

“Untiring Labor Overcomes All!” The History of the Dutch Mathematical Society in Comparison to Its Various Counterparts in Europe

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The Netherlands, like some other European countries, witnessed the emergence of several amateur mathematical societies in a “philomathy” atmosphere during the 18th and early 19th century. One of them, the Amsterdam Mathematical Society “Untiring Labor Overcomes All” (nowadays known as the Wiskundig Genootschap), during the early 19th century became a national institution which embodied almost the entire Dutch mathematical community. It would fulfil its role as a national mathematical Society even before the 1860s, when pure mathematics became the subject of professional research and mathematical Societies of “professionals” were founded all over Europe. This article points out the Dutch social climate (the gap between the social classes was not as enormous as elsewhere in Europe, and engineering courses were part of the mathematics curriculum at the university) and changes within the Society itself, thus describing how it was possible for the Wiskundig Genootschap to become a link between two kinds of societies (“amateurs” vs “professionals”) which should be clearly distinguished. © 2001 Academic Press

Zoals in vele Europese landen ontstonden er ook in Nederland gedurende de 18de en vroege 19de eeuw wiskundige genootschappen van “liefhebbers.” Een van deze amateurgezelschappen, het Amsterdams Wiskundig Genootschap onder de zinspreuk “onvermoeide arbeid komt alles te boven,” groeide gedurende de eerste decennia van de 19de eeuw uit tot een nationaal genootschap dat de Nederlandse wiskundige gemeenschap vertegenwoordigde. Het genootschap vervulde haar rol van nationaal genootschap zodoende reeds lang voordat in de jaren 1860 onder invloed van professionalisering van (wiskundig) onderzoek dergelijke genootschappen van “professionals” in de andere Europese landen opkwamen. In dit artikel wordt gewezen op het sociale klimaat (er was nauwelijks sprake van een kloof tussen de sociale klassen zoals elders in Europa, en ingenieurswiskunde maakte deel uit van het universitair curriculum) en veranderingen binnen het genootschap zelf, waarmee beschreven wordt hoe het Wiskundig Genootschap een verband vormt tussen twee soorten van genootschappen (“amateurs” vs “professionals”) die nadrukkelijk van elkaar onderscheiden dienen te worden. © 2001 Academic Press

MSC 1991 subject classifications: 01A50, 01A55.

Key Words: Dutch Mathematical Society; Wiskundig Genootschap; Mathematical Societies.

1. INTRODUCTION

After 1860 mathematical societies in Europe became common. These were founded on a national basis, gradually reinforcing international exchange. Although the reasons for founding them were diverse, these societies illustrate the growth of a professional group of mathematicians (cf. [28]) by starting to issue journals and putting extra emphasis on what was considered pure mathematics [32, pp. 488–490].

The London Mathematical Society began in 1865 as a student initiative, inspired by the older Astronomical Society. By drawing many important mathematicians it soon established itself [55]. In Bohemia a Mathematical Society was founded even earlier: aroused by

nationalist sentiments within the Austrian empire, in 1862 students in Prague started a *Spolek pro volné přednášky z matematiky a fyziky* (Society for lectures on mathematics and physics). The goals were more modest than those of the London Mathematical Society, but within a decade it became a solid organisation where teachers of all levels were represented [47, 65]. The *Société Mathématique de France* was founded in 1872, more or less as a reaction to the recent war with Germany, and as an attempt of the French mathematical community to prevent lagging behind Germany and England [27, p. 20]. Russia had several mathematical societies, Moscow (1867) and Kharkov (1879) being the first, St. Petersburg and Kiev (both 1890) following [20].

In the German countries, the founding of a society had already been suggested in 1867 by Alfred Clebsch. The publication of the *Mathematische Annalen* (since 1868) offered a mouthpiece to German mathematicians, which made the organization less urgent. It was only in 1890, and from within the Society of German Scientists, that the *Deutsche Mathematiker Vereinigung* was founded (see [25, 58, 64]; [37] treats the subject very thoroughly from a power-politics point of view). In 1888, inspired by the Society in London, a number of students of Columbia University founded the New York Mathematical Society for the purpose of discussing mathematical topics. The ambitions of the members soon turned the organization into a society representing the American mathematical community as a whole: since 1894 it has operated under the name American Mathematical Society [22, 23, 51]. In all their diversity (cf. [28, 29]), the histories of these Societies, and also of those in Italy [14, 28, 42], Eastern Europe [16, 21, 52] and on the Iberian [49] and Scandinavian [12, 54, 61] peninsulas, fit nicely into the more general picture of the rise of mathematics as a profession: those doing research in mathematics were evidently members of such societies, joined in the board, wrote in the journal, etc. For this reason they will be denoted as “professional” mathematical societies, or—perhaps more accurate—societies of professionals, since a substantial part of the members of these societies made their living (or intended to make their living) by doing mathematics. By becoming a member one presented oneself as a mathematician.

The members of these societies soon started contacting each other, organizing international conferences, and writing in each other’s magazines. Journal exchange programmes were initiated. Among the societies there also was a Dutch mathematical society, the *Wiskundig Genootschap*, which had started to issue a journal devoted to pure mathematics in 1856 [71], but which had its roots in the 18th century. During the 18th century many mathematical societies existed too: of course these organisations had no part in the professionalization of (pure) mathematical research, but were rather informal gatherings of teachers and engineers with a keen interest in mathematical pastime. In this article I will propose that these 18th-century societies can and should be clearly distinguished in historiography from the later societies of professionals. The history of the *Wiskundig Genootschap* will show a unique link between these two kinds of societies. Causes for this unique situation will be found in peculiarities of 18th-century Dutch culture.

2. AMATEUR MATHEMATICAL ACTIVITY

From the late 17th and early 18th century onwards, people all over Europe were getting more involved in mathematical activities. More banking, more surveyors, more merchants, and a world growing more and more complex demanded more of mathematical skills

[56, pp. 330–332]. Therefore, it may not be all that strange that an interest in mathematical pastimes emerged. Apart from the élite, which had always amused itself with “mathematical tricks” (for example: [34, 50, 67]), now surveyors, bookkeepers, and schoolteachers all over Europe discovered the joy of doing mathematics (for the Netherlands, see [10]). Probably the people “enjoying mathematics” and participating in such journals or study groups also saw their status depending on their presentation in such places. In any case the interest in mathematical pastime grew, which may be illustrated by the number of (popular) journals and books published since 1700. The *Ladies’ Diary* (1704–1872) was one of the first popular journals devoted to mathematical pastime [53]. Many more followed. Over 50 titles are known in the United Kingdom alone; examples include *Delights for the Ingenious* (1711), the *Miscellanæ Curiosæ* (1734–1735) and the *Gentleman’s Diary* (1741–1841) in England (cf. [2]), and the *Kunstfrüchte* (1723) in Germany [36]. In the United States these journals emerged in the early 19th century: the *Mathematical Correspondent* (1804–1806) [38] and the *Mathematical Diary* (1825–1832) [39] are well-known examples. In general these journals did not appear regularly, and many did not last very long, which is an indication for their dependence on a small editorial group of mathematical devotees.

The level of mathematics treated in these publications was not particularly breathtaking—most journals were restricted to series of (according to the readership) enjoyable exercises in arithmetic, elementary geometry, and algebra—but their appearance illustrates a widespread interest in mathematics. In Hamburg it was this interest that led a group of teachers and engineers—for it was mostly in these circles that mathematics was held in high esteem—to found the *Kunstrechnungsliebende Societät* as early as 1690 [5]. This society was particularly resourceful in publishing books on mathematics (for example, [35, 43]). Other places followed: the *Spitalfields Mathematical Society* (1717–1846) is the best known British example [15], but there were others (see the Appendix). These were locally organized groups of teachers and engineers, who gathered regularly to do mathematics.

These organizations, small-scale as they might have been, were an important benefit for the spreading of mathematical knowledge. Elementary mathematical knowledge was promoted among people who otherwise would not have been in touch with the subject. The people active within these societies were perfect ambassadors for mathematics within their own social circles. Of course they had their own ideas on what mathematics was about. Navigation was a popular subject in the *Spitalfields Mathematical Society*; although in accordance with 18th-century notions of mathematics, the emphasis put on the subject was rather strong [15]. In Hamburg the mathematics was “anwendungsbezogen” too, and until the 1750s even astrology was considered to constitute a part of the mathematical sciences [5, pp. 82–83].

These examples indicate that long before the “professional” mathematical societies treated in the first section came into being, a completely different kind of mathematical society had already made its appearance in Europe. Their goals having been much humbler (their main activity was solving problems that were trivial from our present point of view) and their members less important than those of the later ones (in the sense that most of them made no noteworthy contributions to mathematics but were really in society life “for the game”), these societies tend to be forgotten or overlooked in historical research. Since the late 17th century, in many places teachers, engineers, and bookkeepers would convene to share the joy of doing mathematics. Not all of them actually founded societies—many

probably restricted their activities to convening, or publishing mathematical questions in a local newspaper, or pamphlets¹—and many of these societies probably left no trace; the goals of these societies were usually restricted to making the mathematical sciences more widely known, and supplying the members with a nice amount of mathematical problems. These 18th-century societies will be denoted by the term “amateur mathematical societies”—amateur taken in the most neutral meaning of the word.

University mathematicians during the 18th century belonged to another social class. They were either members of the aristocracy or elected members of one of the national academies. The members of the academies held an encyclopedic ideal of science. There seems to have been no relationship whatsoever between the amateur mathematical societies and the national academies: class differences or different views on what should be the goal of science (e.g., mathematics) probably discouraged contacts between the different social classes. Practically no members of the *élite* are known to have been members of an amateur society; vice versa virtually no amateurs were on the membership lists of the scientific academies.² Of course there were situations where the good amateur could find his knowledge esteemed by his aristocratic contemporaries: in France, for example, local academies during the era of Enlightenment incorporated both *élite* scientists and amateurs [57]. In contrast, in 18th-century Britain the Royal Society had an air of nobility which frightened off the interested commoner [30]. It is tempting to attribute the relatively high number of amateur societies in Britain (compared to France) [2] to the exclusiveness of the Royal Society.

Outside the Netherlands, there was no relationship between the 18th-century amateur mathematical societies and the 19th-century societies that started promoting research in pure mathematics. In fact, most of the amateur societies had already disappeared by the 1860s (see the Appendix), and the only amateur society still existing—the *Kunstrechnungsliebhaber* in Hamburg—did not find its members among the university mathematicians until the early 20th century [5, pp. 98–101].

3. LEARNED SOCIETIES IN THE NETHERLANDS

Unlike most other European countries, none of the Dutch universities accommodated a chair devoted solely to mathematics until the late 19th century. Mathematics was taught at universities, but either as a tool in physics, or as part of engineering courses [13]. The Dutch mathematical community consisted mostly of engineers; mathematical research as was done elsewhere in Europe was largely absent until the 1880s (cf. [11, pp. 84–89, 99–105; 1]). Engineering courses (in mathematics) being taught in Dutch at the universities since the early 17th century, the distance between aristocracy and engineers was smaller than elsewhere in Europe [8, 68].

The 18th-century Dutch republic (the Republic of the Seven United Provinces) was a peculiar nation in other ways too. In fact, it was an association of seven sovereign states and

¹ In the Netherlands, at least, there are a few examples of societies which were traceable only because their existence was mentioned in an article, or their activities resulted in newspaper questions (cf. [6]). In the United Kingdom there were newspapers that published mathematical questions as well (cf. [2]) and it is known that societies existed that hardly left a trace (see the Appendix and [15]). I know of no work, and am unable to trace information regarding this subject with respect to other countries.

² Most noteworthy exceptions: Gauss was a member of the amateur mathematical society residing in Hamburg; Thomas Simpson was one of the few commoners elected into the Royal society.

three subjected provinces. All states were autonomous, but promised to—and not always did—follow the same line in foreign policy and military activities. It was not governed by an aristocrat élite but by the wealthy urban “middle classes” [40, 56]. This situation might account for the absence of a national academy of sciences, such as existed in other European countries. Some of the states developed their own scientific societies, such as the Zeeuws Genootschap voor Wetenschappen (Society of Sciences in Zeeland, 1767) and the Hollandsche Maatschappij voor Wetenschappen (Society of Sciences in Holland, 1752). These were societies imitating the foreign academies on a smaller scale—research touching upon the problems of the province was especially valued. Some specialisation might be spotted in the founding of the Bataafsch Genootschap der Proefondervindelijke Wijsbegeerte (Batavian Society for Natural Philosophy) in 1769 at Rotterdam. This Society concentrated on the exact sciences and applications, while most societies also embodied subjects such as literature and theology [45, pp. 13–15].

All these societies were mainly sponsored by the members, most of them belonging to the wealthy and powerful middle class. The Dutch states did interfere with the societies regulations, and politicians (many of whom had a serious scientific interest) participated, but there was no government funding [44]. This private funding of science—combined with a lack of alternative institutions—gave Dutch science a local and utilitarian character, where much emphasis was laid on the spreading of knowledge. Promoting science, according to many Dutch, meant spreading scientific knowledge among the people. But in general, the membership fee of these societies was too high for an ordinary school teacher.

It was during the French reign that the founding of an Académie (1808, following the French example) on a national level was decreed. This academy did not play a very significant role until the 1850s [45]. Although several of the members were in favour of a more professional scientific institute, funding was a problem, also after the kingdom had been established in 1813. The utilitarian view that King William I held of science did not leave much room for professionalisation of science within the academy [66].

4. DUTCH MATHEMATICAL SOCIETIES

In many respects, the development of amateur mathematical activity in the Netherlands during the 18th century resembled that in England and Germany. The magazine *Mathematische Liefhebberijen* (*Mathematical Pastimes*) [48] was issued from 1754 until 1764. This journal contained mathematical questions mostly; sometimes a bit of theory was explained. Its readers were mainly teachers who, by showing that they could find the right answers, probably tried to distinguish themselves from their colleagues. Also, several books published by the Hamburg society were translated [35, 43] and some Dutch schoolteachers even became members of that society. Since the last quarter of the 18th century, newspapers and popular journals would pay attention to mathematics and teaching institutes were founded, where pure (or what people considered to be pure) mathematics was taught [6]. There was much amateur activity going on in mathematics and astronomy since the late 17th century, but as far as known this did not result in the founding of a society such as there were in Hamburg and London. It has been noted that there existed quite some rivalry and a competitive character among the amateurs [73, pp. 297–298].

A few years after the disappearance of the *Mathematische Liefhebberijen*, the Amsterdam mathematics teacher A. B. Strabbe (1740–1805), who ran a private school,

took the initiative and started publishing a mathematical journal of the same caliber: a journal containing mathematical questions, subscribers mostly teachers participating by sending in solutions that were published in the next issue. It went accompanied by a textbook which, according to the preface, was to allow the reader to teach himself the principles needed for the solving of the questions [62]—it would seem that Strabbe judged the educational level of his readership to be rather poor, and by issuing a textbook tried to keep his readers attached to his journal. Apparently it was the bankruptcy of this project in 1771 that made Strabbe try to create a society to guarantee future funding for such a journal. In 1778 the Dutch Wiskundig Genootschap (Mathematical Society) “Onvermoeide Arbeid komt Alles te Boven” (Untiring Labor Overcomes All)^{3,4} was founded in Amsterdam [3]. Indeed this society would succeed in issuing a journal containing exercises with some regularity. Before 1810 at least four other mathematical Societies were founded (mentioned in the Appendix; more details in [9]). All of them, including the Amsterdam Wiskundig Genootschap, were comparable with the abovementioned Spitalfields Mathematical Society: amateurs, teachers and engineers mostly, who gathered and showed a keen interest in solving elementary mathematical problems. They made themselves useful to their country by producing textbooks, encouraging the production of textbooks, publishing solutions to existing textbooks, or offering mathematics courses. Apart from that, they held regular meetings to convince each other once more of the beauty of their science, and to study.

By 1830 only the Wiskundig Genootschap still existed. The others had disappeared, or their objectives had completely changed [9]. The first half of the 19th century is known for being a difficult time for Dutch society life: declining membership, financial problems, and diminishing interest in society activities were very common. Many societies did not make it to 1850 [44], but the number of members of the Amsterdam Society showed a slow but steady rise, and publications—mostly journals with exercises—were issued as usual [3, pp. 192–193].

Seen in the light of what happened elsewhere, it seems that the Netherlands, like the United States, merely experienced a late flowering of mathematical interest among the amateurs. In the following section, however, it will be shown how a seemingly insignificant mathematical society founded in Amsterdam in 1778, due to the social circumstances in the Netherlands, could become the major representative of the Dutch mathematical community. It was during the first decades of the 19th century that changes took place which made all this possible.

5. CHANGES ON THE WAY

From its beginning the Amsterdam Wiskundig Genootschap was in a favorable position. Amsterdam and the surrounding villages counted many mathematics teachers, bookkeepers,

³ The name of the Society in full was: Amsterdam Mathematical Society, under the motto: untiring labor overcomes all (Amsterdams Wiskundig Genootschap onder de zinspreuk: Onvermoeide Arbeid komt Alles te Boven). The motto was indicative at the goals of the society: the members strove to gather mathematical knowledge which needed continuous labor. It was at the time customary to use such lengthy names and create an appropriate emblem to go with the motto. This Society’s emblem consisted of several people climbing a pyramid. They stand for the ‘untiring labor.’ One man stands at the top of the pyramid raising his arms in elation: he has complete overview over the mathematical sciences.

⁴ The first members of the Amsterdam Society were practically all members of the Hamburg Society, and there was a great similarity in organizational structure between the two.

and engineers among their inhabitants. With many publishers and bookstores in town, the society never found it hard to get its work printed and sold. Things started changing in the society after a row involving the first secretary of the society, its founder A. B. Strabbe. In 1804 he was accused of using his position within the board to favor his own solutions above those of others in the society’s journal⁵ and financing his “private” projects with society money [19].⁶ It is highly unlikely that Strabbe did anything he had not been doing all the years before. In my view, his authoritative ruling style and his old-fashioned views regarding mathematics made him clash with some of the younger members of the society: Strabbe favored Newton’s theory of fluxions (cf. [63]) in analysis, and relied on rote learning in his arithmetic classes; both were no longer considered fashionable (see [7]). In reaction, the society changed its organizational structure. The board was extended to prevent future dictatorial escapades and the members gained more influence on the board’s decisions [69, inv.nr. 1].

These changes show in the society’s journal: Leibniz’s and Lagrange’s theories of the calculus replaced fluxions—the appropriate symbols that had to be purchased in order to be able to print the Leibnizian signs was rather expensive and it was not until 1813 that it was actually decided to buy these new symbols. But at the time it was also commemorated that Strabbe’s fluxional calculus [63], that had been printed at the costs of the society, had been outdated at the very time it was published. The purchase of the new symbols was legitimized by stating that by doing so, the society would keep in touch with the new developments on the continent—whereas Strabbe was much more British oriented [69, inv.nr. 8, March 1 1813]. The changes in the organization also gave rise to new initiatives. Several committees popped up, to issue special prize questions and produce textbooks (most noteworthy results: [4, 24]). In 1810 one of the members launched the idea of having a special commission look for ways of promoting the society and the mathematical sciences in general. Four promising young and enthusiastic engineers with contacts in university circles were appointed: most notably J. de Gelder (1765–1848) and O. S. Bangma (1768–1829). In 1811, this so-called “scientific commission” presented a lengthy report [70, II A 34]. They described mathematics in the Netherlands as rather deplorable, and ascribed this situation to the textbooks available in the vernacular: neither the geometry textbooks by Monge, nor the analysis and mechanics textbooks by Lagrange found a Dutch match. Several suggestions were made to ensure that the society would become interesting, both for beginners *and* for the more advanced (cf. [69, inv.nr. 8, Dec. 5 1810]).

The ideas of the scientific committee were put into practice. An active policy was started to invite influential Dutch mathematicians to join the society. Also, a library was set up. It depended heavily on the books the members donated, but occasionally funds were made available for purchases. Gergonne’s *Annales des Mathématiques* (1810), Crelle’s *Journal für die Reine und Angewandte Mathematik* (1826), and of course⁷ the

⁵ Roughly there were two journals published by the society: one with questions (the one intended here) and one with articles. The first appeared more regularly than the latter, but both titles changed every two volumes—which is the reason that I do not mention titles. Details are in [3]. It is only after 1856 that a steady number of journals were issued regularly. The *Nieuw Archief voor Wiskunde*, at present in its fifth series, has been published since 1875, its predecessor [71] since 1856.

⁶ One of the most noteworthy of these projects, which was hailed later, was Strabbe’s translation [46] of Montucla’s *Histoire des mathématiques*—the first attempt to a general overview of the history of mathematics.

⁷ The *Correspondance Mathématique* was a journal edited by the Belgian (at the time Dutch, due to the Vienna treaty) mathematicians Adolphe Quetelet and Jean-Guillaume Garnier, with occasional assistance from Rehuël Lobatto and Richard van Rees. It was heavily sponsored by the Dutch government; see [18].

Correspondance Mathématique (1825) quite soon after they were issued found their way to the society's library. When in 1842 it became clear that the *Correspondance Mathématique* would be discontinued (see [18]), the decision was made to purchase *Grunert's Archiv* (1841) instead [69, inv.nr. 4, July 4 1842]: although the *Archiv* was a journal of modest scientific stature [59], this decision illustrates that a serious library policy had developed.

In 1813 the scientific committee was made permanent. Since then, it acted as a board which checked the quality of the work produced by members and investigated future possibilities for the society. In 1811 it had started the production of a bibliography, reviewing the most important foreign mathematical texts. Although the bibliography project did not last very long (it had disappeared by 1815 [69, inv.nr. 8, 1811] to be revived only in 1893 [72]), the other initiatives were successful. The newly installed scientific committee was held in high esteem: the committee became the place for the experts of the society, in which the most valued mathematicians of the time took their places.

Next to these more serious initiatives—which for many professors of mathematics and physics probably were a stimulus to join—the link with the large bulk of amateurs was also maintained. Revealing in this respect was the masochistic calculation by the teacher M. J. Zuidhoff (1737–1817) who solved a recreational⁸ problem, resulting in a polynomial of degree 28, with non-trivial coefficients up to 22 digits [70, IV G 2]. The same Zuidhoff left the society a dozen manuscripts, containing his solutions to recreational and elementary problems. Members of the society finding other or better solutions inserted them into the manuscript [70, IV E 1–12]. This was the kind of “untiring labor” that the society expected: Zuidhoff was given credit for this work after his death [69, inv.nr. 3, April 13 1819].

The symbiosis between the different groups of mathematicians worked out very well indeed. After 1815 the society quickly outgrew its local character: members came from all over the country. All important Dutch mathematicians were members, and so were many schoolteachers and engineers (for membership details, see [3]). The way this symbiosis worked may be illustrated by a few letters in the society's archive concerning one of the members, who in 1821 complained that his solution to a certain problem had not been given credit in the society's journal. The solution turned out to be false; the editorial board had decided not to mention it, in order not to frighten off any future attempts [69, inv.nr. 16]. In this way the experts checked the mathematics, while all the other members, via prizes, were encouraged to send in their work.

Since the early 1840s regular so-called “scientific meetings” were held, in which several members discussed mathematical problems, sometimes related to papers they had read in journals in the society's library [69, inv.nr. 140]. Most teachers did not participate in the scientific meetings, as university mathematicians did not engage in the mathematical problem solving—except in the role of judge. Although it would take until the 1880s for the Dutch actually to begin viewing mathematics as worthy of university study for its own sake, the society acted as the organ of a very diverse group of people with a common interest: mathematical study. It managed to offer to all of these people something to their

⁸ I call the problem recreational because it was in [43]: a book intended to be recreational. In fact it is a completely useless and boring exercise, which asks the reader to give an algebraic expression for a number times its triangular number plus 2, times . . . (etc.).

liking, thus uniting two groups of mathematicians (university and secondary school teachers) that elsewhere in Europe worked more or less separately and would not found a society together.

6. FINAL REMARKS

The Dutch cultural and institutional background stimulated the emergence of at least five amateur mathematical societies around 1800. Only one of them lived to see 1830: the Amsterdam Wiskundig Genootschap, which remains in existence up to the present day. Moreover, the society changed its character, so that it could take its place among its European counterparts as soon as they appeared. I have argued that the amateur mathematical societies were of a nature completely different from that of the societies founded in the 1860s. Outside the Netherlands amateur societies either disappeared, or were not involved with their professional counterparts. Several social factors contributed to the peculiar situation in the Netherlands. To the Dutch, spreading knowledge was deemed very useful, and class differences posed no real obstacle for communication. Furthermore, the society flourished in the absence of strong national mathematics institutions: it filled a gap, so to say. With the scientific commission ensuring a flexible but stable management, and, since the 1820s, the wide spread of members across the whole country—also the relative ease of travel in the Netherlands probably played a role here—this society was the most important party in the Dutch mathematical community. This situation was exceptional in Europe. Members saw their mathematical standards and their work protected by a community of fellow mathematicians. In a small country such as the Netherlands, the society more or less managed to set its own standards for what was regarded as good (i.e., useful) mathematical work. From a present-day point of view that turned out to be not such a good thing, but for the contemporaries it was a way of promoting their beloved science. In this way, the Netherlands already possessed a “professional” mathematical society, decades before the rest of Europe, and without “professional mathematics” as such existing.

APPENDIX: MATHEMATICAL SOCIETIES

The societies listed in the table below are the societies which have been checked for this article. The entries are restricted to European Mathematical societies founded before 1950. One exception has been made to the geographical restriction: the American Mathematical Society is in the list because its inspiration was so clearly European. A list such as this can never be complete—so I will make no claims in that direction. Any suggestions to make this list more complete are welcome. If possible, the societies are called by their proper names; otherwise, the name appears between quotation marks'. In the latter case, the name mentioned is one that makes it easy to identify the society. All details that could not be checked have been indicated with a question mark. Some of the societies have been called “student group.” This is a form of society which has not been discussed in the article, and which can be considered as an early—less official—seminar. They have been included if they referred to themselves as being a society; sometimes they had more objectives, or the objectives changed over the years to become more society-like. They have not been included if there was nothing more to them than a seminar, as was the case with many such societies in the German countries (the Mathematische Gesellschaft Jena and the Mathematisches Kränzchen zu Karlsruhe for example). These “societies” depended solely

on the mathematics professor at the local university. I have also left out the International Mathematical Union (1919–1936) because it was an initiative of another order than the (local, national) societies.

Country	Society	Year	Status
Austria	• Mathematische Gesellschaft in Wien	1903	Professionals, since 1948 operating under the name Österreichische Mathematische Gesellschaft.
Belgium	• Société Mathématique de Belgique	1921	Professionals and teachers.
Bohemia	• Spolek pro volné přednášky z matematiky a fyziky	1862	Student circle, by 1869 grown into a Czech society, representing mathematics teachers at all levels. Since the split of Czechoslovakia, there have been two organizations.
Britain	• “Jones’ Coffee-house Mathematical Society”	ca. 1707/1708	Amateur society, meeting at Jones’ Coffee-house in London.
	• Society of Ingenious Mathematicians	1710–1724	Amateur society.
	• Spitalfields Mathematical Society	1717–1846	Best known British amateur society, finally merged with the Astronomical Society of London.
	• Manchester Mathematical Society	1718–17??	Amateur society.
	• Lewes Mathematical Society	1730s	Amateur society.
	• “York Mathematical Society”	mid 18th.	Amateur society.
	• The Mathematical Society of Wappin	ca. 1750	Amateur society.
	• Oldham Mathematical Society	1794–18??	Amateur Society.
	• London Mathematical Society	1865	Students’ (successful) attempt to start national society.
	• Association for the Improvement of Geometrical Teaching	1871	National teacher’s organisation; since 1897 called The

Country	Society	Year	Status
	<ul style="list-style-type: none"> • Edinburgh Mathematical Society 	1883	Mathematical Association. Scottish initiative, similar to the London Mathematical Society.
Bulgaria	<ul style="list-style-type: none"> • Съюз на Българските Математици 	1898	Professionals.
Denmark	<ul style="list-style-type: none"> • Matematisk Forening 	1873	Professionals at Copenhagen university and polytechnic, wanting to stimulate Danish research; since 1952 with the prefix “Dansk”.
	<ul style="list-style-type: none"> • Århus Matematisk Forening 	1904–1930s	Teachers in Århus not able to attend the society meetings in Copenhagen. Merged with the former in the 1930s.
	<ul style="list-style-type: none"> • Foreningen for Matematiklærere 	1931	Teachers representative.
Finland	<ul style="list-style-type: none"> • Suomen matemaattinen yhdistys 	1868	Professors and high school teachers of mathematics.
France	<ul style="list-style-type: none"> • Société Mathématique de France 	1872	Professionals concerned about mathematics in France.
German countries & states	<ul style="list-style-type: none"> • Zunft der vereinigten und fleissigen Rechenmeister 	1684–1685	Amateur society.
	<ul style="list-style-type: none"> • Kunstrechnungsliebende Gesellschaft Hamburg 	1690	Amateur society.
	<ul style="list-style-type: none"> • Göttinger Mathematische Gesellschaft 	1873–1921	Professionals; did not find much enthusiasm among the leading mathematicians.
	<ul style="list-style-type: none"> • Deutsche Mathematiker Vereinigung 	1890	University and gymnasium mathematicians with an interest in research unite and emancipate from a more general physics society.
	<ul style="list-style-type: none"> • Berliner Mathematische Gesellschaft 	1901	Professionals from university and gymnasium in a local organisation stimulating research.

Country	Society	Year	Status
Greece	• Gesellschaft für Angewandte Mathematik und Mechanik	1922	Professionals in the “applied sphere” uniting.
	• Ελληνική Μαθηματική Εταιρεία	1918	Professionals.
Hungary	• Matematikai és Fizikai Társulat	188?	Professional mathematicians striving for better educational environment. Later under the name: <i>Bolyai János Matematikai Társulat</i> .
Iceland	• Íslenska stærðfræðafélagið	1947	Professionals, at the time mostly working as teachers, wanting to stimulate mathematical research in Iceland.
Italy	• Circolo Matematico di Palermo	1884	Determined effort by Sicilian professionals to draw international attention for their (mathematical) research.
	• Mathesis	1895	National organization of teachers.
	• Società Italiana di Matematica	1908	Professionals united nationally.
	• Unione Italiana Matematica	1922	<i>Mathesis</i> and the <i>Società</i> combine forces.
The Netherlands	• Wiskundig Genootschap: Onvermoeide Arbeid Komt Alles te Boven	1778	Local amateur society, developing into a national society with room for professionals during the early 19th century.
	• De Wiskonst ons Doel	±1780–18??	Amateur society.
	• Mathesis Scientiarum Genitrix	1785	Amateur society, developed into a society for painters and architects.
	• Door Tijd en Vlijt	1806–1808?	Amateur society.
	• Mathesis Artium Genitrix	1807–1819	Amateur society of Jewish teachers; merged with a larger Jewish society.
	• Liwenagel	1921–1972	Committee of mathematics and physics teachers at gymnasia founded within

Country	Society	Year	Status
			the Dutch organization of gymnasium teachers. The mathematicians cooperated with the next since 1940 and were “merged” by 1972.
	• Wimecos	1925	Professional organization for mathematics teachers at other secondary schools (HBS). Since 1968 under the name NVvW.
Norway	• Norsk Matematisk Forening	1918	Norwegian professors.
Poland	• Société Polonaise de Mathématiques	1919	Cracow initiative to represent the Polish mathematical community.
Portugal	• Sociedade Portuguesa de Matemática	1940	Professionals.
Russian Empire	• “Moscow Student Society”	1810–18??	Student group, also trying to popularize mathematics for the Moscow public.
	• Московское математическое общество	1867	Professionals.
	• Харьковское математическое общество	1879	Kharkov teachers and professionals.
	• Санкт Петербургское математическое общество	1890–1917	Professionals; dissolved and refounded twice, due to the political circumstances in the former Soviet Union. Today’s Society has existed formally since 1959; a less formal seminar dates back to 1953.
	• Казанское математическое общество	1890	Kazan professionals.
	• Киевское математическое общество	1890	Kiev professionals.

Country	Society	Year	Status
Spain	• Real Sociedad Matemática Española	1911	Professionals; the “Royal” character was obtained later.
	• Societat Catalana de Matemàtiques	1931	Professionals, founded from within the Societat Catalana de Ciències.
Sweden	• “Lunds Mathematical Society”	1862–1904	Student group, since 1871 under the name <i>Matematisk-fysiska föreningen</i> . In 1904 physics took over entirely; dissolved in the early 1920s.
	• Lunds Matematiska Sällskap	1923	Active student group, also for interested people and practitioners; held its student group character at least during the first 25 years.
	• Svenska matematikersamfundet	1950	To establish contacts and exchange of information with both national and international professionals.
Switzerland	• Société Mathématique Suisse	1910	Professionals, founded from within the <i>Schweizerische Akademie der Naturwissenschaften</i> .
United States	• American Mathematical Society	1888	Founded in New York by students, based on the idea of the London Mathematical Society; national since 1894.

ACKNOWLEDGMENTS

The author thanks Helena Durnová for her help on finding and reading information on eastern European Mathematical Societies. I also thank Prof. Dr. I. Grattan-Guinness and Dr. G. Schubring for their stimulating remarks and useful comments on earlier versions of this article. Of course the author takes full responsibility for all mistakes still in the article.

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