

JAN HENDRIK VAN SWINDEN
1746-1823

Van Swinden was born on 8 June 1746 in The Hague, the son of Philippe van Swinden, a lawyer, and Anna Maria Tollosan. He was educated privately by his father and private tutors and enrolled at the University of Leiden in 1763. Although his father wished him to be a lawyer, Jan Hendrik quickly dropped the study of law and concentrated on mathematics and science, especially the works of Newton, obtaining a doctorate in philosophy in 1766.

In 1767, at the age of 21, Van Swinden was appointed professor of philosophy, rhetoric, and speculative philosophy (i.e., metaphysics) at the University of Franeker. The following year, he married Sara Riboulleau, with whom he had three daughters and one son. During his seventeen years in Franeker, Van Swinden did his most original and important scientific research, working on magnetism, electricity, and meteorological phenomena. In 1772 he published *Tentamen de magnete*, in which he dealt with the mathematical theory of magnetism; in 1777 the French Academy of Sciences awarded him a gold medal (jointly with Coulomb) for his prize essay on the variability of magnetic needles; and in 1778 he received the gold medal of the Bavarian Academy of Sciences of Munich for his prize essay on the analogy of electricity and magnetism. During this period, too, he published a detailed description of the planetarium of Eise Eisinga.

In 1785, Van Swinden accepted the chair of philosophy, physics, mathematics, and astronomy at the Athenaeum in Amsterdam (now the University of Amsterdam), giving an inaugural lecture on the suppositions on which the Newtonian system rested. The addition of mathematics to his teaching repertoire caused him to write a textbook of geometry (in Dutch). Van Swinden remained at Amsterdam for the rest of his life, refusing an appointment at Leiden in 1795. In Amsterdam he became very involved with issues beyond the university. He was very active in the society Felix Meritis, in which he gave more than a hundred lectures, organized a school for sailors and officers, and also founded a school for the blind. He was a member of a committee to improve publications for the use of sailors, publishing an important work on the method of lunar distances to determine longitude (1787), a nautical almanac (1787), and a book on nautical instruments (1788).

After the conquest of the Netherlands by the French, in 1795, Van

Swinden became chairman of a committee charged with a census of Amsterdam. His report contained tables of mortality and actuarial tables for purposes of life insurance. He served on a similar committee in 1798. In that year, too, he was sent to Paris, along with Henricus Aeneae to attend a conference on the reform of weights and measures and the introduction of the metric system. Here Van Swinden was appointed, along with Tralles, Delambre, and Legendre, to a committee charged with determining the circumference of the earth. Van Swinden calculated all the triangles produced in the triangulation and drew up several of the reports. From 1800 to 1802 Van Swinden served as a member of the Executive Committee of the Batavian Republic. He served on committees to reform the currency, to reform higher education, and in 1808 he became the first president of the Royal Institute in Amsterdam (later the Royal Academy of Arts and Sciences). King William I made Van Swinden 'staatsraad' (counselor of the realm) in recognition of his contributions to science and public life. He died on 9 March 1823. One of his last contributions was to investigate the problem of the invention of the telescope by examining the records of the States-General of the early seventeenth century; the results of this investigation were published by Gerard Moll after Van Swinden's death.

Primary works

Poggendorff, vol. 2, 1057-1059. *De attractione* (Doctoral dissertation, Amsterdam, 1766); *Verhandeling over de wederstandbieding der lucht* (Amsterdam, 1766); *Oratio de causis errorum in rebus philosophicis* (Franeker, 1767); *Recherches sur les aiguilles aimantées, et sur leur variations régulières*, in: *Mémoires présentés à l'Académie Royale des Sciences*, vol. VIII, 1777; *Dissertation sur la comparaison des Thermomètres* (Franeker, 1778); *Beschrijving van een kunststuk, verbeeldende een volleedig bewegelijk hemelsgestel, uitgedacht en vervaardigd door Eise Eisinga* (Franeker, 1780, reprinted in 1824, 1831, 1851); *Oratio de Hypothesibus Physicis, quomodo sint mente Newtoni intelligendae* (Amsterdam, 1785); *Verhandeling over het bepalen der lengte op Zee, door afstanden van de Zon tot de Maan of vaste sterren* (Amsterdam, 1787); *Verklaring van den Almanak ten dienste der zeelieden* (Amsterdam, 1787); *Verhandeling over de inrigting tot het gebruik der octanten en sectanten, van Hadley* (Amsterdam, 1788); *Grondbeginselen der meetkunde* (Amsterdam, 1790, 1816); *Instructie voor de Examineurs der stuurlieden bij de O. I. Compagnie*

(Amsterdam, 1794); *Verhandeling over volmaakte maten en gewichten* (Amsterdam, 1802); *Over het bepalen der lengte op zee* (Amsterdam, 1809). See also G. Moll, *Geschiedkundig onderzoek naar de eerste uitvinders der verrekijzers, uit de aantekeningen van wijle den Hoogleeraar Van Swinden zamengesteld* (Amsterdam, 1831). A complete list of Van Swinden's publication can be found in D. Bierens de Haan, *Bibliographie néerlandaise historique-scientifique* (Rome 1883; Nieuwkoop, 1960, 1965) 273-277. For a brief indication of the locations of Van Swinden's manuscripts, see W.D. Hackmann in *DSB*, vol. 13, 183-184.

Secondary sources

G. Moll, 'A Biographical Account of J. H. van Swinden', *Edinburgh Journal of Science* 1 (1824) 197-208; E.J. Dijksterhuis, 'De grondbeginsels der meetkunde van J. H. van Swinden. Bijdrage tot het jubileum van de Universiteit van Amsterdam', *Euclides*, 8 (1931-1932) 265-296 (portrait); M.A.M. van Hoorn, 'Jan Hendrik van Swinden (1746-1823) en het probleem van de analogie tussen elektriciteit en magnetisme', *TGGNWT* 10 (1987) 90-111; *idem*, 'De "Gemeenebestgezindheid" van Jan Hendrik van Swinden (1746-1823). Een schets van zijn politieke bedrijvigheid in de jaren 1795-1796 en 1800-1801', in: E.O.G. Haitzma Mulier et al., eds, *Athenaeum Illustre. Elf studies over de Amsterdamse Doorluchtige School 1632-1837* (Amsterdam, 1997) 227-251 (mainly on Van Swinden's political career).

W.D. Hackmann, in: *DSB*, vol. 13, 183-184; J.C. Ramaer, in: *NNBW*, vol. 4, 1289-1291.

[A.v.H.]