

OFFICIAL PORTRAIT
of Nobel Laureate
in Chemistry,
The Svedberg.



Collecting scientists

Sven Widmalm

Development in the natural sciences is often associated with a gallery of great personages. Every year, the annual awarding of the Nobel prizes, in which no more than three scientists can be honoured in each discipline, hammers home the message that new knowledge is produced by uniquely talented individuals. In research policy, investments in particularly excellent researchers have long been regarded as a sure recipe for success in international competition. In the latter case, the idea seems to be that progress in research is driven mainly by competition.

This view is also apparent in the way that science has long created its own pantheon, in which a few individuals have become cult figures – such as Newton, Linnaeus, Darwin, Curie, Einstein and Hawking. No first names are necessary here, no further presentation. These researchers' portraits are iconic, seemingly representing an entire worldview. Scientific heroes are sometimes portrayed as oracles (Hawking) and sometimes as moral role models (Curie, Einstein), and always as intellectual *Übermenschen* or geniuses.

When one digs in the archives of successful but less renowned researchers – those who made good, but not revolutionary, scientific contributions, who have not disrupted our view of the world and are not exactly spiritual leaders – one discovers that hyperbole and iconic pictures often flourish here too. The verbal and visual rhetoric surrounding renowned geniuses can thus be seen in another light, as it appears to be a more general, and therefore more interesting, social practice within science.

Scientists have exchanged portraits since the early modern period. Initially, relatively expensive copper intaglio was used, which could still be mass produced and, more rarely, oil portraits. The first photographic portraits in more general use were daguerreotypes, which were fragile and, like paintings, could not be easily copied and more widely distributed. Studio portraits of



PAGES from Daniel Georg Lindhagen's photo album.

the type that could be reproduced on relatively durable paper, and so sent to many recipients, appeared in the 1850s. It wasn't until after the turn of the century, 1900, that the mass production of simple cameras made it possible to take snapshots, pictures with a less formal character that also documented a more spontaneous form of socialising in science.

A popular type of studio portrait was the *carte de visite* or cabinet card; these were commonly collected in special albums. For scientists, these portrait collections became material and visual representations of scientific networks. One example is shown here, according to the text on the first page of the album: "Portrait of D. G. Lindhagen's friends presented to the Academy of Sciences 22/4 1914 by Arvid Lindhagen". The album's owner was thus the astronomer Daniel Georg Lindhagen, for many years (1866–1901) secretary of the Academy of Sciences; it was donated to the Academy by his son, Arvid, also an astronomer and a secondary school teacher in Stockholm. The men depicted on these pages were Lindhagen's colleagues: chemist Clemens Ullgren; the nobleman, physicist and military man Fabian Wrede; mathematician Victor von Zeipel; physicist Anders Jonas Ångström. The numbers are their membership numbers in the Academy, to which von Zeipel was never elected (although, in 1866, he was honoured by the Academy for his work on higher algebra). It is obvious that the pictures themselves do not say anything at all about the persons' scientific achievements and not much about their social status. Teacher and Docent von Zeipel could be of the same

social standing as Baron and Lieutenant General Wrede or the internationally renowned physicist Ångström. It is the *album* itself that conveys an interesting historical message, not the portraits. It is a visual representation of an scientific administrative leader's network, where those who belong to the inner circle have been identified through their membership numbers.

The exchange of portraits that were collected in albums (or hung on the wall or placed on a desk) strengthened social cohesion and certainly the sense of shared interests and aims between academic colleagues, as did correspondence and increasingly frequent personal meetings. The pictures were part of a community-building practice, which naturally underwent change due to developments in both image media and the forms of scientific socialising and cooperation.

One important change was that, from the mid-19th century, research became increasingly international. People travelled to each other's laboratories, observatories or universities to learn new techniques and to collaborate; expensive equipment was often purchased in foreign countries, which necessitated travelling to consult with colleagues about both financial and technical issues; transnational research cooperation became more common, not least in fields related to standardisation; international congresses increased in number and scope. This development resulted in the production of many group portraits, similar to the albums of cabinet cards in their portrayal of scientific networks.

Portraits, group pictures and informal snapshots were saved in the collections of individuals and institutions and disseminated between colleagues. They show the trust-based character of research, their message being that scientists were an intellectual working community, the cohesion of which depended on personal relations. The same message was conveyed when they awarded each other prizes or elected each other to scientific societies.

The immortalisation of informal socialising was enabled by photography's technical development (cameras became easier to transport and use, film became more photosensitive). The picture to the lower right is an example from the archive of chemist Theodor (Theodor) Svedberg at Uppsala University. It is a snapshot of researchers enjoying themselves in the outdoors: Tominosuke Katsurai from Japan and several people from Svedberg's department, of whom Arne Tiselius (furthest up to the right), like Svedberg himself (in a pale homburg hat), became a Nobel laureate in chemistry. The photograph

INTERIOR from the Department of Chemistry in Uppsala, around 1910.

THE SVEDBERG, Tominosuke Katsurai and others among the green grass of 1927.



is one of many similar ones documenting the everyday community of research and which were certainly, in many cases, reproduced on behalf of the people in them. Such pictures, which sometimes showed scientific work, are also common in collections from other similar milieus.

Official portraiture's continuing status as an important genre – taking a more artistic turn when photography developed as an artform after World War One – is illustrated by an official portrait of Svedberg (see p. 570), taken by the Swedish-Dutch photographer Jan De Meyere. (It was also used as the basis for a lithograph.)

As in previous centuries, official portraits were exchanged during much of the 20th century in national and international networks, where they continued to indicate scientific community (and also hierarchies).

The high level of trust on which modern science has been based means that it can be regarded as a form self-regulating collective action, in which there has been a great deal of consensus about the aims and methods of research, as well as about what being a good (but not necessarily brilliant) researcher entails. The way in which scientific practitioners have long been permitted to govern their activities through collective decision-making about the value of colleagues' scientific production (peer review), indicates that this trust-based system achieved a high level of credibility. When the system worked well it allowed a lively exchange of ideas and scientific results within an intellectual community that had a fair balance between personal trust and regulations or standards. When it worked badly, the personal elements took over, leading to oligarchy and nepotism, or formal governance that stifled creativity.

However, the extreme individualism that is part of the ideological baggage of contemporary science can be regarded as the result of a misunderstanding. The cult of individual excellence is a distortion of social mechanisms which, in ideal circumstances, facilitated creative and collective action.

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A good overview of the history of photography, which includes the cabinet card's popularity and technological prerequisites from the mid-1850s is Beaumont Newhall's *The History of Photography* (New York, 2009), chap. 5. See also Anna Dahlgren, *Ett medium för visuell bildning: Kulturhistoriska perspektiv på fotoalbum 1850–1950* (Gothenburg/Stockholm, 2013). Information about members of the Academy of Sciences and their membership numbers, as well as prize-winners (including non-members) is in E. W. Dahlgren, *Kungl. Svenska Vetenskapsakademien: Personförteckningar 1739–1915* (Stockholm, 1915). Photographs from The Svedberg's archive have been discussed, from other perspectives than here, in Sven Widmalm, "Vetenskapens ansikte", *Annales Academiae Regiae Scientiarum Upsaliensis*, Vol. 40, 2013–2014. The identification of the people in the group picture on p. 573 builds upon information

in The Svedberg's unpublished autobiography *Fragment*, 151. The manuscript is dated 28 February 1961 and is in Uppsala University's archive, the archive of the Fysikalisk-kemiska institutionen, F4 A: 9. For a discussion about the social function of image material like that of Svedberg, but which comes from Niels Bohr's Institute for Theoretical Physics in Copenhagen, see Nina Lager Vestberg, "A photography archive of physics, or a physical archive of photography? Niels Bohr and the photographic production of scientific space(s)", Anna Dahlgren, Dag Petersson & Nina Lager Vestberg (eds.), *Representational Machines: Photography and the Production of Space* (Aarhus, 2013). Science as collective action is discussed, using Elinor Ostrom's model, in Sven Widmalm, "The third manuscript: Rules of conduct and the fact-value distinction in mid-20th century biochemistry", Isabelle Dussauge, Claes-Fredrik Helgeson & Francis Lee (eds.), *Value Practices in the Life Sciences and Medicine* (Oxford, 2015).