

MARTINUS VAN MARUM
1750-1837

Van Marum was born on 20 March 1750 in Haarlem, the son of a surveyor and construction engineer. He attended elementary school and grammar school in Delft. In 1764 he matriculated at Groningen University, where he studied medicine. He received his doctorate (Ph.D.) in 1773 with a dissertation on the circulation of plant saps. In this study he had been encouraged by one of his teachers at Groningen, Petrus Camper. Later that year Van Marum graduated in medicine with a study on animal physiology. After his studies in Groningen Van Marum's scientific interests shifted to botany and the study of electricity.

From 1776 to 1780 Van Marum practiced medicine in Haarlem, where he was appointed lecturer of philosophy and mathematics. In 1777, the *Hollandsche Maatschappij van Wetenschappen* at Haarlem made him director of its growing cabinet of natural history. Four years later, he married Joanna Bosch, a wealthy daughter of the printer to the *Hollandsche Maatschappij*. Their marriage remained childless.

Van Marum's importance lay in his contributions to the dissemination of scientific knowledge. In 1784 he became director of the Cabinet of Physical and Natural Curiosities and the Library of Teyler's Foundation, which was to become the core of the collection of today's Teylers Museum at Haarlem. For the rest of his life, Van Marum took great pains to improve and expand these collections. Between 1782 and 1802, he made a number of journeys abroad that brought him much fossil material and many minerals. Among his most famous acquisitions was J. J. Scheuchzer's 'Homo diluvii testis' (actually a fossil salamander), Beringer's Lügensteine, and the fossil *Mosasaurus camperi*.

With the largest electrical machine of the time, made by John Cuthbertson, Van Marum carried out many electrical and chemical experiments, which he published in the *Verhandelingen* of Teyler's Foundation. He supported Benjamin Franklin's theory of a single electric fluid, and with his newly developed gasometer discovered carbon monoxide. After meeting Lavoisier in Paris in 1785, he became one of the first adherents and propagators of the Frenchman's new combustion theory which he supported with numerous experiments often carried out with instruments he had constructed himself.

After 1802, Van Marum's main interest shifted to botany. He specialised in South African plants and saw through the press a new systematic catalogue of the aloes originally compiled by the prince of Salm-Dyck. He corresponded with many of the leading botanists of the time, especially on problems of plant systematics and taxonomy. In 1822 he repeated Oersted's electromagnetical experiments and published his results.

Van Marum was always interested in the practical and organisational aspects of science. He promoted, for example, the use of pure oxygen to revive drowned persons and the use of steam baths for cholera patients. He was also concerned about air pollution by carbon monoxide. In 1794 he was appointed secretary of the *Hollandsche Maatschappij*. During the French reign, king Louis Napoleon asked him, among others, to draft a constitution for a new national scientific institution, the *Koninklijk Instituut van Wetenschappen, Letteren en Schoone Kunsten*, which was established in 1808. Until 1836 Van Marum was one of the most active members of this scientific institution. In 1814, the new king of the Netherlands, William I, appointed Van Marum to a commission for the restructuring of higher education, and in 1821 to a commission charged with exploring the possibilities of active control of the Dutch rivers.

Van Marum died on 26 December 1837, honoured by both French and Dutch authorities. He was a member of 37 scientific societies in the Netherlands and abroad and left behind well-organized societies and collections.

Primary works

Poggendorff, vol. 2, 68-69; a literature list, bibliography, a translation of some of his publications and correspondence can be found in: R.J. Forbes, E. Lefebvre, and J.G. de Bruyn, eds, *Martinus van Marum. Life and Work*, 6 vols (Haarlem: *Hollandsche Maatschappij der Wetenschappen/Tjeenk Willink*, 1969-1976); *Schets der Leere van Lavoisier door Martinus van Marum, 1787* (facsimile edition The Hague: *Koninklijke Nederlandse Chemische Vereniging/Delft*; Delft University Press, 1987; pref. A.C.H.A. Wiechmann, introd. H.A.M. Snelders, and annot. J.W. van Spronsen). Letters and manuscripts in the archives of the *Hollandsche Maatschappij*.

Secondary sources

T.H. Levere, 'Martinus van Marum (1750-1837): The introduction of Lavoisier's chemistry into the Low Countries', *Janus* 53 (1966) 115-134; R.J. Forbes, ed., 'Met van Marum door Zuid-Nederland en Rijnland' *Scientiarum Historia* 8 (1966) 135-151; T.H. Levere, 'Friendship and influence: Martinus van Marum, F.R.S.', *Notes and Records of the Royal Society of London* 25 (1970) 113-120; W.D. Hackmann, 'The design of the triboelectric generator of Martinus van Marum, F.R.S.: A case history of the interaction between England and Holland in the field of instrument design in the 18th century', *Notes and Records of the Royal Society of London* 26 (1971) 163-181; W.D. Hackmann, 'The researches of Dr. Martinus van Marum (1750-1837) on the influence of electricity on animals and plants', *Medical History* 16 (1972) 11-26; M. Sadoun-Goupil, 'La correspondance de Claude-Louis Berthollet et Martinus van Marum', *Revue d'Histoire des Sciences et de leurs Applications* 25 (1972) 220-252; H.A.M. Snelders, 'Martinus van Marum (1750-1837) ... en zijn ongemeen groote Elektrizeer-machine ...', in: A.J. Kox and M. Chamalaun, eds, *Van Stevin tot Lorentz. Portretten van Nederlandse natuurwetenschappers* (Amsterdam: Intermediair, 1980); A. Wiechmann and L.C. Palm, eds, *Een elektriserend geleerde. Martinus van Marum 1750-1837* (Haarlem: Enschedé, 1987) [contents: B. Theunissen, 'Martinus van Marum, 1750-1837', 11-32; A. Wiechmann, 'Van Accademia naar Akademie', 33-66; B.C. Sliggers, 'Honderd jaar natuurkundige amateurs te Haarlem', 67-102; A. Wiechmann and L. Touret, 'Frappez, frappez toujours! Van Marum als verzamelaar en bezieler van het geleerd bedrijf in Haarlem', 103-154; H.A.M. Snelders, 'Martinus van Marum en de natuurwetenschappen', 155-182; M.J. van Lieburg, 'Martinus van Marum en de geneeskunde', 183-222; and L.C. Palm, 'Van Marums contacten en correspondentie', 223-244]; H.A.M. Snelders, 'The new chemistry in the Netherlands', *Osiris* 4 (1988) 121-145; H.A.M. Snelders, *De geschiedenis van de scheikunde in Nederland. Van alchemie tot chemie en chemische industrie rond 1900* (Delft, 1993) 62-69; J. Golinski, 'Precision instruments and the demonstrative order of proof in Lavoisier's chemistry', *Osiris* 9 (1994) 30-47, esp. 45-46; M. van Strien-Chardonneau, 'La correspondance d'André Thouin (1747-1824) et de Martinus van Marum (1750-1837), 1796-1818', *Lias. Sources and documents relating to the early modern history of ideas* 24 (1997) 67-123.

DMB, 1279-1281; A.M. Muntendam, in: *DSB*, vol. 9, 151-153; G.A. Wumkes, in: *NNBW*, vol. 10, 588.

[L.C.P.]