1547 may have been printed by mistake for 1574. (H. Grosse, *Historische Rechenbücher des 16. und 17. Jahrhunderts*, Leipzig, 1901, p. 67, gives 1547.)

**Page 353**

In l. 5, the German name for Gifjka . . . is Georg Gehrl. See *Rara*, p. 359, l. 17.

**Page 359. BERNARDUS SALIGNACUS.**

Ed. pr. 1575.

Frankfort, 1580.

*Title.* 'Bernardi // Salignaci Bvr-//degalensis Arithmeticae // Libri duo, // et // Algebrae totidem, // cum demonstrationibus. // Francofurti // Apud Andream Wechelum, // MDLXXX.' See Fig. 17.

See *Rara*, p. 359, for editions and another spelling of Bernard.

**Page 359**

There were no other editions of Chauvet Champenois before 1601, but after 1600 there were several, including 1615, 1619, 1640, and 1645. The 'Addenda' does not usually mention editions after 1600.

**Page 361**

In l. 5 add 'Kandler, Arithmetic, Regensburg.' Under the Urstisius editions add 'Basel, 1586.' In l. 3 b., after 1569, 4°, insert 'ib., 1586.'

**Page 367**

In l. 4, after 1577 add 'Frankfort, 1580.'



40 ADDENDA TO RARA ARITHMETICA

BERNARDI  
SALIGNACI BVR.  
DEGALENSIS ARITHMETICÆ  
LIBRI DUO,

ET

ALGEBRÆ TOTIDEM,  
*cum demonstrationibus.*



FRANCOFURTI  
Apud Andream Wechelum,  
M D LXX X.

FIG. 17. TITLE PAGE OF THE *Arithmetica* OF BERNARDUS SALIGNACUS

**Page 375**

There was an edition of the 'Epitome Arithmeticae Practicae' of Clavius at Cologne, 1607. To the other editions add 'Mogant (Mainz), 1614.' See *Rara*, p. 497.

**Page 383. ANTON SCHULTZE.**

Ed. pr. 1584.

Frankfort an der Oder, 1584.

*Title.* 'Rechenbuch auff // Muentz vnd gewicht in Schle//sien / sampt vergleichung derer / in. . . Lei=//pzig vnd Franckfurt an der Oder . . . Durch // Antonium Schultzen Arithmeticum // vnd Deutschen Schulhalter in // Lignitz . . . Gedruckt zu Franckfurt an der Oder/ bey // Andream Eichorn / Anno 1584.'

*Description.* 8°, 168 leaves, 9 × 15.5 cm. One of the best commercial arithmetics of its time.

*Colophon.* 'Beschluss an den Leser,' followed by ten lines in verse, beginning with

Hie endt ich nun in Gottes Nam.

See also *Rara*, pp. 383 and 497.

**Page 386**

Change Ed. pr. to 1582. There were only four copies known to the bibliographer Zeper. There are many differences between this edition and the later ones.

**Page 389**

As stated in *Rara*, p. 497, in the *Cosmographia* of Franciscus Barocius (Barocio, Barozzi), Venice, 1585; Pavia, 1560 (2 ed.), there are five pages on arithmetic.

**Page 389. ANONYMOUS. Ed. pr. c. 1585. Paris, [1585].**

*Title.* 'L'Arithme-//tique et maniere // d'apprendre à chiffrer & compter // par la plume, & par les gects . . . Avec la maniere de tailler // la plume.// . . . A Paris, // Chez Pierre Ménier . . .'



*Description.*  $6.7 \times 11.8$  cm.  $16^\circ$ , 79 fol. numbered + 5 fol. unnumbered. The last folio, verso, has the 'Wheel of Pythagoras,' with the name 'Rout de Pythagore.' There is another one from the same woodcut, on fol. 80, v. After this, beginning with fol. 81, r., there are 7 pages of rules and problems in verse. One tells how to make and repair quill pens and how to use them to advantage, and how to choose paper, ink, and parchment. It is evidently a book for merchant apprentices. It contains the usual rules for computation and a number of simple puzzle problems.

**Page 391.** Add Albert, Magdeburg, 1588; see also *Rara*, p. 497.

**Page 393**

To works bearing the date 1590 add: Giacomo Campolini, 'Positioni Arithmetiche & Operationi de Numeri Rotti . . .,' Venice, 1590, but the date should be 1600. To the last line add: Eberhardus Popping von Münster, 'Ein Neues Rechen Büchlein auff Linien vn Federn,' [Helmstadt,] 1590.

**Page 394. EBERHARD POPPING.** Braunschweig, 1590.

*Title.* 'Ein Neues // Rechen Büch-//lein auff Linien un Federn // jetzundt von newem wieder vberse-//hen / und mit mehren denn zuuor nützli-//chen / vnd nötigen Exempeln / auch mit // der Regul von Schiffis Parten // vnd andern sonderlichen // behenden vorteilen // gebessert.// Der gemeinen Jugendt und an-//fahenden der Arithmetic Kunst // zu gute verfertiget // Durch // Eberhardum Popping von // Münster / verordenten Deutschen // Schreib: oñ Rechenmeister der weit be-//rhümpfen und löblichen Stad // Braunschweig.// . . . uliusfriedenstedt. 1590.' See Fig. 18.

*Colophon.* M.D.CX.

The preface is dated 1587, the title 1590, and the colophon 1610, showing the time required to produce the book.

Ein Neues  
**Rechen Büch-**  
 lein auff Linien vñ Federn/  
 jeßundt von neuem wieder vberse-  
 hen / vnd mit mehrern denn zuuor nütli-  
 chen vnd nötigen Exempeln / auch mit  
 der Regul von Schiffs Parten  
 vnd andern sonderlichen  
 behenden vorteilen  
 gebessert.

Der gemeinen Jugendt vnd an-  
 sehenden der Arithmetick Kunst  
 zu gute verfertiget /

Durch

**Eberhardum Popping von**  
 Münster / verordneten Deudschen  
 Schreib: oñ Rechenmeister der weitbe-  
 rühmpten vnd löblichen Stad  
 Braunschweig.

Wulffsfriedenstedt. 1590.

FIG. 18. TITLE PAGE OF POPPING'S *Rechen Büchlein*



## Page 396

Change Aretio (l. 20) to Oretio. Under *Other works of 1591* add: Lindebergius, 'De precipuorum,' Rostock, 1591, containing a few pages on arithmetic. For Lindebergius see *Rara*, p. 498.

## Page 404

In l. 2 note that Suevus was born July 26, 1526, and died May 15, 1596.

## Page 407

To the publications of 1594 add 'Anonymous, Lyons, 1594,' with title 'Aritmetiqve // facile a appren-//dre a chiffrer et // compter par la // plume & par les gects :// tres-vtile à tou-//tes gens.// Ensemble plusieurs excellentes sentences moral-//les, faictes par quatrains, & ordre alpha-//betique : Auec la maniere de // tailler la plume.// Nouuellement reueuë & corrigee.// A Lyon, // Par Benoist Rigavd. // M.D.XCIII.' See Fig. 19.

*Description.* 12mo., 7.3 × 11.3 cm. 79 pp. Following the 'Aritmetique' are collections of moral sentences and adages in meter, arranged alphabetically. It seems to be the only book of its kind to appear before the seventeenth century. It is rare and was only recently obtained for the Plimpton Library.

## Page 407. BARTHOLD WIESACK.

Ed. pr. 1595.

Stargart, 1595.

*Title.* 'Ein Neuw // Rechenbüchlein // auff der Linien und Federn, / auff // allerley Kauffhandelunge / dem einfelti-//gen gemeinen Man / vnd anheben-//den der Arithmetica Liebha-//bern zu gut.// Durch // Barthold / Wiesack / Rech-//enmeister zu Stargardt / auff der // Ihna / Auffis fleissigst zusam-//men gedragen.// Gedruckt zu Alten Stet-//tyn / bey Andreas Kell-//ner / S. Erben.// Anno 1595.' See Fig. 20.

Page 408. GIACOMO TRIVISANO. Ed. pr. 1597. 1597.

*Title.* 'Memoriale // di Abbaco, // ritrovato vn nvovo modo // & ordine di tariffa . . . // ad ogni sorte di persone // E in ogni sorte di negotio // . . . In Venetia M.D.XCVII.'

# ARITMETIQUE

FACILE A APPREN-  
DRE A CHIFFRER ET

COMPTER PAR LA

plume & par les gects:  
tres-vtile à tou-  
tes gens.

*Ensemble plusieurs excellentes sentences moral-  
les, faictes par quairains, & ordre alpha-  
betique: Avec la maniere de  
tailler la plume.*

Nouvellement reueuë & corrigee.

4	4	3	3	2
5	0	5	0	5
5	4	4	3	3
4	8	2	6	0
6	5	4	4	3
3	6	9	2	5
7	5	5	4	4
2	4	6	8	0
8	7	6	5	4
1	2	3	4	5

A LYON,

PAR BENOIST RIGA VD.

M. D. XCIIII.

FIG. 19. TITLE PAGE OF THE *Aritmetique* OF 1594

*Description.* This is the book mentioned among *Other works of* 1596 on p. 408, and is now in the Plimpton Library. 10.5 × 17 cm. [40] + 377 numbered pages. The 'Dechiaratione della prima parte' of 36 pages, unnumbered, is signed 'Primo Auttor Giacomo Triuisan // di questa Tariffa.' The book is not an arithmetic in



the ordinary sense. It consists of 377 pages of tables for easy computation, beginning with products of  $2 \times 2$  and extending to  $995 \times 50$ , then (with breaks) to  $3000000 \times 50$ . The rest of the tables consists of products involving monetary fractions, corresponding to pounds, shillings, and pence.

**W**in Neuw  
 Rechenbüchlein /  
 auff der Vinten vnd Federn / auff  
 allerley Rauffhandelunge/ dem einfelti-  
 gen gemeinen Man/ vnd anheben-  
 den der Arithmetica Liebha-  
 bern zu gut

Durch  
 Bartholde Wiesack / Rech-  
 enmeister zu Stargardt / auff der  
 Ihna/ Auff fleißigst zusam-  
 men gedragen.

Gedruckt zu Alten Stet-  
 tyn/ bey Andreas Kell-  
 ner/ S. Erben.  
 Anno 1595.

FIG. 20. TITLE PAGE OF WIESACK'S *Rechenbüchlein* OF 1595

Page 408

See *Rara*, p. 497.

Page 412

In l. 20, for Nürnberg read Breslau.

**Pages 415-416**

In connection with Newdörffer mention should be made of an edition as late as 1634, 'Kuenst- vnd ordentliche // Anweisung // in die Arithmetic / als // eine Mutter vieler Kuensten; . . . In XIII. Buechlein verfasst . . . Editio V.// Nuernberg / . . . Im Jahr 1634.' 14.6 × 8.8 cm. Among the various topics is an extensive treatment of 'Die Regel Helcataim oder Positionum.'

**Page 416**

After 'Editions' (l. 1) read, 'There were at least three editions. One dated 1613 says that it was the third edition.' Cancel 'There was no other edition.'

**Page 418**

See *Rara*, p. 497.

**Page 421**

To *Other works of 1599* add: Jean Coutereel, 'Cyffer-Boeck,' Middleburg, 1599. Coutereel was a Belgian and his 'Konstig cyfferboek' was translated into French by H. Cole.

**Page 425**

There is a manuscript of Zuchetta's work in the Plimpton Library, written in 1692. *Rara*, p. 497.

**Page 429**

Add to *Other works of 1600*: Lachar, 'Algorithmus Mercatorum,' s. l. a., but c. 1600. *Rara*, p. 498.

**Page 435**

Late authorities place the death of Dagomari in 1373 or 1374.



## 48 ADDENDA TO RARA ARITHMETICA

**Page 477.** ANONYMOUS.

Italian MS., 1490.

*Title.* 'Questo sie uno libro di abacho . . .' (F. 1, r.). The text begins: '9. 8. 7. 6. 5. 4. 3. 2. 1.// La decima figura sie questa o laqual uien chiamata zero . . .'

*Description.* 4°, 15 × 20 cm., the text being 10.5 × 13 cm. Ff. 1-68, r., 12-23 ll. Ink black and red, the latter being faded. A master's or pupil's textbook on arithmetic designed especially for mercantile purposes. The problems in division make use of the 'scratch method.' Numerous numerical tables of multiplication and division somewhat like those illustrated in the *Rara* on pp. 464 and 471. Bound with two other treatises: Addresses and formulæ of letters (ff. 68, v., to 84, r.) and Problems in practical geometry (ff. 84, v., to 92).

**Page 500**

Delete 'Diego el Castello.'

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