

Royal Netherlands Academy of Arts and Sciences

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History

In the 17th century, members of the scientific community in several countries founded academies as forums where scholars could meet. Well-known examples which still exist are the Accademia Nazionale dei Lincei (Rome, 1603) and the Royal Society (London, 1660).

In the 18th and 19th centuries, governments in other European countries took the initiative to set up academies to serve as central bodies for the promotion of science and scholarship and international cooperation between scientists and scholars. This was mainly in imitation of the model created in France. The Republic of the United Provinces (the precursor of the State of the Netherlands) did not yet have such an institution, mainly because of the sovereignty of the individual provinces. During the period of the Kingdom of Holland (1806–1810), King Louis Napoleon (brother of Napoleon Bonaparte) promulgated a decree on 4 May 1808 founding the Royal Institute of Sciences, Letters and Arts (*Koninklijk Instituut van Wetenschappen, Letterkunde en Schoone Kunsten*).

Article 1 of the Decree defines the object of the Royal Institute as follows: *“The main purpose of said Institute, following in the footsteps of the leading scholarly societies in the various countries of Europe, is to perfect the Sciences and Arts, to notify such progress within the Kingdom to Foreigners and to introduce inventions or progress achieved elsewhere in our own country.”* In practice, the Royal Institute was a body that provided the government with advice, both solicited and unsolicited. It also implemented government decrees.

The structure of the Royal Institute of Sciences, Letters and Arts was clearly modelled on the Institut de France. The four classes making up the Royal Institute were (1) “Mathematics and Natural Sciences”, (2) “Dutch Literature and History”, (3) “Classical and Oriental Literature and Antiquities” and “History of Other Peoples” and (4) “Fine Arts”. They corresponded closely to the four – later five – academies making up its French counterpart.

All four Classes were in turn divided into sections and each Class had a number of ordinary members chosen from the *“preeminent scholars of the whole Kingdom”*. Their appointment was subject to royal approval. The First Class had the most members – 33 were appointed in 1808 – while the others each had 20. Each Class had a chairman and secretary, chosen from the members resident in Amsterdam. These were also members of the executive of the Royal Institute. According to the rules, each Class was required to meet every fourteen days to discuss organisational and scholarly issues, with the members voting on these matters. Each Class also held an annual “Public Meeting” at which it reported on its work. During these meetings, which were also open to non-members, competitions were arranged and presentations given by members of the Class concerned. There was also an annual “General Meeting” attended by all four classes making up the Institute. This was chaired by one of the chairmen of the Classes, appointed to do so by his colleagues.

Members of the First Class appointed by Louis Napoleon in 1808 included the hydraulic engineers Jan Blanken Jansz. and Adrianus F. Goudriaan, the chemist and physicist Martinus van Marum, the mathematician Jacob Florijn, and the physicians Andreas Bonn, Sebald J. Brugmans, Matthias van Geuns, and Gerard Vrolik.

The Second Class included the poets Willem Bilderdijk, Cornelis Loots and Hendrik Tollens, the author and jurist Rhijnvis Feith, the linguists Matthijs Siegenbeek, Jeronimo de Vries and Pieter Weiland, the jurists Johannes Meerman and Jonas D. Meijer, and the theologian and man of letters Johannes H. van der Palm. Two of these enjoyed the particular trust of Louis Napoleon: Meerman had been the director-general of “Fine Arts and Sciences” since 1806 and Van der Palm was the “Agent for National Education”.

The clergyman and historian Martinus Stuart was a member of the Third Class. On 22 August 1808, he was chosen to be the permanent secretary of that class, a position that he held until his death. King

William I appointed Stuart to be the “national historian”. Besides Stuart, the first members of the Third Class included the jurists Hendrik C. Cras, Anton R. Falck, Joan M. Kemper, and Johan Valckenaer, the classicist Everwinus Wassenbergh, the theologians and orientalists Jona W. te Water and Johannes Willmet, the philosopher and classicist Daniel Wijtenbach, and the Latin poet Jeronimo de Bosch.

Leading members of the Fourth Class were the architects Abraham van der Hart, Johan van Westenhout, Bartholomeus W.H. Ziesenis and Jean T. Thibault (the court architect), the painters Egbert van Drielst, Charles H. Hodges, Jan B. Kobell, and Adriaan de Lelie, the court musician C.H. Plantade, the illustrator and etcher Reinier Vinkeles, and the composer Carolus A. Fodor.

The Institute continued to exist after the Kingdom of Holland was absorbed into the French Empire, and on 21 October 1810 the Emperor Napoleon confirmed the 1808 rules and regulations. The Institute did, however, change its name, being known either as the “Institut d’Amsterdam” or the “Hollandsch Instituut”.

The Institute also continued to exist after the country regained its independence, as was confirmed by a Royal Decree of 2 February 1814. From that date on, it came to be known as the “Netherlands Institute of Sciences, Letters and Arts” (*Nederlandsch Instituut van Wetenschappen, Letterkunde en Schoone Kunsten*). On 31 March 1814, King William I attended a meeting of all four classes as patron of the Institute. The members expressed the desire to reorganise the Institute after the period of French domination. The King approved their request and recommendations were drawn up by the chairman, D.J. van Lennep, and the secretary, W. Bilderdijk, and presented to the King in January 1816. On 6 April of that year, a Royal Decree was promulgated setting out the amended rules and regulations and confirming the continued existence of the Institute. Its new name was to be “Royal Netherlands Institute of Sciences, Letters and Arts”.

In the period after 1840 – during the rule of William II from 1840 to 1848 – the activities of the Royal Institute came in for increasing criticism, with people wondering what had become of the aim of “perfecting the sciences and arts”. The Institute also continued to be seen as an organisation set up by foreigners. These factors, together with an economic crisis, meant that the demise of the Institute seemed inevitable.

In order to demonstrate the organisation’s continuing importance, a committee made up of the presidents and secretaries of the various Classes produced a document in 1849 entitled: *Considerations regarding the nature and work of the Royal Netherlands Institute of Sciences, Letters and Arts* (*Beschouwingen over den aard en den werkring van het Koninklijk-Nederlandsche Instituut van Wetenschappen, Letteren en Schoone Kunsten*). This took the form of an address presented to the King with the aim of ensuring the survival of the Institute.

A significant role in the closing down of the Institute was played by Johan R. Thorbecke (1798–1872) in his position as Minister of the Interior (1849–1853). In the year when he took up that post, Thorbecke made various negative comments on the activities of the Institute and he made no efforts to save it. Given that he had been a member of the Third Class since 1836, the other members of the Institute did not thank him for this.

On 26 October 1851 the old Institute was closed down by Royal Decree and replaced by a “Royal Academy of Sciences, with the object of promoting Mathematics and Physics to their full extent”.

After the fall of Thorbecke’s first cabinet, the new government extended the object of the Royal Academy of Sciences to include the “promotion of the linguistic, literary, historical and philosophical sciences”. Since then, the Academy has had two Divisions, referred to for the sake of convenience as the “Science Division” and the “Humanities and Social Sciences Division”, which together cover the entire field of science and scholarship.

One of the newly appointed members of the Science Division in 1855 was Franciscus C. Donders, professor of medicine in Utrecht and famous for his research in ophthalmology. Christophorus H.D. Buys Ballot became a member of the Science Division in 1858. After being appointed extraordinary professor of mathematics and astronomy in Utrecht in 1847, he had started his systematic meteorological observations the next year.

Hendrik A. Lorentz was appointed chairman of the Science Division in 1909, a position he held until 1921. Lorentz had been professor of theoretical physics in Leiden since 1877. In 1902, he and his former assistant Pieter Zeeman shared the Nobel Prize in Physics for “their researches into the influence of magnetism upon radiation phenomena”. During the first few years of his membership of the Academy, from 1881, Lorentz gave numerous presentations for members of the Science Division.

Johannes Diderik van der Waals, professor of physics at the University of Amsterdam, was secretary from 1896 to 1911 and saw to it that the Academy’s *Proceedings* were published in English; publication commenced in 1899. In 1910, Van der Waals received the Nobel Prize in Physics “for his work on the equation of state for gases and liquids”.

Another distinguished member of the Academy during this period was Jacobus H. van ’t Hoff, professor of chemistry at the University of Amsterdam. Van ’t Hoff was a member from 1885, becoming a “correspondent” from 1896, when he moved to Berlin as a member of the Prussian Academy of Sciences. As one of the founders of physical chemistry, Van ’t Hoff received the first Nobel Prize in Chemistry in 1901. Heike Kamerlingh Onnes, professor of physics in Leiden, received the Nobel Prize in Physics in 1913 “for his investigations on the properties of matter at low temperatures which led, inter alia, to the production of liquid helium”. He was a member of the Academy from 1883 until his death in 1826.

The jurist and philosopher Cornelis W. Opzoomer was appointed professor of philosophy in Utrecht in 1846 and ten years later elected to membership of the Academy’s Humanities and Social Sciences Division.

Johan H.C. Kern, the first professor of Sanskrit (appointed in Leiden in 1865), became a member of the Humanities and Social Sciences Division in 1866. Kern is considered to be one of the founders of the comparative study of Indic languages and the scientific study of Old Javanese.

The historian Johan Huizinga (1872–1945) was chairman of the Humanities and Social Sciences Division from 1929 to 1942. He wrote on numerous cultural and historical topics, with one of his many areas of specialisation being the history of education and scholarship. Until recently, Huizinga’s article *Van Instituut tot Akademie* (From Institute to Academy), published in the Academy’s Annual (*Jaarboek*) for 1921/22, offered the best summary of the intrigues regarding the Royal Institute in the mid-nineteenth century. It was succeeded in 2000 by *Het oude Instituut en de nieuwe Akademie; Overheid en wetenschapsbeoefening omtrent het midden van de negentiende eeuw* (The Old Institute and the New Academy; Government and Scientific Endeavour in the Mid-nineteenth Century), which appeared in the series *Bijdragen tot de Geschiedenis van de Koninklijke Nederlandse Akademie van Wetenschappen* (Contributions to the History of the Royal Netherlands Academy of Arts and Sciences). The name of the Academy was changed one more time, becoming the “Royal Netherlands Academy of Arts and Sciences” in 1938.

The Academy’s activities expanded after the Second World War, with increasing calls on its services as an advisory body to government. The Biological Council was established as early as 1923 and since 1959 further permanent Advisory Councils have been set up. Since 1 January 2008 the Academy has had five of these, covering all areas of science and scholarship.

A new component of the structure of the Academy was introduced in 1973 with the appointment of a President. The Presidents since that date have been H.B.G. Casimir (1973–1978), S. Dresden (1978–1981), A.M. Donner (1981–1984), D. de Wied (1984–1990), P.J.D. Drenth (1990–1996), P.J. Zandbergen (1996–1999), R.S. Reneman (1999–2002), W.J.M. Levelt (2002–2005), F.P. van Oostrom (2005–2008), and R.H. Dijkgraaf (2008 to present).

The first research institutes became affiliated with the Academy in the first half of the 20th century. The Central Institute for Brain Research became an Academy Institute as far back as 1909; it merged with the Netherlands Ophthalmic Research Institute in 2005 to create the Netherlands Institute for Neuroscience. The Embryological Institute – now the Hubrecht Institute for Developmental Biology and Stem Cell Research – has been an Academy Institute since 1917. Since 1920, the Academy has administered the collection belonging to the Fungal Biodiversity Centre, a foundation set up in 1904. This is now an Academy Institute based in Utrecht.

In the late 1980s, as part of the “para-university institutes operation” instituted by the Minister of Education and Science, a large number of institutes that had until then been the responsibility of the Minister came to be managed by the Academy. They have since been joined by various other institutes as part of the Academy’s Research Organisation.

On 1 November 2003, a management body made up of four persons (three since 1 October 2006) was put in charge of the Academy’s Research Organisation. This has responsibility for planning and implementing policy in the Academy’s other areas.

The Institute, later the Academy, moved into the Trippenhuis Building in 1812. The Trippenhuis Building, a double mansion, was built between 1660 and 1662 by Justus Vingboons for the brothers Hendrick and Louys Trip. Initially, the Academy shared the premises with the National Collection of Paintings, but when that collection was moved to the new Rijksmuseum in 1886, the Academy took over the entire building. Later it also acquired the adjoining properties.

The Trippenhuis Building is where the Academy’s boards, members, councils and committees hold their meetings. It is also a venue for international conferences and the home of the Academy Bureau.

Statutes, mission, and organisation

Statutory basis

The Academy derives its corporate rights from the 1996 Higher Education and Research Act [*Wet op het hoger onderwijs en wetenschappelijk onderzoek*]. According to the Act, its tasks are as follows:

“The Royal Netherlands Academy of Arts and Sciences operates in the field of scientific research. It promotes the exchange of ideas and information amongst its members and between its members and others engaged in scientific endeavour and scientific organisations; advises the government, either on request or at its own initiative, on matters in the field of scientific endeavour; and promotes scientific endeavour by carrying out activities in that field, or causing such activities to be carried out.”

Mission

“As the forum, conscience, and voice of the arts and sciences in the Netherlands, the Academy promotes the quality and represents the interests of science and scholarship and strives to ensure that Dutch scholars and scientists make the greatest possible contribution to the cultural, social, and economic development of Dutch society.”

Scientific and scholarly society and advisory body

Scientific/scholarly society

As a scientific and scholarly society, the Academy merits a special place in the Netherlands owing to its 220 members, who are selected for their outstanding achievements. The Academy is divided into two Divisions, the Science Division and the Humanities and Social Sciences Division, which together cover the entire field of science and scholarship. The Science Division (mathematics and physics, life sciences and technical sciences) has a maximum of 124 ordinary members; the Humanities and Social Sciences Division (humanities, law, behavioural sciences and social sciences) has a maximum of 102 ordinary members.

The Humanities and Social Sciences Division is divided into five Sections:

- philosophy and theology;
- behaviour and society;
- history;
- law;
- language and literature.

The Science Division is divided into seven Sections:

- earth sciences;

- biology;
- medicine;
- physics and astronomy;
- chemistry;
- technical sciences;
- mathematics.

The Academy has ordinary members, retired members, foreign members, and correspondents. Members are appointed for life, but retire at the age of 65. Foreign members are non-Dutch scientists and scholars who live abroad. Correspondents are Dutch scientists and scholars who live abroad, or foreign scientists and scholars who have been awarded a degree by a Dutch university.

The Young Academy

The Young Academy (DJA) was founded in 2005 in order to breathe new life into the society. The aim of the DJA is:

- to bring promising young scientists into active contact with disciplines outside their own area of specialisation and to offer them the possibility of conducting interdisciplinary research;
- to encourage them to think strategically about the future of their own discipline, collaboration with other disciplines, and science policy;
- to encourage them to communicate their scientific insights to the general public;
- to support their progress as scientists.

The DJA now consists of seventy promising scientists. Membership is limited to a maximum period of five years and members may not sit on the DJA board for more than two years.

Executive structure

The management and structure of the Academy are laid down in the *Regulations governing the Academy*.

The President represents the Academy at law and otherwise, pursuant to Section 13.1 of the Higher Education and Research Act. The President is the figurehead of the Academy and as such plays an important role in affirming and promoting the Academy's mission.

The Joint Meeting is the general meeting of Academy members, and is held annually in May. It is here that decisions are taken concerning matters affecting the entire Academy and the annual report and annual accounts are adopted. The Joint Meeting also elects the Academy's General Board. Board members serve for a three-year period and are chosen from among the Academy members under the age of 65.

The General Board consists of the *two Division Boards*. Its members are the President, the chairs of the Science Division and the Humanities and Social Sciences Division (both of whom are also vice-presidents), the general secretary, the foreign secretary and seven members. Acting on behalf of the General Board is the Executive Board, which carries out those duties and responsibilities that have not been assigned to the General Board or another body.

The Executive Board consists of the President, the chairs of the Science Division and the Humanities and Social Sciences Division (both of whom are also vice-presidents), the general secretary and the foreign secretary. The Executive Board manages the Academy and takes the lead in advisory matters, quality assessment, and international cooperation. It also determines how the Academy will present itself externally. The Executive Board also appoints the members of the Board of Management and is responsible for its performance. The Executive Board bears final responsibility for strategic decision-making with respect to the Academy's research organisation (the nineteen Academy Institutes).

The Board of Management is responsible for developing, adopting, and executing the strategic policy of the Academy's research organisation. It prepares and implements the Academy's overall policy and manages the Academy's policy and support staff, the Academy Bureau. The Board of Management consists of an Operations director and a Research director. The members of the Management Board are appointed by the Executive Board on the recommendation of an appointments advisory committee installed by the Executive Board. Candidates are appointed for a five-year period and may be reappointed for a second five-year term.

Each of the 19 Academy Institutes is headed by an *institute director*, generally a leading researcher in the institute's field or discipline. The directors have far-reaching powers and responsibilities to act on behalf of their institute. They are appointed and dismissed by the Academy's Executive Board on the recommendation of an appointments advisory committee. Since 2004, directors have been appointed for a maximum period of five years and may be reappointed for a second five-year term.

Activities

Strategic Plan for 2007–2010

The Academy has a double role. It is both a society of outstanding scientists and scholars and an umbrella organisation for nineteen research institutes. In its Strategic Plan for 2007–2010, entitled *Sustainable Science [Duurzame wetenschap]*, the Academy sets out an ambitious programme of renewal. The purpose of the plan is to guarantee the long-term excellence of science and scholarship in the Netherlands.

The main aims of the plan are:

- to invigorate the Academy's role as a forum;
- to boost its significance as an advisory body and research foresight organisation for government, science and scholarship, and society;
- to enhance its international standing;
- to professionalize and intensify its communication;
- to ensure that the Academy Institutes play a leading role in their respective fields of research;
- to interact more closely with universities;
- to invest in the professional skills and competencies of its staff;
- to provide access to the Academy Institutes' major collections;
- to pursue the priorities set for the Academy Institutes, which are:
 - the founding of a national centre for language, culture, and history;
 - the pursuit of neuroscientific research, for example by setting up the Spinoza Centre for Neuroimaging;
 - the physical clustering of institutes.

Forum for the scientific and scholarly world

Members have traditionally met at the Academy in order to engage in inspiring discussions with colleagues about science and society. In today's world of science and scholarship, that role of forum has largely been taken over by conferences, specialist associations, and web-based newsgroups. Nevertheless, scientists and scholars still can and do get together at the Trippenhuis Building during the many seminars, conferences, symposiums, workshops, meetings and other events held there.

Encouraging excellence

As the guardian of scientific and scholarly excellence, the Academy is the ideal organisation to award prizes to outstanding researchers. Another way in which the Academy contributes to excellence in the field is by assessing candidates for professorships funded by bequests, legacies and gifts. The Academy also administers a number of private funds set up to promote research in the Netherlands and abroad. These funds go to support researchers or professorships, award prizes, organise lectures and subsidise travel grants.

Advice and foresight research

The Academy helps promote the quality and progress of science and scholarship and related policy by furnishing ad hoc advice and conducting lengthy foresight studies. To reinforce its contribution as an advisory body, the Board has expanded its own role and reduced the number of advisory boards by half as of 1 January 2008. There are now five Advisory Councils: the Council for the Humanities, the Social Sciences Council, the Council for the Technical Sciences, Mathematics, Informatics, Physics, Astronomy and Chemistry, the Council for Earth and Life Sciences, and the Council for Medical Sciences. The change is intended to promote interdisciplinary collaboration and more efficient working methods.

Quality assurance and evaluation

The Academy plays a significant role in quality assurance and research evaluation. It is not only involved in assessing institutions and educational programmes but also concerns itself with quality assurance issues in science and scholarship. The Academy's Research School Accreditation Committee (ECOS) monitors the quality of Dutch research schools. The Academy also advises the Accreditation Organisation of the Netherlands and Flanders (NVAO) on the accreditation of research masters degrees. Finally, the Academy occasionally engages in quality assurance and evaluation activities, often at the request of third parties.

The Academy Research Institutes

The Academy is the umbrella organisation for 19 scientific institutes in the humanities, social sciences, and life sciences. Approximately 84% of its budget is reserved for these institutes, which employ almost 1100 people. The Academy Institutes have three core tasks:

- to conduct outstanding scientific and scholarly research;
- to add to, manage, and provide access to unique scientific and scholarly collections;
- to deliver services for science and society.

The Academy Institutes are divided into two clusters: 1) Humanities and Social Sciences and 2) Life Sciences.

The institutes in the former cluster focus on history, social history, language and culture. A number of them – the Meertens Institute, the Fryske Akademy and the Huygens Institute – concentrate specifically on the Netherlands. Others (KITLV:- Royal Netherlands Institute of Southeast Asian and Caribbean Studies; NIOD: Netherlands Institute for War Documentation, IISG: International Institute for Social History and RSC: Roosevelt Study Centre) tend to be international in their orientation. NIDI (Netherlands Interdisciplinary Demographic Institute) focuses on the social sciences. DANS (Data Archiving and Networked Services) facilitates data enrichment and makes data available to researchers working in the humanities and social sciences. VKS (Virtual Knowledge Studio) is the Academy's e-research programme. The NIAS (Netherlands Institute for Advanced Study in the Humanities and Social Sciences) supports research in the humanities and social sciences by offering researchers facilities for more in-depth study and reflection.

The institutes in the Life Sciences cluster focus on biology (CBS: Fungal Biodiversity Centre) biomedicine (Hubrecht Institute, ICIN: Interuniversity Cardiology Institute of the Netherlands, NIN: Netherlands for Neurosciences) and ecology (NIOO). A cooperation agreement was concluded in late 2007 to set up the Spinoza Centre for Neuroimaging.

The special nature of the Rathenau Institute and the Wadden Academy place them outside these two clusters. The aim of the Rathenau Institute is to bridge the gap between science and society. It has two main tasks: technology assessment and science system analysis. The Wadden Academy was founded in 2008 and advises on research and policy, notably on all aspects of the Wadden region, from ecology to cultural history.

Once every six years, an international committee of peers evaluates the institutes' scientific/scholarly programme and performance based on the Standard Evaluation Protocol. In between, there are mid-

term evaluations. The scientific committees are important and permanent advisory bodies assisting the institutes' managements and the Academy's Board of Management. Each institute's scientific committee keeps a critical eye on its policy and in this way provides a significant sounding board.

Publications

KNAW and the academy institutes publish numerous high-profile periodicals and monograph series. Foresight and advice documents are also published.

The Academy uses its website (www.knaw.nl) to draw attention to its own activities and those of its institutes. The website also has a broader purpose: to increase public support for scientific and scholarly research in the Netherlands.

In 2008, the Academy celebrated its two hundredth anniversary by launching a special anniversary website: www.knaw200.nl. The website provides information on all the events and activities undertaken during the Academy's anniversary year.

International activities

Next to the many bi- and multilateral contacts of the Academy Institutes, there are also a number of centrally run international programmes and activities.

In order to attain scientific excellence, researchers and their organisations must take an active part in international networks and alliances. The Academy represents the Netherlands within various international networks and promotes scientific and scholarly research in other countries, specifically in China and Indonesia. Because the Academy has considerably increased its international activities in recent years, a foreign secretary was added to the Board in 2007 to assume responsibility for international cooperation.

The centrally coordinated international activities focus notably on China – including the ERA-Net CO-REACH - and Indonesia. There is also an increasing interest in supporting research cooperation with Africa.

International affiliations of KNAW include ALLEA, EASAC, ESF, IAC, IAP, ICSU and UAI. The secretariats of ALLEA and IAC are currently housed at the Academy. The Academy takes part in global programmes, in particular Global Change and Biosecurity. One of the aims of the Academy's foreign policy is to participate in international partnership projects, involving worldwide changes in the biosphere, anthroposphere and geosphere, i.e. global change. The Academy participates in such projects via its committees (Netherlands Global Change Committee; Netherlands SCOR Committee; Netherlands SCAR Committee). The Academy has bilateral cooperation agreements with a small number of sister academies; the Academy's purpose in signing such agreements is to facilitate long-term, ongoing scientific collaboration.