7 | *Fragments of the Academy's contemporary history*

This final chapter has a different character to those preceding it. The presentation of the formal and material frameworks of the Academy of Sciences in the introductory chapters included the early 2010s, but the following account of various activities within these frameworks does not stretch that far forward in time. There are practical reasons for this. Relevant archive materials are not readily available and it has not been feasible to conduct systematic interviews within the given timeframe; the Academy is not covered by the principle of public access and not everyone is interested in appearing in interviews. A more principled reason is concerned with the difficulty of using a historical perspective on contemporary events, which comprise a tangibly living history.

Instead, we will study the formative processes in the years around 1970 in more detail. The focus is on internal work, which in one sense was about clarifying the identity of the Academy of Sciences, a process that unfolded during continual interactions with the outside world and was coloured by external conditions. To external actors, the questions to which the Academy could be a relevant answer were unclear, as were the actualities in which the Academy itself was interested in being involved. What kind of institution was the Academy of Sciences, what functions should it fulfil and in which fields should it work?

The answers to such fundamental questions provided a bouquet of images of the Academy and its future. Subsequent generations have elaborated variations on these themes. Our hope is that historicising the ideas of the past will provide a basis for the discussions about the future to be conducted by contemporary actors. Finally, we will summarise this history and discuss what kind of institution we have examined, primarily in relation to five organisational fields in which the Academy of Sciences has fulfilled functions and acquired meaning.

LEST

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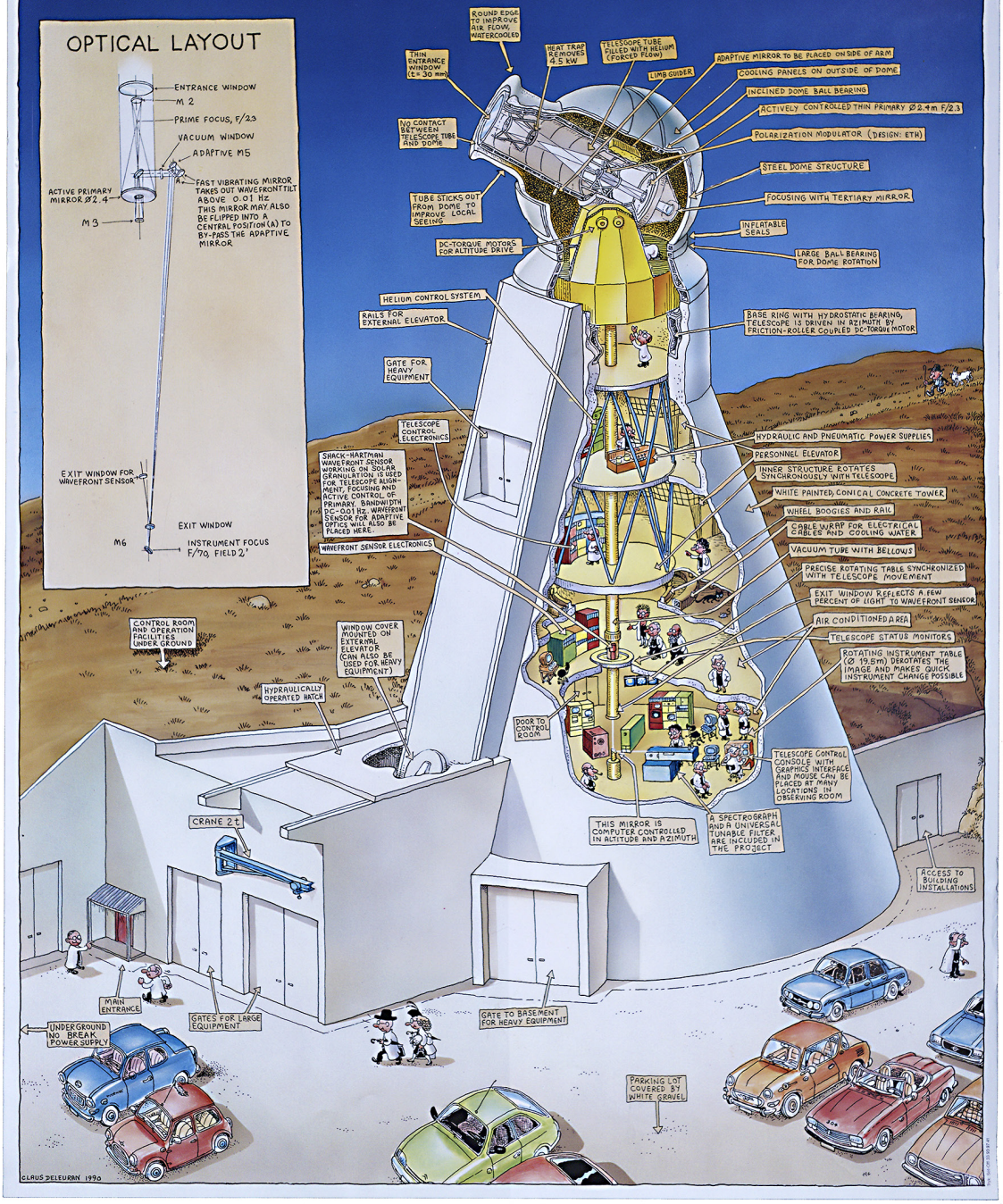

Perspectives on life after the privilege

In 1969, the discontinuation of the almanac privilege, which had been the primary source of income for more than 220 years, destabilised the established order. To better understand how various actors interpreted the Academy's predicament and the feasible routes forward we will present two outlooks, first one in time and then one in space, that provide perspective on this issue.

In 1963, as new president, Ragnar Granit stated that the Academy was facing serious problems, as we saw in the previous chapter.[1] These should be made the object of discussion, so that it was possible to "take action based upon mature consideration", as he explained in a memorandum. For this long-term planning, he proposed two alternative starting points: "the more illusional assumption that the Academy can retain the almanac privilege" and "the realistic assumption that the privilege is rescinded". The latter option should be considered, even by those who put their faith in the former, because it highlighted the issue of what tasks the Academy wanted to engage in besides managing its institutions. Granit could not understand the objection to dealing with such issues of principle, that it was impossible to do anything until it was clear what funding would be available: "On the contrary, it is necessary for a thriving scientific organisation to have a clear understanding of what it wants to achieve and to examine the possibilities of achieving this."

The Royal Society did not run its own research institutions, stated the president, and was a good example of how other important activities existed. Rather, it was the case that running large institutions no longer fell within the remit of any academy's activities, as scientific research had become so expensive. Granit said that Arne Tiselius, in a letter to the board of the Nobel Foundation, had elaborated ideas similar to his own and also referred to the Royal Society. Examples of possible initiatives were to promote contacts abroad and organise symposia, a kind of activity that was in fashion and relatively easy to obtain funding for. But initiatives required the rejuvenation of the Academy and an activation of its classes.

THE SOLAR OBSERVATORY ON LA PALMA was one of the Academy's institutes. At the end of the 1960s, plans were made to replace its facilities with a new building that would house a new instrument, the Large Earth-based Solar Telescope (LEST). This illustration, drawn by Claus Deluran in 1990, shows what the observatory would look like. Ultimately, the project closed down for financial reasons at a late stage, in association with the reunification of Germany. The funds were instead used as a basis for a new solar telescope, which was installed in the old observatory building in 2002.

A few weeks later, Granit explained that the Academy, bearing in mind changes to institutional management, should discuss changes to the statutes so as not to be unprepared for an accomplished fact in a later stage.[2] The question was simply whether the organisation answered to the demands of modern and democratic times, when research and political interest in research had fundamentally changed. One weakness in the order imposed by tradition was that a single person, the secretary, governed and was responsible for everything within the Academy. Neither the Administrative Committee nor the Advisory Committee had any real insight and did not function suitably. The president hardly had enough time to comprehend all the issues before it was time to step down, after just one year.

For modernisation that could spread responsibilities and the sense of responsibility, Granit referred to the ways in which the Royal Society had managed similar problems. This society had several secretaries with different duties. The president could be elected for five years and could choose several vice-presidents. These Officers represented the operative management and were natural members of the Council, the elected board with 21 Fellows who were continually replaced. Additionally, a meeting could be an ordinary meeting, which was equivalent to a Wednesday meeting at the Academy, or a discussion meeting, which took up a pressing topic and invited particularly interested and interesting people. Transferred to the Academy of Sciences, this could be the Committee for the Protection of Nature organising a discussion about scientific aspects of nature conservation with involved parties.

A COMMITTEE, LED BY THE PRESIDENT, was tasked with working out new statutes. Granit returned with comments on the proposals when they were to be discussed.[3] The purpose of the changes was, as regards the *Academy itself*, to achieve rejuvenation. The fact that, in 1964, 53 per cent of members were over the age of 70, indicated a trend that was changing the character of the institution. Not least bearing in mind the vitality of the Academy's inner life, it was not feasible to defend an exclusiveness that left out the majority of active researchers, the number of whom were increasing significantly due to the changing position of science in society. Additionally, said Granit, who had previously explained he did not want to see the Academy of Sciences as an "exclusive assembly for Stockholm", there were attempts to "give opinions from the whole country a greater chance to influence the composition of the Academy". In a letter to the academy assessor, he wrote: "Hopefully, not too many people will be shocked by our radicalism when it comes to new members".[4]

Changes were also proposed for the *internal organisation*. The president should be able to be re-elected for up to three years and to choose two

vice-presidents. With new regulations for the election of president and secretary, secrecy would be replaced by greater transparency. The Presiding Committee was to have a stronger position. So was the Board, a new body that was proposed as a replacement for the Administrative Committee as well as the Advisory Committee. There was to be regulated circulation on the Board, so that more members participated in internal work. This was to be divided into matters to be dealt with by the Presiding Committee, the Board and the Academy. The aim was to rationalise how issues were dealt with and to avoid pseudo-management in plenum, so that ordinary meetings could be devoted to more important and scientific issues. Some of these proposals were refined in the ensuing processes, but much remained in the new statutes that were adopted in 1966.

As we saw in the previous chapter, the Administrative Committee also appointed another committee to investigate the tasks and organisation of the Academy of Sciences. It included the reform-minded Granit, Sievert, Svennilson and Tiselius. After the death of its initiator, Sievert, Granit assumed the position of chair, but he was a visiting scholar in Oxford in 1967, when he also received the Nobel Prize. Work was delayed, so it took until December 1968 for the committee to present its report.[5]

It presented surveys of some internal activities, such as publications. Special attention was paid to the international activities, which were a primary task according to the new statutes. To manage these, it was suggested that a special committee should be formed in the internal organisation, using the post of Foreign Secretary at the Royal Society, with its own office, as an example. All the cooperation and contacts in the field of international science had become difficult to overview and manage, so the committee proposed a coordinating partnership with the Academy of Engineering Sciences and the Swedish Natural Science Research Council. The Academy of Engineering Sciences had just reorganised its large secretariat and established both foreign and information secretariats within it. The foreign secretariat inventoried the extensive Swedish involvement in international scientific organisations.[6]

However, the main feature of the report was a survey of the institutions in the *external organisation*. Their directors envisioned new research and the continued expansion of activities, something the committee placed in relation to the funding provided through the almanac privilege. The equation did not balance. Towards the end, the report returned to the current economic situation: the gap between expenses and income was growing, while the Academy's reserve fund was shrinking. In order to break this "current fateful trend for our economy", better budget and cost controls were necessary. A reduction in the cost of publication activities was one area that the Academy could control. "However, bearing in mind the long-term trend, it is necessary to consider whether the Academy can retain all the institutions it has at present."

Finally, the committee recommended that the Administrative Committee should air the issue and present its conclusions and recommendations to the Academy.

In retrospect, as we have seen, Granit felt that Rudberg had hidden away this report.[7] At any rate, we can see that there were different factions within the Academy of Sciences, with varying perceptions of the problems and suggestions for solutions.

THE ROYAL SOCIETY could, for reform-minded actors, seem a role model from which to take inspiration and organisational solutions. It is therefore interesting to see this institution's predicament and how it evolved.[8]

A view established in the early 20th century was that this venerable society represented a scientific elite, which was entitled to certain privileges, such as the freedom to choose research tasks without needing to be particularly worried about financing. The 1945 election for president made it apparent that the institution was facing a new situation. Science had been of decisive importance for society during the war, but its conditions needed renegotiation in peacetime. Fellows who were focused on change acted to break the tradition of electing a very highly respected researcher, instead choosing someone outgoing who knew how to behave in corridors other than those of science. This decision-making process became controversy-laden. Some people felt that a new era required a new approach, others felt that things were fine as they were.

The situation came to a head at the start of the 1960s. In the wake of the Sputnik shock, higher education in Great Britain began to expand, with a huge increase in the number of students and relative reductions in the time lecturers could spend on research. New universities led to science appearing in non-traditional places, to research being conducted by many more and much younger people. At the same time as research became increasingly expensive, public outgoings had sky-rocketed due to, for example, the International Geophysical Year. As funding providers, research councils became influential. Authorities and politicians became more concerned that national investments in science should generate national benefit. The demands for relevance and accountability were set against the pursuit of the greatest possible excellence, which could reasonably be achieved by letting the scientific elite of the Royal Society spend time on curiosity-driven basic research. There were numerous ambivalences and conflicts about aims, such as the tension entailed by insisting on public funding while maintaining a private status. But the demands for independence could lead to alienation; self-inflicted marginalisation could be the price of Olympic elevation and exclusiveness. This situation was expressed somewhat symbolically in 1965, when a new research council took over the Greenwich Observatory, for which the

Royal Society had been responsible since 1710.[9] This hiving-off entailed that the Society no longer had any formal public duties, at the same time as its actual influence on research policy had drastically declined as the apparatus of public authorities had expanded.

However, these testing times also provided energetic actors with the chance to initiate a change process, one which became long and thorough. Various routes were tested. The election rules of the Society were amended in order to admit more and younger Fellows. To gain broader representation, the dominance of the golden triangle of Oxford–Cambridge–London should be broken. Another target was to shift the balance between pure science and various applications of science which, for those who decided on funding, could appear more relevant than apparently unprofitable basic research. Attempts to shift the very skewed balance between the sexes were also the object of recurring attention and criticism. Meeting formats were amended. The dutiful, sleepy meetings on Thursday afternoons were phased out, as socialising over a cup of tea perhaps attracted the few participants more than the subsequent reading of papers in diverse subjects. Instead, well-considered discussion meetings were introduced, as well as specially invited lecturers – often foreign researchers with whom many Fellows wanted to interact.

Management activities became more transparent and democratic, in that more Fellows participated in them and gained influence over them. At the same time, a centuries-old tradition remained: Fellows thought that too much was decided by the Council, the members of which thought, in turn, that the Officers governed self-indulgently. In any case, there were great efforts to make the institution more open and cooperative, for example with authorities and other actors in the arena of research policy. The Society should not only react to consultation papers, but also proactively try to influence policy development. It also engaged in current issues that had scientific aspects, such as acidification and nuclear waste management. It organised interdisciplinary projects and symposia. These outreach activities entailed more contacts and more work. A press officer was employed and a press office was founded.

Internationalisation was another aspect of this outward turn. The Royal Society participated in building up a system of scientific attachés at British embassies and developed contacts with countries that could be difficult diplomatically, such as the Soviet Union, other eastern states and China. It was also involved in funding research and building capacity in developing countries, not least those in the Commonwealth. In Europe, it promoted collaboration to counteract the continent's problematic "brain-drain" to the US, such as through the European Science Exchange Programme. This was initiated in the mid-1960s with other academies, including the Academy of Sciences. After Britain joined the EEC in 1973 and European partnerships developed, the initiative was taken to establish an umbrella organisation,

Academia Europaea, in the 1980s. Globally, ICSU remained active, a non-state organisation that was in principle financed by public funding. The Royal Society put considerable financial and human resources into all the relevant national committees. At the same time, the sheer number of scientific bodies could create problems. The state saw how these international organisations and initiatives – such as all the new "years" for various sciences – led to a growing demand for national research funding, while the research community saw how domestic funding was disappearing in different directions. Eventually, the Royal Society tried to offload some responsibility for all ICSU-affiliated committees, which had developed into a troublesome administrative apparatus.

All the initiatives brought greatly expanded financial turnover, not least through public funding which, even in the 1950s, exceeded the income from private sources and then grew significantly. At the same time, the number of administrative staff increased. In the mid-1980s, work began on strategic plans for the organisation's management. Still, this change process did not run with a steady flow, but continuously generated reverse flows. One reaction can be summarised by the following characterisation: "We are primarily a Professors' Club".[10] Sceptics could see the risk that closer cooperation with the state and its bodies would lead to the politicisation and bureaucratisation of the Society's activities. As this institution became more open, others saw a potential risk of eroding the reputation for excellence that distinguished the Royal Society from other actors in the field and which was the primary foundation for its influence.

We see that the Royal Society, from the mid-1960s, was in a situation that initiated a formative stage of its development. Rejuvenation and activation came to show the way forward, as did outreach and internationalisation. The new initiatives were matched by the expansion of the administrative functions.

We have also seen that the Royal Society functioned as a role model for the reformation of the Academy of Sciences, for example of its formal framework, and that there was thus a movement towards institutional isomorphism.

MANY OF THE CONTEMPORARY CIRCUMSTANCES that affected the Royal Society, also had more or less apparent equivalents in other corners of the international field of academies. For example, in the 1960s, learned societies and academies of science in neighbouring Scandinavian countries were in a situation that encompassed many new actors in the field of scientific research and education.[11] This increasing crowding and competition entailed growing indecision about the mission of an old academy in this new world. At the same time, critical voices were raised, saying that the academies were not representative of contemporary research, that they were introvert and exclusive, particularly in relation to women. When students then rebelled against

the establishment and the power of professors, a mature gentleman in a tailcoat hardly appeared to be the hero of the day. The academies had an uphill struggle, but they came to have something of a renaissance after the 1970s, when many had reformed. The hill also levelled out as focus moved from popular codetermination to the promotion of excellence, the highest possible quality, on which academies were founded and which they represented. Elitism gained new legitimacy.

If we turn to the Swedish field of sister academies and learned societies, we find other interesting movements of the time. After the growth of cultural policy in the 1960s, as we saw in the previous chapter, the Academy of Letters, the Academy of Music and the Academy of Fine Arts had their responsibilities for various museums and educational institutions transferred to the state over the following decade. As early as 1959, the committee for *Humanistiska fonden* [the humanist fund] was transformed into the Humanistic Research Council. The idea was to make the institutional order more like that of other research areas, while limiting the influence of the Academy of Letters.[12] The formal ties between the Royal Academy of Agriculture and Forestry and the Research Council for Agriculture were dissolved in 1967, when the Swedish Agricultural and Forest Research Council was established.[13] After the almanac privilege was rescinded, the Ministry of Education wanted to remove another income-generating licence, the publication of the paper for official Swedish announcements, *Post- och Inrikes Tidningar*, which had belonged to the Swedish Academy since 1791. However, the Ministry of Finance found that this manoeuvre would be too expensive.[14] The Academy of Engineering Sciences had increasing funding from various sources and a well-developed secretariat for managing its duties.[15] For example, it established an organisation of technical-scientific attachés, beginning with the US and the Soviet Union. Like the Academy of Sciences, it was also responsible for various research activities. But the engineering academy's large research station, with numerous institutes for applied research, was transferred to state administration in 1967, answering to the body that came to be the National Board for Technical Development.

It has been said that the research policy of the time encompassed an optimism about governance, that a radical rationalism characterised the era of large-scale programmes, when the idea was that scientific analysis would help make the implementation of political aims a rational process.[16] The hope of being able to govern development in various sectors of society grew at the same time as *research and development* became established as an expression. This concept became a category in the production of statistics and a means for planning and governance.[17] Here, we can interject that it was later supplemented by the concept of innovation; this originally meant harmful novelties that should be avoided, but that is another story.[18] Still, this broadening of

governance meant that research became a more or less manageable means of achieving societal aims, rather than the natural and unproblematic cause of progress.

The drift in assessment criteria affected scientific academies in other countries which, like the Royal Society, found reason to consider their role and position. Shifts in structural conditions in their field of activity also gave Swedish academies reason to reconsider previous choices of direction. For example, the Academy of Sciences came to be involved in cooperation with Scandinavian and Swedish sister academies that were in similar situations.[19]

The Academy's reactions

In March 1969, the government presented a bill proposing that the almanac privilege should not be extended past 15 July 1972. The minister for education, Olof Palme, declared that this brought the "question of the Academy's future position and tasks" into focus. At the same time, he maintained that the Academy of Sciences had important tasks to perform in the future, not least those of an informative and networking nature, nationally and internationally: "There may indeed be reasons to assume that the Academy's outreach activities will gain increased importance, particularly internationally."[20]

In April, the Academy of Sciences appointed a committee that was to investigate the Academy's duties and position in a future without income from the privilege. As we have seen above, some people had foreseen this predicament. In the autumn of 1968, Secretary Rudberg had also received underhand information from a Chancery drafting committee about what was to come, despite previous approaches to Sven Moberg, consulting minister at the Ministry of Education, who had given some reason to believe that the privilege could be retained in a modified form.[21] The committee assumed the name the Planning Committee.

In what follows, we will examine the discussions that took place as this committee did its duty.[22] Work was largely done by the new academy assessor, employed in 1965, Kai-Inge Hillerud, a lawyer and official who had handled the duties of secretary in the inquiry into the Museum of Natural History in such a manner that he had been recruited from there. He wrote discussion memos that drove the committee forward. In 1971, this work, which was largely about the Academy's identity and position, its *raison d'être*, resulted in a funding proposal that was sent to the government.

Free and autonomous were words that recurred throughout the process, as well as the idea that the Academy of Sciences was a guarantor for these ideals. Work began somewhat dramatically, with the realisation that the new financing model shook up the established order of the Academy. There would be no money for free disposal, instead it would be necessary to apply for

A FLIP CHART used for a presentation about the Academy of Sciences' library given by the head librarian Wilhelm Odelberg at the Annual Meeting in 1970. The first sheets summarise the Academy's budget for 1969, but the majority relate to journal exchanges with other organisations.

state funding. This model would perhaps restructure, or even eradicate, the Academy. The situation was challenging. It placed demands on the ability to articulate an aim and an action programme that was in line with the goals to be achieved. Doing this was more pressing than submitting a battery of proposals for new and exciting activities – which would require new and bigger sources of income.

The committee stated that the Academy of Sciences had a certain distinction in the field of learned societies in Sweden, as it had run research institutions with its income. This was not as original in the corresponding international field, as numerous academies, particularly in the Eastern Bloc, also

maintained scientific institutes. In relation to other institutions in the Swedish academic field in a broader sense – universities, university colleges, research councils, grant-awarding foundations, the Government Research Advisory Board – the Academy was original in the way it combined the roles of financier and doer. At the same time, all these institutions exhibited similarities in that their aim was to promote research; a rivalry in the field that gave rise to dispute over the drawing of boundary lines.

ACTIVITIES THAT COULD BE MEANS through which the Academy could realise its overarching goal – "to promote the sciences, primarily mathematics and natural science" – were discussed using three headings: institutions, international cooperation and policy-making.[23]

It is clear that the institutions were important to the identity of the Academy of Sciences, although their operation entailed problems and responsibilities. They worked under varying conditions, with financing from different sources. For example, the research station in Kristineberg received considerable funding from the Environmental Protection Board and partly conducted what has come to be called sectorial research. The institutions' fairly autonomous position meant that, from the perspective of the Academy, they could appear somewhat ungovernable satellites.

The Planning Committee called the institution directors to a discussion meeting.[24] Despite all their differences, they were united in the desire to remain free and under the authority of the Academy. The permanent secretary was of the same opinion, talking of the state in terms of an "adversary" when looking for arguments against change, but also encouraging a delay in proposals that would entail an increased need for funding. Parenthetically, one can wonder how interested the institutions would have been, in the longer run, in staying in an organisational framework that prevented expansion. One director, the young but internationally experienced Lennart Carleson at the new Institut Mittag-Leffler, was dubious about the issue of the Academy's responsibility for the institutions. He believed that, based on an articulated philosophy for activities, it could be appropriate to let some of them go, and that the Academy should not only be reactive in relation to the state, but also try to find forms for cooperation. If funding was applied for with reference to public interest, then it was not unreasonable for interested parties outside the Academy to have some influence over its activities.

International cooperation was one area in which the Academy of Sciences did not experience collisions of interests with others in the same way as on the issue of running institutions. Here, the Academy had its own function to fulfil through its autonomous status. This non-state position meant it was able to develop contacts that state bodies were unable to, for political and diplomatic reasons, even though it could be in the interest of the state to

maintain these connections. At the same time, its prestigious history and official character, associated with the King in Council promulgating its statutes, entailed that the Academy was perceived as the equal of its foreign equivalents. This was decisive, not least for the growing exchange with states in the Eastern Bloc, which required formal agreements between equal parties. There was much else besides, such as all the contacts upheld by the Swedish national committees through the institutionalised ICSU organisation.

Representatives of the national committees were called to a discussion meeting.[25] Although activities were conducted in varying and often difficult conditions, the common opinion was that they should be developed. The Academy should apply for funding to activate the committees. A position as foreign secretary was established even before the Planning Committee had finished, to manage international matters and assist the national committees. This was held by Olof G. Tandberg, secretary of the Swedish National Commission for UNESCO.

Policy-making, or outreach activities, was a third area of activity, somewhat amorphous but promoted by the minister for education as of potential importance for the future. The images of the Academy that the Planning Committee picked up from outsiders had a certain tendency. For example, the secretary of the Research Advisory Board, an Academy member, said that the view from outside and above was that the Academy was inward-looking and spent too much time on internal matters. One OECD representative had, at a meeting of the Academy of Engineering Sciences, explained that many academies lived off accumulated greatness, that they were overly traditional and looked too much to the past, unsure of their place and their mission in a new and complicated world. One union organisation, TCO, the Confederation of Professional Employees, published a debate book which stated that academies appointed their own members and were not constructed in accordance with modern principles. It proposed the founding of "'democratic academies'", in which members would be elected by *everyone* who was a researcher or in research education and be tasked with disseminating information and promoting debate, but not allocating funding.[26]

A PROBLEM OF REPRESENTATIVENESS lay in the fundamental question of how the Academy could be relevant to something other than itself. That the claim to represent science was perceived as legitimate was essential to its potential as a mouthpiece, one that could credibly voice the importance of research in public debate. The sense of an exclusive society of self-elected members did not always sit comfortably with the claim of justified influence over public research policy.

Within the Academy, a general solution to these complex problems was felt to be: open up, discuss, give back! "Lectures and popular science publications

can break the Academy out of its self-inflicted isolation and reach out to new groups and the interested general public."[27] The Academy of Sciences needed to interact with the outside world that it depended on for recognition, funding, and a great deal of other things. "The Academy should strive to achieve influence over research policy, to maintain public approval as a respectable body of scientific expertise." More concrete proposals included affiliating young researchers from various places to the Academy and perhaps giving external parties the opportunity to influence elections for membership, developing activities within the Academy and covering issues of wider interest. The specialised national committees should be activated to "make themselves heard in scientific, political and public debate". Special committees could be established to monitor specific issues. The Secretariat could be reinforced with a function for monitoring the press and the state, perhaps eventually with a "PR office for research".[28]

The Planning Committee went outside its own ranks, not only through discussion meetings, but also with two questionnaires.[29] One was to scientific academies in other countries. In this context, we can note that the Academy of Sciences was an exception in that 56 per cent of its income came from "other sources", basically the money from the monopoly, but if this was merged with the item for "government funding", the total became the more standard 83 per cent. With its research institutions, the Academy displayed similarities to academies in the Eastern Bloc.

The second questionnaire was sent to the members, who expressed a wide range of conflicting opinions.[30] Answers to the tough question on the Academy's reason for existence provided varied ideas about a free and independent voice for Swedish research. The Academy was unique in the way it gathered the country's scientific elite, said one member, who also thought that its exclusiveness should be broken up. Someone felt that the research councils could not assume the duties of the Academy, someone else that it should take over responsibility for the research councils. Still, the Academy could not have the task of being "a men's club for awarding scholarships". One well-travelled observer explained that the situation of the Academy was not unique and referred to the Royal Society, as did others. Many members also referenced the Academy of Engineering Sciences which, with a more modern organisation and more forceful administration, was a role model with which there should be more cooperation. International and outreach activities should be developed, for example by activating the national committees and the classes. At the same time, some highlighted interdisciplinary initiatives which were, so to speak, contradictory to the more discipline-specific interests of the classes. The outward turn was one way of broadening support. Another was to break the Stockholm–Uppsala dominance through travel grants to those who came from further afield.

There general opinion was *that* the Academy of Sciences should continue to run institutions, but opinions as to *why* were more diffuse. It was primarily the very expensive institutions that could possibly be taken over by the state. Meanwhile, suggestions were made for new institutes and professorships, but with no information on such mundane details such as how they could be financed. One slightly alternative view was that the Academy should not assume permanent responsibilities, "but should start institutions, get them up and running and then, as soon as possible, transfer them to other principals in order to be free to start new ones".[31] An internal issue of a perennial character concerned general meetings and how administrative matters squeezed out scientific discussion. "Meetings should be modernised – abandon the tailcoat."

This quote can provoke the image of a bleak Wednesday evening in February, as a group of elderly gentlemen gather in a somewhat lonely building to discuss issues, more small than great, under the leadership of two colleagues in tailcoats.

THE PLANNING COMMITTEE MEMORANDUM agreed with the discussions that were conducted during the inquiry. One premise was that the Academy, as an organisation, was independent but official, free from but also sanctioned by the Swedish state.[32]

In a discussion about the institutions, the memorandum stated that the inflow of students in the 1960s had entailed such a great increase in teaching and administration that research had suffered. This fact was an argument for maintaining institutions that were tasked with conducting advanced research, so that Sweden would not lag behind other countries. The Academy's institutions also provided opportunities for bridging the boundaries between disciplines, as well as between nations. As these national, open and interdisciplinary institutions should not answer to local university interests, and research councils were not interested in running research institutes, the only feasible principal for them was the Academy of Sciences. As institution after institution was reviewed, the assessment always concluded that no change was necessary. One consequence of this was that, in principle, no cost increases were proposed either. The plan was rather, within a given framework, to invest in activation, such as of classes and committees.

In the presentation of international activities, the memorandum explained that the striving to create an "international, non-governmental" organisation for science had emerged at the end of the 19th century, and that the development of research in the 20th century had accentuated the need for cross-boundary cooperation.[33] One example of an international interdisciplinary cooperation was the International Centre of Insect Physiology and Ecology (ICIPE) project, which the Academy had helped initiate in Nairobi. Other examples

included agreements for researcher exchanges, made in partnership with the Academy of Engineering Sciences and the Royal Society, and with the Soviet academies for science and medicine.

Outreach activities were given less space, but the Committee for the Protection of Nature was highlighted as an example of pioneering efforts to bring attention to and advance a cause. Even if this committee had no formal function after the most recent nature conservation legislation came into force, the Academy's role was by no means over. The committee could be transformed into a delegation for environmental protection, which independently, but with the support of the Academy, could act forcefully on conservation issues. However, it was currently difficult, explained the Planning Committee, to exactly determine new activities in a programme. Still, it was evident that more international and outreach projects required more staff and thus greater income.

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At the same time, publication activities were the subject of inquiries and changes that would reduce costs, such as only printing theses if the authors paid for it.[34] The Academy's various *Archives* and journal series were phased out and replaced by a number of *Scripta*, published as Scandinavian collaborations and at no direct expense to the Academy. *Ambio*, an international, interdisciplinary and contemporary journal for "environmental research and management", was first published in association with the environmental conference in Stockholm in 1972. In these new journals, members were no longer entitled to publication without review; instead, editorial boards were to assess the submitted manuscripts.

At the end of 1970, the Planning Committee's memorandum became the object of such a lively exchange of opinions, in both the Administrative Committee and the Academy, that specific protocols were to be drawn up.[35] Unfortunately, these have been lost. This incident highlights the importance of professional archive management so that coming generations can still their curiosity.

THE APPLICATION FOR GOVERNMENT FUNDING that the Academy of Sciences had to submit was prepared in the beginning of 1971, and the memorandum became one of many appendices. The Academy was presented as a private organisation with national coverage, with an official character but not run by the state. In a legal sense, it was to be regarded as a non-profit association.

The aim of its various activities was to promote the sciences. It was not easy to gather all these activities below suitable headings, but we can note that the institutions were of central importance. A review of these resulted in the conclusion "that no organisational changes concerning the responsibility for the institutions are necessary at present".[36] Although many members wished

to expand activities, the conclusion this time was that the level of ambition should not be raised, as the Academy would henceforth have to apply for state funding for its activities.

The application explained that discussions within the Academy had led to a position in favour of future engagement in international activities. The International Foundation for Science (IFS) was described as yet an example of such a project. The idea of a fund to support researchers in developing countries had been discussed at a Pugwash conference in Ronneby in 1969. This initiative was furthered by a cooperation between the Academy and the Academy of Engineering Sciences, with a provisional secretariat being established in Stockholm and a founding conference prepared in partnership with UNESCO. At one UN meeting, representatives from developing countries had responded positively, referring to the importance of the Nobel Prize and the Stockholm International Peace Research Institute. "Additionally, representatives from Eastern Europe emphasised the opportunities that the alliance-free Sweden had to provide development aid, without its intentions becoming the object of suspicion, and how the country had previously succeeded in creating understanding between different political blocs."[37] We note that independent and international science was not free of the time's political and diplomatic realities, and that Sweden could be ascribed special opportunities on the basis of its position in the world. The IFS was founded in 1972 and its secretariat is still in Stockholm.

Activities that were of an outreach nature, in a broad sense, received relatively more space in the funding application than they had received in the Planning Committee's memorandum. The environment was once again discussed as a potential area of engagement, exemplified through the debate about "genetic engineering", which would become increasingly important in the future. At a time when science had become more complicated and the rate of progress was increasing, it was "more urgent than ever before that researchers themselves conduct outreach activities to explain what they do and the reasons for investing in various areas of research".[38] However, such information activities did not organise themselves. The level of ambition at the Secretariat could not remain unchanged, and required more staff.

The total funding applied for stopped at 7.6 million kronor. This included some transfers of research council grants that were basic funding, which also entailed some staff transfers from research councils to the Academy's institutions. Merely maintaining existing activities required 5.3 million kronor. If one deducted the costs for which the Academy received compensation in other ways, as grants for membership in international organisations and editing the *Statskalendern*, the remaining need for funding was 4.9 million kronor.[39]

HÄR SKA INTE VARA NÅGRA PRIVILEGIER LÄNGRE!

ALMANACK 1972

Ända sedan 1747 har Kungl Vetenskapsakademins arbete finansierats genom vår gamla kära almanack, som utgetts med "uteslutande privilegium" av denna viktiga institution. Men det kan staten naturligtvis inte acceptera längre — och vi får i stället betala via skattsedeln! Bang har mött akademins preses — en ovanligt trevlig herre i frack!

AV BARBRO ALVING

CARL GUSTAF BERNHARD, portrayed by Barbro Alving in *Veckojournalen* in 1972. The reason for the portrait, which is hinted at in the title, is that the Academy has lost the almanac privilege and thus its most important source of income.

A NEW PRESIDENT was appointed at the same time as the Academy of Sciences submitted its funding application. Carl Gustaf Bernhard was a professor of physiology at the Caroline Medico-Chirurgical Institute and arrived, like the proverbial whirlwind in August Strindberg's *Hemsöborna*, on an April day in 1971. He had become a member in 1968, rapidly taken a seat in the Administrative Committee, been involved in the work of the Planning Committee, among other things, and was elected president for the period 1971–73. He apparently fulfilled his duties to such general satisfaction that he was then elected secretary for the years 1973–1981.

Bernhard contributed to changing the Academy in a tangibly formative sequence of events, in which external conditions made it simply impossible to continue along established paths. However, the significance of individual actors and leaders should not be overstated, nor should the break in the institution's history be overemphasised. For example, we have seen that several of the central initiatives for internationalisation were made during Erik

Rudberg's tenure as secretary. Based on the broader perspectives described above, we have also seen that many of the issues the Academy was facing were in no way original. Equally recurrent were many of the responses that it worked out. To that extent, at the time there was a noticeable trend towards institutional isomorphism among academies, in the Swedish field as well as the international one.

As president, Bernhard concluded that the Academy had become invisible to its surroundings and that it had itself to blame, because it was so inward-looking. "Silent, ceremonially reserved, dark and hollow-eyed, the Academy stood out there in the winter darkness, without light in the magnificent chambers that were calling for guests. The emptiness was terrible", he wrote in his memoirs.[40] The solution was activation, to turn outward and let in the outside world. He became involved in international initiatives, as described above, such as exchanges with Eastern Bloc academies, contacts with China and support for research in developing countries. The Academy addressed environmental issues, the relationship of which to development issues was the focus of the first major UN environment conference, which was held in Stockholm in 1972 with the motto "Only one Earth". The character of the meetings changed. There were more foreign lecturers, more and younger participants who came from outside to participate in symposia and other events. Subjects of topical interest were debated and the press was invited.

Meanwhile, the unresolved issue of life after the almanac privilege hovered above this developing energy. Some members looked fatalistically upon an upcoming pruning back, others thought the Academy could be a "'club for elderly gentlemen'".[41] Still others were more activistic, but had diverging opinions about the best way forward. For example, Gunnar Myrdal had his idea, which contrasted with Bernhard's vision: "Among other things, he had pushed for the Academy to manage the research councils, something that really would have turned it into an unwieldy government office, as in socialist countries. The Academy must be flexible and always ready for new initiatives."[42]

NUMEROUS CONSULTATION BODIES made statements on the funding application.[43] At a general level, the Academy received great recognition. Its national and international informative and contact-creating activities, which were in the public interest, were consistently emphasised. The Academy of Sciences should receive state support to fulfil its special functions.

Opinions were more diverse on the more specific issues of who should be the principal of the institutions and finance them. The natural science faculties in Uppsala and Lund agreed with the Academy of Sciences that it should retain responsibility, as did sister academies. Other higher education institutions also agreed, with some hesitations, but the issue divided the faculty of

engineering physics at the Royal Institute of Technology. The majority opposed the Academy's principalship: "It is undeniable that among researchers, especially among younger ones, one rarely encounters the opinion that the Academy in any more pronounced meaning represents the Swedish research community for mathematics and science."

The research councils were generally positive towards the Academy, but also noted that this recognition did not entail any of their duties being transferred to the academies. The councils should continue to have a central position. The Office of the Chancellor of Universities and Colleges emphasised the public interest fulfilled by the Academy, but felt that the presented facts were not adequate for making a decision. The National Audit Office argued that the state should assume responsibility for the institutions: "Favouring this, besides points relating to general resource managemant, planning and governance, is that activities at the institutions are largely integrated with the equivalent state activities and, in some cases, conducted in parallel with them." Even a private organisation as the Federation of Swedish Industries was inclined to argue that the financial responsibility borne by the state should be balanced by insight into and influence over activities. Like other consultation bodies, it wondered whether an academy of the western type was the right body to run scientific institutions, as the financial burden could have a negative effect on other, more urgent matters. TCO again presented its proposal to reform the academies and make them more democratic as part of a larger inquiry into Swedish research policy and organisation.

The conclusion of Cabinet Minister Sven Moberg was that the Academy's institutions and their circumstances should be the subject of a special inquiry.[44] The starting point of its work should be that it was primarily the institutions with clear links to a higher education institution that should be transferred into higher education. In the meantime, he proposed that the Academy of Sciences, considering the estimated budget surplus and remaining almanac payments, should receive 3.5 million kronor in funding.

Bernhard asked Academy member Bertil Ohlin, former parliamentarian and leader of the Liberal Party, whether he could take action. A multi-party motion from the political right was then presented in the Riksdag, requesting the grant be increased by one million. The Committee on Education agreed with the bill, but found its calculations dubious and the need for funding difficult to assess. It recommended that the government carefully followed the financial circumstances of the Academy and its institutions.[45]

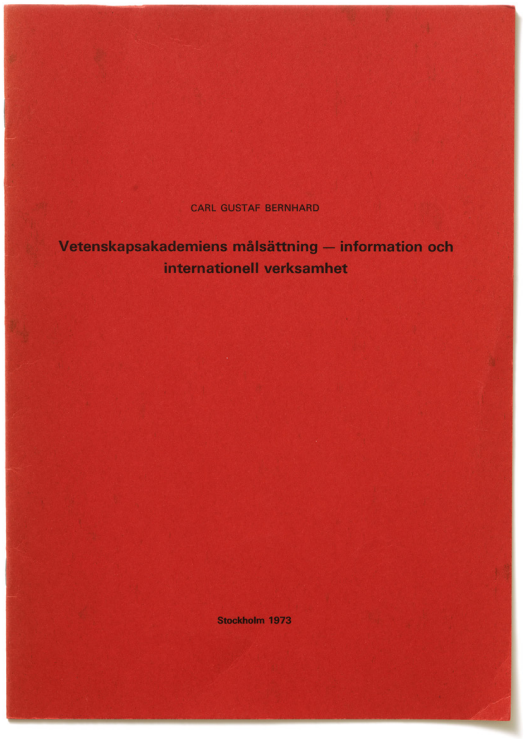
The Academy then submitted an extra application. The National Audit Office found it notable that the budget had such a large negative balance and that there was no attempt to limit costs. In a supplementary bill, Moberg still proposed additional funding of almost a million. This was not standard procedure, but the Riksdag accepted.[46]

THE SPECIAL INQUIRY INTO THE INSTITUTIONS soldiered on under the management of a county governor. It had to consider many practical matters, everything from conditions for donations to pension contributions. Work was conducted in partnership with the Academy, which hardly had a strong negotiating position.[47] The inquiry presented its report at the end of 1972.[48] In principle, it proposed that the Stockholm Observatory be incorporated into the city's university and that the observatory in Kiruna become an independent institute, at least temporarily, but with links to Umeå University. Other institutions were to remain under the authority of the Academy of Sciences until further notice; the library's activities were already the subject of a special inquiry.

The Academy had no major objections, but was heavy-hearted at the idea of its oldest institution becoming state-run: "As a scientific project, Stockholm Observatory comprised one of the first ones at the young Academy of Sciences."[49] Other consultation bodies were also generally positive, even if many opinions were aired on specific issues. In much the same way as Kiruna Municipality highlighted the importance of activities up in Norrbotten, the various faculties, universities and authorities could emphasise the importance of their own influence over a particular institution. The Office of the Chancellor of the Universities and Colleges approved the provisional solution in Kiruna, but explained that basic research should not be organised in an independent institute outside the university organisation. TCO returned to its suggestion for democratic reform: "The members of the academies should be elected by all researchers and thus have an entirely different democratic basis to that of the current academies."

The government adopted the inquiry's proposals and, in the spring of 1973, presented them in a bill that also covered the funding application for 1973–74.[50] In this, the Academy requested larger allocations and wanted many items to be transferred from the research councils to its own budget. Minister Moberg found it essential to create the right conditions for the primary outreach tasks and suggested significantly increased funding. This financial responsibility meant that, in the future, agreements with foreign academies would be subject to approval by the government. The Academy should be able to expand its service to the national committees within existing frameworks, said Moberg, because the burden on central administration would reduce when the responsibility for the institutions in the external organisation was assumed by the state. At the institutions proposed to remain under the Academy until further notice, activities should continue to at least the same extent as currently. The final decision was a grant of five million kronor, with no earmarks, under a new item in the national budget, "Funding to the Academy of Sciences".

The Riksdag voted in favour of the bill and thus ended the process we have examined here.



IN A SPEECH AT THE ANNUAL MEETING in 1973, the permanent secretary, Carl Gustaf Bernhard, attempted to map out guidelines for the Academy's onward path. This speech was later printed under the name *The Aim of the Academy of Sciences – Information and International Activities* and was known internally, and for obvious reasons, as "Bernhard's red one".

WITH THE TIMES became something of a motto for the Academy, which underwent continued transformation from this endpoint, which thus became a starting point.

"The Aim of the Academy of Sciences – Information and International Activities", was the title of the new secretary's speech at the Annual Meeting in 1973. Duplicated and with a red binding, the staff named it "Bernhard's red one".[51] The main message was captured by the title, and corresponded to the unfolding of ideas that we traced above. Institutionally, this meant that the information secretary at the Natural Science Research Council, Lennart Daléus, was employed in the autumn, thus giving the Secretariat both a foreign and an information department.

Here, we will simply note a few key words in Bernhard's presentation. *Project* is one. It was possible to become involved in many kinds of projects, but this was a different kind of involvement to that of responsibility for re-

search institutions until further notice. *Interdisciplinary* is another recurring word that had a breakthrough in Swedish at the time.[52] It signalled a desire to deal with complex issues, such as the environment or narcotics, from different perspectives, to cooperate across boundaries instead of only conducting specialised disciplinary research. *Debate* is also a word that is repeated in Bernhard's programmatic declaration. It signalled a willingness to discuss current and societally relevant issues in which science played a role, such as those around energy provision and nuclear power.

As we have seen, the Academy came to be involved in various interdisciplinary projects aimed at assisting research in developing countries. This was definitely at one with the times. Foreign aid was yet another policy area that expanded in the 1960s and which consequently acquired its administrative apparatus.[53] Bearing in mind the importance ascribed to science for development, it appears natural that a committee appointed by Sven Moberg submitted *Forskning för utveckling: Betänkande av u-landsforskningsutredningen* [Research for development: report from the inquiry into research in developing countries] in 1973. The result was a body for research issues that was to support Sida, the Swedish International Development Cooperation Agency. The University College of Agriculture had already been involved in supporting research in developing countries.[54] This international turn was part of the search for institutional tasks and legitimacy at a time when agriculture was losing relative importance in Sweden, while there was growing criticism of the rationalised agriculture pushed by scientific experts.

ESSAY
The Population Medal
p. 594–599

Environmental issues were absolutely present in societal debate, not least due to the UN environment conference in Stockholm in 1972. The following year, the oil crisis brought environmentally related energy issues into focus. Could consumption be reduced, should nuclear power be expanded – or hydropower in northern Sweden? The Academy of Sciences had long been involved in issues relating to nature and the environment, but the times offered new opportunities for interdisciplinary initiatives and projects in this area. In 1973, the Academy received a new patron. This was when King Gustaf VI Adolf died. His interest in archaeology had brought him close to the Academy of Letters, History and Antiquities and, on his 90th birthday in the previous year, he had been jointly celebrated by the eight "national academies". Carl XVI Gustaf had already visited the Academy of Sciences when he was crown prince, finding a forum for his interest in environmental and nature issues. He came to spread a royal glow over many events; Bernhard noted with satisfaction an article headline in *Dagens Nyheter* after one of many opening ceremonies: "the PR king of science".[55] The receptive secretary proposed that the Academy should issue a medal because it had a patron with an interest in the environment. *Pro mundo habitale*, for a habitable world, became known as Carl XVI Gustaf's medal.

Bernhard continued working in accordance with the new – or old – ideas, which he liked to illustrate with historian Sten Lindroth's characterisation of the young institution: "The Academy of Sciences stood at the heart of society, it was carried by the spirit of the times and promoted this spirit. Not least, it is this complete harmony between mission and needs that gives the Academy of the Age of Liberty [1719–1772] its charm and individuality."[56] The new secretary's focus was successful and was relatively rapidly institutionalised.[57] After five years, he could summarise the Academy's receipt of 28 million kronor in state funding and 27 million kronor in funding from research councils and other organisations, as well as donations. Additionally, there were 30 million kronor in the form of interest and dividends from its funds, although these were earmarked for particular purposes, such as the Bergius Foundation and the Mittag-Leffler Foundation.[58]

As secretary of the Academy of Sciences, Bernhard found himself in a position in which many extensive networks overlapped. Using this position, he could exercise considerable influence over a range of events in a convincing and captivating manner. He initiated major interdisciplinary and international projects, which required the mobilisation of many interests and the cooperation of many parties, while he was also able to find solutions to constantly arising practical problems. The greater visibility of the Academy of Sciences in public life probably contributed to a reputation that probably helped generate new, large donations – which in turn improved this reputation. The Academy often managed to engage the king, whose motto was "For Sweden – With the Times". In his memoirs, Carl Gustaf Bernhard recalled how he gradually became more outspoken and, at one planning meeting, presented more demanding proposals, to which King Carl Gustaf replied: "'Yes, of course, we Carl Gustaf.'"[59]

Institutional changes

Before we round off this presentation, a few cases of institutional change within the Academy of Sciences will be examined. The first concerns the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, which has a somewhat peculiar genesis.[60]

From 1668, the *Riksens ständers bank* – the bank of the estates of the realm, as it was originally called – was owned by the Riksdag. After World War Two, the bank tried to use low interest rates to contribute to investments which, in turn, contributed to the target of full employment. This policy could drive inflation and was thus difficult to marry with the target of stable price levels. In 1955, Social Democrat Per Åsbrink, who lacked any banking experience, was appointed head of the Riksbank. He was rapidly drawn into the international network of central bank heads, and was more interested in working

with incentives and open-market operations than in implementing political regulation. Searching for greater independence, the new head turned to the economic sciences. In the summer of 1957, he caused a political crisis by pushing through an increase in interest rates without first consulting any ministers. The higher interest rate then contributed to increasing the surplus from the Riksbank's operations, as did the share of the profits that the Riksdag decided should be transferred to the state. There was a tug of war over who should dispose of the profits.

In 1962, the General Council of the Riksbank presented a proposal for disposing of the operating profits that were not to remain at the bank.[61] This included 500 million kronor to a reduction of the national debt and 50 million kronor to a fund for a new building for the Riksbank. More surprising was the suggestion to celebrate the bank's tricentenary in six years' time by donating 250 million kronor to a fund to support Swedish research. The fund would be managed by the Riksbank and used for its open-market operations.

This proposal created debate in the Riksdag, bringing up a range of issues and crossing party lines.[62] It was said that state bodies should not make donations or create funds to celebrate themselves. It was the job of the Riksdag to make decisions about the various uses of public funds; the politicians did not want a state in the state. Because the proposed institution would split up the public funding of research even more, it was better, bearing in mind the length of time until the jubilee, to investigate the issue rather than force a decision on the Riksbank's proposal. The chair of the Bank Committee said that the confused debate reflected the surprise felt at the entirely unprepared proposals: "What is the Riksbank actually aiming at – to preserve its profits or to help scientific research?"

Despite everything, the parliamentarians accepted the proposals. Following an inquiry in the Riksdag and another messy debate, the jubilee fund, *Riksbankens Jubileumsfond*, was founded in 1965, so that research did not have to wait until 1968.[63] A number of Academy members were among the board and its alternates, such as the well-known Erik Rudberg, Ingvar Svennilson and Arne Tiselius. Among other things, the fund came to contribute to the Nobel symposia that the Academy of Sciences helped to organise.[64]

As the tricentenary approached, the enterprising bank head again looked for ways to reduce the state's share of profits and to increase the status of the Riksbank. After deliberations with a young adviser, Assar Lindbeck, the suggestion was to institute a new Nobel prize – in the economic sciences.[65] This time, the Riksdag was not approached in advance. Instead, the Academy of Sciences was consulted in private – where economists are said to have argued for the proposal, while physicists mainly opposed it – as was the Nobel Foundation, which was promised an administration grant of 65 per

DEMONSTRATION OUTSIDE THE ACADEMY OF SCIENCES
in 1976, when economist Milton Friedman was awarded the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. An outspoken opponent of Keynesian economics and an advocate for far-reaching free market capitalism, Friedman was a particularly controversial laureate, especially for the Swedish political left.

cent of the prize money. The week before the jubilee, in May 1968, the oldest representative of the Nobel family was consulted, an 87-year-old woman. She apparently understood that it was difficult to put a stop to it, but insisted that it should be obvious that it was not a Nobel Prize, but rather the Riksbank's prize to the memory of Alfred Nobel. The General Council of the Riksbank formally took up the matter of the prize the day before the jubilee festivities, which concluded with the announcement of the prize.

The same day, the Riksdag's Bank Committee received a letter in which the General Council reported the commitment, "irretrievable and for always binding", that had been made.[66] Additionally, the reasons for the prize were presented, primarily involving international goodwill for Sweden and the Riksbank. There was also a wish to clarify perspectives on the forms for processing the matter. The General Council believed it had the authority to make decisions itself, but the members had still made private contacts with their party chairs; this was to avoid advance publicity and to avoid presenting the prize in front of an international audience with the reservation that it was still necessary to obtain the approval of the Riksdag.

This anticipation of possible criticism did not convince the Riksdag's auditors, who asked an associate professor of public law to investigate the issue. He concluded that the Riksbank was not free to use its moneys for purposes other than those pursuant to the Sveriges Riksbank Act, which did not include creating "a fund for a Nobel Prize in economics".[67] The Riksbank had overstepped its authority. The Bank Committee requested a statement from the General Council of the Riksbank. The Council said that the legal review was characterised by an exaggeratedly formal perception of central banks and maintained that it had the authority to make decisions. The Council had also made informal contact with the parties in the Riksdag, but as no objections were heard, on neither the prize itself nor the bank's authority in relation to the Riksdag, it had proceeded with its plans.

The Bank Committee was sceptical. Still, it proposed, based on the legal ambiguities, that the Riksdag should confirm the commitment announced by the Riksbank at its jubilee. The chambers agreed with no comment.

Further details about the prize had to be settled afterwards. In November, the Academy of Sciences decided to approve a proposal for statutes, but it is not possible to follow these discussions as the archive material for this Nobel matter is still unavailable.[68] When the prize was first awarded, in 1969, the laureate was a foreign member of the Academy, Ragnar Frisch. Within less than ten years, two Swedish members, Gunnar Myrdal and Bertil Ohlin, had also been awarded the prize, which thus fell into the pattern set by the physics and chemistry prizes. At the time of writing, a fresh analysis of the history of the Prize in Economic Sciences shows it has more likenesses with the Nobel prizes. For example, one influential actor – Assar Lindbeck, in the case of the Prize in Economic Sciences – could have a seat on the prize committee for a quarter of a century, 1969–1994, as chair for the last 14 years, and gain great influence over the direction of prize decisions.[69] Like the older prizes, the new one was initially questioned within the Academy but, unlike them, the Prize in Economic Sciences is still the subject of open criticism.[70] The new prize also deviates from the older ones in another regard: many recipients have publicly been called into question by scientific laymen. This is particularly

true of the 1976 laureate, Milton Friedman from the US, around whom the debate became so frenzied that the Academy initiated an inquiry into it.[71]

THE MITTAG-LEFFLER MATHEMATICAL FOUNDATION did not experience public controversy on a similar scale. Still, in January 1968, the Foundation's board felt that it should make a special statement due to an article in *Dagens Nyheter*.

Under the headline "Loose plans cause confusion", the newspaper wrote that there were plans to realise the original ideas behind the Foundation by transforming it into an institute for higher mathematical research.[72] Professor Lennart Carleson was responsible for these plans. He had become a global name in mathematics and received attractive offers from elite universities in the US, which had led the Swedish government to establish a personal professorship for him. The plan was to move the position from Uppsala University to the Academy of Sciences, and for him to be the director of the new institute. The managing director of the Knut and Alice Wallenberg Foundation explained to the newspaper that its decision to grant a million kronor to the project was largely tied to Carleson himself, and that they counted on his international contacts bringing in contributions from neighbouring Nordic countries. Djursholm Municipality had already given permission for the remodelling of the Mittag-Leffler villa and to building terraced housing for visiting researchers.

The problem was that the plan was not appreciated by everyone on the foundation board or in the Academy. The newspaper could inform readers that, for a few years, "a complicated dispute" had been ongoing in the class for mathematics. There was an interview with an Academy member who was professor of mathematics at Stockholm University and the executive member of the foundation board. He managed the library and the villa, where he also had housing. He explained that there were similar research institutes in several places that had failed, and mentioned as an example the serious problems in establishing the Institute for Advanced Study at Princeton University. It was highly doubtful whether it would be possible to attract leading foreign mathematicians to Sweden – and if it was possible, it was doubtful that there would be any Swedish students for them. Carleson responded to these statements below a subheading, "Optimist". Erik Rudberg had a vaguely positive attitude to the plans, but the state secretary at the Ministry of Education was unaware of them.

In its statement responding to the article, the board explained that it would work hard to complete the project rapidly and thus realise the donor's intentions.[73] So what had the mathematicians been up to? You could say that the plans were new, the problems old.[74]

The value of the Mittag-Leffler donation had collapsed in the aftermath of

World War One, leaving little leeway for initiatives. After the death of Gösta Mittag-Leffler in 1927, the professor of mathematics at Stockholm University College moved into the villa, where he looked after the library. After his death in 1949, the board wanted to boost activities by appointing a new director. They first approached a Finnish mathematician, and then a Swedish one, but both declined the position and moved to the US. Instead, the class for mathematics appointed one, and later another, of its own members, both professors of mathematics at Stockholm University College, to look after the Mittag-Leffler villa and the library. A few years into the 1950s, there was discussion of the possibility of moving the library to a more central location and selling the property, something that would boost funds but also require a permutation of the donation. This option was discussed with the Academy and investigated by a committee, but no decision on the issue was reached.[75]

Lennart Carleson was 22 when, in 1950, he gained his doctorate from Uppsala University; he then worked in the US for several periods, for example at the Institute for Advanced Study in Princeton.[76] In the mid-1950s, he became a professor, first in Stockholm and then in Uppsala, editor of *Acta Mathematica*, the internationally leading journal started by Mittag-Leffler, and member of the Academy of Sciences. In 1954, he was also elected to the board of the Mittag-Leffler Foundation, which then invited both the mathematicians it had tried to recruit as director as visiting lecturers for a few months. In the early 1960s, Carleson presented solutions to classic mathematical problems that brought him international renown. In 1966, he was called to a professorship on beneficial terms by Harvard University. The personal professorship that the government decided on later that year was one way of counteracting the "brain drain" then being experienced by numerous European countries, but this solution also matches a recognisable pattern from the earlier history of the Academy of Sciences.[77]

Carleson had already started to act to reform the Mittag-Leffler Foundation – for example building up the funds by selling complete sets of *Acta Mathematica* to new universities around the world. He also had active support from three leading Swedish mathematicians, of whom two were already members of the Academy and the third was elected in 1968.[78] Two of them worked at the Institute for Advanced Study and had, a few years earlier, been invited to be visiting lecturers. One of them was Carleson's former supervisor, Arne Beurling, who had moved into Albert Einstein's old office. The other, Lars Hörmander, was the name behind the "Hörmander affair", when the government did not act to prevent him moving to the US.[79] Conflicts in the board were heightened.

In January 1968, a proposal for revised statutes was tabled, at the same time as the board had to respond to both the article in *Dagens Nyheter* and to criticism of the executive member from board members Beurling and

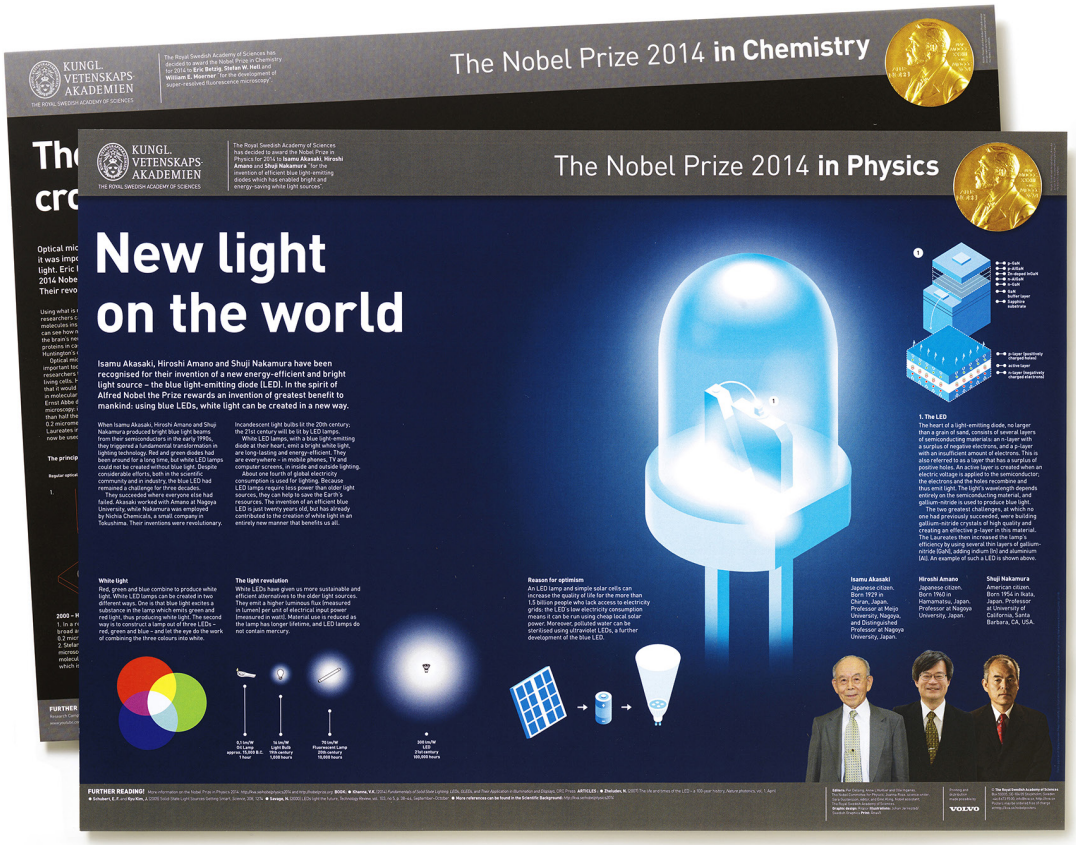
Hörmander. Prior to the critical meeting in the spring, Carleson provided a range of information.[80] A financial plan took up the million-kronor grant from the KAW Foundation, as well as the promised operating funding from the state and the Natural Science Research Council, which totalled 215,000 kronor. There was additional income from the Foundation's own funds and other sources, as well as probable grants from Finland and from Swedish insurance companies. Even if there seems to have been some concern ahead of the meeting, the board accepted the plans, which were then approved by the Administrative Committee and the Academy.[81]

The Academy of Sciences applied for funding and the transfer of Carleson's professorship in a letter to the King in Council. The message was that it would be of great benefit to Sweden if "an institute for mathematical research and higher studies" was founded and that this would "prevent the loss of further researchers". The faculty of mathematics and natural science at Stockholm University felt that the creation of a mathematics centre was urgent, but considered it more reasonable to move the state professorship to a state-run university than to the Academy of Sciences. The Office of the Chancellor of the Universities and Colleges also recommended affiliation with an existing mathematics institution, but still found that it should approve of the proposal.[82]

The government gave its approval and activities started at the Institut Mittag-Leffler the following academic year.[83] Prominent mathematicians from different countries gathered around a selected problem area to work on it for a year, along with recipients of doctoral stipends, primarily from the Nordic countries. Participants worked in Djursholm for varying periods of time, but there were no permanent research staff. The institute rapidly became a success and a role model for institutions in other countries. Activities continue today, according to the rules created at the end of the 1960s.

MANY MORE CHANGES have of course been made to the institutional order of the Academy of Sciences since the 1970s, but it is not possible to examine more of them in detail here. However, a few things can be noted, such as the Academy being entrusted with awarding a number of new prizes in addition to the Prize in Economic Sciences. The Crafoord Prize is perhaps the best known. At the time of writing, the most recent is the Sjöberg Prize, which awards 1 million US dollars to clinically focused cancer research.

The Academy has also changed physically, in the way the buildings have been transformed. Carl Gustaf Bernhard's unwillingness to move into the large villa that had been the secretary's home allowed spatial reformation with a tangible effect on the inner life of the Academy. A great deal of work was put into "giving the villa a second youth, with new contents in its duties as clubhouse".[84] A housekeeper was employed to run its activities. The



ONE CONSEQUENCE OF Carl Gustaf Bernhard's inquiry in *The Aim of the Academy of Sciences* is that outreach activities are now important to the Academy. An expression of this is the fairly comprehensive posters for the various Nobel prizes and which are produced by the Academy every year; these are intended for schools, universities and similar institutions around the globe. The picture provides information about the Nobel Prize in Physics 2014, which was awarded to three Japanese researchers for the development of blue LED lamps, a decisive breakthrough in modern lighting technology.

club-like aspects of the ordinary meetings gained a new material basis, as did the representative aspects on more celebratory occasions. A smaller, but in its way significant, spatial change was that a ladies' toilet was constructed close to the Session Hall.[85] The increasing number of visitors led to the hall being supplemented by a lecture hall, the Beijer Hall. Further donations, not least those associated with the 250th anniversary in 1989, allowed additional remodelling and newbuilds after the library's 15,000 shelf metres had moved to Stockholm University.

The empty space that arose was filled with various functions of the Secretariat, such as the Polar Research Secretariat.[86] This state-run authority was founded in 1984, partly in the aftermath of the Falklands War, which had highlighted the diplomatic and political implications of a presence in the Antarctic in the name of science. Another background factor was Ymer-80, a major polar research project that the Academy of Sciences was involved in. After this expedition, the Academy founded the Polar Research Committee, which came to be an advisory body to the Polar Research Secretariat. The authority has moved out of the Academy's building but, on the other hand, is now responsible for its former institution, the Abisko Scientific Research Station. Internationally, the Academy has hosted the secretariat functions for, among others, ICSU's Standing Committee on the Free Circulation of Scientists. In 1989, the foreign secretary participated in producing the first edition of *The Universality of Science*, a handbook of advice for organisers of international scientific meetings.[87]

The information and communication activities of the Academy have also expanded. In 1968, the first *KVA information: Meddelanden från Kungl. Vetenskapsakademiens sekretariat* [KVA information: Messages from the Secretariat of the Royal Academy of Sciences] was published, comprising modest, typed pages with short news items. This series came to an end in 1973, but the previous year a new series, *Documenta*, had been launched. This was also in the A4 format, but its production was more professional, with pictures and typeset headings. This series included material from various events, such as the *U 68 och forskningen* [U 68 and research] discussion from 1973, but it was primarily a forum for providing information about the year's activities, as had been done since the days of Berzelius. *Documenta* is still published, but changed format in association with the 250th jubilee, and has a much more expensive design, with many colour pictures and a generous summary in English. One complement is the electronic newsletter for members and staff, *Akademinyheter* [Academy news], that has been published since 2009. The internet is a medium "with the times" and the Academy has a website and its own video portal, KVATV. It also has a presence in channels with which future readers of these pages may not be familiar: YouTube, Twitter, Linkedin.

All of this requires significant and professional maintenance. The Secretariat's activities have also grown and become professionalised; there are many experts with various specialist tasks and many administrators with doctoral degrees. As we have seen in previous chapters, the internal organisation of the Academy has grown, while multiple institutions in the external organisation have been transferred to other principals. This can be a source of wonder, how it was once possible to administer such expansive and varied activities with almost no administration. In this regard, the Academy's transformation

reflects the development of other organisations in what has been called the administration society.[88] In turn, this should be set in relation to "organisation" as an imperative: all organisations, even non-profits, that claim to be credible and in line with the times should experiment with things such as delegations of authority, strategic plans, evaluation exercises.[89]

The Secretariat changed its name in Swedish in the 1980s, as the position of secretary also changed. After Bernhard, the period of office has been reduced. Westgren and Rudberg held office for a striking 16 and 13 years respectively, though this is still modest in comparison with the record-holders: Lindhagen and Wargentin with 35 and 34 years respectively. In practice, from the 1970s, it has been an office held for six to seven years and then stepped down from with a pension. Astronomers and, to some extent, physicists were once overrepresented, but the contemporary history of the Academy is dominated by the biological sciences, with a relative overrepresentation of medics in general and professors from Karolinska Institutet in particular.

Summarising discussion

Comparisons are how we, as historians, discern differences and similarities in the conditions that we study. It is through these that patterns appear, that we see and grasp the characteristics of the object of investigation. Given the perspective of this study, the comparative aspects can be elaborated through comparisons with other institutions – in the room, so to speak. But we can also focus on the same institution over time, with the intention of widening the chronological horizon.

Doing so, the Academy of Sciences appears to be an institution whose historical evolution has been strongly affected by path dependence. A number of framing factors have contributed to this. Members are elected for life and can influence the institution for many decades. Buildings are tangible practical conditions that affect activities. Finances also establish a framework that can be stable for long periods, for example the almanac privilege that provided the economic foundation for 225 years. However, the balance between income and outgoings can shift, sometimes fairly quickly, and old buildings can be replaced by new ones, but the stock of members is a basic condition that changes only gradually. Still, we have noted that a shift took place in the 19th century, in the form of an academisation that has followed the Academy into the 21st century.

Path dependence thus does not mean that the Academy of Sciences as an institution has been unchanging, even if we have seen that the gathering of members with conflicting opinions has contributed to a more reactive than proactive approach and to difficulties in making strategic decisions about change. In the summary of chapter 2, on the formal framework, there was

discussion of the long-term changes in emphasis within the organisation. Initially, the centre of gravity rested in the *Academy itself*, which evaluated submitted findings and possible contacts before all beneficial knowledge was put into circulation. The academisation of the Academy made research a more important task, and the ensuing founding of numerous institutions moved the emphasis to the *external organisation*. This emphasis moved one more time, to the *internal organisation*, when the institutions were transferred to other principals as research became increasingly expensive. These shifts appear more to be the indirect consequences of other decisions than the outcomes of strategic plans for change.

The dismantling of the outer organisation entailed a concentration on the inner organisation, which became more elaborate and obtained a clearer leadership role. A parallel to this movement was a change in the focus of activities, from the production of scientific knowledge to the promotion of the sciences. We can also note changes in emphasis over time in other dimensions. As regards the direction of scientific interest, we can, for example, observe a slow glide in emphasis from the astronomical sciences, across field sciences and to the exact sciences. The Nobel Prize probably contributed to the latter shift. In turn, the Prize in Economic Sciences has contributed to a renaissance of the economic aspects that were so important in the 18th century, but which then became peripheral in relation to the pure science that the academicised Academy wished to represent.

The direction of interest was probably also influenced by international contacts, the forms of which have also changed over time. Initially, they were primarily individual correspondences conducted by the permanent secretary and others within the Academy who worked to organise joint undertakings, such as the various observation projects. Later in the 19th century, international exchange became more continuous and institutionalised, such as in meteorology, geodesy and work on standardisation, at the same time as research travel and international conferences crossed various borders. Meta-organisations came even later, with a web of agreements that channelled contacts between academies and learned societies, regionally and globally.

If we instead take an object for comparison outside the Academy, we perhaps find the most similarities with an even older institution: the university. The history of its development is also characterised by path dependence, but by changes too, although hardly by revolutions. The university as an institution has displayed continuity *and* change. It has been capable of harbouring demands and interests from different parties, which have pulled in different directions, while also carrying forward traditional forms and ideas. Its transformations have resulted in a complex and elusive institution with many internal tensions. The academy as an institution is similar to the university in being multifunctional and polyphonic. At the same time, there are

tangible differences, such as the mission to educate being a main focus of the university, which is not an exclusive membership-based organisation.

ON THE CONCEPTUAL LEVEL, too, it is hard to grasp the elusive Academy. The concept of "academy" also has its own history. As we saw in chapter 2, in the early 18th century, academy basically meant an institute of higher education.

Today, the concept may not be essentially contested, but it refers to a phenomenon that is internally complex and highly valued, while the criteria for its use are relatively open.[90] Because something is at stake when the criteria for the proper usage are to be parleyed over, the circumstances are right for a tug of war over the correct meaning. Every attempt at a definition can be met by the objection that it excludes some important aspect. It is easier, as Carl Gustaf Bernhard somewhat resignedly stated, "to talk about what she is not: not a government body, not a company, university, faculty or institute of whatever type".[91] But just saying what the Academy is *not* feels unsatisfactory.

Nor is the concept of academy easily captured from a legal standpoint, as legislation does not explicitly relate to this aged category. One Academy member with legal expertise concludes that an academy, even one that is national and royal, should be regarded as a body under civil or private, not public law. More precisely, it is a non-profit organisation, an assembly of people united by particular ideas without the aim of financial benefit, such as a non-profit football club.[92] Stating that the Academy is a non-profit organisation also feels somewhat unsatisfactory – certainly formally correct but also somewhat empty.

However, it is not difficult to say something more substantial, for example that the Academy of Sciences should be understood in terms of a knowledge organisation. But perhaps that is not very clarificatory in the era of the knowledge society, when "knowledge" can be used as a prefix for almost anything and the word "academy" is continually appearing in new contexts and combinations.

THE QUESTIONS REMAIN. What kind of organisation is the Academy? Why does it still exist, after all these years? To push the discussion further, we will link back to our institutionalist perspectives.

We have already noted that the Academy's stability appears to be an expression of its path-dependent development, but this cannot simply go on until the end of time, like a self-playing piano. If the institution is not able to attract committed actors, it finally becomes an empty form, a clanging cymbal. Continued survival has likely been related to the Academy fulfilling functions that, through better and worse, have motivated people to become engaged with it. Its tasks and purposes have appeared meaningful, its maintenance

A MEETING IN THE SESSION HALL, depicted by caretaker Gustav Lundqvist in 1980. The painting was a gift to Carl Gustaf Bernhard on his seventieth birthday.

and development something to care about. It is also reasonable to think that the Academy has needed to be of significance outside itself to appear relevant in ways that could motivate different actors. When, from both inside and outside, it has been perceived as something more than a gentlemen's club for awarding stipends, it has gained wider meaning and importance. Then the Academy, as an institution, has been able to interest influential individuals, who have made use of and contributed to its influence.

Like many other, more or less similar, knowledge organisations, the Academy has existed in the tension between an inward-facing consolidation and an outward-facing consolidation. If the former aspect is pushed too unilaterally, there is a risk of forming a clique and the external world perceiving the organisation as barely relevant, and if the latter is pushed too hard, instead there is a risk of undermining relative autonomy and authority. Identity has been chiselled out in a dynamic interaction between the institution's own aspirations and the perceptions and expectations of its surroundings.[93] As the outward turn entails a situating of it in time that balances the perpetuating tendencies of path dependence, an attempt to identify the functions that have characterised the Academy can begin with a reasoning about how the institution has appeared relevant on wider fields, in the eyes of its surroundings.

In what follows, we will sketch out five organisational fields and discuss how the Academy of Sciences has worked and acquired influence within them.

One field to which the Academy has related since its founding is that populated by scientific academies and similar institutions in other countries. Another is the Swedish field of sister academies and learned societies. A third is that of universities and higher education. The field of public authorities is another, which now partially overlaps the preceding one, as most Swedish higher education institutions are formally state authorities. The fifth and final field is even more overlapping and fluid. We call this the field of more or less non-profit organisations. Here, as this name may be less self-explanatory than the others, we can add that we are thinking of the kind of organisations that are sometimes called value-based and which may have an interest in shaping public opinion, something that contemporary Swedish authorities may also have. With its mission to "promote the sciences and strengthen their influence in society", the Academy moves among the organisations in this field, which we distinguish from the fields of academies and authorities, respectively, even if there are overlaps. We mean non-governmental organisations, NGOs, and lobby organisations, but also less formalised and more social association types such as networks and clubs.

In relation to the academies on the international field, the Academy of Sciences has, from the very first, had a function as a vehicle for and promoter of contacts. It has hereby tangibly contributed to putting different types of knowledge into circulation. As other academies have fulfilled the equivalent function in their countries, they have been united in a network of international relations that has expanded and recently gained a superstructure in the form of various metaorganisations. Due to all the opportunities for contacts and comparisons, there have been channels for pressure towards institutional isomorphism in this field ever since the 18th century. In almost

the same way as strategic visions for universities now tend to be similar, the academies formulate their mission in about the same way: to promote the sciences, for example through publications and prizes, to provide advice and expertise, to promote international cooperation.[94] In this organisational field, the academies have been each other's surroundings, and they have exchanged confirmations of their position and function through the networks.

In the Swedish field too, academies have promoted their contacts and cooperation. It has not been unusual for a single actor to be a member of several learned societies. This does not make it easier to judge when these persons represent one of their academies, their university or themselves. These overlaps and networks of various kinds contribute to making the history of academies entangled and elusive. The institutional forms have been relatively similar, in that the societies have not, in principle, had external owners to answer to. However, the "royal" adjective has sometimes indicated a principal and marked who has the final say.

The academies in this field are also united by a common central function: distinction. Election as a member is a distinction that once again highlights the dynamic between actor and institution: an individual gains reputation and influence through election, an academy wins influence by having reputable members. Because the degree of exclusiveness is in relation to how many are excluded, it is possible that the recent removal of barriers, with the subsequent inflow of many members, has made membership less exclusive, while this perhaps contributes to a form of representative legitimacy. On the other hand, one could argue that there has been such a growth in the number of professors – now the primary recruitment base for the Academy – that relative exclusiveness has not changed much. The selection of laureates is another distinctive element that has long had a unifying function which, for some societies, has become of central importance. It appears that the Academy of Sciences and the Swedish Academy are at the same time borne up by and tethered by the commitment to select Nobel laureates, as if the duty both creates and limits the space to act. It may seem as if the academies are relatively small compared to the Big Prize. One can also wonder how their surroundings perceive the academies, if their most important decisions are about electing laureates and their own members. Meanwhile, media monitoring shows that around half of all articles about the Academy of Sciences relate to the Nobel Prize, which also creates opportunities and gives it a relatively high specific weight in the international field of academies.

In the field of universities and higher education, the Academy of Sciences has engaged in the creation rather than the dissemination of knowledge. The Academy has been the principal responsible for various kinds of research, but has hardly conducted research itself, in plenum, so to speak. This research function has been shared with some other academies in Sweden and abroad,

for example in the Eastern Bloc during the post-war period. This function has changed greatly over time, like the field itself. The institutions in the Academy's external organisation that conducted research grew in parallel with higher education, at the same time as a research imperative was institutionalised in increasing numbers of education institutions. After World War Two, when the Riksdag and government began to show more interest in research, new institutions arose in this organisational field, such as the research councils. They were to finance but not perform research and were welcomed by the Academy of Sciences, whose members probably saw that they offered new opportunities. However, the increasing number of influential players on the pitch eventually led to a reduction in the Academy's relative importance as a national body. Its voice was no longer heard as clearly among the new chorus.

In the field of public authorities, the Royal Swedish Academy of Sciences has appeared as beneficial and relevant in the eyes of its surroundings. The state rapidly claimed the specialist knowledge that the new institution gathered. The authority-like image and function grew and eventually the Academy appeared to be a royal government office for issues relating to science. It acted on something of a delegation of authority, unformalised and mostly founded on institutionalised practice. The perception that the Academy was part of state administration was confirmed by the actions of both itself and its surroundings. For example, a central element of the Selling affair, the forced psychiatric evaluation that was motivated with reference to legislation, was based upon the Academy of Sciences being a public authority and having to act as such. In contemporary history, we have seen that the Academy is instead considered as belonging to the sphere of civil law.

In a slightly ambiguous contrast to government offices, the Academy of Sciences can be regarded as an NGO in the field of more or less non-profit organisations. However, it is more precise to think in terms of a *quango*, a "quasi-autonomous non-governmental organisation". A quango fills some kind of public function, with some public funding and, at the same time, independence in its relationship to public power.[95] The concept is primarily associated with less strictly formalised British public administration, where it refers to bodies that are neither public nor private, but hybrids. They have existed for hundreds of years, but their establishment has grown significantly since the 1960s, clearing the way for a new public management, which has met criticism related to transparency, accountability and democratic control. There are interesting similarities and differences in relation to older traditions in Swedish administration, with its relatively small ministries and relatively strong authorities that are at arm's length from politicians, who have responsibility but may not exercise ministerial rule.[96]

Like some other old academies, the Academy of Sciences has operated in this grey zone: an exclusive society with a sense of responsibility for the public at large, a private organisation with official duties. The Academy has been free and independent, while also being sanctioned by the King in Council and primarily financed through a state monopoly: a quasi-autonomous non-governmental organisation. Presumably, some of the public resources today are indirect: perform the thought experiment that an audit forces all state-employed members who perform duties for the Academy to send invoices for this time. The difficulties for outsiders to gain insight and demand accountability contribute to the image of a quango. We have also noted that politicians in the Riksdag, in the aftermath of the Selling affair, required insight into what the almanac moneys were used for, and that TCO later wanted to democratise the academies. The Academy of Sciences has performed a lobbying and policy-affecting function in this grey zone, for example through a steady flow of consultation statements. In these, since the end of the 19th century, the Academy has appeared a standard-bearer for pure science, not applied, at the same time as issues of nature conservancy have to some extent been perceived as consequences of the application of scientific knowledge. Recently, two themes have been varied and entwined in ways that have led to predictable conclusions: curiosity-driven research is threatened; conditions for basic research must be improved. One question is what significance the government today assigns to a consultation body that does not have a clear status as an authority, while also having an ambiguous mandate. Does the Academy represent Science?

Another question is what significance the consultation process now has as an institution. Perhaps it is more effective to build opinion and influence by more informal means, as some kind of lobby organisation. With this, we touch on the Academy's elusive function as a network, or a network of networks, that has been able to channel influences that have been strong but informal. It should also be said that it is clear that the Academy has often, and for many people, been a network in another meaning, a circle of friends, perhaps a club. It has had a social function, beyond thoughts of position and strategies for the influence of science in society.

IT WOULD BE EASIER to talk about the Academy of Sciences as *one* kind of organisation if it had only *one* task, but it has fulfilled multiple functions in multiple fields of activity. It is easier to gather a bouquet of ideas that have motivated and united members than to highlight The Idea that defines the institution, other than something so general and abstract that it says everything and nothing. Historian Peter Collins has, in a condensed image, captured the tension between core values and centrifugal tendencies in what brings people together in the Royal Society: "Its Fellows, a group with a wide

range of conflicting opinions on almost every subject, are united in their passion for science."[97]

The long history of the Academy of Sciences contributes to making ideas about organisational uniformity and continuity debatable. In the chapters above, we have seen that the Academy has been a great deal of things through the ages, such as a government office and a research institution, and that the emphasis in this knowledge organisation and its activities has shifted over time. At the same time, a degree of resistance to reform has contributed to the Academy remaining relatively recognisable over time, despite all the changes. As a historic relic, the institution, somewhat like the royal family, has hardly faced a crisis of legitimacy that threatens its existence. As the Academy has fulfilled many different functions, it has always delivered something to some and avoided undivided challenge. The lack of clarity about its actual purpose makes it difficult to definitely say that the organisation's aims have been achieved – or that they have not. This can be an advantage and disadvantage at the same time, a way of attracting criticism, although that criticism never really sticks.

Finally, to address the question of what the Academy is, reference can be made to the unfolding evolution of the institution, to its multi-layered history. Such an understanding is close at hand for the historian. We can also, in order to reconnect to the comparative perspective that started this discussion, liken it to something other than an academy, in terms of which it can be understood. At an overarching level, the Academy of Sciences is a boundary-crossing hybrid organisation, multifunctional and polyphonic, a chameleon-like broker between different ideas and interests. If we instead were to give a summarising characterisation in a single image, we would liken the Academy to another artefact, which people have once invented and then found good enough to stick with: a Swiss army knife. Here, we are talking about a tradition-saturated creation with a solid symbolic value and excellent quality; it is good for various things, but not razor-sharp for anything in particular, except being itself.