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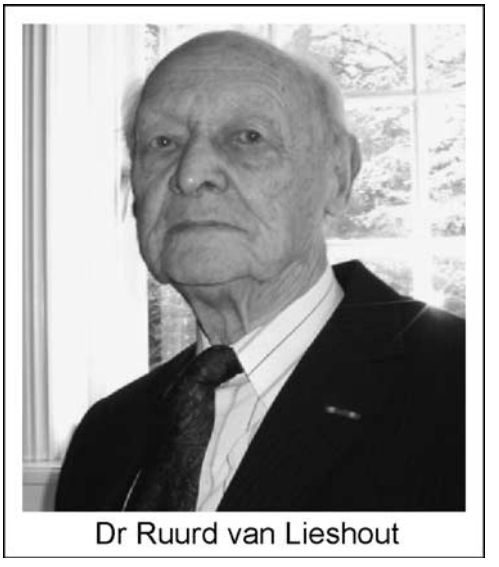
Reminiscences of – and Some Reflections upon – the Academia Europaea. Ruurd van Lieshout Interviewed by Anne Buttimer



Dr Ruurd van Lieshout

Ruurd van Lieshout was born in 1919 in Amsterdam, the Netherlands. In the late 1930s, he worked in the research laboratories of Royal Dutch Shell. He was appointed as research assistant at the Institute for Nuclear Physics Research. Graduating with a doctoral degree in experimental physics from the University of Amsterdam in 1953, he visited the National Research Council in Washington, DC, and Columbia University (1954–56) before returning to assume the role of Director at the Institute for Nuclear Physics Research in Amsterdam (1966–84). He also served as Director for the Netherlands Foundation for the Advancement of Pure Research (1970–86). It was thus with a rich background of research and administrative experience that he became involved as Council Member – and later Vice-President – of the European Scientific Foundation (1978–88). And it

was from this platform that he became active both as Vice-President and Trustee of the Academia Europaea.

Anne Buttimer: Greetings! This is a rare privilege to meet one of the first visionaries of the Academia Europaea, Ruurd van Lieshout. Thank you, Ruurd, for accepting the challenge of telling us more about those 'founding visions'. First, however, would you tell us a little about your own life experience, where you were born and grew up, what schools or other institutions influenced you, and how your own professional career was affected by the dramatic events of the 20th century?

Ruurd van Lieshout: I was born in June 1919 in Amsterdam, the third of four children in a lower-class family. My father had served in the Royal Marines on a five-year contract in the Dutch East Indies, but only as a ship's carpenter. All this time his bride waited back home for him. When he returned they set up a small business, which was successful because they were hardworking people. I have inherited that trait, which is both a blessing and a burden. I suffered from poor health: asthmatic bronchitis, which caused me to spend a large part of the school year in bed. So I started to learn to read at a very early age; my aunts called me 'Professor'. I recovered from this during puberty, so I could start on a secondary education. I had known for a long time what I wanted to become: an astronomer, and I got close to it.

AB: These were 'depression times' no?

RvL: These were the years of the Great Depression, not much fun for a young boy. Teachers in that period were almost demi-gods who lived in a far-away land. With two exceptions: the first was the mathematics teacher, who was very approachable, really cared for his pupils and who encouraged me; the second was the historian, who introduced us to Bach, whenever he could. When I was doing my homework (in an unheated bedroom) I always listened to good music. My mother had a nice voice and she liked to sing. From her I got the fascination for music that has sustained me all my life.

AB: Music has been incredibly important for creative people.

RvL: Music is a great mystery. Only much later did I learn how stimulating for the brain it is to combine intellectual and emotional activities. I have a very good memory (no merit of my own), which made studying a lot easier. I lost half of it when I was 70, through wrong medication, a weird experience! It took about a year to restore it.

AB: And after graduation what did you do?

RvL: I finished school in 1937 and started as research assistant in the lab of the Royal Dutch Shell in Amsterdam. I was deported to Germany in 1942 to work in a factory. I survived the bombings and the hunger. Not everyone did. When I returned I sorely missed several friends and acquaintances, mostly Jewish ones. In 1945 I started my studies at the University of Amsterdam in the exact sciences (mathematics, physics, chemistry and astronomy). I was 25; many years had been lost. So to study for my future was urgent. With odd jobs to earn a living, there was not much time left for anything else. But it was great fun and exciting to do.

AB: Looking back on that early period of your life, could you describe what it was like growing up in the Netherlands during the late 1920s and 1930s?

RvL: In the 1920s I was too young to pay much attention to the outside world. But the 1930s I remember as a period of great poverty, of increasing uncertainty, of stress, of fear about the intentions of Germany. The book by Rauschning, *Untergang des Abendlandes* made a great impression. We were all more or less prepared for the unavoidable outcome. What worried us most was the apparent un-preparedness of the rest of Europe. And I realized that 'idealism' was a useless and dangerous concept. I think that my rather cynical look at life stems from that period.

AB: And what about the polders that were created during those years – the polders were what made Holland really famous internationally.

RvL: Well, the polders we were accustomed to. We showed them to visitors by climbing dikes. The most impressive was when they arrived at the old Amsterdam airport and saw ships sailing through the canal way above their heads. The engineering knowledge was recognized worldwide. I spent a large part of my life below sea level and still do. The constant fight against the water has shaped the character of the Dutch people. The maintenance is costly and needs much attention. The persons in charge are called 'Water Counts' and they have great authority. I witnessed the closing of the dike shutting out the North Sea in 1937, creating a large freshwater lake, in which a few new polders were reclaimed from the water. And later the Delta plan, closing the estuaries with dams and locks to improve water management. Now the government is giving some polders back to the water for environmental reasons and to facilitate shipping movements.

AB: In a way this must seem like the passing of an era for you. Now let me ask you to comment further on the war. World War Two hit Western

Europe hard, particularly the Low Countries. What do you remember about this?

RvL: This is a very complicated issue. I prefer not to go too deeply into it. It was a life-threatening time witnessing Jewish citizens being deported and not being able to do anything about it. A total of 105,000 disappeared. It was a traumatic experience, and I remember it in silence. For my parents, that last Hunger Winter was a difficult time, with little food and heating, but we all survived. Amazing how little one really needs.

AB: What was the first moment you saw as liberation from World War Two?

RvL: I was in Germany when the end grew near. I sneaked through the lines and felt free when I met a British soldier.

AB: That must have been an unforgettable experience. And it may also have been a vague stimulus in the direction of international cooperation. In fact, throughout the postwar era, the Netherlands assumed a strong profile in facilitating international collaboration in trade, communication, and diplomacy. Tell me about your experiences of these times.

RvL: My career developed in the university. I started at the University of Amsterdam in 1945 in the exact sciences. The situation in the Netherlands did not differ much from that in the rest of Europe: growing optimism about the restoration of our impoverished country. But the tragic war with Indonesia deeply split the population; there are still repercussions today, as there are over Afghanistan now. I was appointed research assistant at the Institute for Nuclear Physics Research (IKO) in Amsterdam. The director of the Institute was Professor Bakker, who later became Director General of CERN. This led to many international contacts. When I obtained my PhD in 1953 he arranged for a grant from ZWO, the same Organization I became the director of in 1970, to go to Columbia University; a unique opportunity. I had married in 1951 and we lived in Manhattan in 1954. I was very impressed by my supervisor, Professor Wu, a very clever lady who later just missed out on the Nobel-prize for the breakdown of parity.

AB: So you also have important experiences in North America?

RvL: After Columbia, we moved to Washington, DC, where I was employed for one and a half years by the National Academy of Sciences/National Research Council, in the Nuclear Data Project, a group that collected, reviewed and published nuclear data in the form of handy charts. It gave

me a wealth of ideas for experiments back home. And it resulted indeed in a slate of publications. The Institute for Nuclear Physics Research exploited a cyclotron – constructed by Philips – the only one in the Netherlands. Radioactive isotopes were produced, also for other users, but mostly for fundamental research, and also as tracers in medicine, analysis of meteorites, art objects, etc. We were always on the lookout for interesting applications, so we developed new radioactive medicines. And students were trained there in their chosen fields of specialization, as well as in the new field of nuclear medicine. Of these, 23 chose to continue under my supervision to earn a PhD in nuclear physics. Three multinationals had their labs in the Netherlands: Philips, Shell, Unilever, headed by the world-coordinator; hence excellent prospects for students. There were always many guest workers from all over the world. This was an interesting, exciting and productive period in my life. In 1963 I became director, but remained a part-time professor. A linear electron accelerator had also been constructed. In 1961/2 I returned to Columbia University and Washington, DC, to bone up on my nuclear research programme.

AB: But you still chose to return home to the Netherlands?

RvL: In 1970 I was appointed director of the Netherlands Organization for the Advancement of Pure Research (ZWO), a position I held until my retirement in 1986. I maintained my part-time professorship. ZWO's activities encompassed all disciplines; grants were made available to highly qualified leading persons in universities and institutes, who could then use them for hiring personnel or buying equipment. All this was done on the basis of a programme, and a number of high-level institutes were run; for example, the Institute of Geological Research. Selections were made through peer judgement in small expert committees. The Organization was funded by government, but completely independent. It had a high reputation. It was an organization for scientists by scientists. (Please note, that I use the word 'science' in the sense of *Wissenschaften*.) It was still a time of expansion. New institutes were set up, advanced radio-telescopes were constructed, meetings organized, etc. Later, grants were also given to excellent individuals, considerable sums, with a great freedom to use them.

AB: And beyond the Netherlands, how did the European-scale horizons of scholarly collaboration emerge?

RvL: In the early 1970s, international collaboration gained ground, mostly multilateral. ZWO linked with the British SERC to construct an advanced telescope to be placed in the Astronomy Center at La Palma. It set up links

with synchrotron research in Daresbury as well as with CNRS for the use of the largest European supercomputer, in which several countries participated. It also established links with CNR in Naples for the construction of a lab for radioactive work. This is an illustration of what happened in many countries. And so the idea for a European Science Foundation, in which research councils and academies would pool their efforts, took shape. One of the great protagonists was Brian Flowers from Britain, who became its first President. The European Science Foundation (ESF) was founded in 1974. It involved 15 countries and 42 organizations. Its creation was almost a revolutionary act, a daring enterprise. The more so as it was done bottom-up. The then Commissioner for Science, Research and Education, that eminent German-British scholar Ralph Dahrendorf, welcomed it as 'a giant step forwards'.

AB: And you were involved with ESF early on?

RvL: I was nominated onto the Council in 1978 and served as Vice President from 1983 until the end of 1988. The office in Strasbourg was small, but the staff were very dedicated. I was mainly involved in setting up the European Consortium for Ocean Drilling, in which six smaller countries put up the large fee needed for this American enterprise. It worked out quite well. A big job was to set up the European Networks for Science and Technology, proposed by Curien, and enthusiastically taken over by others, in cooperation with the Commission and the Council of Europe. A network is a flat organization. It consists of nodes, institutes, and links along which the participants move. This provides for flexibility and thus strengthens centres of excellence; it is very cost-effective.

AB: Do you remember when the idea of networks really took hold?

RvL: The network idea was officially recognized at a meeting in Paris, chaired by Curien. From then on, Arnold Burgen chaired the Network Committee. If I remember correctly, the first network was established through the efforts of David Magnusson.

AB: Was it thus as an offshoot of ESF that the idea of the Academia Europaea emerged?

RvL: The idea to set up a European Academy originated at the Conference of Ministers responsible for research of the Council of Europe in Paris on 17 September 1984. The proposal was made by Peter Brooke, the British member responsible for science and technology. It was an interesting idea and he presented it convincingly. It probably had some political connotation,

because that was his job. There were positive reactions, but not much discussion, probably because the item had not been on the agenda. How things developed from then on is described in detail in the article by Arnold Burgen in the European Review.[1]

AB: How did this proposal fit into the general European research landscape of that time?

RvL: There was the expanding European Community, an organization of governments with a Commissioner for Research, Science and Education. Decisions on research programmes were not made on scientific merit alone, but also on political considerations, as they should be. Most of them worked out well. But they involved only a part of the greater Europe and many disciplines were left out. Then there was the European Science Foundation, formed in 1974, whose scope was much wider.

AB: So ESF, in a sense, was a second body oriented toward facilitating international research collaboration within Europe, presumably to complement the European Community's Commission for Research, Science and Education.

RvL: Yes, by 1986 the ESF had grown to be the second European research organization. It was a flexible and a cohesive one, run by scientist for scientists. It was respected for its achievements. So, when the idea of an Academia Europaea came up again, it seemed useful to profit from its experience. This led to the meeting at the Royal Society in October 1986, at the invitation of Arnold Burgen, described elsewhere.

AB: Please tell us more about that meeting

RvL: In my mind I think of it as 'the meeting of the initiators'. The general feeling was positive. But one point had to be settled first, i.e. that it would not be restricted to 'science' in the conventional sense of physical science, but should also encompass other scholarly work – research in the broadest sense (cf. C.P. Snow's 'Two Cultures'). The President of the ESF, Eugen Seibold, offered the assistance of that organization, and Hubert Curien, the French Minister for research and former President of the ESF, welcomed the initiative. Then the decision to create an Academia Europaea (AE) was taken unanimously. I was asked to represent the ESF interest, and as ESF-Vice President, I felt obliged to accept.

AB: So, in a way, Academia Europaea would be the third major research organization in Europe?

RvL: Yes, in Brooke's view, this third major European research organization would consist of individual top research workers. It would be self-managed. They would spin a web over Europe, leading to more coherence and cooperation. In this manner weak points might be discovered that needed strengthening, and unnecessary duplication avoided. Individuals might hit upon points that organizations were not paying enough attention to. All in all, there were enough positive points to give it a try. Thus, these three bodies would cover the whole range: governmental, organizational and individual.

AB: A reasonable proposal indeed. So how did you proceed?

RvL: The first action taken was to inform interested parties of the decision to create an AE. This entailed many meetings and discussions with academies, councils, groups, individuals and authorities. The three of us, Burgen, Magnussen, van Lieshout, formed a preliminary Board. Suffice it to say that it was a lot of work, but we had excellent secretarial support. The response was encouraging and cooperation was offered. So we felt we could go forward. The second step was to recruit members. This was not so difficult, because we three had a panoramic view of the European research landscape from earlier experience. We felt that 100 members would form a sufficient basis to give the AE an official status. After the formal start we would aim at 5000 in five years, then analyse and consolidate. Most candidates I approached were honoured to accept and made additional suggestions. But I also encountered some reservations. For some, the European connotation held no additional value: their network was worldwide. Others were adamant that it was wrong to emphasize the European aspect because research was much wider. And there was the financial motive: when they learned that the AE would not support individual requests, they lost interest.

AB: So the disinterest or antipathy of some individuals was based, at least partially, on the fact that Academia Europaea would not be a grant-giving body?

RvL: It might be worthwhile to look at this a little more closely. After the war, governments had invested heavily in education. In particular, universities had grown at a higher rate than the other branches. There existed great optimism that the world shattering scientific discoveries and technical developments during the war could be used to build a better world (the UN; Atoms for Peace). In the mid-1970s this changed considerably. Governments had to cut back and change aims. Grants were much more

difficult to come by. And it required much more administrative work. In my experience, a granting body that can honour less than one third of the requests cannot adequately fulfil its function, because it is difficult to explain why so many good proposals were rejected. It loses its credibility. The situation has worsened. The Lisbon Protocol, aiming to create a knowledge-based economic system and place Europe first in the world in research, has fallen far short. In many countries research budgets have even fallen.

AB: And all of this has an impact on AE today.

RvL: In my opinion, all learned bodies should make a concerted effort to point out the danger of the present trend. And because it is a European problem the AE is the proper agent to lead this. The membership is at this moment only half of what was aimed at. This is a real worry. The reservoir is so much larger. It is possible that the reservations I mentioned above play a role.

AB: But from the start you were aware of the challenges facing both inter-disciplinary and international collaboration, no?

RvL: I have had to cope with those challenges during my whole career. From the very beginning, the third activity we considered was the structuring of the entire field into sections and groups. This really started only after 1988, but we wanted to explore the methodology. The sections would be self-governed. They would have to put forward a definition of their field and its limits. The Board would then look for lacunae and cohesion. For some fields it would be difficult to find enough representatives; under-representation was a problem. Contrary to others, I was never worried about over-representation: be glad there are so many to put in their efforts! There was the danger that groups would turn into islands. And one of the main purposes of the AE was to further multi- and inter-disciplinarity. This could be accomplished in large international meetings. These have indeed turned out to be very successful in this respect. In developing new groups we recommended following the method used in the ESF. We nicknamed it 'The chain of the three Cs: Communication, Coordination, Cooperation'. It is a careful step-by-step process, which avoids pitfalls. And it took two years from the meeting of the 'Initiators' (October 1986) to the founding ceremony (September 5/6, 1988).

AB: Could you describe this process?

RvL: The working group was enlarged to seven persons by the end of 1987. This group was entrusted with studying fundamental aspects. They decided

on the first 100 members, who were named 'The Founders'. There would be no quota of any kind, as befitted individuals. The Academia would have the status of a Charity according to British law, with a Trust fund. Statues and regulations were drafted. This was time-consuming and careful work. But it posed no fundamental problems because most of us had dealt with that kind of thing before. Financing was the real worry, but I was not charged with that. A programme was drawn up for the Foundation Meeting. Ultimately, 125 candidates were invited, of which about 50 actually attended. The first Council, consisting of 16 persons, was installed and held its first meeting. There were lively discussions among members and several useful suggestions came forward. We really witnessed the birth of a new scientific community. So we were all set to go ahead. The format and subjects for the first Plenary Meeting were selected. This was held in London on 26–27 June 1989 with a large and lively attendance. The membership had risen to over 600. Upon that occasion I stepped down as Vice-President, although I stayed on as Trustee for some time. I felt I had completed the task I had agreed to at the 1986 meeting. Moreover, I had reached the end of my career as science organizer. I had been pensioned off and no longer had a sponsor.

AB: I'd still like to hear your views on prospects for the future of AE?

RvL: I have been out of the field now for over 20 years. The research landscape has changed considerably. It would be rather presumptuous to give advice. There is one easy answer: continue in the same manner. But it is not untrue: the achievements of the AE are impressive. More of the same would be a good thing.

AB: This conversation has revealed much about your role during the early years of Academia Europaea. You have unveiled not only the strong motivations you felt for international cultural cooperation, but also the documented success in scientific research collaboration within physics across national and linguistic borders. These personal reflections and reminiscences will be truly inspiring for readers whose careers have traversed radically different contexts.

RvL: I have tried to recapture the climate and spirit of the embryonic period of the AE. It carries a strong personal signature, because I wanted mostly to bring out the aspect of the 'Visions', as I perceived them at the time. Is the AE a success? Undoubtedly so! It has greatly enriched the European

research landscape. A wealth of high-level meetings, publications and awards are shown on the website. The number of Donors has risen substantially. And this is a tribute to Arnold Burgen, who has always been the great driving force. And it works!

Notes

1. A. Burgen (2009) Academia Europaea: Origin and Early Days. *European Review*, **17**, pp. 469–475.

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