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# ***Elementa Euclidis*: A Jesuit mathematics schoolbook**

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*In this paper we take a look at an edition of Euclid's Elements from 1704 called Elementa Euclidis: sine demonstrationibus that belongs to the holdings of the old school library of a former Jesuit gymnasium in Germany and that was edited there, too. We analyse the book in regard to its structure, content and supposed intended use, in order to find out more about mathematics education in Jesuit schools in the early modern period. It shows that the book was meant as an everyday reference book for Euclidean propositions – not for Euclidean proofs, though, as these had been excluded.*

*Keywords: Euclid, textbook research, educational history, Jesuit education.*

## **Introduction**

*Elementa Euclidis* is the title of a small, pocket-sized book from 1704 that belongs to the stock of the Josephine library, that is the library of the former Jesuit gymnasium *Josephinum* in Hildesheim, Germany.

The research presented in this paper builds on our paper from CERME12 (Hamann & Schmidt-Thieme, 2022) wherein we introduced our research project on the *Josephinum* and the stock of its library. Still, the focus – on the one hand – is a local one, on the other hand we aim at finding out more about Jesuit mathematics education in general, moreover because research on mathematics education in Jesuit schools in Germany is extremely scarce and, as Diaz (2009, p. 65) states, the “reality of teaching practices and curriculum [...] need[s] [...] further scholarship to understand the praxis of the Jesuit system.”

Like the *Notabilia Arithmetica* that we focused on in the earlier paper (Hamann & Schmidt-Thieme, 2022), the *Elementa Euclidis* is an outstanding source, having been edited by Hildesheim Jesuit mathematicians themselves. We may therefore start from the premise that the book was really used in educational context and that it most probably met some kind of requirements. Another aspect that makes the book stand out is the fact that it is an edition of Euclid's Elements that leaves out all the proofs. This unusual and striking feature immediately leads to the question how and for what the book was supposed to be used.

In this paper we take a closer look at the *Elementa Euclidis*, what we can learn about its purpose and intent and whether it tells us anything about mathematics instruction in a Jesuit gymnasium in general. We start by giving some brief general information on Jesuit education as well as on the history of the *Josephinum* and its library. Following this, we introduce the *Elementa* itself. At first, we describe its structure and content, then we lay focus on the book's introduction, from which we extract indications of purpose and methodical aspects, and draw conclusions on the intended use. All work is based on the hermeneutic approach.

## **The Jesuits' role in education**

Following reformation and – as a consequence thereof – decline of Catholicism in the 16<sup>th</sup> century, the Jesuits drew on education in order to regain ground. Having officially been founded in 1540, the

Jesuits soon started settling throughout Europe and the rest of the world and establishing colleges with associated *gymnasia*. Their education was characterized by a firm and uniform order, which was written down in the *Ratio atque Institutio Studiorum Societatis Jesu* in 1599. Due to the schools' "excellent reputation" (Casalini, 2019, p. 153) and the fact that they were free, the Jesuit educational system became very popular and served as model for schools run by other religious orders, making it a relevant subject of research concerning mathematics education in the 16<sup>th</sup> and 17<sup>th</sup> century.

The *Ratio Studiorum* contains rules for the professors of the different subjects, and mathematics was part of a two-year philosophy course, which comprised the subjects of the *quadrivium*. It shows in the *Ratio* that mathematics and the natural sciences did not play an important role within the curriculum. In the early years the Jesuit system saw the inception of mathematical schools, like the one in Antwerpen (Meskens, 2020, for other early examples of mathematical courses see Gatto, 2019), and the different draft versions of the *Ratio* included mathematics to a different extent due to the influence of Christoph Clavius. Nonetheless, in the final version the paragraph containing rules for the professor of mathematics comprises less than one page, only stating that three quarters of the physics course should be spent on Euclid and some geography or either astronomy in addition. Every month or every second month a mathematical problem shall be presented and discussed with a larger audience, and once a month the contents dealt with in recent lessons should be reviewed. Our work on the *Notabilia Arithmetica* showed that mathematics education was not limited to Euclid, after all, at least not in Hildesheim, but included some arithmetic and some practical geometry, as well. Indeed, Casalini (2019) states that despite being based on a mandatory order the Jesuits constantly adapted and amended their curriculum to temporal and local circumstances. For example, they are said to have spread new ideas and disciplines that emerged in mathematics during the scientific revolution (Gatto, 2019). However, we find none of those developments that are listed in Gatto (2019, p. 637) in the *Notabilia*.

The inclusion of practical mathematics, though, fits the primary aim of Jesuit education, which was to have students who were capable of using their acquired knowledge on practical problems. Repetition, practice and rote learning were important and common parts of scholasticism. Typically, a new subject was first presented in a *lectio*, then further treated in different *quaestiones* and finally memorized and repeated in written exams and *disputationes*. The students' achievements were regularly publicly displayed and rewarded with prizes. There was a catalogue of textbooks that were supposed to be used in the Jesuit gymnasiums and which were preferably written by Jesuits, too. Hammerstein & Müller (2005) name some of these standard textbooks but none for mathematics. Anyway, Jesuit authors played a good role in mathematical research in the Early Modern Period (Gatto, 2019) and we may therefore assume that mathematical textbooks by the likes of Clavius were available for usage in educational contexts to a sufficient degree.

## **The *Gymnasium Josephinum* in Hildesheim**

### **A short history of the *Gymnasium Josephinum***

The history of the *Gymnasium Josephinum* goes back to the year 815 when Louis the Pious – son of Charlemagne – founded the diocese of Hildesheim. It started out as a cathedral school located in the dome court, responsible for elementary education and being of high importance in the Middle Ages.

In 1587 the first Jesuit priest came to Hildesheim and by 1595 the Jesuits had established a residence and started a new gymnasium alongside the old cathedral school, first only teaching lower grammar classes. In 1601 the residence became officially a Jesuit college. Due to the Thirty Years' War the Jesuits were expelled from Hildesheim in 1634 but returned already in 1643 and in the following years the school grew further. It is not before this time that we have knowledge of teachers for mathematics and the natural sciences. Around 1660 a vicar bestowed money explicitly meant for the constitution of four teaching positions for philosophy and mathematics and by 1664 there was at least one specialist teacher for mathematics (Gerlach & Seeland, 1950; Pilz, 1995). By the end of the 17<sup>th</sup> century the school had been given the name *Gymnasium Mariano-Josephinum*.

Since the Jesuit order was disbanded in 1773 the gymnasium was assigned to the diocese of Hildesheim again and it is still an episcopal secondary school located next to the dome today.

As to the students, already around 1700 there was what we would nowadays call a heterogeneous student body, regarding the region they came from as well as their estate. Besides students from noble or bourgeois origin there were also the poor ones, the *pauperes*, who obtained free housing and who especially the Hildesheim Jesuits were said to take a lot of care of (Pachtler, 1894).

### **The school library**

As early as 1595, the year that schooling was taken up, the Jesuits of Hildesheim also took up establishing an associated library. When they were forced to leave Hildesheim they had to leave the books behind, as well, and when they returned in 1643 they found the library had been marauded in the meantime. They restored it and started collecting books again. Due to donations, gifts and inheritance the stock grew considerably up to about 20,000 volumes. The library got again endangered during the Second World War and indeed the old school building that had housed the library was destroyed in 1945. Luckily, most of the books had been evacuated before to a church outside of Hildesheim. They were only retrieved in the late 20<sup>th</sup> century, which is why their revision is still ongoing. Today the remains of the Josephine library comprise about 13,500 volumes, a considerable part of which dates back to Jesuit times. The library has been incorporated into the dome library and up to now only about 5000 volumes have been catalogued (Schmidt-Thieme, 2020).

Several mathematical textbooks are part of the stock, in German as well as in Latin. As a general rule one can say that books written in vernacular-language were meant for practitioners, while works in Latin rather served the formation of mind. Part of these mathematical books belonged to the stock not least because Peter Heckenberg bequeathed his private collection to the library upon his death in 1695. Heckenberg who was a vicar and librarian of the Josephine library in the 17<sup>th</sup> century was himself the author of some of these mathematical textbooks (for further detail see Schmidt-Thieme, 2020). Nevertheless, we do not know the number of these books yet nor what role they played for practical mathematics education.

Standing out, though, are two booklets, both of them pocket-sized and especially noticeable as they were edited by mathematicians of the Hildesheim Society of Jesus themselves, leading to the assumption that these were produced for classroom work and therefore played a role in teaching practice. These are an arithmetic textbook by the name of *Notabilia Arithmetica* from 1703 and an

edition of Euclid (*Elementa Euclidis*) from 1704. For more detail on the *Notabilia Arithmetica* see Hamann & Schmidt-Thieme (2022).

## **The *Elementa Euclidis***

### **General description**

The book's title is *Elementa Euclidis: sine demonstrationibus hoc est Omnes & solae Assertiones & Propositiones Principales, Quae in 16. libris Elementorum exponuntur* (Euclid's Elements without proofs, these are all and only the main assertions and propositions, that are exposed in the 16 books of the Elements) and added on the title page is *Videlicet Definitiones, Postulata, Axiomata, Theoremata & Problemata* (namely definitions, postulates, axioms, theorems & problems), *una cum Figuris Praecipuis, in minore Chartae forma ad Majorem Studentium Commoditatem* (all in one with special[ly chosen] figures, in small-format to the highest convenience of the students). The title page therefore already gives a clue on the intended usage referring on the one hand to the target audience (*Studentium*) and on the other hand to a comfort that is due to the small format (approx. 8 cm x 13 cm). We will take up this aspect further below.

There is no author mentioned, but named as editors are mathematicians at the gymnasium of the Hildesheim Jesuit society. The booklet has been printed in Hildesheim by Johannes Leonard Schlegel in the year 1704 and comprises 96 pages and 2 further uncounted sheets, which are glued in at the beginning and the end of the book, comprising copperplate illustrations (*aeri incisas*, p. 5). The sheet at the front is captioned *Tabella Geomet[ria] I* and shows diverse geometric shapes and solids such like different kinds of triangles, circles with various lines inscribed, a cube, a sphere and so on. The figures are numbered consecutively. The sheet at the back is captioned *Tabella II geom[etria]* and contains diverse illustrations on angles, proportions and astrology. The figures are numbered, as well. The sheet *Tabella Geomet[ria] I* is the same that had already been glued in in the *Notabilia Arihtmetica* the year before.

The copy found in the Josephine library seems to be the only copy that has persisted, as we could not trace another one yet.

### **Structure and content**

The *Elementa Euclidis* begins with a three-page introduction to the reader (*Lectorii*, pp. 3-5), which is directly followed by the main part, the books of the Elements. There is no list of contents, no index or register and no epilogue.

Besides the striking fact that the *Elementa Euclidis* omits all the Euclidean proofs, another noticeable aspect that can already be learned from the title page is that the volume comprises 16 books, even though there are only 13 originally Euclidean books, whereas book 14 and 15 are already attributed to other authors and have been added some time later. This discrepancy between the *Elementa* and other editions of Euclid is addressed right at the beginning of the introduction (p. 3). The authors start by emphasizing the utmost importance of the Elements by calling them the bible of mathematicians (*Elementa Euclidis sunt quasi biblia mathematicorum*), but add that books 14 & 15 are ascribed to Hypsicles from Alexandria. Book 16, though, has been added by – yet unnamed – recent authors (*a Recentioribus*). However, book 16 is not the only part that traces back to other and more recent

authors, but there are more additions to the original work. Namely these are book 5, prop. 26 ff., book 14, prop. 12 ff., book 15, prop. 6 ff. (p. 5). While book 5 is about proportions regarding numbers, the rearward books deal with Platonic solids. There is no explicit reason given for these amendments, let alone any content-related explication. It is only referred to Clavius<sup>1</sup> and other authors (*uti apud Clavius etc.*) who had included these additions in their work before. We may therefore assume that there was no contentwise reason for this but that the changes were simply adopted from the sources the *Elementa Euclidis* is based on. At the same time, then, it follows, that these sources were rather recent editions of the Elements, preferably by Jesuit authors as would have been typical for the Jesuits.

In the introduction a short overview is given over the contents of the books of the *Elementa* (p. 3). Following this, the structure of the separate books is described. Each book begins with three types of basic elements or principles, which are definitions, postulates and axioms. Definitions explain mathematical vocabulary and are needed for proving propositions. Postulates are requirements, whose execution is obviously possible and cannot be denied. Axioms are statements that ground on the last (probably in the sense of most fundamental) sentences (p. 3). From these basic principles two kinds of propositions are deduced: *theoremata*, that are theoretical and require exploring mathematical properties, and *problemata*, that are more practical and teach actions and constructions. Besides these two, there are lemmata that serve other propositions and corollaries that result directly from some afore-mentioned assertion. (pp. 3-4). All books are headlined by a summary of their content. The definitions, postulates, axioms and propositions are each followed by a number that matches the quantity of sentences to follow within the book.

According to the volume's title the books comprise all the Euclidean propositions but without any proofs and demonstrations nor illustrations. It is indicated, though, that these can be found in the works of many other famous mathematicians.

### **Purpose and usage**

The introduction enables us to gain knowledge on how the *Elementa Euclidis* was intended to be used (pp. 4-5). The special small format serves several purposes. In the first place, the booklet has the same format as the *Notabilia Arithmetica*, which facilitates these two being bound together as well as being tied to several other *libelli mathematici* of the same size. In the second place, the format is useful and comfortable. It allows the owner to always have the mathematical foundations with him and easily at hand so as to study them, nurture the mind and support memorizing them. By that, the mathematical objects would be conserved, augmented and easily taught. The copperplate illustrations facilitate teaching with only few words by allowing to point at the figures.

And indeed, a closer look at the separate books reveals that this possibility was used extensively. Many of the figures are referred to within different propositions in different books, which has been made possible because they have been designed deliberately to illustrate various mathematical contexts by only one figure. We find an explicit reference to the *Notabilia Arithmetica*, as well, when

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<sup>1</sup> Christoph Clavius (1538-1612) was a German-born Jesuit mathematician who is said to have had a great impact on Jesuit mathematics education (Diaz, 2009). Clavius first published his version of Euclid's Elements containing 16 books, as well, in 1574 (for a later edition see Clavius, 1627).

at the beginning of book 7 it is said many examples for the topics of the following four books (books 7-10 are these that deal with arithmetic and proportional sizes) are to be found there. This strengthens the suggestion that both works were meant to be used in a bundle.

From all of this we learn that the *Elementa Euclidis* was meant as a compendium, a kind of manual to keep in one's pocket. As the title names students as audience, we can also derive that students were supposed to not only remember the basic mathematical contents and propositions, but also to spread their knowledge. On the other hand, it becomes clear that we cannot draw conclusions about classroom practice as far as the introduction of mathematical concepts and propositions is concerned. Neither can we learn about the teaching of geometrical proofs or how far Euclidean proofs and demonstrations were seen as significant at all. The *Elementa* is not a schoolbook in the strict sense of the word. It is still curious that the sole and naked propositions were obviously judged worthy enough to be memorized and propagated. It stays unclear to what further end this was expected to be done by the students.

The focus on repetition, rote learning and limitation to the basic concepts, which might bear more practical relevance than proofs, after all, is nevertheless in accordance with the aims of typical Jesuit education. One should also consider that a considerable part of the mathematical course at the *Josephinum* seems to have been spent on arithmetic, leaving a tight schedule for the course on Euclid, which was nonetheless made compulsory by the *Ratio Studiorum*. So maybe the shortage seen in the book was due to a shortage of time in classroom.

However, we find that presumably the Hildesheim *Elementa Euclidis* was not broadly used as it looks as if it has not been disseminated widely, if at all. This might be due to a lack of demand, as there was a considerable amount of – even Jesuit – editions of Euclid's Elements to get hold of. It might just as well be a hint that after all an edition of the Elements omitting proofs was simply not useful, especially in regard to mathematical discussions and *disputationes*.

### **Some conclusions (and more questions)**

We find that the *Elementa Euclidis* has been written for students of mathematics at the *Josephinum* in Hildesheim, as a compendium and reference book of the sole Euclidean propositions, which was meant to be close at hand in order to be able to repeat, memorize and teach its contents. The booklet was also intended to be compiled with other mathematical works, first of all the *Notabilia Arithmetica* that has presumably been written by the same authors. But despite their common emergence from the teaching body of the *Josephinum*, their outward similarity and the fact that they both were meant as a compendium the inside of both books differs considerably, in a curious way that poses a lot of questions.

So why has the *Elementa Euclidis* been written and why has it been written in addition to the *Notabilia Arithmetica* in particular? The *Ratio Studiorum* demanded the teaching of some Euclid, so in first place one could find it obvious that the Hildesheim Jesuits wished to have their own edition of the Elements, moreover when considering that they had compiled their own arithmetic textbook before. But, while the *Notabilia* is a collection of lots of most different mathematical (not even purely arithmetical) topics, to which we have not yet found any other comparable work, the *Elementa* displays no substantial changes compared to other editions like the one by Clavius (1627), except

containing much less. Concerning the *Notabilia* we worked out (in Hamann & Schmidt-Thieme, 2022) that it might have emerged from pure practical needs for a Jesuit schoolbook on arithmetic. This does obviously not apply to the *Elementa*, Clavius or any other Jesuit author could just as well have been used in classroom (and probably was, as we assume that at least some Euclidean proofs must have been taught). Already for a long time had arithmetic and geometry been the two pillars that mathematics was made up of, but as Euclid's Elements contain books on arithmetic just like the *Notabilia* contains some practical geometry, it cannot have been the intent to have two works, where each represents one of these two pillars. Another thing that is apparent about the *Notabilia Arithmetica* is that it includes mainly so-called practical mathematics like arithmetic rules that were necessary in mercantile contexts. In contrast to this, Euclid's Elements are regarded as perfect model for the logical-deductive structure suitable for the logical-formal education of mind, so maybe this was the intention behind the duality of the Josephine textbooks. But then, when leaving out all the proofs, there is not much left of the logical structure that is so characteristic for the original work.

Maybe the Hildesheim Jesuits, due to their general focus on employable knowledge, thought arithmetic to be more important and therefore spent a lot of their *quadrivium* time on arithmetical topics, not leaving much space for a theoretical subject like the Elements. Nonetheless, they were bound to the *Ratio* and could not expel Euclid from their course completely. Maybe the *Elementa Euclidis* is a result of their wish to limit their engagement with Euclid to a minimum and only the most essential. However, we do not have explicit evidence for this. Surely, there is much more research to be done on the stock of the Josephine library as well as on these two special booklets, but regarding the *Elementa*, it looks as if its deeper meaning will stay obscure.

## References

- Casalini, C. (2019). Rise, character, and development of Jesuit education: Teaching the world. In I. G. Zupanov (Ed.), *The Oxford Handbook of the Jesuits* (pp. 153–176). Oxford University Press.
- Clavius, C. (1627). *Euclidis Elementorum Libri XV: accessit liber XVI, de quinque solidorum Regularium inter se comparatione* [Book XV of Euclid's Elements: Book XVI, of the five regular solids in comparison with each other]. Cholinus.
- Diaz, E. A. (2009). *Jesuit Education and Mathematics: Review of Literature on the History of Jesuit Education and Mathematics*. Müller.
- Gatto, R. (2019). Jesuit mathematics. In I. G. Zupanov (Ed.), *The Oxford Handbook of the Jesuits* (pp. 637–669). Oxford University Press.
- Gerlach, B., & Seeland, H. (1950). *Geschichte des Bischöflichen Gymnasium Josephinum in Hildesheim. Von der Aufhebung der Gesellschaft Jesu im Jahre 1773 bis zur Zerstörung der Anstaltsgebäude des Josephinums 1945: Vol. 1* [History of the Episcopal Grammar School Josephinum in Hildesheim. From the suppression of the Society of Jesus in 1773 to the destruction of the Josephinum buildings in 1945: Vol. 1]. Lax.
- Hamann, T., & Schmidt-Thieme, B (2022). *Notabilia Arithmetica: a Jesuit mathematics school book. Twelfth Congress of the European Society for Research in Mathematics Education (CERME12), Feb 2022*, University of Bozen-Bolzano.
- Hammerstein, N., & Müller, R. A. (2005). Das katholische Gymnasialwesen im 17. und 18. Jahrhundert [The Catholic grammar school system in the 17th and 18th centuries]. In N.



Hammerstein & U. Herrmann (Eds.). *Handbuch der deutschen Bildungsgeschichte: Vol. 2. 18. Jahrhundert: Vom späten 17. Jahrhundert bis zur Neuordnung Deutschlands um 1800* [Handbook of German educational history: Vol. 2. 18th century: From the late 17th century to the reorganisation of Germany around 1800] (pp. 324–354). Beck.

Mathematici Gymnasii Societatis Jesu Hildesii (Eds.) (1704). *Elementa Euclidis: sine demonstrationibus hoc est Omnes & solae Assertiones & Propositiones Principales, Quae in 16. libris Elementorum exponuntur: Videlicet Definitiones, Postulata, Axiomata, Theoremata & Problemata, una cum Figuris Praecipuis, in minore Chartae forma ad Majorem Studentium Commoditatem* [Euclid's Elements: without demonstrations, this is all and only the principal assertions & propositions, which are set forth in the 16th Book of the Elements: Evidently definitions, postulates, axioms, theorems & problems, together with the principal figures, in a smaller paper form for the greater convenience of students]. Schlegel.

Mathematici Gymnasii Societatis Jesu Hildesii (Eds.) (1703). *Notabilia Arithmetica: Quae Omnem Arithmeticae, ejusque varium usum, cum in aliis multis, tum maxime in Geometricis operationibus succincte proponunt* [Notable arithmetic: Which briefly proposes all arithmetic, and its various uses, with many other things, and especially in geometrical operations]. Schlegel.

Meskens, A. (2020). Die Mathematikschule der Antwerpener Jesuiten [The mathematics school of the Antwerp Jesuits]. In R. Gebhardt (Ed.), *Die Entwicklung der Mathematik in der frühen Neuzeit: Tagungsband zum wissenschaftlichen Kolloquium "Die Entwicklung der Mathematik in der frühen Neuzeit" vom 24.-26. April 2020 in der Berg- und Adam-Ries-Stadt Annaberg-Buchholz* [The development of mathematics in the early modern period: Proceedings of the scientific colloquium "Die Entwicklung der Mathematik in der frühen Neuzeit" from 24-26 April 2020 in the mining and Adam Ries town of Annaberg-Buchholz] (pp. 31–38). Adam-Ries-Bund e. V.

Pachtler, G. M. (1894). *Ratio Studiorum et Institutiones Scholasticae Societatis Jesu: Vol. 4. Complectens monumenta quae pertinent ad gymnasia, convictus (1600–1773) itemque ad rationem studiorum (anno 1832) recognitam* [System of studies and scholastic institutions of the Society of Jesus: Vol. 4. Completing the records that pertain to the gymnasium, convicts (1600-1773) and also to the system of studies (in 1832) revised] (B. Duhr, Ed.). Hofmann & Comp.

Pilz, W. (1950). Von der Rückkehr (1643) bis zur Aufhebung des Ordens (1773) [From the return (1643) to the cancellation of the order (1773)]. In D. Hosemann, H. Strüber, & H. Nitsche (Eds.). *400 Jahre. Festschrift zur Geschichte der Schule seit der Übernahme durch die Gesellschaft Jesu (1595–1995)* [400 years. Commemorative publication on the history of the school since it was taken over by the Society of Jesus (1595-1995)] (pp. 52–63). Bischöfliches Gymnasium Josephinum.

*Ratio atque institution studiorum Societatis Jesu: Superiorum permissu* [The system and organization of the studies of the Society of Jesus: with the permission of the Superior]. (1600). Balthasar.

Schmidt-Thieme, B. (2020). Petrus Heckenberg: Dombibliothekar in Hildesheim [Petrus Heckenberg: Cathedral librarian in Hildesheim]. In R. Gebhardt (Ed.), *Die Entwicklung der Mathematik in der frühen Neuzeit: Tagungsband zum wissenschaftlichen Kolloquium "Die Entwicklung der Mathematik in der frühen Neuzeit" vom 24.-26. April 2020 in der Berg- und Adam-Ries-Stadt Annaberg-Buchholz* [The development of mathematics in the early modern period: Proceedings of the scientific colloquium "Die Entwicklung der Mathematik in der frühen Neuzeit" from 24-26 April 2020 in the mining and Adam Ries town of Annaberg-Buchholz] (pp. 31–38). Adam-Ries-Bund e. V.