

Euroscience next objective: 100 years
Reflections after the first 10 years

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Euroscience next objective: 100 years

We at Euroscience are very happy because we are 10 years old! This is quite an achievement for a grass-roots institution with European scope. We are proud of this achievement and we invite you to celebrate our anniversary with us. However, we still feel rather young and somewhat vulnerable in our objective to create a long-lasting institution and attain a venerable old age. Our perception is that, indeed, we are contributing to the construction of Europe and to a better world and we want to live so as to continue to do so. We believe science in Europe needs a bottom-up voice. These are some of the main reasons why our next milestone in our timeline has to be to reach 100 years of age.

The enthusiasm of the initial steps and the experience of 10 years on the road is time enough for us to be convinced of our goals. With the vision of a 'strong and open European society through science and technology' Euroscience was founded to:

- Provide an open forum for debate on science and technology
- Strengthen the links between science and society
- Contribute to the creation of an integrated space for science and technology in Europe
- Influence science and technology policies

10 years later Euroscience is proud to have contributed to some of the initial objectives as can be read in the articles included in this publication. 10 years later our objectives have been confirmed although others have been added to or refined. For instance Euroscience has a clear mind that it has to contribute to European integration and, in particular, to a proper development of the European

Research Area. We will contribute to this by working on a stronger sense of European identity and culture of science and providing glue for the integration of individual, national and European interests. We certainly have one of our priorities to keep Euroscience as an independent grass-roots voice of science. Most of our objectives have to be achieved by bringing together people interested in science, technology and the humanities through communication, open discussion and collaboration worldwide. Euroscience will also promote the responsible conduct of researchers and use of science as well as the freedom to conduct research. All this has to be done in the context of society which can be summarised by saying that Euroscience has to help in linking research and innovation.

During 10 years Euroscience has passed through its infancy. Although we are constantly self-critical with our own performance in order to progress and improve, we thought our anniversary was an occasion to look back with pride and to take stock. This could be done inviting a number of people that have been committed to Euroscience, in a number of different ways, to give us their personal impression of some of our initial steps. We were looking for opinions from people who have contributed decisively to Euroscience. With this in mind we could have invited dozens of people, which we have not. Therefore, I apologise to all those that have played an important role in building Euroscience and are not among the authors of this booklet. To those that have been invited to send us their contribution I am thankful for their readiness to do so. Particularly because we were not aiming at a 'history book' and I believe all contributors have understood this. Our aim was to compile some of these thoughts, rather than truths, that surely would have been lost without their efforts in communicating the essential and decisive first steps and achievements of Euroscience.

To start with I do recommend reading Françoise Praderie's contribution that navigates through our origins. Nobody better than her could tell us how Euroscience was conceived and how it faced its initial steps. I must admit that I have learnt a number of things about the initiators and about details that might have been lost without her writing them down.

Young scientists and their concerns have been one of our main targets. Claude Kordon has chosen to tell us how this objective has been tackled within Euroscience and how Euroscience has been key in the works leading to the European Charter of researchers. Claude has always had a particular interest and concern for the younger generation of scientists. His role as past-President of Euroscience and his efforts in matters related to young scientists (from their research environment to their employment conditions) make him the best possible author of this part of Euroscience achievements.

In Euroscience we believe that science is culture. In this sense a number of actions have been undertaken. Jean-Patrick Connerade, past-President of Euroscience, is a hands-on scientist and also an active cultural worker (see his recent achievement as recipient of the Grand Prix Victor Hugo of the Société de Poètes Français; *Euroscience News* 38). You will find his contribution original and stimulating.

One of Euroscience's mechanisms to penetrate into European society through its scientific community, media, business and citizens in general, is the Euroscience Open Forum (ESOF) which we celebrate every second year. Carl Johan Sundberg, presently Vice-President of Euroscience, is the best person to tell us about the origins of ESOF and its achievements. It must have taken a lot of courage to become the champion of an event that was unprecedented in Europe in terms of gathering a number of different communities from policy makers to journalists and to scientists. Carl Johan showed us the way with the first ESOF held in Stockholm in the summer of 2004.

Contributing to the European Research Area (ERA) is one of the parts of our core business. The ERA, as we know it today, and Euroscience have lived parallel lives. It is not by chance that Euroscience was born in the late 1990s, a period of debate about the future of research in Europe. This coincides with the period of time in which Philippe Busquin played a crucial role towards establishing ERA. He took the leadership as Commissioner for research at the time and was in the eye of the hurricane in launching ERA. It is

therefore a privilege to have him as a member of the Euroscience Governing Board as well as to have him as a contributor to this publication. His article is important for understanding the evolution of the ERA, especially from the viewpoint of a policy maker both in the European Commission and the European Parliament.

An association such as Euroscience has to have its members as a priority. The complexity of the European scenario does not make this issue an easy one. Alma Swan makes a comprehensive description of the scenario and points towards the next steps into the relationship between Euroscience and its members. Her contribution is crucially important because Euroscience will not reach its objectives without the contribution of its members. As it corresponds to a grass-roots organisation members are the soul of the organisation.

In its 10 years, Euroscience has made a number of contributions to the debate and development of science policy in Europe. One of the paradigmatic achievements in science policy, that can not be denied, is the establishment of the European Research Council (ERC). Naturally once the key objective was achieved, the ERC has seen a number of people claiming 'paternity'. Euroscience has also contributed to this issue and Wilhelm Krull shows us how this idea became a reality with the help of a large number of stakeholders, including Euroscience.

The construction of Europe by aggregation of countries has found a particular challenge in integrating Central/Eastern European countries. We have been fortunate that the scientific links were already there. In consequence the integration is happening right now in a fairly natural way. Apart from profound economic reforms in Central/Eastern countries, Norbert Kroó illustrates how he has lived through integration. In his own words '...I have never felt differences between my approach to any problem from those of my colleagues from the West...'

As mentioned before Euroscience involvement in linking research and innovation was present since the very beginning and it has become one of our objectives. Frederik Wittcock of Johnson & Johnson Pharmaceutical Research and Development, a Euroscience

partner, expresses, in this publication, his opinion by saying that Euroscience has already contributed greatly to this objective through dialogue, interdisciplinarity, European dimension and collaboration. We are proud but we aspire to get further in our efforts to become proactive members of progress.

Once more, Euroscience is proud of its achievements. However, we are not blind and realise that much more needs to be done to contribute to a role as a flexible but permanent glue of the science and technology system in Europe. We need our voice to be heard wider and louder. 10 years is fine but the mission of Euroscience deserves the dream of celebrating its 100th anniversary.

Enric Banda



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Euroscience: witness to origins and first steps (1997–2001)

The year 2007 marks the 10th anniversary of the birth of Euroscience. But as happens in any human endeavour, the idea of creating a European association for the advancement of science (EAAS) developed way before 1997, in several places and over some time.

First streamlets in Paris

Euroscience started in France, through a convergence of small streams all running to feed a European river. Initiators agreed on two major points: (a) for European countries, future research and technology needed visibility, projects and resources of European dimension; and (b) decision makers in these domains lacked vision and were not as inventive as the European stakes required. By the 1990s, there was general enthusiasm for Europe but most scientific circles and national science policy makers hardly shared it.

Back in the 1980s, the neuro-endocrinologist Claude Kordon coordinated Life and Health sciences in the new French Ministry of Research after the Left took over in 1981. He urged advisers of President François Mitterrand to help boost a European research perspective. The advisers suggested, somewhat strangely, that the fifth centennial of the discovery of the Americas might offer a good opportunity to organise a conference. But the then minister of research commented that there had already been enough conferences on the topic, although these had been organised by politicians, not by scientists (*Euroscience News* 25, page 2).

The first call for an EAAS was an embassy report of March 1993 by Rémy Lestienne, a neuroscientist then in Washington. The report pleaded for the creation in Europe of an association similar to the powerful American Association for the Advancement of Science (AAAS).

Rémy Lestienne had attended the annual AAAS meeting and been struck by its vitality, the variety of subjects treated and the large audience (some 5000 participants), as well as by the echo this meeting got in the media since many journalists from both the US and Europe were present.

Lestienne's report caught the attention of François Kourilsky, then Director general of the Centre National de la Recherche Scientifique, France (CNRS), who organised a meeting of the Comité National of the CNRS in 1993, on the subject of 'European perspectives of scientific research'. In the records, we see that the formation of an EAAS was envisaged. The concept was then discussed within the CNRS European Policy Committee chaired by Jean-Pierre Chevillat. But implementation did not follow.

My own implication in this venture – I was unaware of Lestienne's report at the time – dates from the French presidential election of Spring 1995. The President of Paris Sud University had convened a meeting of scientists to prepare a campaign platform for research. Participating in a commission entitled 'European affairs', I proposed the creation of an EAAS. Claude Kordon, then director of the Institut National de la Santé et de la Recherche Médicale, France (INSERM) laboratory, strongly supported my intervention. Since then, over the entire period covered by this paper and up to now, we have not ceased to collaborate in the setting up, consolidation and representation of Euroscience.

The initiators

Who were we? In the 1990s, Claude Kordon, alongside his functions in France, was on the European Science Foundation (ESF) Executive Committee. I was senior astronomer at the Paris Observatory. After heading the Earth and Space Sciences department at the French Ministry for Research in the late 1980s, I was seconded in 1995 to the Organisation for Economic Co-operation and Development (OECD), to run the Megascience Forum.

How did I personally come to formulate the concept of EAAS? At the OECD my job was to foster better collaboration on big science projects among industrialised countries. During meetings, I was dis-

turbed to see high government officials considering the scientists – who after all were going to implement the projects – exactly as they would have considered farmers or restaurant managers. Scientists were treated as executants, not listened to or valued as intellectuals, which most of them are. Moreover each European member state delegate spoke for himself, despite the presence of a European Commission representative. This gave obvious preponderance to the United States, to the detriment of Europe. I felt that European scientists ought to get organised, make themselves heard and do so at the European level. As yet nothing like the AAAS existed in Europe, only a few national transdisciplinary associations such as British Association for the Advancement of Science, while the US had benefited from the AAAS for over 150 years.

However in 1995 there did exist European learned societies in various disciplines, sometimes 20 or 30 years old, such as the European Physical Society, the European Mathematical Society (EMS) and the European Society of Neurosciences. Jean Pierre Bourguignon (Director of the Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette) was EMS chairman in 1995 and also on the CNRS European Policy Committee. His European spirit kindled and sparked when the chance came to build an association of scientists of all disciplines, from social sciences to the hardest sciences. Jean Pierre, too, had attended an annual AAAS meeting and been impressed by audience, speakers and public feedback.

We set to work. A first text was circulated in the summer of 1995. It was a hub linking the 'Euroscience initiators'. We were eight, including a postdoc and a PhD student¹. This Parisian group worked hard through the winter of 1995–1996, defining goals for the association-to-be, building consensus among initiators and drafting a manifesto proposing objectives and action lines, to be widely publicised and diffused throughout Europe. A name was found for the association: Euroscience. Meanwhile we told our European friends and scientific collaborators about the nascent project and met with wide sympathy and support. We wanted the association to be one of individuals, from postdoc to Nobel prize winner, not a federation of extant bodies. From the start, we also wanted Euroscience to be

pan-European, including Russia (Russian science was in a state of crisis and restructuration at the time).

Claude Kordon, through his responsibilities at the ESF, met colleagues – from East and West – who personally favoured our initiative: among them Jerzy Langer (physics professor at Warsaw university) was to be a recruit of decisive importance. Scientists more involved in research administration in the various European countries also were delegates to the ESF. We anticipated that Claude's action there could soon open doors to the national research councils. And we dreamt that, through the ESF, European scientific bodies could be invited to join forces more efficiently.

The next step was to propagate the manifesto. Five of us paid a visit in London to the new editor-in-chief of *Nature*, Philip Campbell, who was interested. He welcomed our initiative and graciously published the manifesto in his journal on 14 November 1996 (*A new opportunity for science in Europe*, vol. 384, page 108, plus editorial page 93, 1996). *Nature's* circulation was about 40 000. We received a flood of replies, and thus was formed the first line of Euroscience founding members.

The constituent assembly in Alsace

The founding members met in Strasbourg, in a solemn university building on 15–16 March 1997 for the Euroscience constituent assembly. There were 150 participants, and altogether 250 founding members, from 25 European countries. Remarkable was the presence of colleagues from Russia, Ukraine, Estonia, Poland, the Czech Republic, Hungary and Romania. The Eastern gate was thus thrown open and Central and Eastern European friends have been enthusiastic members of Euroscience ever since. During the constituent assembly, goals and available means were presented. The first statutes, drafted with the generous assistance of Jean-Marie Dufour, then lawyer at European laboratory for particle physics, Geneva (CERN), were discussed but not adopted straightway. Round tables collected ideas and hopes for better integration of science in Europe and for revival of the debate between science and society. Most participants agreed

that the association should be open to scientists from humanities to hard sciences, but also to science managers and anyone with a vested interest in science and technology. Journalists present were half sceptical, half encouraging; they found us very ambitious. Some advised us to take small steps, others to immediately meet important actors on the European science scene, in order to ensure their declared support. Some criticised our determination to cover geographical Europe and would have preferred us to stick to the European Union. But we kept on track.

A provisional Governing Board of 17 members was elected by correspondence before the end of April and eight more members were co-opted. Claude Kordon was chosen as the first President, and myself as Secretary General. The first two Vice-Presidents were Wilhelm Krull, Secretary General of the Volkswagen Foundation, and Jerzy Langer, from Warsaw university. The Cambridge astronomer Simon Mitton was elected Treasurer. The other members of this first Board are listed below³⁾.

During the constituent assembly, a representative of the European Commission spoke up: 'We already have 3000 lobbies in Brussels. Do you want to be the 3001st?'. We replied that we would be neither lobby nor trade union, nor simply a think tank, but as large a group as possible of citizens, scientists from civil society; we would certainly seek to influence European science and technology policies and also be a link between science and technology on one hand and society at large on the other. We wanted to show our fellow citizens the true face of scientific enterprise and the stakes involved, to question our own practices and collect the reactions of all those who declared themselves concerned. This action was definitely not in the realm of governments – which operate at European level through the European Union – nor even in that of research organisations or councils, which have their own association, the ESF.

Money, the sinews of enterprise

But how were we financed? No national institutions were financing us, at least in the beginning. We had requested and got support from the European Commission for the constituent assembly, but pay-

ment of these subsidies was long in coming. There could have been no assembly without the energetic action of a future Vice-President, Wilhelm Krull, who obtained in three weeks the support of a German foundation, Stifterverband für die Deutsche Wissenschaft.

Later, Wilhelm Krull and a few others struggled to lay the basis of a Euroscience Foundation, fed by private sources, to alleviate the chronic financial weakness of the association. Also, besides individual members who all pay fees, Euroscience was gradually enrolling scientific institutions and industrial companies which shared the association's goals and became corporate members. Their number guarantees the independence of Euroscience in the absence of a European law covering associations (and means of financial support). Clearly the association suffered, especially in the first years, from a shortage of funds to run a professional office and to have its members meet in person. The development of email was a real blessing and members immediately took to it like ducks to water.

From its creation up to the beginning of 2001, the Euroscience office was kindly hosted by the Paris Observatory.

First Board meetings and general assemblies

The first Board meeting was held in Geneva in autumn 1997, hosted by CERN. This intergovernmental organisation supported Euroscience from the start, giving decisive help in establishing the first website (www.euroscience.org) and running it. It was at this Board meeting that Euroscience met Peter Green, initiator of the first European internet-based science press centre, which was to become *Alphagalileo*. Euroscience decided to support this European enterprise dedicated to widening the public audience for European scientific results. The first regional section of Euroscience (section Léman) was set up in Geneva, under the vigorous leadership of Robert Klapisch (CERN). A cross-border section bringing together scientists from France and Switzerland, it launched a lively spectrum of activities, including science cafés and seminars with local politicians attentive to science and technology.

The first year of Euroscience was one of consolidation and fundraising. We started publishing a quarterly bulletin, *Euroscience News*, edited by John Finney (University College London). Press and radio journalists were regularly informed. At a press conference in Heidelberg, after a Board meeting hosted by the European Molecular Biology Laboratory (EMBL), a journalist regretted that Euroscience had not been launched by a group of Nobel prize winners, concluding however that if such a group did not exist, it should promptly be invented! Actually a group of European Nobel prize winners had shown confidence in Euroscience early on, forming a distinguished Honorary Committee which continues to help the association in its undertakings.

We contacted other European bodies, learned societies, the ESF, the European Parliament, the Council of Europe, Academia Europaea, the European University Association (EUA), the European Association of Research Managers and Administrators (EARMA), etc. and UNESCO, with an eye to future collaboration.

Work groups (wg) were set up, all using email. Among the first was the East–West Science Integration wg chaired by Rémy Lestienne and Karl Fuchs (Karlsruhe) to exchange experience and consider common actions for bridging the gap between East and West. The Science Policy wg, first chaired by the late Frans Heyn (CERN), then by Frédéric Sgard, (Paris) took on the task of providing documents for the European commission and lobbying the European Parliament. The Young Scientists wg chaired by Claude Kordon and Norbert Glaser was concerned with the development of a Europe-wide job market for scientists. Other wg were formed in due course and reported regularly in *Euroscience News*.

Thanks to intense work led by Peter Tindemans (The Hague) at the constituent assembly and in the period up to the first ordinary assembly, the statutes were finally adopted during this first ordinary general assembly, again held in Strasbourg (October 1998). They were registered under Mosellan-Alsatian law, a remnant of older times, symbolically not the law of any specific European state. The assembly also accommodated a symposium, 'Science and Tech-

nology in the New Europe', with keynote lectures and debate, a tradition followed at later general assemblies in order to foster common reflection among Euroscience members. In the same spirit, the second ordinary general assembly, held in Freiburg im Breisgau (July 2000) welcomed a well-attended and high quality symposium on 'Limits and Limitations to Research'.

Getting under way

As it developed, Euroscience was concerned with problems common to all disciplines, such as the evolution of publications, the place of women in science, research ethics and career prospects for young scientists.

Euroscience readily agreed to be responsible of the jury for the Rammal medal, an award created by physicist Gérard Toulouse in memory of the Lebanese physicist Rammal, and dedicated to eminent scientists having contributed to better understanding and cooperation among Mediterranean countries. The Rammal medal jury was first chaired by André Lebeau (Paris).

Meanwhile the Euroscience foundation, based in Hanover, endowed a prize for a European science journalist. The first awardee was Philip Campbell (*Nature*).

The role of Euroscience consists, not of providing any direct service to membership, but of gathering and endorsing information and proposals for presentation to relevant authorities at the European level, in the name of the scientific community. In this sense, by evaluating and providing documents on such subjects as the Framework Programmes, the European Research Council, mobility centres, the European researchers' charter, Euroscience was an early supporter of Commissioner Philippe Busquin when he launched the European Research Area concept in January 2000. The Euroscience Bureau paid a visit to Philippe Busquin just on the eve of the ERA communication publication. This was the occasion for the Commissioner to welcome Euroscience and to open the debate on his text.

Through the Work groups and through conferences organised with the help of its local sections (10 existed by 2000), Euroscience contributed solicited and unsolicited advice on the European political scene. Its independent input helped irrigate the channel through which decision makers are informed before deciding.

It is fair to note that early Euroscience efforts to enrol researchers from private companies were mostly fruitless. A few companies joined as corporate members. The project of a 'eurolabel' to mark manufactured products issued from European research was studied by Jerzy Langer and finally abandoned. This important aspect of research was re-addressed by subsequent Boards.

After the Freiburg general assembly a new Board was elected. In the first months of 2001, a fresh, strongly motivated team replaced the pioneers. Jean-Patrick Connerade (physics professor at Imperial College London) took over from Claude Kordon as President and Raymond Seltz (nuclear physicist, Strasbourg) became Secretary General. The second phase began.

Conclusion

This witness to the first years of Euroscience has underlined the collective and independent approach to European scientific problems that was and is Euroscience intention. Co-authors will expand on other aspects and initiatives, notably the setting up of the esof (Euroscience Open Forum).

Certainly Euroscience is open to science and technology professionals already accustomed to cooperation. This community is not large (about two million individuals in Europe) but it contributes decisively to shape our common future. A stronger feeling of European identity among scientists, a sense of European citizenship, is also a small but – I believe – significant brick in the construction of Europe.

Françoise Praderie

1) Jean Pierre Bourguignon, Hervé Chneiweiss, Claude Kordon, Rémy Lestienne, Françoise Praderie, Françoise Rousseau, Jean-Claude Salomon, William El-Kaim.

2) Mikhail Alfimov (RU), Tamas Bartfai (SE), Fabio Benfenati (IT), Neil Calder (UK), Paul Declerck (BE), Suren Erkman (CH), John Finney (UK), Karl Fuchs (D), Norbert Glaser (D), Janus Haman (PL), Alik Ismail-Zadeh (RU), Robert Klapisch (CH), Norbert Kroó (HU), Maria Teresa Lago (PT), Aatos Lahtinen (FI), Rémy Lestienne (FR), Natacha Loder (UK), Michel Maurer (D), Helga Nowotny (AT), Demetrios Spandidos (GR)



CLAUDE KORDON, Neurobiologist, studied in Geneva, Paris and Boston and worked at the University of California in Los Angeles and in San Francisco before becoming Head of a Research Unit of the French Institute of Medical Research. He joined the group of scientists who founded Euroscience and was elected its first President in 1997. A former Chief Editor of the journal *Neuroendocrinology*, he served in several Scientific Evaluation Boards in France, Germany, Canada and India, and is currently a member of the French National Ethics Committee.

The Euroscience commitment to improve the future of young scientists in Europe

To improve the working conditions of investigators in Europe has been a Euroscience priority since its foundation. The European knowledge production system is often considered as poorly efficient. Some causes of this handicap are relatively well identified, for instance inadequate recognition of the role of scientists in society, poor attractiveness of jobs in science and technology, uneven performances of many universities and excessive fragmentation of national funding systems. These shortcomings are still to be overcome.

Of course, several organisations have been tackling these problems prior to the establishment of Euroscience. The European Science Foundation, for example, pioneered mini-conferences, fellowships and transnational training schemes offering young scientists an opportunity to meet experienced mentors at the European level. The European Community was soon to follow, giving the movement greater impetus and setting up new training programmes, the most emblematic being the Marie Curie fellowship system.

The need for a bottom-up strategy

But most of these initiatives, initiated by science managers, were of a top-down nature. A very early project of Euroscience was thus to propose a three-day conference in which graduate students and young scientists from all European countries could share their experiences, express their needs and suggest bottom-up, user friendly solutions in the presence of partners of scientific development – heads of academies and universities, developers of job banks, entrepreneurs, students, trade unionists, and representatives of the EU Commission.

The initial proposal, presented to the Governing Board of Euroscience in 1997, was also well received by Michel André, a member of the Directorate for Research at the European Commission (DGXII). An agreement was reached on the title 'New science and technology based professions in Europe' which covered adequately our multifaceted interrogations: how to cope with the rapidly changing structure of jobs in science and technology; how to improve Europe's attractiveness for these new jobs; and how to help our educational systems to meet the challenge.

The conference was initially programmed at the Gulbenkian Foundation in Lisbon in 1999, with the support of Mariano Gago, then Minister of Science of Portugal. Unfortunately, funding difficulties at the European Commission forced us to postpone the event, which was finally organised in 2002 at Bischenberg, a secluded conference centre in the Strasbourg area. The Marie Curie Fellowship Association played an important role in the preparation of the Conference, in particular through a meeting attended by young researchers and members of European parliaments, which it organised with the European Science Foundation and UNESCO in Gdansk (Poland) in 2000. Eurodoc, an Association of graduate and postdoctoral scientists, and the European Association of Research Managers were also associated.

The Governing Board agreed that, if it were to have some impact, the event needed to be prepared carefully. The help of the Euroscience Work Group on Young Scientists was solicited. It proposed that the conference should be organised in three steps. The initial step included interviews of a panel of 20 experts known for their involvement in education and foresight activities, in order to provide a stronger basis to the debate. These included heads of European research organisations, representatives of start-up companies and postdoctoral associations, as well as sociologists and analysts of the labour market.

In the second step, the Work Group prepared a document that was distributed to participants of the conference early enough to allow them to elaborate their own contributions. This was intended to draw out the major objectives of the meeting and to prepare

draft recommendations aimed at improving European competitiveness in science and innovation. A total of 20 proposals covering three main topics were submitted to the participants: (1) How will changes in science-based professions affect employment policies? (2) What strategies can help our training schemes to become more coping with these new constraints, more eurocompatible and more adapted to new job perspectives? And (3) How to improve integration of young scientists from Central and Eastern Europe?

In the third step, workshops were organised according to the three categories of topics, namely:

- **New trends in knowledge production and their impact on the scientific labour market**
- **The role of higher education in coping with new S&T needs in Europe**
- **Towards a new dynamics in human resources within the European Research Area**

An additional session was devoted to the issue of integrating scientists from Central and Eastern European countries into the European Research Area, considering the importance of their potential as an asset for the whole of Europe.

The Bischenberg Conference: a well attended, multifaceted event

The conference was supported by the European Commission, and the European Science Foundation and its Secretary General, Enric Banda (current President of Euroscience). Attendance was over 100 participants from 25 countries; it included presidents of academies, former rectors of European universities, trade unionists and representatives of young scientists. At the opening session, Jean-Patrick Connerade reminded the audience of a 1999 OECD report evaluating the number of researchers working in the 15 initial member states of the European Union. This number of 907,000 compared poorly with that of other continents: for five scientists per 1000 inhabitants in Europe, the US had eight and Japan nine. Filling the gap would require 1,455,000 researchers by 2010, and thus a doubling of the number of graduate students.

Participants targeted several prospective objectives:

- **make Europe's scientific potential more attractive to new needs, and consequently to new jobs, by increasing flexibility and mobility on the scientific labour market. Frequent misconception of the process by which basic research results in innovation is also an obstacle to satisfying these new needs**
- **remove obstacles to mobility within Europe, for instance by differentiating scientific mobility and conventional migratory movements and making social benefits more easily transferable between countries**
- **avoid disrupting current career tracks, by making the necessary changes compatible with European traditions of social protection. A simple imitation of the American job market was not estimated appropriate; the general structure of jobs, in particular within the public service, is completely different in American and European traditions. Jean-Patrick Connerade stressed that 'most of the time we do not give to science-based professions a proper career structure and a proper recognition'. Being major producers of science, postdocs should not be considered indefinitely as students**

In exchange for better recognition, career schemes in Europe should allow greater flexibility, but this should not occur at the expense of benefits necessary to make them attractive. As concluded from the presentation of a British trade unionist, an efficient statute for young researchers should associate the possibility of stable positions, as usually available in many countries, with the flexibility which characterises the contract system effective in the UK. This combination, termed flexicurity by the

German sociologist György Szell, should make the job market more fluid while avoiding the instability that is harmful for long-term projects.

Besides the need to increase funding, granting more autonomy to younger scientists at an earlier stage in their career was also considered a prerequisite to incite them to remain in Europe. This applies particularly, but not exclusively, to young scientists in Central and Eastern Europe, who are eager to participate in the reappraisal of their rich research potential, but need a greater autonomy than allowed by their relatively rigid hierarchical traditions.

The conference also recognised the specific problems faced by young scientists in social sciences and humanities, on the basis of an analysis presented by a French sociologist working at the Wissenschaftskolleg in Berlin. It was widely agreed that traditional training in natural sciences should include a higher exposure to social sciences and humanities, a very valuable asset to cope with the new constraints of scientific practice, in contrast to current schemes which become too narrow too early.

Proposals and conclusions

Discussions in each session were coordinated by a moderator and a rapporteur selected among younger members of the audience. The task of the latter was to prepare the conclusions of the session with groups of volunteering peers. The rapporteur of one of the sessions seconded the proposal of a flexible 'Statute of Young European Investigators' which could temporarily derogate to national labour rules and include transferable social benefits. A consequence of the Statute should be to facilitate establishment of temporary, trans-national targeted task forces or research teams within universities, research organisations or companies, and thus contribute to making Europe more attractive to the new research needs. Increasing the number of young scientists meeting new employment criteria could also help to establish a genuine European scientific labour market in science and technology, a major prerequisite to the implementation of the European Research Area.

The conclusions of the conference were publicised at several international forums, for example the EU Conference 'The Europe of knowledge 2020' which took place in Liège (Belgium) in 2003. At that meeting, European Commissioner Philippe Busquin and former ministers Michel Rocard from France and Mariano Gago from Portugal regretted that the implementation of the Barcelona commitments was already seriously lagging behind. Several speakers, including academics from Central Europe, expressed their concern that European universities should adapt faster to the new constraints. They agreed however that this should be achieved without dismantling the traditional Humboldt model of universities, despite claims by several high ranking academics from Western Europe challenging the model and seeing the future of universities almost exclusively dependent upon financial autonomy and market-driven competition. Paradoxically, curiosity-driven research and widely accessible knowledge for all was not really defended by academics, but by associations such as Euroscience and representatives of the EC administration. It was left to them to recall that these major missions of universities in a so-called knowledge-based society are also prerequisites to their efficacy – including in terms of returns.

A partnership with the European Union

How did Euroscience attempt to implement these proposals? The presence at the Bischenberg Conference of Raffaele Liberali, Deputy Director at the EC Directorate for Research, proved quite helpful in this respect. He had welcomed the conclusions of the conference, appreciating that Euroscience's input originated inside rather than outside scientific professions, and successfully overcame the one-sidedness of disciplinary lobbies. He thus considered that Euroscience was becoming a major player in the picture. His reaction facilitated the official follow-up of the meeting: soon afterwards, a special Committee met in Brussels and addressed several of our concerns. Recommendations of the conference were taken up in the 'Code of good practice' drafted in 2002. Considering that, under new conditions of knowledge production, assessment criteria needed to be re-appraised, the Code proposed to shift assessment of individuals

from evaluation to knowledge certification. It enumerated basic rights which should be granted to all European scientists, defined conditions of fair hiring practices in both public and private research, and provided guidelines applicable in all EU countries to improve transparency of criteria, promote equal opportunities irrespective of gender or origin, and to avoid conflicts of interests in assessment processes. Deontological guidelines were also identified for a fair management of the interface between university and industry.

The Code contributed to the removal of some legal and administrative barriers opposing mobility of young scientists. Jean-Patrick Connerade, who had been elected by that time as the new President of Euroscience, was a member of the drafting Committee. He sensitised the group to cases of unfair treatment faced by scientists. For instance, at a time when all categories of workers have to work longer in order to obtain decent pension rights, most young scientists cannot enrol in academic pension schemes before the age of 35, placing them in a very unequal status as compared to other professions.

But the most important outcome was Brussels' decision to implement the concept of a common Statute for European Researchers, a major conclusion of the conference. The concept fuelled the project of a 'Charter of young investigators' in Europe. The proposal was presented by the Commission to the European Council and the Parliament in July 2003, as an annex of the Report 'Investigators in the European Research Area: one profession, multiple careers', with the following rationale: The need to establish a career structure for researchers has only been realised relatively recently, by taking into account two factors which hinder long-term perspectives: (1) the awareness of the career structure and (2) the consciousness of the lack of long-term employment perspectives particularly for a career in academia.

The Charter acknowledged the need to give appropriate professional recognition to young scientists, including adequate and transparent salary scales, better access to career guidance and transferability of social benefits throughout Europe. Professional recognition is seen as a major key to the recruitment of a wider cohort of world

class scientists, as well as to enhanced geographical and inter-sectorial mobility, and a prerequisite to a more flexible research environment.

The adventure of the Bischenberg and its translation into action by the EU were among the first achievements of Euroscience. Most unfortunately, the general European context has not permitted so far to take full advantage of Euroscience's contribution. But the Charter and EU awareness of its importance for enforcing the European Research Area provide tools which we should be able to use as soon as science and innovation are recognised again as major European priorities, not only as a wishful thinking motto, but as an accessible goal supported by appropriate political will. Seeds have been sown; Euroscience still has a role in helping them grow, by keeping listening to the public and to societal needs, and by maintaining appropriate pressure on governments and media.

Claude Kordon



JEAN-PATRICK CONNERADE, former President of Euroscience, is Professor Emeritus of Atomic and Molecular Physics at Imperial College London (where he held the Lockyer Chair of Physics for many years) and is currently a Lifetime Visiting Professor in the Chinese Academy of Sciences. He chaired the Programme Committees of the first two Euroscience Open Fora, **ESOF2004** in Stockholm and **ESOF2006** in Munich, and is a member of the Programme Committee of **ESOF2008** to be held in Barcelona.

Phaedon and Xanthippos

A dialogue found under a stone during the restoration of a temple by the Ministry of Culture.

PHAEDON: As I passed the market this morning, I saw Cleanthis, who told me that there was a symposium last night where Alcibiades got drunk as usual and argued against everybody, until Socrates finally intervened to put him back on the correct path. Why didn't you tell me about this event? I would surely have come. It is always such a pleasure to hear Socrates discuss with Alcibiades. Somehow, it brings out the best in him, although Alcibiades always behaves so badly with him.

XANTHIPPOS: I would have told you if you had asked. But anyway, it was unplanned. It simply happened that Alcibiades was drinking wine with some friends, which included a flute player from Pyraeus, and that Socrates came by and joined the party. What did Cleanthis tell you about it anyway?

PHAEDON: Of course, I was unhappy about his reply, and asked him to tell me more. But he complained of a headache and claimed he remembered nothing, although it was only the night before. He suggested that you would know, because you had taken part in the debate, and had said many clever things about science and culture, which nobody had thought about.

XANTHIPPOS: I said nothing particularly clever, but I had heard in the morning from the crew of a boat in Pyraeus about some numbers of a new kind. They were discovered, it was said, by disciples of Pythagoras, the one who knows all there is to know about triangles. These numbers are so strange that some would call them irrational, while others find them beautiful and say they are the very essence

of numbers, and prefer to describe them as transcendental. But the truth of the matter is that nobody understands them properly, because their properties are unlike anything found before. So, it has been decided to keep even their existence secret. Too much knowledge, they say, might be dangerous, and the priests are worried about letting this out.

PHAEDON: That is surely a good subject for geometers, but I don't really see why it caused such excitement at a drinking party: I was told that a Poet had also arrived by the same boat, together with the beautiful flute player from Halicarnassus, whom Alcibiades had invited. Surely that was more interesting than a discussion about numbers.

XANTHIPPOS: They would have been. But Alcibiades was already unsteady, and you know how he can behave on such occasions. When he heard about the numbers, he became very angry. He said that these Pythagoreans are nothing but barbarians, who will invent use less and obscure ideas, and are then incapable of explaining them in simple Greek words. He even said that he thought they did it on purpose to make us feel like fools.

PHAEDON: Now, why would they do that? Surely, anybody who thinks of something completely new wants others to understand it and to realise its importance.

XANTHIPPOS: That is what you or I would have said, but Alcibiades became very agitated and could not be restrained. He said that the beauty of numbers had been corrupted, and that there was no need for new ones anyway. He said that geometry itself was useless if people could not understand it in a simple way, and that the citizens of our city should not support the school of Pythagoras if they could not think of ideas which would bring prosperity in return. He even suggested that no poet could ever write about them, so that they must be worthless.

PHAEDON: And what did Socrates say to all of that?

XANTHIPPOS: Well, he pretended not to know the reason for this outburst, but he did so in a way which showed that he understood much more about the whole matter than Alcibiades, so people sensed that an amusing debate would follow, and that there would be much to learn. The conversations around us then stopped. The flute player no longer played, because she saw that Alcibiades was not listening to her, and even the poet stopped tuning his lyre. We of course all knew that something special was in the air.

PHAEDON: I wish I had been there to see their faces, but I imagine Alcibiades just wanted to provoke Socrates. It is his way of learning, and he always claims he has no time to study because his life is so full. So, he was probably pleased that Socrates rose to the bait. How did they begin?

XANTHIPPOS: Well, Socrates was his usual sarcastic self: You are right, Alcibiades, he declared, to observe that the new numbers are useless. Unfortunately, they have been discovered. What should we do? Maybe the answer is to send a proclamation from the people of Athens to the Pythagoreans and ask them to disclaim the whole idea. If they refuse, we should arm some ships, invade their god-forsaken island and force them to renounce. After all, what is the point of allowing numbers into the world which we cannot make use of? I will use the sword which I drew in Platea to defend Athens against all discoveries which are useless. Will you join me in that?

PHAEDON: I can imagine that Alcibiades was all for it.

XANTHIPPOS: He was indeed. While Socrates spoke, he drank another cup of wine, and sent Xenopho to look for his own sword, which was a very expensive one, a gift from the lovely Hypathia. Then, the mood of Socrates changed. He seemed suddenly con-

cerned: What should we say, Alcibiades, to those people who believe in composing and singing songs? Clearly, we should not allow them to stay within the walls of our city. What is their purpose indeed? It seems to me that the song writers are also useless people. What do you think?

PHAEDON: Alcibiades must have been hurt. Not later than last week, he wrote a song for Hypathia, and half of Athens knows it already by heart.

XANTHIPPOS: Well, of course, everybody thought of that, and probably he did as well, but he had become quite heated, so he had to agree with Socrates. Against his better judgement, he admitted that only useful people should stay within our walls, and that we should indeed cast out the song writers with the abstruse mathematicians.

PHAEDON: How disappointing! But rather typical, I would say.

XANTHIPPOS: This, however, was not enough for Socrates. If we cast out the song writers, he said, then this will be of little use if there are still people around who can teach how to play the lyre. So the poets had better go with them. Of what use are poets anyway? Homer says that all they do is wait for the gods to cast misfortunes upon us, so that they can sing the exploits of heroes and celebrate the fall of Troy. Send them away, and perhaps the gods will leave us alone to live quiet and happy lives. Will you join me in an expedition against Parnassus and turn them all out?

PHAEDON: A good point, and I like it. Anything which can make the gods lose interest in us should be supported. I bet that Alcibiades was pleased.

XANTHIPPOS: Well, by this time, he was getting a bit worried. Only, it was too late to retreat. So, he stood his ground bravely and

agreed that the poets should follow the mathematicians into exile in some far-away place. Now, said Socrates, I am at last persuaded that we will all be happy. And what should we do about the historians? They, after all, keep reminding us about things which no longer happen, and the geographers are always interested in places which are so far away only monsters care to live in them. Admittedly, they are not as bad as the poets, but then I am deeply worried about the philosophers. They keep asking questions to which nobody knows the answers and challenging the wisdom of the oracles. Should we keep them? Should we throw them out? I fear that they may be even more harmful than all the others put together.

PHAEDON: What a question! I am sure Alcibiades was getting hot under the collar...

XANTHIPPOS: Reluctantly, he agreed that they would have to go. At this point, the audience cheered, and we all emptied our cups of wine to celebrate their disappearance. Well, said Socrates, that is very reassuring. Without all these people, our city will be peaceful indeed. There will be nothing to argue about, and our children will learn only useful words, the ones which are valuable for trade in the market place. So many complicated terms which make Greek difficult to master will just disappear. Indeed, there will be no point in reading or writing except for keeping lists of the things which exist already. But I have heard it said that the Barbarians, who were so roundly defeated by us in the last war, have now withdrawn far away from Greece. Maybe all these people will go and join them. It would be rather amusing if our mathematicians, song writers, philosophers, geographers, historians and poets were all to end up among the Persians. What do you think? Would they stay together, or would they live apart? Would they continue to speak Greek, or would they all learn Persian? Would they give up mathematics, music, science and poetry, or would they teach the barbarians how to think? In fact, who would the barbarians be if all these people lived among the Persians, and where would our children and the children

of our children prefer to live? Alcibiades, please help me. I begin no longer to understand the course we have embarked upon. How did we get from chasing away the new numbers to emptying our city of its culture? Could it be that there is some connection between the two?

PHAEDON: By now, Alcibiades must have been either totally drunk or in complete disarray...

XANTHIPPOS: It was actually a bit of both. However, he bawled, our city will be rich. All the money we waste on culture will be saved. And we will only have kept what is useful within our walls, so we will be able to afford any of these useless luxuries should we suddenly decide to buy it back. Just look at my flute player. Isn't she beautiful? She came from Halicarnassus on a phenecian boat and stayed with me for just 50 gold pieces. Do we need to teach our own girls to play the flute?

PHAEDON: That was a revolting comment. Alcibiades has no shame. How could he be so rude to the poor girl?

XANTHIPPOS: That was exactly what she thought. She may have been a foreigner, but she was very fiery and obviously had some grit. She picked up her flute, threw the gold coins back at Alcibiades like so many stones and ran away, shouting that she would never play any music for any Athenian again.

PHAEDON: Alcibiades must have had quite a shock. That was an unexpected turn. He always thinks that just being Greek is enough to be the essence of culture and to have the whole world at his feet.

XANTHIPPOS: Socrates, of course, was quite pleased, even if he did not show it. He doesn't like to see Alcibiades surrounded by beautiful women. Hypathia is bad enough. But the most amusing thing was to watch the behaviour of the poet.

PHAEDON: What do you mean by that? Did he also run away?

XANTHIPPOS: I guess he would have liked to. But poets, you know, have a difficult time as they are always so short of money. So, he pretended he hadn't seen what was going on, and just waited around a bit in case Alcibiades was drunk enough to throw some of those gold coins in his direction. Of course, he can't have been much good. A proper poet wouldn't have done that, I think.

Jean-Patrick Connerade



FREDERIK WITTOCK started his professional career after earning a degree in Modern History at the University of Ghent with advisor positions for several Belgian Ministers (Science Policy and Public health). Currently he is head of R&D Pharma communication for J&J outside US. Before joining J&J PRD in 2004 he worked for five years for the European Vaccine Joint Venture Aventis Pasteur MSD (now Sanofi Pasteur MSD) where he was responsible for the communication process in Northern Europe.

Faster from bench to bedside – and back again

Dialogue is the basis for breakthrough innovations

In 2004, Johnson & Johnson Pharmaceutical Research and Development was one of the first pharmaceutical partners to join the Euroscience initiative. The company will again be an active participant when the third Euroscience Open Forum convenes in Barcelona in 2008. 'We remain convinced that our collaboration with Euroscience stimulates the creation of innovative pharmaceuticals and accelerates their clinical application,' states Frederik Wittock of J&JPRD.

'The initiators of Euroscience really led the charge for open dialogue on the role of science in society,' declares Wittock, Director Global R&D Communications Europe at J&JPRD. 'Since Euroscience began ten years ago, it has been instrumental in creating a breeding ground for ideas that make Europe the most competitive, dynamic, and knowledge-based economy in the world.'

Broadening horizons

When asked for the highlights of their participation in Euroscience, Wittock responded: 'Euroscience is the perfect combination of interdisciplinary, pan-European networks, and collaborative clusters. It gives our researchers the opportunity to meet interesting people, exchange ideas, and share knowledge. In other words, it enables them to broaden their horizon. That has given real leverage to scientific progress in general, and to pharmaceutical steps forward at J&JPRD in particular.'

Knowledge flows in both directions

Euroscience also contributes to what is called translational research: the translation of basic research in the laboratory, into clinical applications. Because of initiatives such as Euroscience, this has become more and more of a two-way street, emphasises Wittock. It is a case of scientists providing clinicians with new tools for treating patients. But at the same time, clinical researchers are making novel observations about the nature and progression of disease, which in their turn, stimulate basic investigations.

Anchoring European expertise

Thanks to Euroscience, young researchers are quickly discovering that they don't have to cross the Atlantic to find fascinating career opportunities. Wittock observes that J&JPRD benefits too. 'As one of the active partners of Euroscience, we attract the attention of new classes of highly-skilled and creative professionals entering the job market.'

Key note speakers and debates

J&JPRD is already preparing for their third participation in the Euroscience Open Forum that is being organised for July 2008 in Barcelona. 'We are working on something special for the tenth anniversary of the organisation,' reveals Wittock. 'We are asking our top researchers to expound on their views of how patients might benefit from promising medical breakthroughs earlier; in other words, how to accelerate from bench to bedside. We expect that this will stimulate a great deal of constructive debate and a fruit-ful exchange of ideas.'

Frederik Wittok



CARL JOHAN SUNDBERG is a Licensed Physician and Associate Professor in Physiology at Karolinska Institutet. His research is focused on molecular mechanisms of angiogenesis and mitochondrial biogenesis in human skeletal muscle. He is Coordinator Science & Society at the President's office at Karolinska Institutet and has extensive experience from science communication having designed several medical exhibitions at science centres and worked in the medical units of Swedish and American media. He has among other awards received the Karolinska Institutet 1998 Prize for Teaching Excellence and the European Commission's 2005 Descartes Communication Prize for Excellence in Science Communication.

The birth and growth of the Euroscience Open Forum: an arena for dialogue and influence

Diversity and fragmentation: the need for a common arena for dialogue on science

Diversity is one of Europe's true strengths through its intertwined history. It has allowed creativity, idea development and innovation to flourish in some places when not allowed or possible elsewhere. Fragmentation, which can be another aspect of diversity, has in modern times often hindered collaboration and competition in science and technology development. For Europe to live up to its full potential, critical mass and an open and level playing field are needed. Only then can science and innovation quantity and, most important, quality, be enhanced.

An important example of fragmentation has been the absence of any independent recurrent arena for open dialogue on and about all the sciences at the European level. While there in different settings had been lots of talk on how to strengthen Europe's research base, there was no single place in time where the voices of scientists and other supporters of science could communicate. What European researchers were lacking was a forum involving all stakeholders in the sciences and the humanities. Euroscience, being a grass-roots association with a bottom-up vision of science governance took the bold step of setting up such a forum, open to all researchers from all disciplines with an interest in European Research. One of the main hopes was that such a meeting would help bring science and knowledge higher up on the agenda of European society.

Science and innovation: keys to the future of Europe

The main conceived aims of such an open arena were to present science and the humanities at the cutting-edge, stimulate scientific awareness and foster debate on science and society. Other goals were to:

- bring together scientists from all fields
- create cross-disciplinary interaction
- enable communication between the public, politicians, policy makers and the media on current trends and future roads for the sciences
- establish a broad dialogue on and about science
- stimulate popular science presentations of front-line research
- facilitate the formation and further development of a European research area
- enhance the European public's awareness of and interest in science and technology and
- enhance scientists' awareness of the public's rightful role

A meeting was already proposed at the founding of Euroscience

Already in 1997 the Euroscience Governing Board approved a proposal by Robert Klapisch and Françoise Praderie to co-organise a 'Transatlantic colloquium' with the AAAS. This was to contain: (1) plenary sessions on breakthroughs in science and technology, reactions of society to challenges caused by advances in science and technology, and science policies; and (2) parallel sessions and workshops on various topics. Around 600 participants were envisaged. In February 1998 a meeting with leading officials, among them Al Teich, was held in Philadelphia and a follow-up meeting was organised in Paris in May 1998. For various reasons the planning was discontinued.

Five years between the initial proposal and the first Euroscience Open Forum in Stockholm

Therefore, in my role as Euroscience Governing Board Member, in December of 1999 I made the proposal that Euroscience should organise a large, interdisciplinary, recurrent meeting to be first held in Stockholm 2004. The intention was to attract researchers and students from the academic world, industrialists, politicians and policy makers, journalists, teachers and the public to one meeting place. Support for the meeting was envisaged to come from foundations, grant organisations, companies and the European Commission. To retain the independence of the meeting, the goal was to be supported by many and dominated by none. The proposal was supported by the Governing Board, led by Claude Kordon.

In search for partners

Now that I had made this seemingly bold proposal, it was time to get to work. First, I identified possible partners that could have an interest in such a meeting. I first contacted *Nature* and in February 2000 met representatives of the journal that expressed a clear interest. In the same month I went to the AAAS Annual Meeting to try to better understand the scope, content and organisation of that well-established and very important meeting. Later in the spring I contacted the Swedish Research Council and the European Commission. At the Euroscience General Assembly in Freiburg in July 2000 the proposal and initial plan was presented. In September a meeting was held with European Commission representatives that expressed some interest but no clear commitment. In September I met the Swedish Minister for Education and Research. The European Science Foundation, not least through the efforts made by the ESF Head of Communications, Jens Degett, was an early supporter of the initiative.

In November 2000 the status of the project was presented to the Euroscience Governing Board. Bottom-line: at that time there was a great general interest among all tentative partners contacted but yet no definitive support. Nevertheless, the Governing Board decided that I should continue the project.

First support from Swedish agencies and foundations in 2001

During 2001, several meetings were held with the Swedish Research Council, the tentative project hosting organisation. In September a key meeting was held with six Swedish funding agencies and Hans Wigzell, science adviser to the Prime Minister. Approximately 550,000 Euros was committed there and then. This was a first key moment since this allowed the build-up of an organisational structure and recruitment of team leader. Immediately after this meeting, 1000 hotel rooms were blocked for the time of the meeting and the conference centre was reserved.

Project leader selected

In December the successful initial support was reported to the Governing Board and the new Euroscience President, Jean-Patrick Connerade, at a meeting in Paris. In January 2002 I met with Philip Campbell, editor-in-chief at *Nature*, who expressed a clear interest in the meeting. In the same month an advertisement for project leader was placed in *Nature*. During the winter and spring several meetings were held with the head of the Swedish Research Council, the Swedish Minister of Education and Research. In March a more detailed planning meeting was held in Berlin. Fifteen applications came in for the project leader position and six interviews were held. Gabriella Norlin, with science communication and international experience was selected to become the first project leader.

Extensive support from German foundations

During this period two German organisations, Robert Bosch Foundation and Stifterverband (with 3000 German companies and associations as members) through Ingrid Wüning and Ekkehard Winter approached the project and expressed strong commitment to the idea. This was the second key moment for the project – it was no longer just Euroscience and Swedish organisations that contributed resources. To raise more money, a part time fundraiser was hired.

In April a second meeting was held with Rainer Gerold, head of Science and Society at DG Research at the European Commission.

As a consequence of this dialogue, the European Commission eventually included in the FP6 Science and Society Action Plan the following text: 'The Commission will examine, with representatives of the European scientific community interested in the promotion of science, the feasibility of holding regular events of high visibility and quality ('A European Convention for Science'). The Commission would assist in holding a major inaugural event in 2004 involving the widest possible range of stakeholders interested in science and technology at European level.'

In May the project leader was hired and a large launch meeting was held involving media and all stake-holders to date. This was the real beginning of detailed planning – now the project was in my mind unstoppable, even though most of the work remained.

What's in a name?

At the first Steering Committee meeting in Bremen a fitting name for the meeting was proposed by Gabriella Norlin, the project leader. It was agreed that the name Euroscience Open Forum (ESOF) signalled the scope and character of the meeting. It was clear that the task ahead was daunting. Virtually every organisation and person contacted thought that a meeting of this kind was a very good and worthwhile idea. Still, there was a long road left until sufficient support could be raised and a relevant meeting programme could be developed.

Programme and organisation

To involve and reach all the different target groups an ESOF meeting must consist of different components. The Scientific Programme with a mix of bottom-up proposed and top-down initiated keynote speeches, plenary sessions, workshops, roundtables and debates is the core feature. The Career Programme, in collaboration with the scientific journal *Nature*, was directed to young scientists. The public is a very large contributor to science funding and the results of science are important to us all and knowledge is a corner-stone of democracy. Therefore, scientists have to reach out and involve

themselves in a true dialogue on and about the sciences. The Outreach Programme with hands-on experimentation and curiosity-based questioning are key elements and some activities include art and theatre as communication tools. Other elements of ESO F are Award & Prize Ceremonies, an extensive Exhibitor's programme, Social Events and Satellite Meetings. Together, they comprise multiple content and formats which should meet the different needs of attendees.

Team recruited

To deal with all this, a first team for ESO F2004 was recruited and an organisational committee structure was established. The team grew to seven people, and they did all the daily work with committees, marketing, programming, site planning etc. A steering committee led the work and coordinated the work in the marketing, programme, local organising and finance committees.

Resources for and awareness about the meeting

From the summer of 2002 the work was focused on fundraising and the structuring of the programme components. The total budget for the project was close to 2 million Euro. About 32 % came from Swedish funding agencies and foundations, 5 % from Swedish industry, 23 % from German foundations, almost 24 % from the European Commission, 3 % from European industry and 2.5 % from American companies. Registration and exhibitor fees covered the remaining income.

The September 15, 2003 dead-line for **the call for proposals** was announced through advertisements, posters sent to 3000 European academic institutions and other organisations and through editorials and interviews in science and other media. Also, the website www.esof2004.org was built up and web-links to this site grew rapidly. Concurrently, invitations were sent out to keynote speakers, e.g. Nobel laureates and other leading scientists, policy makers and industry leaders.

Four times more proposals than could be fit into programme

Around 250 proposals were submitted – a much higher number than anticipated. In the fall of 2003 the Programme Committee and the referees conducted the review process in which 60 proposals were finally selected.

In December 2003 a large meeting involving over 50 people from all ESO F committees and the team was held in the Nobel Forum at Karolinska Institutet in Stockholm. Shirley Malcom from AAAS participated as external adviser.

To express and assure transparency and the 'democratic' features of ESO F, an ESO F governance document was presented early 2004 by Peter Tindemans and others. In this document the aims, organization and financial requirements for host cities, governance and selection procedure were described in detail.

Over 1700 participants at ESO F2004 and 2200 ESO F2006

We hoped that ESO F2004 would attract over 1000 attendees – finally over 1700 took part. This in itself was a formidable success. Likewise, the demography of the meeting was compelling with a good mix of scientists, science communicators, students, industrialists and policy makers including Members of the European Parliament. In Munich 2006 that number was topped and the programme refined including a further developed Career Programme and the hugely successful 'BAX-Change' interactive summing-up in the Biergarten at the end of each day led by the incomparable BBC science journalist Quentin Cooper.

The vast majority of the participants at ESO F2004 came from all over Europe (with a large contingent from the host country). There was also a significant number of attendees from North America (61), Asia (60), Latin America (7), Africa (11) and Australia (6). The Outreach Programme in streets, squares, theatres, museums, cafés and schools attracted 11,000 in Stockholm and over 50,000 in Munich.

The media impact around ESO F2004 and ESO F2006 was massive with close to 1000 news items in national and international media. This was naturally due to the large presence of journalists and other science communicators at both meetings: 350 in Stockholm and over 500 in Munich.

What have we learnt?

One main insight has been that a relatively small number of determined people can accomplish a lot, e.g. organise a large meeting of the ESO F kind. Another insight is that it is not possible without strongly engaged partners that bring knowledge and resources into the project.

The meeting, albeit relatively successful, needs to develop continuously. One main feature and aim – to foster an interactive and open atmosphere in the sessions held – needs to improve further. I wish that more of the sessions devote more time for open debate and dialogue where the audience and the immense competence in it plays a larger role. This could be accomplished in part by a stronger moderator function, possibly with experienced science journalists in a lead role.

It is clear that the Euroscience Open Forum already has become an indispensable element of the European science meeting landscape not least because it is the only multidisciplinary independent forum for critical discussions on the present state and future of European science and science policy. It has become an important place and time for scientists and others engaged in science to learn, to raise their voice and debate, i.e. to influence. Also, it is a formidable occasion to network with and get to know people that shape what Europe will be.

European cities compete to host ESO F

The call for bids to host ESO F2008 and ESO F2010 attracted proposals from three and five cities, respectively. It was very hard for the ESO F Governance Committee to select the hosting city in these two extremely competitive processes. Finally, Barcelona was selected for 2008 and Torino for 2010.

The mission going forward includes: (1) the organisation of around 3500 participant strong ESO F meetings with the highest quality, relevance and usefulness; and (2) consolidation of the ESO F organisation with establishment of a permanent presence of ESO F staff at the Euroscience office and a sustainable funding structure.

Finally, I wish to acknowledge the immense work and substantial contributions made by all the great people, organisations and partners that have made the Euroscience Open Forum possible!

Carl Johan Sundberg



PHILIPPE BUSQUIN has a scientific academic background in physics. Belgian Minister of State, European Commissioner for Research (1999-2004), he is currently member of the European Parliament and Chairman of the European Parliament's Scientific Technology Options Assessment (STOA) and of the 'Sky & Space' Intergroup. In the cultural field, Philippe Busquin chairs the 'Domaine du Château de Seneffe' and 'Charleroi Danses', the choreographic centre of the French community in Belgium.

The ERA – seven years on: a personal perspective

Euroscience and the European Research Area (ERA) are nearly the same age. Euroscience, the elder of the two, is an organisation rooted in the scientific community, and always keen to provide a European dimension for research, was established prior to the creation of the policy concept of the ERA at the Lisbon summit in 2000. The idea of a European research space has already been developed in a work by Antonio Ruberti, Research Commissioner in the 1990s and Michel André, the eminence grise of the Research Directorate General in the Commission. It was at the start of my mandate as Commissioner for Research, having held consultations with many actors from the research domain across Europe, that I transformed the theoretical idea of the ERA into a real policy proposal.

On my initiative, the European Commission adopted a first text of strategic significance – 'Towards a European Research Area'. There one can read 'The principal reference frame for research activities in Europe remains national. The average of the different European scientific and technological initiatives, whether community based or inter-governmental, does not exceed 17% of the total public civilian expenditure in Europe. The principal instrument used until now at the European level is the Union's Framework Programme. In financial terms, it only represents around 5.4% of the total public civil investment. If this continues, even though the results show the effectiveness of this instrument in stimulating international cooperation, it does not allow us to provide the best organisation for European research activities. Today, in reality, the European research activity is simply the addition of the efforts of the 15 (then) Member States and those of the Union. The fragmen-

tation of efforts, isolated and separated national research systems and the disparity of the administrative and financial rules, have the consequence of aggravating the effects of a lower global investment in knowledge.'

The Sixth Framework Programme was conceived as an instrument to put the ERA into effect. The 'Integrated Projects' and the 'Networks of Excellence' have contributed to the integration of the capacities of major projects and common programmes. The Sixth Framework Programme allowed for the reinforcing of activities in the domains of infrastructures and human resources with the special emphasis on the problem of researchers' mobility.

Moreover, we adopted, in Florence, a European researchers' charter to recognise this career and inspire people to follow its magnificent knowledge trail. One must also note that, if Europe is to attain the objective of 3% of GDP devoted to research, then we are going to need more than 600 000 researchers in the years to come.

The Seventh Framework Programme, under my successor, Janez Potocnik, has combined the actions already in place and has given the ERA two new means to anchor and accentuate the community character of European research. I am referring to the European Research Council and to the Joint Technology Initiatives. However, we all regret that the budget proposed for the programme was reduced.

The European Research Council will, for the first time, allow us to support basic research at a European level and give greater acknowledgment to our best researchers. The Joint Technology Initiatives, based on a public/private partnership is aimed at securing the competitiveness of Europe in such strategic domains as aeronautics, space, new forms of energy, perhaps hydrogen and innovative medicines.

It is also important, in the frame of the ERA to develop relations between the world of science and society and, in this regard, the Framework Programme has developed means to support all such activities with a view to strengthening this dialogue and to

combat the disaffection with science that has been reported from everywhere in Europe.

For several years, this idea that one must build new bridges between the world of 'techno-science' and the general public has been a key track in Europe. The initiatives for the development of science communication are multiplying in different countries. In Belgium, the Science Spring has become a wide ranging event with the support of public authorities. During one week, the universities and advanced colleges open their doors to the public, welcome schools, show demonstrations and are prepared to enter into debates. This event has met with growing success attracting tens of thousands of people each year, among whom there are plenty of children, into the institutions' laboratories. Another example is the scientific adventure park at Mons, in which the public authorities have already invested more than 25 million Euros. The Flemish Region, for its part, has created a Technopolis at Mechelen. In 2004, France, for its part, launched a national plan for the development of science and technology which understood the importance of communication, to make the science course in schools more attractive, to encourage the media to report on the latest scientific news and technological development, to participate in the 2005 Physics Year and to create a Jules Verne Fund to support the popularisation of science through publications.

For its part, in 2001, the European Commission adopted an Action Plan called 'Science and Society' which followed the same objectives in an all embracing way. Most notably, Brussels proposed to establish a better interaction between the scientific community and the media, creating a special prize for scientific communication, creating synergies between the various Science Weeks across Europe, sensitising them to the European dimension of research through the Science Weeks in Europe, developing and broadcasting pedagogic research about science and technology, promoting more attractive methods of science education in schools, launching a comparative assessment in the area of scientific studies and careers, putting in place networks of natio-

nal institutions, a European platform for women scientists and an observatory of information and documentation on questions of ethics etc. Some are rather vague while others, however, are very concrete.

The budget in the Sixth Framework Programme foreseen for this ambitious plan of action was 80 million Euros for the period from 2003 to 2006, which is 0.5% of the total budget of the Framework Programme. For the Seventh Framework Programme, 360 million Euros have been set aside. This is an excellent growth to be used for even better activities.

The same theme of the divorce between public opinion and science equally encompasses the question of the recruitment to the various scientific fields. Taking the data compiled by the European Commission, the number of graduates in science and engineering has grown during the course of the 1990s at an annual average rate of more than 2%. Of course the situation differs from one country to another. Countries such as Spain or Sweden have registered a strong growth. Others, such as Austria, Germany or the Netherlands have witnessed an effective reduction in the numbers of graduates in science and applied science. In France, the Borchet Report (2002) reported no disaffection towards science in secondary education. On the other hand since 1995, the number of science students registered a reduction in recruitment at the higher education and university level – down 5 to 6% between 1995 and 2000. But to look at this more closely, one sees that, above all, it was the first classes in higher education in chemistry and physics which lost students. Others maintained a steady level in the universities, for example, biology or Earth sciences, the engineering sciences or scientific training undertaken in non-university higher education.

However that may be, as far as its evaluation can be objective, the lessening of interest in science studies has not stemmed from a negative image of science by the young. The Eurobarometer 2001 shows in a EU wide survey of around 16000 individuals that only 34% of the young said that they were giving up science

for this reason. It is more a matter of the education system which is in question: 67.3% of the youth questioned estimated that the science courses were not sufficiently attractive and 58.9% found that science was too difficult. The young tend to go towards other studies, less long and with what they consider having an aspect of play.

It is difficult to ignore that the Commission action plan is almost silent on this most essential chapter: Education. Not having the legislative competence in this matter, the Commission is, in effect, reduced to encouraging reflection groups brought together from the Ministries of Education of the Member States.

The Rocard Report, 'Scientific education today: a renewed pedagogy for the European future', synthesised the conclusions of a group of experts, set up in 2006 by Commissioners Potocnik, for research, and Figel, for education and training and launched an appeal to those responsible in European politics to make the revision and repositioning of science education a priority.

The report praises the methods of science education of a more exploratory and active nature rather than deductive, giving special attention to the improvement of the position of girls in science, creating a better cooperation between the actors in the education and higher education domains, setting up networks etc. In Europe, two innovative initiatives will lead to the growing attractiveness of the scientific education profession. They are 'Pollen' and 'Sinus Transfer' both aiming to promote a change in pedagogic approaches. The support of the Union across the Seventh Framework Programme and of the Education and Culture Programme will be welcome.

In the global frame of science and society, Euroscience plays a dynamic role, between the 'Euroscience Open Forum' – ESOF – and ongoing works for a scientific community convinced that the European dimension is indispensable.

We must continue to start new activities. In the first place, it is indispensable to start a common methodology for the evaluation of science and technology which is more than just national

analyses. STOA, the Scientific Technology Options Assessment group of the European Parliament, in liaison with similar groups from the national parliaments grouped under European Parliamentary Technology Assessment, are engaged in this activity.

Finally, we must place ourselves within a global system in order to work with partners to meet global grand challenges such as pandemics, energy, water, and climate change. However, in particular, we have a duty to support a well equilibrated scientific collaboration with Africa.

Overall we must reaffirm with all our strength the essential value of the freedom of scientific research and the renewed support for knowledge as a vital element for the future of Europe.

Philippe Busquin



ALMA SWAN is an elected member of the Governing Board of Euroscience. A biologist by training, she held a faculty position in the University of Leicester and later moved into science publishing. In 1996, she set up a consultancy (Key Perspectives Ltd) specialising in science communication and publishing; she carries out research on developments in digital communications and is active in framing policy internationally in this area, an expertise that adds to existing experience in this area at Euroscience.

The voice of science in Europe?

Right from the start it has been the mission of Euroscience to establish a broad and substantial membership base. With individual members from over forty European countries plus corporate members spread across Europe, the organisation has enjoyed considerable success in this mission, though of course it is not resting there. It constantly reaches out to scientists and scholars across the continent, whatever their discipline and nationality. There is a virtuous circle: the stronger the membership, the more influence Euroscience can wield; the more Euroscience is seen to influence the European science arena, the more likely people are to want to be part of it.

Of course, all of Euroscience's efforts have been made with the benefit of scientists ultimately in mind, but the purpose of this essay is to demonstrate to members – and potential members – some of the specific things that Euroscience has done for you, the working scientists of Europe, over the last 10 years. An organisation is only attractive to belong to if it really does speak up and act on behalf of its member constituency. Has Euroscience done this? What has taken shape, what has been improved over that decade because of Euroscience? What difference has it made?

Euroscience has made a difference in many ways. The main themes are these: exerting influence on the European Commission and other bodies regarding the governance of science in Europe; creating opportunities for dialogue and debate; putting in place mechanisms that help to integrate scientists across Europe; establishing initiatives to help young scientists; communicating about science to audiences outside the scientific community; and advocating for, and helping to put in place, pan-European structures to support and reward scientific effort. Euroscience is also an information resource

in its own right, providing members and others with authoritative information and data on issues that affect science in Europe and in general.

A number of these main themes are covered specifically and in detail by other essays in this volume: Claude Kordon describes Euroscience's efforts on behalf of young scientists, a vital programme of activity that strengthens the foundations for science in Europe over the next few decades. Claude also reports on the development of a European Charter for Researchers, something in which Euroscience played a key role and which forms part of what I have termed the support and reward structures for scientists. Another component of this is the European Research Council (ERC): this development was many years in the making, during which Euroscience was well-represented, making representations in support of the concept. Five members of the Scientific Council of the ERC are Euroscience members. Wilhelm Krull tells this story elsewhere in this volume. And of course, as Euroscience grew and matured, so did the European Research Area, the integrated research homeland of all European scientists and which Euroscience has influenced greatly. Philippe Busquin describes the long companionship of Euroscience and the ERA in another essay in this volume.

Euroscience cannot claim to be the voice of European scientists unless it can demonstrate that it has influenced policy at top level. So how has Euroscience been active at governmental level in Europe? From early on, Euroscience has participated in the development of EU Framework Programmes (FP). A Euroscience response was submitted to consultations about FP5 and a number of members were nominated as members of Expert Advisory Groups, resulting in two being appointed. Documents were also prepared by the Science Policy Work group to inject ideas in the upcoming FP6. The same WG has also produced expert input on draft directives, such as the one (2001) on harmonising aspects of copyright and related rights, on which several members of the Commission and MEPs were contacted to raise the issues of free downloading and photocopying of electronic documents for the scientists. Later on (2006), when this directive came for approval by the French Parlia-

ment, Euroscience-France again lobbied the two chambers of the Parliament in order to ensure that exceptions for education and research be included in the law. A similar action was undertaken in Germany.

In March 2006, The EC solicited comments on its recommendations published in a Study on 'The Economic and Technical Evolution of the Scientific Publication Markets in Europe'. The Science Publishing Work Group prepared an opinion paper, focussed on 'Open Archives' as repositories for scientific publications. These comments, presented on behalf of Euroscience to the Commission, were extensively quoted in the final report.

Dialogue with Commissioner Philippe Busquin continued over the years, and quite intensively. A Euroscience delegation, led by the then President, Claude Kordon, met with Commissioner Busquin at the beginning of 2000 to explain what the aims of Euroscience are and what it had achieved up to that time. The Commissioner always read – and sometimes wrote for – *Euroscience News* and Euroscience engaged him in correspondence whenever issues of importance to science were on the table at the Commission. This continues to the present, with Euroscience sending opinions and delegations to Brussels to represent the interests of scientists to the current Commissioner for Research, Janez Potocnik, whenever appropriate. In recent years the European Research Council has been proposed, debated, planned and, now, established: at every step of the way Euroscience strongly influenced this development, taking the idea out to the research community, listening to its opinions and representing its views at the many meetings and consultations that took place. The proposed European Institute of Technology has even more recently been the focus of similar debate and Euroscience continues to monitor and discuss developments on this issue, one on which there are some great differences of opinion within Euroscience itself. On a national stage, Euroscience played its 'European watcher' role as the French research structures were revised and reworked, helping the movement 'Sauvons la recherche' to broaden its views to European perspectives and contributing to the organisation of the European session during 'les Etats généraux de la recherche' in Grenoble in 2004.

The targets set by the Lisbon (2000) and Barcelona (2002) Declarations have yet to be attained. The aims are for the EU to become the foremost knowledge-based society by 2010 and to devote 3% of EU average GDP to research by that time. The President of Euroscience in 2004, Jean-Patrick Connerade, wrote to all heads of government and all research ministers of signatory countries asking them what actions they had taken and whether they considered they would meet the targets – a simultaneous request for a progress report and a wake-up call. Governments reacted in general very positively to this Euroscience attention, many starting a dialogue with Euroscience on scientific matters and enabling better understanding of what must be done to promote and protect Europe's science base. Another letter from Euroscience went to the same targets, and to the press, in support of the European Space Agency when its future was under debate in 2004.

Dialogue and debate have been a prominent theme in other arenas, too, over the decade. Euroscience has participated in and organised many conferences and meetings. One example was the EU-sponsored Euroscience conference on The Science and Technology Based Professions, which discussed harmonisation of salaries and benefits for scientists across Europe and a charter for young scientists that could increase their mobility. Indeed, improving the lot of young scientists, and particularly the issue of their mobility within the continent, has been a major thrust of Euroscience's efforts. Sometimes Euroscience meetings have been held in collaboration with other scientific bodies, such as the one jointly organised by UNESCO, ALLEA (All European Academies) and Euroscience on fair practices in science at European level. The principle of working alongside other bodies representing scientific interests has been upheld since Euroscience was born, and close links have been forged with, for example, the British Association for the Advancement of Science, the European Association of Research Managers and Administrators, the European Physical Society, the Bernard Gregory Association and, very importantly, with AlphaGalileo, the European science press agency with which Euroscience has a close and mutually beneficial relationship.

AlphaGalileo does much to bring science to the attention of the media and, through the media, to the European public. Euroscience puts much effort into this aspect of its remit, too. From writing to all the candidates for the French presidency in 2002 and to all the candidates in the subsequent German general election and again to the candidates of the French presidential election of 2007 to bring European science policy issues to the forefront of political debate, through lectures, talks and speeches, the successful science cafés run by some of Euroscience's local sections (they have taken root in Belgrade, Brussels and Geneva), the Euroscience Science Writers Award, the participation of Euroscience as one of the organising consortium of EUROPAWS (European Public Awareness of Science and Engineering), to being a collaborating partner in EuroWistdom (European Women in Science TV Drama On Message), a project tackling the lack of female role models in science and engineering in television, for which Euroscience's network of scientists provides advice, information and support for TV writers, the organisation has reached out to the general public in many ways. The most ambitious of all is our own ESOF, the Euroscience Open Forum, now a biennial event moving between European cities and drawing huge numbers of attendees and acting as a conduit for information and debate between scientists while simultaneously taking science directly to the European public and informing them on what is happening in our laboratories and offices, and why. Carl Johan Sundberg presents a full account of ESOF elsewhere in this volume.

Helping to establish structures for supporting science and for rewarding scientists has also been an element of Euroscience activity. I have already mentioned the European Charter for Researchers and the European Research Council, instrumental in generating an expert scientific workforce and funding its endeavours. In the context of practical support, Euroscience has taken up the issue of researchers' visas on various occasions with the result that a Directive has been issued by the European Council facilitating the admission of third country researchers. On the issue of rewards, one Euroscience reward scheme was established in 1999 – the Rammal Award, bestowed each year on an outstanding scientist working in the Medi-

terranean countries. Another more recent development, and one with the next generation of Europe's scientists in sight, has been the establishment of a prize for high-school science students: this has been organised by the Euroscience Léman section (the Geneva area) in collaboration with the University of Geneva and other partners.

And that brings me to regional sections and other Euroscience initiatives for bringing Europe's scientists together. Euroscience currently has eleven regional sections, each of which plays an active role in involving scientists in their area in various activities and campaigns. The integration of scientific communities across the continent is aided and facilitated by such on-the-ground local activism. At a higher level Euroscience has also made moves to ensure greater scientific cooperation, especially in the use of scientific facilities. The Working Group on Integration and Collaboration in European Science has been active in this, being involved in various events including the UNESCO World Conference on Science in 1999.

We end the Decade of Euroscience with nine active Work groups. I have mentioned above the one on Integration and Collaboration. The others are on Education, Ethics in Science, Industrial Science & Technology, Public Awareness of Science, Science Policy, Science Publishing, Science and the Urgent Problems of Society and Technology Transfer. All of them are active in organising meetings, facilitating debate, producing guidelines, influencing policy in Europe. To give just one example, the Technology Transfer Work group has established regional groups in Russia, Ukraine, Romania and Georgia, plus groups on biotechnology and nanotechnology, and undertakes training, awareness-raising events, meetings, workshops and projects.

Surely there cannot be any academic researcher or scientist in Europe whose interests, concerns and hopes do not fall under one or other of those headings. So, can Euroscience legitimately claim to be **'the voice of science in Europe'**, as it does in its by-line? The answer is clearly 'yes': no other organisation represents such a focused yet geographically-spread membership. But we are not sanguine.

Such claims to fame must be constantly backed up by hard work and effort if they are to remain valid. We would like more members, more activities on the ground, more ideas flowing up through the organisation, more progress.

Euroscience has always worked on the principle that there is more commonality amongst European scientists than division. It is true that we all work in independent nations that themselves have some considerable degree of control in shaping our working lives. But science has always been a trans-national endeavour and our commonalities have traditionally transcended geographical and political boundaries. The concept of a single, authoritative voice for Europe's scientists is as important now – perhaps more so – than it was ten years ago. This volume describes the achievements of what I have labelled The Decade of Euroscience. I revise that. It should be The First Decade of Euroscience. Now we enter another one. There will be much to tackle and much to do in this one, too, everyone!

Alma Swan



WILHELM KRULL is the Secretary General of the Volkswagen Foundation, Germany's largest private funder of higher education and research. Dr. Krull has been and still is a member of various national and international committees, advisory panels and boards. He is a founder member of Euroscience, and he also founded the Euroscience Foundation for the Advancement of European Science and Culture. Since 2000 he has been chair of its Board of Trustees. He is currently also the Chairman of the European Foundation Centre.

Small, timely, and powerful: Euroscience, the European Research Council, and foundations

Paving the way

When in 1996–1997 the founders of Euroscience started to work on realising their vision of a strong pan-European grass-roots organisation of researchers, they strongly believed in their common cause and its attractiveness to other individuals and institutions. It was their ambition to form a strong voice of European science and scholarship, and to ultimately achieve the goal of establishing a viable organisation which, at least in the long run, should become the equivalent of the American Association for the Advancement of Science (AAAS) which started some 150 years ago.

Although the objectives concerning a rapid increase in membership and also in obtaining strong support from European publishers were not fully met during the past 10 years, it is remarkable that the organisation, and especially some of its leading personalities, nevertheless were able to exercise a decisive influence on European research policy making, as well as to link up with partners from the non-governmental sector, in particular from foundations. Last, but not least, foundations such as the Bank of Sweden Tercentenary Foundation, the Compagnia di San Paolo, the Gulbenkian Foundation, the Robert Bosch Stiftung, the Stifterverband für die Deutsche Wissenschaft and the VolkswagenStiftung helped to pave the way for establishing a European-wide forum for exchanges on recent achievements in higher education and research as well as challenges provided for European research policy, the Euroscience Open Forum (ESOF) which was held for the first time in 2004 in Stockholm, and two years later in Munich. In addition, a small-scale private foundation was set up to directly support the activities of Euroscience, the Euroscience Foundation for the Advancement of European Science and Culture based in Hanover.

The Power of ideas

The debates about creating a European voice of scholarship and science as well as the need for creating a basic research funding institution can be traced back well into the 1970s. They were revived by some institutions such as the German Wissenschaftsrat in the early 1990s, but it was not until the early days of this century that the idea of creating a European Research Council (ERC) turned into a powerful vision that ultimately made the European Council of Ministers and the European Commission pay attention to the recommendations prepared by numerous experts and institutions. In this process founding members of Euroscience such as Helga Nowotny, Peter Gruss and myself became key actors in various committees, conferences and public debates. Also the current President of Euroscience, Professor Enric Banda, was a decisive player in initiating and managing the process. Indeed he was among the first to write an article in *Science* magazine in January 2002 strongly arguing in favour of establishing a pan-European research funding organisation: 'We need to establish an appropriate structure at arm's length from the governments and avoid the problems of *juste retour* (in which the Member State's contributions are expected to be returned). This structure, a European Research Council (ERC), would use the best practices of national scientific funding through peer review and would be accessible to Europe's research community (*Implementing the European Research Area. Science* vol. 295, 18 January 2002, p. 443).

In September 2002 my article on the same topic appeared in *Nature* (vol. 419, 19 September 2002, p. 249–250). A few weeks before the Copenhagen Conference on the need for a pan-European funding structure I pointed out the need for reforms at all levels of European research, and particularly emphasised the fact that in Europe we have too many too weak organisations. 'It is increasingly desirable, even urgent, to establish pan-European funding structures that can create both a cooperative climate for the development of new ideas, and an institutional environment that will encourage competition among Europe's best researchers to produce more cutting-edge results'. (p. 249)

Two years later, in November 2004, three weeks before the European Council of Ministers met in Brussels in order to decide upon establishing an ERC, Helga Nowotny and I were given the opportunity to present in an editorial for *Science* magazine our view on the urgency of the matter under the headline 'Decisive Day for European Research'. (*Science*, vol. 306, 5 November 2004, p. 941). As there was a tendency among the decision makers to once again postpone the ultimate agreement on establishing an ERC we strongly argued in favour of coming to a conclusion: 'The window of opportunity for creating an ERC and moving towards a truly European research base has never been as wide open as it is now. Yet, it is crucial that the necessary steps be taken right now to make sure that a newly established ERC can start its operation on time at the beginning of the 7th Framework Programme. It is clear that if a negative decision on 26 November should prevail, this window might be closed for a long time' (p. 941)

More important though than these comments and articles were the various committees and conferences that paved the way for an agreement, not only among and between researchers, politicians and administrators, but also across research associations and organisations. In these conferences and committees again numerous members of Euroscience played a crucial role. Last, but not least also the then President of Euroscience, Jean Patrick Connerade testified to the need of establishing an ERC on several occasions. Enric Banda and myself were involved in a high level working group set-up by the European Science Foundation that produced a report published in spring 2003. Helga Nowotny and myself were members of an expert committee which was set up by the Danish Minister of Science, Technology and Innovation, Helge Sander, and chaired by Professor Federico Mayor. The report was published in December 2003 under the heading: 'The European Research Council. A Cornerstone in the European Research Area'. It developed operational perspectives concerning funding modes, accountability, governance, quality assurance as well as legal options. First and foremost it emphasised among the institutional requirements the need for establishing an ERC which 'must be able

to operate independently in order to establish its reputation as a research funding institution of highest quality and thus earn its credibility in the European research community and in society at large. The decisions of the ERC on research priorities and funding issues must be protected from any undue outside intervention.' (p. 27)

The role of foundations

Crucial in the process of establishing an ERC were not just scholars and scientists, but also chief executives of European foundations, in particular colleagues from Sweden such as Michael Sohlman, Chief Executive of the Nobel Foundation, and Professor Dan Brändström, the Director of the Bank of Sweden Tercentenary Foundation. They not only organised several fora for discussing the perspectives of an ERC, but they were also involved in preparing some of the reports. In particular with respect to the report presented to the Danish Minister of Science, Technology and Innovation it was Professor Dan Brändström and his colleague, Dr Olle Edqvist, Head of International Relations at the Swedish Foundation for Strategic Research, who were crucial, not only in writing the report but in managing the consultative process of the expert group.

Beyond policy making European foundations have been extremely helpful in supporting Euroscience in its ambitions to create a forum equivalent to the AAAS conferences in the United States. Again, colleagues from Sweden, first and foremost Dr Carl Johan Sundberg (who became the real driving force in making ESOF a success) and the Bank of Sweden Tercentenary Foundation, were crucial in supporting the first ESOF which was held in Stockholm in 2004. Professor Dan Brändström strongly invited his colleagues from other European foundations to support the initiative. The Robert Bosch Foundation as well as the Stifterverband für die Deutsche Wissenschaft contributed not only a very substantial amount of money (altogether 1.4 million so far, but also a lot of conceptual and managerial expertise through two of their highly committed senior staff members, Dr Ingrid Wüning (Robert Bosch Stiftung), and Dr Ekkehard Winter (today chief executive of the German Telekom Stiftung). The Volkswagen Foundation helped to enrich the event by transfer-

ring its exhibition 'science + fiction: between nanoworld and global culture' to the Nobel Museum in Stockholm. For the Euroscience Open Forum in Munich the network of European foundations supporting the event widened through the commitment of the Compagnia di San Paolo and the Gulbenkian Foundation. As it currently stands for the Euroscience Open Forum in Barcelona, there will be even more European foundations involved in supporting the conference, in particular by stabilising the management during the preparatory phase of the event.

The Euroscience Foundation

Closely linked to Euroscience is the Euroscience Foundation for the Advancement of the European Science and Culture. It was set up in 2000 as a foundation under German civil law in order to support the association and to open up additional opportunities for enhancing the visibility of Euroscience. Over the past years this was achieved in particular by making European Science Writers Awards and by supporting preparatory workshops for the Euroscience Open Forum events. The first European Science Writers Award was made to Philip Campbell, Editor-in-Chief of the scientific journal *Nature*, the second in 2003 to Gero von Randow editor of the German weekly *Die Zeit*, and the third one in 2004 to Arne Ruth, the long-time editor of *Dagens Nyheter*. Also in 2004 the first two Junior Science Writers Awards were made at the ESOF event in Stockholm to Ulrika Björkstén from the Nobel Museum and to the Austrian writer Andreas Feiertag. At the ESOF 2006 in Munich three young journalists were selected for the European Junior Science Writers Award: Christina Bernd from the *Süddeutsche Zeitung*, Miklos Hargitai from the Hungarian newspaper *Népszabadság*, and Bas Kast from the Berlin newspaper *Der Tagesspiegel*. It is being planned to make similar awards at the ESOF in 2008 in Barcelona.

Currently the capital stock of the Euroscience Foundation amounts to 60,000 Euros. Private donations and profits made out of its capital investment enable the foundation to meet its objectives in a modest way. In order to provide substantial support for the activities of Euroscience it will be necessary to considerably

increase additional fundraising activities and to encourage other grant-making institutions to provide financial support for activities designed to strengthen the science public interface.

The way ahead

For Euroscience as well as for the Euroscience Foundation it will be necessary to strengthen their financial bases and to enhance their operations. Whilst the former requires a considerable increase in membership on the one hand and a sizeable addition to the Foundation's endowment on the other, the latter necessitates a thorough re-thinking and subsequent reconfiguring of the strategic objectives of both institutions. Both objectives also call for an increased commitment of some of the larger European research funding foundations as well as other research supporting institutions. Only in the framework of such strong alliances will Euroscience as well as the Euroscience Foundation be capable of turning its still prevailing weaknesses into operational strengths.

By demonstrating that small things matter it will hopefully be possible to develop more and more success models for future operations and thus attract additional funding from various sources. The impact that members of Euroscience had on finally establishing an ERC may serve as a role model for future operations. Ultimately, the concept of the founders of Euroscience could turn into yet another proof to Victor Hugo's famous remark: 'There is nothing more powerful than an idea whose time has come'.

Wilhelm Krull



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Euroscience – European Science

During one of our discussions in 1972, the President of the Hungarian Physical Society and the Vice-President of the European Physical Society articulated the following visionary sentence: 'Sooner or later, Europe will be united and Hungary will be part of this Union'. In this Union, our field, namely physics also needs a pan-European organisation, and it exists: it is the European Physical Society. He invited me to represent Hungarian physicists in this organisation, an invitation which I accepted and I have had the privilege of working in different posts within it. That is how my European activity started and it is still one of my basic commitments.

Europe has to be competitive in our globalised world where, in addition to the traditional competitors, new ones are emerging. In this competitive landscape Europe can have a bright future only if it can speak with one voice in connection with global issues. Scientific research is perhaps the first success story in globalisation and is in need of the same single voice on the global scene. There are an increasing number of issues (very large research facilities, environment, energy, global warming, etc.) where problems can be solved only through global cooperation. This cooperation has, however, to proceed in the form of competition.

The need for global-scale cooperation is to a certain extent motivated by two things: the increase in the critical size of efficient research – both in financial and intellectual terms – and the multi-disciplinary character of research.

At the same time, the increasing costs of research make it more dependent on political decision makers (governments) and society at large (taxpayers). Therefore, improving the level of public understanding is an absolute necessity and it can be partly achieved

through popularisation of science and its achievements and partly through lobbying activities. For different reasons, politicians do not understand the importance of science and neither can they see how they could benefit from its results.

In the US, the scientific community had understood these problems early on and built up an efficient structure to deal with them. One element of this structure is the American Association for the Advancement of Science (AAAS), a multidisciplinary organisation aiming to sell science to society and to lobby decision makers for its benefit.

Europe does have several types of organisations (disciplinary learned societies, academies, etc.) to tackle these problems but did not have an organisation of the AAAS type. Therefore, when I was approached by Françoise Praderie in 1996 with the idea of launching a similar organisation, i.e. Euroscience, I was happy to join as a founding member and offer my services in other respects. The launch conference in 1997 in Strasbourg was – in my opinion – a real success. All of us believed that we had started something important for European science. The last decade has proved this expectation perfectly right. In spite of all the difficulties, partly financial, partly the lower than desirable visibility of the organisation in the first few years of its existence, I am convinced that Euroscience had and still has a significant impact on European scientific affairs. Let me briefly mention a few of the developments of this type.

The ESOF conferences (Stockholm and Munich) were outstanding fora of European Science. They involved a broad spectrum of the local population, offered discussion platforms in a large number of scientific domains, in science policy, scientific publications, science and society relations, the expectations of industry from research, and so forth. I am convinced that ESOF2008 in Barcelona will be a similar success.

The creation of a European Research Council has been hanging in the air for quite a few years. The scientific community has been dreaming about it, but the decision makers, or at least most of them, did not like the idea. The declared priority of the R&D Framework Programmes of the European Union has been competitiveness, and

not R&D. And while the budget of the consecutive Framework Programmes increased exponentially, the R&D gap between the US and the EU also increased with Europe lagging behind.

The reason is one of science policy. In the US, federal money supports the basis of competitiveness, namely pre-competitive research. In Europe, this approach started only in FP7 with the creation of the European Research Council supporting basic and strategic research of this type and using only one selection rule to decide where the grants should go, namely excellence. The 7.5 billion Euros programme under the name Ideas of FP7 is run by a 22-member Scientific Council of the European Research Council with full authority (and responsibility) supported by an Executive organisation as part of the Research General Directorate of the European Commission. The creation of the ERC and the Ideas programme is a European miracle. It enjoys the unanimous support not only of the scientific community but also of the European Parliament, the member countries, and the European Commission. Responsible politicians have frequently referred to the creation of ERC as an event of historical significance.

I fully share this view. I think that by raising the competition for research funds from national to European level, the quality will be improved and the prestige of outstanding scientists will be increased. I am convinced that this development will significantly contribute to European industrial competitiveness as well.

The role of Euroscience in the preparation of ERC has been significant. To convince the decision makers of the need of an ERC has not been simple and the clear ideas and arguments coming out from discussions at different Euroscience fora have had a positive impact on the final solution.

Scientific publishing and open access to scientific literature have been on the science policy agenda table for several years. The Open Access era is approaching rapidly but there are numerous hurdles that have to be negotiated. When the scientific findings of a field are published in just a few journals, such as in particle physics, a new, open, model can be tested relatively easily, such as the one underway currently under the umbrella of CERN. The solution in

fields with a large number of journals is not so simple. Nevertheless, despite the difficulties, the ideal situation – where peer-reviewed scientific articles are freely accessible for everyone – is on the way. There is now gathering momentum and progress in the efforts to secure open, free access in the shortest possible timescale after publication to scientific publications deriving from research supported by the EU.

The ESOE2006 conference in Munich devoted a special session to this issue. It was centred around Open Access through self archiving and it demonstrated clearly that Open Access increases the impact of the publication and is therefore a benefit not only to the author but to his or her institution and to the whole research community. The European Commission has created a High Level Expert Group on Digital Libraries which deals with the issue of scientific publications in the digital age such as preservation, archiving and repositories, and Open Access. The author of this essay benefited greatly from the Munich session and will make good use of it as a member of this Expert Group.

Recently, the European Commission has proposed to create a European Institute of Technology (EIT), an institute analogous to the Massachusetts Institute of Technology, to be located in Strasbourg. The idea was to build an institution on the basis of an existing building and to turn it into the engine to accelerate the transfer of scientific findings into the economy. In the original concept the significance was given to the building and not the brains, and the mechanisms leading to centres of excellence were completely misunderstood or misinterpreted. The European Commission launched a series of broad discussions on this, which ultimately led to the decision of the European Council on 22 June 2007. This was to base the EIT on a more realistic and workable virtual network of centres of excellence in two fields, the environment and energy. Euroscience has been an active participant in these discussions which have influenced the decision makers in a direction that Euroscience believes will be optimal.

This overview has briefly described examples of important issues in European science policy, reflecting the views of a scientist from Central or East-Central Europe who has had the privilege to

participate in pan-European ventures since the early seventies. I was asked to write on Euroscience and Central/Eastern Europe. My difficulty has been that I could not separate my Central European and pan-European views – my Hungarian dreams – from the all-European ones. The interests of the new EU member countries are the same in the long run as those of the older members, most of which have had a more fortunate history not only in the 20th century but in the preceding few centuries too. The success of West European science is good for all of us: the European investment into Central and East-Central European research infrastructure now helps us better exploit the talents and research capacity of the region and through that, improve the total European research system.

In my Euroscience work I have never felt a significant difference between my approach to any problem from those of my colleagues from the West and I am proud that I had the privilege to stand at the cradle of this noble organisation. We have achieved a great deal but much more is ahead of us. Europe needs to accelerate its integration and the number of issues where we can speak with one voice is growing on the global scene. Science is definitely one of them and Euroscience has to remain one of the voices. Attention to research and its needs must be improved in Europe and Euroscience should continue to be one of the multidisciplinary lobbyists. The fora for multidisciplinary cooperation in science need strengthening and Euroscience can do much in this area. I wish Euroscience great success in these endeavours in the next decade of its existence.

Nobert Kroó

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