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# Een Europees visitekaartje

Sinds 1990 kan Europa bogen op een eigen wiskundig genootschap, de European Mathematical Society, waarvan de afkorting EMS gemakkelijk met die van haar grote zuster aan gene zijde van de oceaan verward wordt. De EMS drijft voor een deel op de nationale genootschappen, en haar vier maal per jaar verschijnende *Newsletter* besteedt in de zogenaamde *Societies Corner* dan ook ruim aandacht aan deze genootschappen.

In het maartnummer van 2000 was de beurt aan het Wiskundig Genootschap. Als 'publicatie-verantwoordelijke' in het WG-bestuur riep ik de hulp in van Danny Beckers, die in het kader van zijn Nijmeegse promotie-onderzoek de WG-archieven bestudeert, en van Hendrik Lenstra, die de geschiedenis van de wiskunde tot zijn hobby's rekent. Aldus werd een visitekaartje voor ons Genootschap in elkaar getimmerd dat ook voor de gemiddelde Nederlander het lezen meer dan waard is. De hieronder volgende tekst is op een paar drukfouten na gelijk aan die op de pagina's 12–14 van issue 35 van de *EMS Newsletter*.

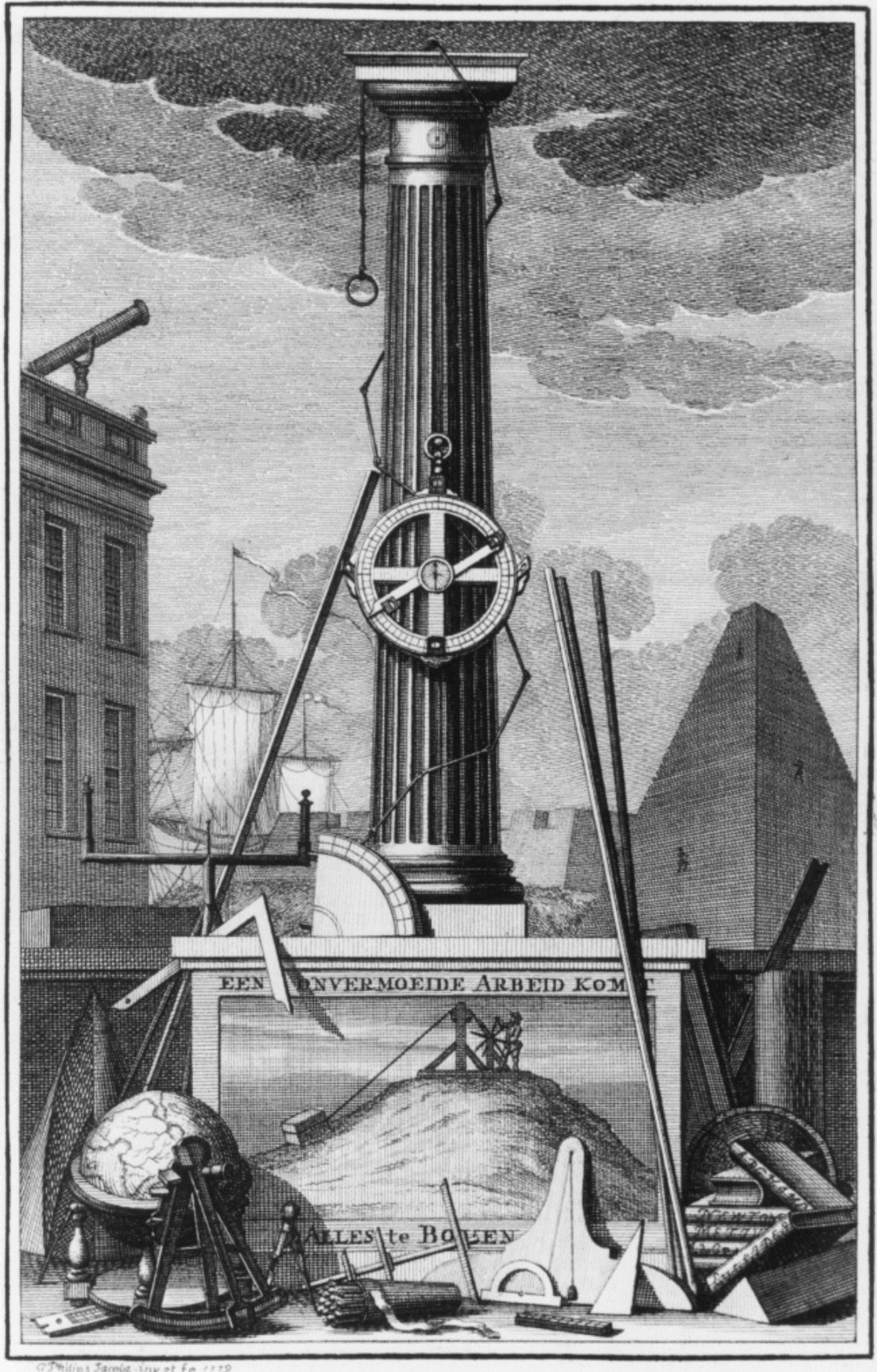
**Illustration on the right** Frontispiece of *Kunst-oeffeningen over verscheide nuttige onderwerpen der wiskunde*, 1 (1782), the first publication of the *Wiskundig Genootschap*.

In 1600 the Netherlands were at war. Prince Maurits van Nassau (1567–1625), son of William the Silent (1533–1584), led the young republic in its fight for independence from Spain. A military genius who believed in scientific warfare, he counted among his advisers Simon Stevin (1548–1620), a versatile mathematician whose accomplishments ranged from the design of fortifications to the introduction of decimal fractions. At the instigation of Stevin, the Prince attached an engineering school to the newly founded university at Leiden. Its first professor was Ludolph van Ceulen (1540–1610), famous to this day for having computed 35 decimals of  $\pi$ . He taught his courses in the vernacular, using the extensive Dutch mathematical vocabulary that Stevin had zealously devised. Dutch is still the only western language having a word of its own for mathematics: *wiskunde*, which literally translates into 'surology'.

The Dutch succeeded in breaking the power of Spain, and their seaborne empire developed into the wealthiest nation of the seventeenth century. Arts and sciences flourished during the Dutch Golden Age. Rembrandt van Rijn (1606–1669) and Baruch de Spinoza (1632–1677) achieved world fame, as did Christiaan Huygens (1629–1695), Eu-

rope's greatest mathematician in the period before Isaac Newton (1642–1725).

The *Wiskundig Genootschap* has the distinction of being the oldest of all present-day national mathematical societies. It was founded in 1778 by Arnoldus Bastiaan Strabbe (1741–1805), preceptor of mathematics and astronomy and gauger of wine casks of the City of Amsterdam. In 1770, he had started the *Oeffenschool der Mathematische Wetenschappen*, 'Training school of mathematical sciences', a periodical that sought to enlighten the many intellectuals who in the Age of Reason solved mathematical problems and puzzles as a pastime. Commercially, the enterprise was a failure, and Strabbe originally founded the *Genootschap* in order to finance his numerous publications. The society still carries the motto he chose: *Een onvermoeide arbeid komt alles te boven*, 'Untiring labour overcomes all'. It expressed the attitude of a membership that, in addition to the amateurs just mentioned, comprised school teachers, surveyors, bookkeepers, engineers, instrument makers, and other practically minded mathematicians. The frontispiece of the *Genootschap's* earliest publication (see illustration) speaks volumes. One senses the spirit of Stevin and Van Ceulen



G. Philips Jacobus inv et fecit 1779



Ludolph van Ceulen (1540–1610)

and, maybe, the hope of reviving the glorious seventeenth century.

The Napoleonic era transformed the Dutch republic into a kingdom. A new class of scientists and mathematicians emerged: those who performed research on a professional basis. The *Wiskundig Genootschap* became more tightly organized. Their yearly meetings were replaced by monthly ones, with lectures that, instead of addressing the utility of mathematics and its role in the pursuit of happiness, now had actual mathematical content. Order was brought into the *Genootschap's* library, and during the nineteenth century the emphasis in their publications gradually shifted from problems to original work. A prominent and active member was Rehuel Lobatto (1797–1866), an expert in weights and measures and in actuarial sciences, and professor at Delft. Generations of Dutch mathematicians learnt higher algebra from Lobatto's *Lessen over Hoogere Algebra*, which appeared in 1845 and saw its ninth edition in 1921.

During the second half of the nineteenth century, the *Wiskundig Genootschap* established contacts with newly founded national mathematical societies in other European countries. The compilation of bibliographic reference works, necessitated by the growing body of literature, required international cooperation. David Bierens de Haan (1822–1895) was the driving force behind the *Revue Semestrielle des Publications Mathématiques*, which the *Genootschap* published from 1893 to 1934. He was a professor

at Leiden, whose scholarly reputation rested on voluminous tables of definite integrals (1858). His bibliography of early Dutch scientific publications (1883) is still widely used.

The reader may know several Dutch mathematicians who were active around the turn of the century. Thomas Joannes Stieltjes (1856–1894) was too great for the Netherlands. At the recommendation of Charles Hermite (1822–1901) he was appointed to a professorship at Toulouse. The *Wiskundig Genootschap* published his *Oeuvres Complètes* in 1914/18. A central figure in Dutch mathematics was Diederik Johannes Korteweg (1848–1941), who served on the board of the *Genootschap* for 58 years. The Korteweg-de Vries equation first appeared in the thesis (1894) of his student Gustav de Vries (1866–1934). In 1913, Korteweg generously ceded his chair at Amsterdam to his brilliant advisee Luitzen Egbertus Jan Brouwer (1881–1966), whose theorem on the invariance of dimension (1910) and fixed point theorem (1911) heralded the advent of algebraic topology. Brouwer created intuitionism, and was involved in a famous struggle with David Hilbert (1861–1943) on foundational issues. The *Genootschap* published his *Collected Works* in 1975/76, and instituted in 1970 the Brouwer medal, awarded once every three years to a mathematician of the highest calibre. Its first recipient was René Thom (born 1923).

Since 1875, all members of the *Wiskundig Genootschap* have received the *Nieuw Archief voor Wiskunde*. Itself a renewed version of the *Archief*, which had started in 1856, the *Nieuw Archief* keeps renewing itself, a fifth series commencing in 2000. The Problem section of this quarterly is as alive as ever. The *Mededelingen* ('Notices') van het *Wiskundig Genootschap* are now largely distributed electronically; the printed edition is expected to be discontinued soon. A few years ago, the society assumed responsibility for publishing *Pythagoras*, a magazine for high school students.

The *Wiskundig Genootschap* never did much government advising. In 1918, they were instrumental in increasing the number of mathematicians at the Universiteit van Amsterdam. After World War II, they were indirectly involved in founding the Mathematisch Centrum, a government-funded institution for research in applied mathematics that serves as a meeting point between industry and academia. In 1954 the *Genootschap* hosted the International Congress of Mathematicians in Amsterdam. Queen Juliana (born

1909), another member of the House of Nassau, received the Fields medallists in her garden, and the Mathematisch Centrum produced table mats, now collector's items, displaying the Gaussian primes. Currently, the *Wiskundig Genootschap* coordinates a committee that advises the government on educational issues. The Mathematisch Centrum celebrates the computer age with a new name: CWI.

In 1965, the *Genootschap's* monthly meetings, attendance of which had been declining, were replaced by the annual *Nederlands Mathematisch Congres*. This two-day conference, which takes place in April, draws a large part of the Dutch mathematical community, including high school teachers and industrial and applied mathematicians. The annual *Winter Symposium* is specifically aimed at high school teachers.

This summer, the *Wiskundig Genootschap* organizes *Pi in de Pieterskerk*. The 35 decimals of  $\pi$  that Ludolph van Ceulen computed four centuries ago were first published as an inscription on his tombstone in the Pieterskerk ('Peter's church') in Leiden. Sometime during the early nineteenth century the stone disappeared. On July 5, 2000, a reproduction will be unveiled in a ceremony that honours the roots of Dutch mathematics. ◀

#### Acknowledgements

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