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978-1-108-07095-9 - Arithmetical Books from the Invention of Printing to the Present
Time: Being Brief Notices of a Large Number of Works Drawn Up from Actual Inspection
Augustus De Morgan

Excerpt

[More information](#)

A LIST

OF

WORKS ON ARITHMETIC,

THEORETICAL AND COMMERCIAL, IN CHRONOLOGICAL ORDER.

. The letter P. followed by a number, refers to the page of Dr. Peacock's treatise in which the work or its author is mentioned. The brackets [] enclose statements which I have taken from others, and cannot therefore affirm from personal inspection. For O and N see those letters in the Index.

Florence, fourteen-ninety-one. **Philip Calandri**. 'Philippi Calandri ad nobilem et studiosum Julianum Laurentii Medicem de Arimethrica opusculum.' *Octavo* (small).

This book, which very few have mentioned at all, and fewer still from inspection, is a part of the rich bequest of the late Mr. Grenville to the nation. It begins with a picture of Pythagoras teaching, headed 'Pictagoras Arithmetrice introductor.' In the preface is the following on Leonard of Pisa: 'Vero e che il modo del notare e numeri con decte figure dice Lionardo pisano haver nel Mcc. incirca rechato dindia in Italia: et decti carateri: o vero figure essere indiane: et appresso deglindi havere imparato la copulatione desse.' He explains the leading rules, except division, for integers and for lire, soldi, and denari. Division he puts down in examples, and appears to have mistaken the mode of working, or to have had an incorrect printer. His notion of a divisor is curious. When he divides by 8, he calls his divisor 7; demanding, as it were, that quotient which, with *seven* more like itself, will make the dividend. He also describes the rules for fractions, and gives some geometrical and other applications. The book is in black letter, but the numerals are in a thin and small-bodied type. At the end of the book is, 'Impresso nella excelsa cipta de Firenze per Lorenzo de Morgiani et Giovanni Thedesco da Maganza finito a di primo di Bennaio 1491.'

B

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Excerpt

[More information](#)

Venice, M.cccc.lxliiii., fourteen-ninety-four. **Lucas Pacioli**, de Burgo Sancti Sepulcri. 'Summa de Arithmetica Geometria Proportioni et Proportionalita.' *Folio in fours*.

Tusculano, fifteen-twenty-three. **Lucas Pacioli**. 'Summa de Arithmetica geometria. Proportioni: et proportionalita: Novamente impressa In Toscolano su la riva dil Benacense et unico carphonista Laco: Amenissimo Sito: de li antique et evidenti ruine di la nobil cita Benaco ditta illustrato: Cum numerosita de Imperatorii epithaphii di antique et perfette littere sculpiti dotato: et continens* finissimi et mirabil colone marmorei: inumeri fragmenti di alabastro porphidi et serpentini. Cose certo lettor mio diletto oculata fide miratu digne sotterra se ritrovano.' *Folio in fours* (ON).

These are the full titles of the two editions of this celebrated work. Both editions are by one printer, Paganino of Brescia, and are beautifully printed: the type of the second being a good instance of the black letter in its state of approach to what is now called Roman letter. The work itself has been described by Hutton, Montucla, Peacock, Libri, &c.; but it would yet require a volume of description to do it justice. It is sometimes called the first work on arithmetic printed; but Calandri, Peter Borgo, three already mentioned in the Introduction, and perhaps more, take precedence. But it is certainly the first printed on algebra, and probably the first on book-keeping. P. 414, 424, 429 &c., 432 &c., 451, 460, 462; Hutton, *Tracts*, vol. ii. p. 201.

On comparing my copy of the first edition with that in the British Museum, I found one of those phenomena which so frequently occur in very old printed books. The first leaves of the two copies, to the number of about thirty, and the first leaf of the geometry, are not from the same setting up. The endings of the pages, and the ornaments of the capital letters, are different in the two. Nor does either of them agree with the second edition. A part of the first impression may have been lost, so that a second setting of types was required to replace that part. Several mathematical bibliographers of note enter Pacioli as Lucas di Borgo, and even as Borgodi, Lucas, and some do not mention the first edition.

The Latin *Paciolus* is usually spelt in Italian Paccioli, but Libri spells it Pacioli. I believe that the various assertions that Pacioli wrote Euclid in *Italian*, arise from the geometry of the work above described being *Italian*: but it is not Euclid, though of course founded on him.

There is another old book of which I have reserved the mention till now, because its author has been confounded with Pacioli. Brunet gives it as 'La Nobel opera di Arithmetica . . . compilata per B. [should be P.] Borgi,' *Venice*, fourteen-eighty-four, *quarto*: and Hain has 'Borgo (Pietro) Venet. Aritmetica,' *Venice*, fourteen-

* Cns in the title.

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Excerpt

[More information](#)

WORKS ON ARITHMETIC.

3

eighty-two, *quarto*. This edition Hain had not seen: but he had seen the next (the one mentioned by Brunet), which begins 'Qui comenza la nobel opera di arithmetica . . . per Piero Borgi,' *Venice*, fourteen-eighty-four, *quarto*. And he gives two other editions, *Venice*, fourteen-eighty-eight and ninety-one, *quarto*. Accordingly, Mattaire sets down the first edition of *Lucas di Borgo* as of 1484, and Dr. Peacock adopts this date. It is quite certain that Dr. Peacock must have had one of the editions of Pacioli before him when he wrote; and we are therefore to suppose that, in stating the date of the first edition, he followed Mattaire, and presumed an edition earlier than any he had seen. Tartaglia refers to Peter Borgo. P. 458.

No place, no date. **John Muris.** 'Arithmetices Compendium ex Boetii Libris per Johannem Muris excellentis ingenii virum Accurate congestum.' *Quarto*.

This is a different edition from the one presently mentioned. John Muris seems to have escaped the notice of bibliographers as an arithmetician. I think I remember that there is in Hawkins's History of Music some discussion of his ideas on the musical scale, [on which was published his work, *Leipsic*, fourteen-ninety-six, *folio*]. Muris lived before the invention of printing, but when I cannot ascertain. [His astronomical tables are preserved in manuscript.] The present tract has twelve leaves unpagged, and is certainly of the very earliest part of the sixteenth century, if not of the fifteenth.

Venice, fifteen-one. **Geo. Valla.** 'De expetendis et fugiendis rebus opus.' *Folio in fours*.

The first part of this is 'De Arithmetica libri iii, ubi quædam a Boetio pretermisssa tractantur' (O). Certainly he supplies some of the omissions of Boethius; the four rules for instance. The work was published by the son, Joh. Pet. Valla. I have seen an earlier edition mentioned, but I cannot find any trustworthy account of such a thing.

Cologne, fifteen-one. **John Huswirt.** 'Enchiridion Novus Algorismi summopere visus De integris. Minutiis vulgaribus Projectilibus Et regulis mercatorum sine figurarum (more ytalorum) deletionone percommode tractans,' &c. *Quarto*, *twos and threes* (O).

A short treatise, apparently one of the earliest printed in Germany on the Arabic system. The *projectilia* are counters. The rules are verified by casting out the nines. The words 'sine figurarum deletionone' are not made good in the rule of division. On this work see the *Companion to the Almanac* for 1844, p. 3.

Paris, fifteen-three. **Joh. Faber Stapulensis, Jodocus Chlichtoveus**, and **Carolus Bovillus.** 'In hoc li-

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Excerpt

[More information](#)

bro contenta Epitome compendiosaue introductio in libros Arithmeticos divi Severini Boethii,' &c. &c. *Folio in fours.*

This book contains an epitome of Boethius by Faber of Étapes; with a commentary and an arithmetical collection of rules by Chlichtoveus, his pupil; a compendium of geometry, a book on the quadrature of the circle, and *cubication* of the sphere, and a book on perspective, by Charles Bovillus; with an astronomical compendium by Faber already mentioned. This book is one of the earliest printed by Henry Stephens and his partner Wolfgang Hopilius. It is the first edition, I have no doubt, of Faber's epitome of Boethius, though Heilbronner and Murhard assert the contrary, perhaps misled by Faber's edition of Jordanus. As to the contents, the Arithmetic of Boethius was the classical work of the middle ages. It consists of statements of the commonest properties of numbers, under a great many classifications, to each of which a name is given. The second work, of arithmetical rules, shews the very low state of the art. It takes pages upon pages to explain the simple rules, though no examples are ventured on which have more than three figures. Montucla says that the quadrature of Bovillus was only saved from the laughter of geometers by its obscurity. But a work printed by Henry Stephens, and containing Boethius and Faber, must have been very far from obscure in its day. The historians of mathematics confine themselves to works the reputation of which has lasted: but they ought not to make the state of their own minds, with respect to the rest, a criterion of that of the contemporary readers.

Basle, fifteen-eight. **Gregorius Reisch.** 'Margarita Philosophica, cum additionibus novis: ab auctore suo studiosissima revisione tertio superadditis.' *Quarto in fours.*

According to Kloss (from his own copies) the first edition of this curious book is *Friberg* fifteen-three, the second and third both *Strasburg* fifteen-four (one printed by Gruninger, which I have seen, and one by Schott), and he calls the one before me the fourth. But Hain marks as the first edition one which appears to be printed at *Heidelberg*, fourteen-ninety-six, *quarto*. The one before me is not the third; it is evident that a former title-page has been reprinted: for though this edition is printed (as appears from the colophon) by Furter and Scotus of Basle, the title-page bears 'Jo. Schottus Argent. lectori S.' Which agrees with Kloss's statement that the previous edition to this one was printed by Schott of Strasburg. The Arithmetic (O), which is a part of the system of philosophy here laid down, has a frontispiece representing Boethius at one table with Arabic numerals before him; and Pythagoras at another with counters. Pythagoras among the Greeks, Apuleius and Boethius among the Romans, were often made the inventors of arithmetic. The arithmetic is divided into speculative and practical. The former is a summary of Boethius, often in the words of John de Muris. The latter is a short treatise on *Algorithm*, as it was called, or the rules of computation by the Arabic numerals. There is also computation by counters,

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Excerpt

[More information](#)

WORKS ON ARITHMETIC.

5

fractions common and sexagesimal, and the rule of three. Many works of fifty years later do no more difficult questions. That Boethius was the author of the Arabic numerals was a common notion at the time, revived in our own day. I have seen another edition of *Strasburg*, fifteen-twelve; and there is said to be another edition by Orontius Fineus, *Paris* (?) fifteen-twenty. There is also an Italian translation, *Venice*, fifteen-ninety-nine, *quarto*, with the additions of Orontius, translated by Giovan Paolo Galucci.

If the number were sufficient of those who wish to take their notions of liberal education in Europe at the time immediately preceding the Reformation from original sources, and not from the reports of others, a reprint of the *Margarita Philosophica* would be made. The diversity of the matters which it treats, and the largeness of its circulation, stamp it as the best book for such a purpose.

The *Margarita Philosophica* is the earliest work I have found in which mention is made of that peculiar system of measures which was current among the mathematicians of the sixteenth century, and which has caused no little confusion among writers on metrology. I have already given some account of this ill-understood system, and shall here endeavour to present the whole case with some additional evidence.

The Roman foot (of 11·62 inches English) was of course established throughout the empire: and with it the Roman pace* of five feet, or 58·1 inches or 4·84 feet English. The natural pace of a man in our day is as nearly as possible five English feet: Pauc-ton's experiments on the walking paces of individuals gave him 59·7 inches English, or 4·98 feet. In the British army the step, both what is called the ordinary step and the quick step, is, by regulation, thirty inches: making a pace of five feet. The Roman pace, by which distances were actually measured, was that of a soldier on the march: and, as might be expected, the weight of his arms and other equipage seems to have shortened his pace a little. But so near were these measures, as actually used by the Romans, to the natural ones from which they derived their names, that it was customary, not only to recur to legal standards, but, in the absence of ready access to them, to make use of the natural foot and pace. And we also know from Roman writers, that a somewhat fanciful relation, though not very far from the truth, was established between the breadth of the hand across the middle of the fingers, the *palm*, and the length of the *foot*. It was taken that four palms made a foot: and a palm was made of course to consist of four (average) finger-breadths or digits. This division into palms and digits was the most recognised division of the Roman foot: that into inches, or *uncia*, is well known not to belong to the foot merely, but to any thing else. Whatever magnitude was called unity, the *uncia* was its twelfth part. Accordingly, *all* the Roman foot-rules which have been found in ruins or excava-

* The pace is derived from the double step, being the distance from the extremity of the heel at the place from which it is removed in walking to the same at the place in which it is set down again.

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[More information](#)

tions have the digital division, to which *some* (most, I believe) have the uncial division superadded. All this I take to be too well established to require the citation of any authorities.

It is quite out of my power, or, as far as I know, of that of any one else, to trace the gradual alteration of the foot in different countries. It does not appear that any means were taken to institute comparisons of various measures, to be preserved as public records. Such means could have been found: that which was then the common church of Christendom might have easily regulated the weights and measures of Europe, even without appearing to do so. But in all probability, the extent of the variations was not well known until it was too late. We know, however, as a fact, that the geometers were successful in establishing a measure among themselves, and communicating it through Europe on paper. This measure, I have no doubt, they believed to be the true Roman foot: for they divide it in Roman denominations, make use of it in their quotations from Roman authors, and never hint at their having any other notion of a Roman foot. And moreover, the writers who, in the sixteenth century, recovered the true Roman foot, never mention any peculiar geometrical foot in use among mathematicians, or in any way distinguish the latter from the *wrong* Roman foot which they were correcting. That the geometers believed the Roman foot, that is, their own foot, to be the *human* foot, might be easily proved. And, with such belief, they would make their so-called Roman foot too short. From a hundred measures of the feet of adult men, furnished to me by a boot-maker, and taken as they came in his books, I find the average length of the Englishman's foot to be 10·26 inches, in our day: or an inch and a third shorter than the Roman lineal measure.

This *geometrical foot* of the mathematicians is, I make no doubt, the geometrical foot to which writers of the seventeenth century refer, or mean to refer. But, not long after the true restoration of the ancient measures, there arose a disposition among those who inquired into the subject to seek a mystical origin of weights and measures, on the supposition of some body of exact science once existing, but now only seen in its vestiges: a disposition which is not yet entirely extinct. Some speculated on the pyramids of Egypt, and tried to establish that the intention of building those great masses was that a record of measures founded on the most exact principles might exist for ever. But more turned their attention to the measurement of the earth, and, by assuming nothing more difficult than that a degree of the meridian a thousand times more accurate than that of Eratosthenes was in existence hundreds, if not thousands, of years before him, it was easy enough to make out that the whole system of Greek, Roman, Asiatic, Egyptian, &c. measures was a tradition from, or a corruption of, this venerable piece of lost geodesy. There runs through all these national systems a certain resemblance in the measures of length: if a bundle of fag-gots were made of foot-rules, one from every nation ancient and modern, there would not be any very unreasonable difference in the lengths of the sticks.

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Excerpt

[More information](#)

WORKS ON ARITHMETIC.

7

The metrologists who treat this subject handle it according to their several theories. Those who have none in particular either neglect it altogether, or speak of its length as uncertain, or define, with Dr. Bernard, the geometrical pace as being five feet of its own kind, without saying what this kind is. Those who have the notion of the old measure of the meridian accommodate it to their supposed ancient measure; but at the same time, those of most research and note make it *less* than their Roman foot. Thus Paucton makes it nine-tenths of the Roman foot, which, with his version of that measure, is 10·9 inches English, and with the true one, 10·5 of the same. Similarly, Romé de L'Isle makes it more than half an inch (French) less than *his* Roman foot. As they do not refer to the geometers of the middle ages, I cannot guess whence they get their notion, otherwise than from their theory.

I now proceed to demonstrate the existence of this geometrical foot, which I believe to have been the effort of mathematicians to perpetuate and make common what they took to be the Roman foot, on the supposition that it was nothing but the average length of the *human foot*.

Passing over the general expressions of writers who refer to the use of the parts of the body in measurement, and who sometimes distinctly state that the determination of the human foot is necessarily that of the Roman measure, I take first the statement of Clavius, whose term of active life was the latter half of the sixteenth century and who says* very distinctly that the mathematicians, to avoid the diversity of national measures, had laid down a system for themselves. The table of measures which he gives (and dozens of other writers before him) is as follows:

1 breadth of a barleycorn.
 4 = 1 digit.
 16 = 4 = 1 palm (across the middle of the fingers).
 64 = 16 = 4 = 1 foot.
 96 = 24 = 6 = $1\frac{1}{2}$ = 1 cubit.
 160 = 40 = 10 = $2\frac{1}{2}$ = $1\frac{2}{3}$ = 1 step (gressus).
 320 = 80 = 20 = 5 = $3\frac{1}{3}$ = 2 = 1 pace.
 640 = 160 = 40 = 10 = $6\frac{2}{3}$ = 4 = 2 = 1 perch (pertica).
 125 paces 1 Italic stadium.
 8 stadia 1 Italic mile.
 4 Italic miles a German mile.
 5 Italic miles a Swiss mile.

The constant reference to this barleycorn measure (which is seldom, if ever, omitted) induced me to try what it would really make. There is some difference between the breadths of barleycorns. A certain statement of Thevenot (cited in the *History of*

* 'Enumerandæ sunt mensuræ quibus mathematici, maxime geometræ, utuntur. Mathematici enim, ne confusio oriretur ob diversitatem mensurarum in variis regionibus (quælibet namque regio proprias habet propemodum mensuras), utiliter excogitarunt quasdam mensuras, quæ certæ ac ratæ apud omnes nationes haberentur.' —*Comm. in Sacroboscum*.

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Excerpt

[More information](#)

Astronomy, Lib. Usef. Kn.) makes the breadths of 144 grains of oriental barley give $1\frac{1}{2}$ French feet; at which rate 64 would only give 8.53 inches English. A sample from a London shop gave me (when the largest grains were picked out) 33 to just more than five inches. Some other samples, procured from two different parts of England as the finest which could be got, gave 33 to 5 inches, 33 to 5.1 inches, and 33 to 5.1 inches. The average of these is 9.8 inches to 64 grain-breadths: a result which coincides more nearly than could have been expected with the following determinations.

There is a chain of writers who have studied to perpetuate their geometrical foot by causing a line to be laid down on the page, representing the digit, the palm, or the foot. Sometimes the palm or foot is divided into digits: and of course I rely most on those whose subdivisions are the best. As paper is apt to shrink as it becomes old, the foot deduced from these will be somewhat too small, and it may be afterwards discussed how much it should be lengthened. Leaving this for the present, I give the measurements from different authors.

Margarita Philosophica, above described. In the Strasburg edition of fifteen-four, the length of the geometrical palm is less than $2\frac{1}{4}$ inches by from half to three fourths of the 24th of an inch. Taking it half way between these, the four-palm foot is 9.9 inches English. In the Basle edition of fifteen-eight, in which the woodcuts are of much rougher execution, the palm is 2.64 inches, giving a foot of 10.56 inches. The palm only is given in both cases.

Oppenheim, fifteen-twenty-four. Stöfler. 'Elucidatio Fabricæ Ususque Astrolabii.' *Folio in threes* (quarto size).

The digit, palm, and foot, are separately given; the foot is divided into palms, and all agree excellently well with one another. The foot is exactly 9.75 inches English.

Paris, fifteen-twenty-six. John Fernel. 'Monalosphærium.' *Folio in threes*.

Paris, fifteen-twenty-eight. John Fernel. 'Cosmotheoria.' *Folio in threes*.

The historical mistake arising out of these works is the most remarkable circumstance attending the loss of the geometrical foot. While Fernel was publishing the first work, he was meditating (or perhaps executing) his famous measurement of a degree of the meridian. In this first work he lays his geometrical foot down the page, with great care, as he says (*omni molimine*). In two copies of this work which I have examined, the length of the foot is within a sixtieth of an inch of nine inches and two-thirds, giving 9.65 inches. In the second work, in which he announces his measure of the degree, he states that five of his paces and those of men of ordinary stature make six *geometrical* paces; which, he adds, is agreeable to the opinion of Campanus and others (at least a century and a half before), who made the mile of 1000 common paces to be 1200 geometrical paces. Allowing 60 inches (English) to a common pace, which is rather over than under the truth, this gives a geometrical pace of 50 inches,

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Augustus De Morgan

Excerpt

[More information](#)

WORKS ON ARITHMETIC.

9

and a foot of *ten* inches. This is enough to shew that Fernel was, in the second instance, speaking in rough terms of the foot which he printed *omni molimine* in the first. The geometrical pace being forgotten, and the *monalosphærium* also, the modern historians have assumed that Fernel used the Paris foot: by which he is made to appear to come very near the real degree, whereas he is fifteen miles wrong.

Paris, fifteen-fifty-two. Jac. Koebelius. ‘*Astrolabii Declaratio.*’ *Octavo.*

This worthy astrologer, after referring to the perfect notoriety of the system of measures, gives a digit and a palm. The digit is nine-sixteenths of an inch (English), giving a foot of nine inches. The palm is $2\frac{1}{4}$ inches and one-sixteenth, giving 10 inches and a quarter to the foot. The book is small, and the palm incorrectly subdivided.

Frankfort, sixteen-twenty-one. Peter Ryff. ‘*Questiones Geometricæ.*’ *Quarto.*

Four very accordant palms are given, indifferently subdivided into digits. Each palm is $2\frac{1}{4}$ inches and three-sixteenths, giving a foot of 9.75 English inches.

From these different sources, good and bad, we have for the geometrical foot 9.8, 9.9, 10.56, 9.75, 9.65, 10, 9, 10.25, 9.75 inches: the mean is 9.85. But much the best authorities are Fernel and Stöffler, because they are the greatest names, have given the whole foot, and have taken the greatest pains with the subdivisions. Their results are 9.75 and 9.65, with a mean of 9.7.

Taking this as the foot on paper, it remains to ask how much it must be lengthened to allow for the shrinking of the paper. At first, relying on the plate in Dr. Bernard’s work on ancient weights and measures, in which the English foot appears to have shrunk by its 42nd part, I was disposed to lengthen the above in the ratio of 41 to 42. But observing that an older English foot, figured in the ‘*Pathway to Knowledge*,’ 1596, has shrunk only by its sixtieth part, I am rather inclined to consider the shrinking of Bernard’s as an extreme case. And moreover, the two copies of the *Monalosphærium* give the same foot within one-hundredth of an inch certainly, and less: and it is very unlikely that if the paper had shrunk much, it should have shrunk so equally in two different copies. But, taking one-fiftieth as the outside, it follows that the geometrical foot is any thing the reader pleases between 9.7 and 9.9 English inches. The result from modern barley* gives 9.8, as above shewn.

It is remarkable how completely the English writers are in ignorance of the existence and use of the geometrical foot among their continental neighbours. Blundeville takes Stöffler, in the work above mentioned, to be speaking of a *German* foot, which, says he, Stöffler makes to be $2\frac{1}{4}$ inches less than the English foot.

* Those who have tried to make the *lengths* of three barleycorns into an inch will probably think little of this mode of judging. But I observed that in samples of barley of very different apparent fineness, the difference was in the length of the corns, the breadths hardly varying at all.

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[More information](#)

Paris, fifteen-fourteen. **Boethius, Jordanus Nemorarius, Shirewode (?)**, **J. Faber** (Stapulensis). ‘In hoc opere contenta Arithmetica . . . Musica . . . epitome . . . Boethii: rithmimachie ludus qui et pugna numerorum appellatur.’ *Folio in fours*. Second edition.

The first arithmetic is by Jordanus, the second by Boethius, both edited and commented by Faber. The music (a tract on which was in those days little but a tract on fractions under musical names) is also by Faber. The *Rithmimachia* I suppose to be the work of Shirewode’s mentioned in the Introduction, but no author is named. It is a short triple dialogue on the properties of numbers, with some sort of numerical game. Libri attributes it to Faber, probably from its appearance in this edition without an author’s name, and headed by an address from Faber, the editor. This second edition was printed by H. Stephens [the first, *Paris*, fourteen-ninety-six, *folio*, was printed by Hopilius, whose partner H. Stephens afterwards was, under the superintendence of David *Lauxius*,* of Edinburgh].

Paris, fifteen-fourteen. **Nicolas Cusa**. ‘Hæc accurata recognitio trium voluminum operum Clariss. P. Nicolai Cusæ Card. &c.’ In three volumes, *folio in fours*.

Cardinal Cusa is put down in several arithmetical lists because one of his *opuscula* is entitled *de Arithmetice Complementis*. But it is not a work on arithmetic, nor does it even proceed by arithmetic. Or it may be that John Cusa, next mentioned, may have been confounded with Nicolas. For Cusa, see the *Companion to the Almanac* for 1846, p. 14, and *Penny Cyclopædia*, ‘Motion of the Earth.’

Vienna, fifteen-fourteen. **Joh. Cusanus**. ‘Algorismus linearis projectilium, de integris perpulchris arithmetrice regulis,’ &c. *Quarto size*.

A tract of seven pages on counters.

Augsburg, fifteen-fourteen. **Jacob Kobel** (printer). ‘Ain Nerv geordnet Rechen biechlin auf den linien mit Rechen pfeningen:’ &c. *Quarto, twos and threes* (duodecimo size).

Computation by counters and Roman numerals: the Arabic numerals are explained, but not used. In the frontispiece is a cut representing the mistress settling accounts with her maid-servant by an abacus with counters. This book is said by Kloss to have been also printed by Kobel himself at Oppenheim in the same year.

* *Capiat qui capere potest* is the only general principle on which names like this can be read back into the vernacular. I once found James Hume, well known as a mathematician at Paris in the beginning of the seventeenth century, described as *Scotus Theagrus*. What part of the land of cakes this might be, would probably have eluded all the books in existence: but a Scottish friend, to whom I mentioned my difficulty, solved it at once, by telling me that he must have been one of the Humes of *Godscroft*, a place in which it seems certain Humes are, or were, lords of the soil.