

## Danny Beckers

Faculteit Exacte Wetenschappen

Vrije Universiteit Amsterdam

De Boelelaan 1081, 1081 HV Amsterdam

The Netherlands

d.beckers@few.vu.nl

## History

# The Royal Dutch Mathematical Society since 1778

The Royal Dutch Mathematical Society and its associated journal the (Nieuw) Archief voor Wiskunde enjoys an interesting history with a lot of intrigues. Danny Beckers, historian of mathematics at the VU University, Amsterdam, highlights four important turning points of its history. Retrospectively, the original motto of the society, ‘untiring labour overcomes all’, has been chosen very accurately. Although at the time of inception, this motto referred to the way out of economic depression, as well as to the mental process of acquiring mathematical knowledge, in time it also came to represent the work of the mathematician on behalf of the Dutch mathematical society.

This is the story of a small-scale Amsterdam initiative that grew into the *Koninklijk Wiskundig Genootschap* (Royal Dutch Mathematical Society). It is a story of four people, who all had a profound influence on the society and who shared a passion for mathematics. Acting in favour of the society, in pursuit of their private goals or both, they grasped the opportunities that came their way, and by doing so they passionately contributed to the shape of the *Koninklijk Wiskundig Genootschap*, the society that now publishes this journal and is offering its patronage to the 5th European Congress of Mathematics.

### A pastime for amateurs

During the 18th century the publication of journals and books bore witness to a growing interest in mathematics as a pastime in the Netherlands. British coffee houses and pubs of the time flourished as meeting places of mathematical amateurs, each trying to amuse each other with their wit — put to the test by exercises in elementary geometry and algebra. In the Netherlands similar social gathering took shape comparatively late, in the

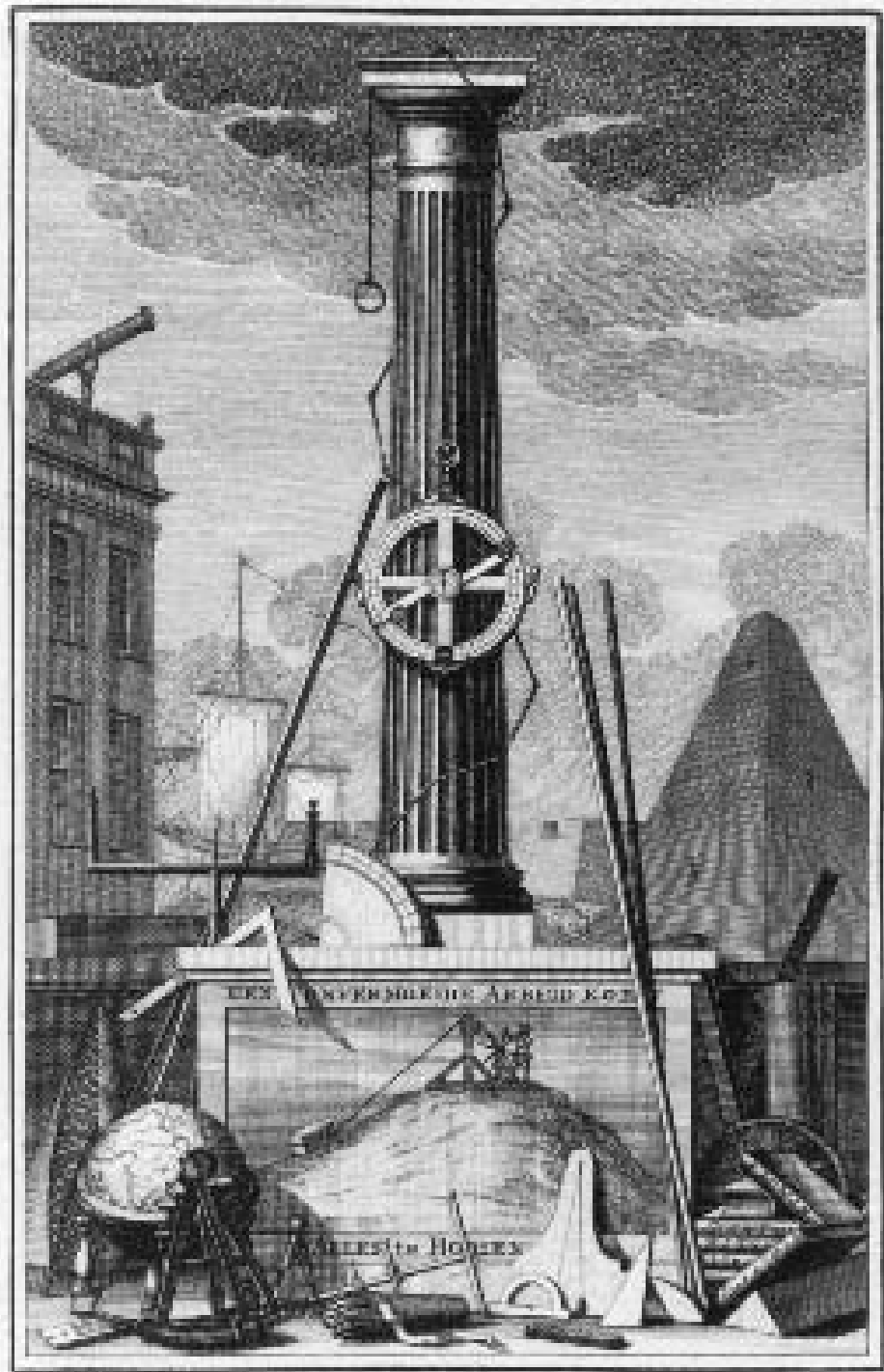
1770s and 1780s, when various local mathematical societies were founded. In these times of political turmoil the cultivation of mathematics was all part of a commitment to an enlightening of society: the practice of mathematics was held as beneficiary to Dutch culture and economy.

### A journal as motivation

In 1770 Arnold Strabbe (1741–1805), a well-known figure in the Amsterdam book trade, succeeded in convincing one of his publishers to start a mathematical journal. As the journal was discontinued within two years, Strabbe realised that financing such a journal would always remain problematic. Funding publications through a society, like the Hamburg Mathematical Society of which he was a member, would offer a much better guarantee for continuity. By 1778 he had gathered enough interested parties to found the Amsterdam *Wiskundig Genootschap*, which chose as its motto “untiring labour overcomes all”. The society thrived on Strabbe’s efforts and network. He was collecting exercises and translating books on behalf of the society. A journal was issued at irregular intervals. How-

ever, as the society grew, Strabbe was found to be favouring his own material, using the society’s funding as a promotion vehicle for his own books and translations. The resulting clash with some of the younger society members culminated in a dramatic attack on his person. Strabbe was kicked out of office in 1804 and died still holding a grudge only a year later.

If Strabbe may be considered the founding father, it was Jacob de Gelder (1765–1848), one of the ‘young Turks’ who took over, who turned a local initiative into a truly national society. On the wings of an emerging national education policy, De Gelder exerted his influence by focusing on standards for good mathematics education in the Netherlands. Even after he had left Amsterdam in pursuit of his career, de Gelder continued to act on behalf of the society. As he made his living by publishing textbooks, he simultaneously set a standard for good and thorough mathematics education. Through the influence of his writings, promoting mathematics as the most suitable route towards unity and prosperity in the country, and by making good use of his political connections, an official goal of the mathematical society was reached. Mathematics became an obligatory part of the secondary school curriculum, most notably contesting Latin and Greek as a way of acquiring true knowledge. Internally the *Genootschap* thrived on the efforts of amateurs and teachers. As in Strabbe’s days it published textbooks, exercises and papers at irregular intervals.



**Frontispiece of *Kunstoefeningen over verscheide nuttige onderwerpen der wiskunde*, 1 (1782)**

This is the first publication of the Wiskundig Genootschap. This frontispiece of the journal of the 'Wiskundig genootschap' illustrates the concerns of the original members of the society. Central to the picture is a huge pillar, representing architecture. Wrapped around the pillar is a surveyors chain and right in the centre of the whole picture is a Borda circle — used for measuring lunar positions, in order to establish longitude at sea.

Other instruments are shown, such as a quadrant, a globe, a Jacob's staff, a sextant, a compass, measuring sticks, and a telescope (on the top of the building to the left). The ship and the fortress in the background represent navigation and fortress building which were important fields of work for the members of the society. The pile of books in the lower right corner read (a.o.) the names of Euclid, Newton and Metius. The books represent the canonical literature of mathematics.

The pyramid deserves our special attention. The building originated from the emblem of the society, where it represented the motto: untiring labour overcomes all. In the emblem it was climbed by several people —representing the untiring labour— while one man was standing at the top, raising his hands in exaltation: he showed that untiring labour really overcame all. In this frontispiece the pyramid is more in the background, and the motto is around the painting in front (the text on the pedestal means 'Untiring labour overcomes all'), where a man is hauling a huge stone up a hill, using a mechanical device.

**Professionalism**

Among the amateur mathematical societies in Europe the Dutch *Wiskundig Genootschap* was a late entrant. This gives it an early appearance among the professionalisation societies of mathematicians, typical of the second half of the nineteenth century. From 1867 onwards, national mathematical societies were being founded in most European countries. These served as a vehicle for professionalisation for a growing group of university mathematicians, creating a national as well as an international stage. David Bierens de Haan (1822–1895) led the *Genootschap* to its first step towards a mathematical society in this modern sense. Bierens de Haan, an internationally well-connected mathematician, was aware of the backwardness of the society and its publication policy. When asked to take up the editorship of the society's journal, he insisted on modernising the journal by focusing on shorter papers on relevant new theories and proofs, issuing at regular intervals with a steady editorship. In order to emphasize the novelty, the journal, published since 1875, was renamed *Nieuw Archief voor Wiskunde* (New Archive for Mathematics), creating a clear distinction from the old *Archief voor Wiskunde* and its predecessors. No longer was the journal being published solely on behalf of the society's members. Addressing all mathematicians, it modernised not only its content but its envisaged readership as well.

**International aspiration**

The international stage was legitimised by emphasizing the universality of mathematics. Bierens de Haan actively represented the Netherlands in international efforts to canonise the international literature and to write the Dutch history of mathematics, as a notable part of the history of mathematics as a whole. The international stage existed in journals and increasingly in meetings, growing into conferences and growing into congresses.

At the mathematics section of the 1889 international congress in Paris, it was agreed that a system to catalogue all publications in mathematics and a reference journal based on it was desirable; Bierens de Haan was closely involved and took the challenge home to Amsterdam.

It was under the presidency of Diederik Johannes Korteweg (1848–1941) that the *Wiskundig Genootschap* was able to answer the challenge and thereby earned its place among the mathematical societies of the world. In 1892 the *Genootschap* received a



Jacob de Gelder



David Bierens de Haan



Diederik Johannes Korteweg

large bequest. Korteweg, together with his friend Pieter Hendrik Schoute (1846–1913), realised that these funds would allow the society to issue such a journal of abstracts. In a further Paris meeting in 1892 the society was formally assigned the task and the *Revue sémiotique* was published from 1893 to 1930. The enterprise put Dutch mathematics in the picture, internationally and at home, by involving every able mathematician in the abstracting work. The work on behalf of the *Revue* created a core group of mathematicians dedicated to research, who were aware of the foreign literature and were embedded in an international network of colleagues. These efforts were symbolic of the changing character of the *Wiskundig Genootschap*. The society had served a broad audience of mathematicians, from interested laymen to teach-

ers and from scientists to actuaries. In the early twentieth century, it reinvented itself to emerge as a research oriented society. The *Nieuw Archief voor Wiskunde* became a research journal and was distributed internationally and largely lost the interest of the Dutch mathematics teachers and other non-scientists. To keep in touch with ‘the mathematicians in the field’ the society continued to publish exercises, but by 1924 the teachers had established their own journal, *Euclides*. The prime objectives of the society and its journal had definitely changed.

#### Informing a professional audience

In 2000, a century on from Korteweg and the turn towards a research journal, the *Nieuw Archief voor Wiskunde* returned to a magazine addressing a larger audience of those in-

terested in mathematics. These days we do not feel such a strong urge to emphasize the discontinuity but just start a ‘new series’, the *Vijfde Serie* (Fifth Series) of the *Nieuw Archief*.

On 1 May 2003, nine quarters of a century on from its inception in 1778 amidst the republican turmoil, the Dutch Mathematical Society was granted the predicate ‘Royal’. From that date the society has been formally named *Koninklijk Wiskundig Genootschap*. If we have restricted the above story to four people, such recent achievements and changes in policy are there to remind us that mathematicians never get tired. ‘Untiring labour’ turns out to have been a very relevant motto. ←