

The President's Report

There is a tide in the affairs of men which, taken at the flood, leads on to fortune. Omitted, all the voyage of their life is bound in shallows and in miseries.

From William Shakespeare's *Julius Caesar*

This well-known quotation is far too strong to apply to our restructuring discussions, as most of the changes to be discussed at Council in Nice in March will in fact be adiabatic in character. It applies, however, very well to the solidarity which western physicists should manifest toward their colleagues in east and central Europe and in the former Soviet Union. The imposing barrier which long stood across our continent is gone. We live a time of great hopes and great expectations, but it is also a time when great difficulties have to be overcome.

Physics offers an invaluable microcosm in which to nurse ideas that may eventually help foster understanding and collaboration. For we speak a common language and share a common passion. Clearly, therefore, developing better links between the various parts of Europe remains a key priority for our Society. Despite the strong common bounds provided by physics, many cultures and languages keep us somewhat different — something which is both a hindrance and an asset.

The year may thus herald some changes in the life of our Society if the present restructuring scheme is approved. The hope is that this step will foster a stronger feeling of unity within the European physics community. We enter 1993 with a balanced budget and an accumulated deficit which is practically gone, a year ahead of schedule; one may thus look to the future with some ambition.

1993 is an important year for EPS as it marks the 25th anniversary of the Society. The occasion will be celebrated in Florence during the EPS-9 General Conference at which many distinguished colleagues, including four Nobel laureates, will give the plenary lectures. A series of major symposia covering in depth topical new developments will accompany the plenary talks.

Many discussions have taken place at many different levels since we started work on restructuring after the Zurich Council meeting last year. I do not think that what I say separately on page 15 about the process goes against any majority or maybe consensus opinion, even though the emphasis put on some of the themes reflects a personal point of view. The present report focuses instead on some recent, general activities of the Society, whereas those of the Divisions, Interdivisional Groups and Action Committees, that once again bear witness to a highly visible presence, will be covered in comprehensive reports to Council and summarised soon after in *Europhysics News*.

Finances

Thanks to information collected and commitments received since Athens, the restructuring scheme can now be proposed on a sound financial basis, along the lines presented in the consultative document. We should be on firm ground when the scheme is fully implemented, as well as during the

transition period. A few words about finances are in order (a summary of a report by the Treasurer on page 16 should be consulted for a more detailed presentation of the current situation).

The Society's finances have been known for some time to be rather precarious and the 1990 Council meeting in Uppsala brought matters to a head. A major effort to restore the situation started the same year with the setting up of a finances task force which has continued working ever since. There was no magic wand to wave. Many thanks are due to the task force members, to our indefatigable Treasurer, Ph. Choquard, and to our Executive Secretary who transferred to Budapest for two years, together with a part of our secretarial activities.

Another important element in our reaching a sound financial situation has been the support we receive from Associate Members. While several industrial companies dropped their support owing to the present grim economic climate, many research institutions and large laboratories have agreed to join, and those Associates which agreed to stay have increased significantly their contributions. It has indeed been heartwarming to see many new Associates joining on the basis of what the Society is doing. I firmly believe that in Europe, where the physics publishing business is largely in the hands of powerful commercial companies, a lasting and increasing support from Associates is a key element of sound financial prospects. We also appreciate that there are limits to what we can ask from our societies and individual members. I would like to warmly thank our Associates for their support, hoping that they find in EPS a working partner with whom to address many topical issues, and not merely an institution worth some help.

The well-known "red shift" belongs to the past; our finances are now such that we have been able to support some initiatives with seed money. The amount is still very modest, but it hopefully signals a new trend. Electronic publishing benefited in 1992 and east-west activities in 1993 — activities which will

The President, Maurice Jacob (on the right), presenting the 1992 Hewlett-Packard Europhysics Prize to (from the left) M. Ibach, G. Ertl and J.P. Toennies.



be reported upon in Nice. It is also clear that all the important new actions which we initiate have to rely on external funding granted on a case-by-case basis. We are used to this. In general, despite the success, the financial situation cannot be considered as brilliant; it will require much care for some time to come.

EPS in Europe and in the World

I found great stimulation in the challenges which had to be met. The first important challenge was the new orientation which had to be given to east-west activities. Another was to improve relations with the Commission of the European Communities (CEC) and with the European Science Foundation (ESF). Important steps forward could be made. We now collaborate fruitfully with the ESF in organizing the European Research Conferences (ERC) in physics; nine took place in 1992 and ten are prepared for 1993, and the events received a very good review in a recent appraisal by the CEC. Another challenge was to promote relations with The American Physical Society (APS) and with the two physical societies in Japan. There was always a great willingness to foster relations and, in the former case, joint actions on east-west matters were implemented, while permanent contacts were established at the Division and Committee levels. The fourth challenge was the all too familiar financial one which has already been covered.

Wonderful at EPS is to meet colleagues from many different countries, and to discover all that we have in common and all that we can do together. I was fortunately able to visit Belgium, Czechoslovakia, Germany, Greece, France, Hungary, Italy, Poland, Spain, Sweden, and the United Kingdom for professional reasons. Discussions with representatives of national societies could be included, and I strongly felt the welcome extended to me everywhere. My only regret is I could not visit all of our member societies. Three important meetings related to east-west activities were opportunities to meet extensively with colleagues from throughout central and eastern Europe. I also had extensive discussions with fellow physicists from the FSU and there were two visits to the APS, one to Japan, and three to DG-XII in Brussels.

The Society is most clearly seen through the many actions of its Divisions, Interdivisional Groups, and Action Committees and *Europhysics News* has already reported on many of the conferences and meetings organized in 1992. EPS offers the legitimacy and an efficient and convenient technical and legal framework which is often required to develop meetings activities. EPS already does a great deal, but much more could, and should, be done. Specialised conferences and topical meetings in Europe have increasingly to be international to be worthwhile; they are by their nature easily accommodated within the EPS structures. It is felt in some fields that an increasing number of conferences has to be on a worldwide basis. Our excellent relations with the APS, the Association of Asian Pacific Physical Societies, and the Japanese societies should be put to use. For example, our ACAPPI



P. Hohenberg (back to camera), Chairman of the APS POPA committee, A. Landesman, EWCC Chairman, and M.D. Mateev, Bulgaria's delegate to EWCC (on the right), in Budapest at the joint EPS-APS "summit".

physics in industry committee is already considering the possibility of a joint meeting with the Japanese Society of Applied Physics.

We must not slacken up the development of activities. The end of the cold war has surprisingly been met by a rather difficult economic situation, whereas the many new opportunities should herald important developments. In many places in the world, the present recession fuels extremely nationalistic feelings; people sadly rally around ethnic concepts when we know that in our modern world, economic development calls for more cooperation and collaboration between nations. As physicists we should counter these trends, showing as much as we can all the benefits of increasing the international collaboration which has already borne so many fruits.

East-West Activities

Turning to topical items, I shall focus on east-west activities, involvement in European research, and education. The special importance of the east-west question was recognized by Council in 1992 with the setting-up of the **EWCC** (East-West Coordination Committee) to take over from the east-west task force. This committee has been as active as the task force. Special thanks go to Eddy Lingeman, the Secretary of both. An important occasion was the "summit" meeting with the APS in Budapest in May. Priorities and joint lines of actions could be spelt out and quickly implemented; they were also formulated in a joint APS-EPS presidential letter which has been widely circulated. The EWCC and the APS Committee on International Scientific Affairs (CISA) have since held a joint meeting (in Amsterdam last Oct.).

The situation in the former Soviet Union presents a new and formidable challenge and has added much to what we were already busy developing for east and central Europe. The EPS's three main priorities involves promoting journal distribution, modern communication methods, and joint initiatives by research groups by circulating information, providing advice, and channelling useful material.

The 1992 Council endorsed the **Journals for Russia** proposal; action followed immediately, the aim being to ensure that about 30 European physics journals continue to arrive in some 50 institutes in the FSU. The seven publishing companies involved all responded

generously to our request for significant price reductions. The proposal has been strongly supported by DG-XII and recommended as a very valuable item in the framework of the scientific help granted by the European Communities to the FSU. Everything is now essentially at the political level in the EC Council of Ministers, and we are presently still waiting for the formal implementation of an Association through which help would be granted. While the journals scheme apparently remains at the highest priority, proposals on other topics are piling up in Brussels. We can but hope for a quick outcome as the journal problem is urgent.

A detailed **directory** of research institutes in eastern and central Europe is now available, thanks to the EWCC's work. Two others, covering the Baltic States and the other republics of the FSU, will be completed soon. Good contacts have been established with The Physical Society of Japan for this fact-finding exercise and, in general, for collaborative efforts in connection with physics in the FSU.

The EPS **Dagstuhl meeting** in August 1991, which brought together representatives from research organizations in the west and from the physical societies in the east, has been recognized as being very valuable. It helped shape the best ways to proceed and it was at the meeting that the "bottom-up" policy could be defined. It is through special extra funding to research collaborations (at the bottom) that help can be most efficiently channelled. It seems pointless to provide help through existing national structures (at the top) which are in a phase of profound restructuring. Our task is to help bring into contact potential collaborators and make better known all existing possibilities, for there are many information barriers which have still to be lifted. A successor to the Dagstuhl meeting is presently being planned by the EWCC for the Baltic region.

It was heartwarming that several newly created, or recreated, **physical societies** immediately expressed their interest in joining EPS. We were happy to welcome four in 1992 and we shall probably welcome three more in 1993. Most are clearly unable at present to pay their full fee, as are some long-standing members. We have to show much understanding. However, while we wish to welcome physical societies with open arms, we cannot bring into EPS too many new non-paying members. I must again turn to the richer societies in the west, as I did last year, asking them to help with some sponsorship for both newcomers and established members. We benefited in 1992 from a SFR 10000 gift

From the left, R. Pick who has been nominated as the next Chairman of the Conference Committee, J.A. Goedkoop who chaired ACAPPI until December, and his successor P.H. Melville (on the far right), formerly an ACAPPI Deputy Chairman.

from the Swiss Physical Society and from smaller amounts for fee support for Estonia from the Finnish and Swedish societies. For 1993, we have so far very generous gifts totalling some 22 kSFR from the UK, German and Swiss Societies. But we remain somewhat short of the SFR 50000 of uncollected fee income so the fee question remains a problem.

Involvement in European Research

Physics research increasingly relies on large facilities, which in Europe are more and more internationally based. The EPS should increase its rôle as a forum for discussion when planning such facilities, since each of them calls for a large constituency of users. As reported in *Europhysics News*, EPS has already taken some steps. It should also increasingly provide advice and help for the implementation of international research networks. Our contacts with the CEC on these matters have been very fruitful, but much remains to be done. For example, we should respond to the invitation of DG-XII to undertake studies on the opportunities and needs for research in Europe. The EPS should not only report on what is happening, as *Europhysics News* now does very well, but should also take initiatives. For we have the technical ability and the legitimacy. This is particularly the case in research fields covered by condensed matter, where international panels and advisory bodies often do not exist, as they do in particle physics, for instance.

Our Associates meeting in Grenoble last November, hosted by the ESRF and ILL, was the occasion for a very fruitful forum on the rôle of large facilities; it was a very successful meeting. Much preparatory work on large facilities is now also needed at the world level in order to optimise available resources for research. A joint EPS-APS presidential statement urging more cooperation and collaboration between Europe and the United States, has been widely circulated. More recent contacts should lead, we hope, to Japan becoming associated to the appeal.

Education

There is much concern about physics education throughout the industrialized world. The American and Japanese physical societies have been particularly active in this area. In Europe, initiatives have developed at the national level, but it is clear that improved international collaboration should be very worthwhile; EPS could play an important rôle. The structure provided by the Action Committee on Education was recognized as inadequate and in order to better meet the impor-



tant challenge, the creation of an Interdivisional Group on Education will be proposed to Council in Nice. Two components of this Group already exist. The first is the **European Mobility Scheme for Physics Students** that is being set up in parallel with the EC's Erasmus and Tempus programmes. The warm response of the 1992 Council to the proposed scheme has been followed up by a series of detailed actions, under the leadership of E. Heer, which are now in the final phase prior to the scheme's launch this coming autumn (see page 20). Over 120 institutions have already joined the scheme.

The second component is a **Forum on Education** authorised by the Executive Committee in June, which is being set up by G. Marx and G. Tibell. It aims to address aspects of pre-university level education for which European collaboration would be beneficial. It is widely recognized that the physics community as a whole has an important responsibility in improving the teaching of physics at the secondary level. With restructuring, we also hope to associate with EPS many **teachers** who are members of national societies, and we should be able to offer something of direct interest to them from among our many activities. The variety of languages and cultures is certainly a challenge, but it is also a great asset since many different experiments are usually carried out at the same time, and everyone should be able to learn from their various outcomes.

The Amaldi Foundation is creating a **prize** for a physics text book to be granted every other year on a European basis. Through its Forum on Education, EPS will be associated with the award of this prize. Edoardo Amaldi devoted much time to writing physics text books despite his many research and international activities. His vision, enthusiasm and drive were of utmost importance in the birth of several European research organizations. When arguing many years ago for a European space programme, he once said "Nothing can best provide a link between a Sicilian peasant and a Norwegian fisherman than to know that there are in the sky complicated objects which circulate around us and which in some way, belong to both of them". The hope is that the great-grandchildren of both, along with and many other young people, will awaken to the beauty and challenge of physics, benefiting from the best talent borrowed from our many European cultures. EPS has a rôle to play in this, and with the support now solicited from Council, education is set to become a domain in which the Society can greatly extend its activities.

Publications

Publishing is an important source of income for some large physical societies. However, EPS cannot capitalise upon the situation within the context of the present European scene, although *Europhysics Letters* provides a very good example of what can be done in association with national societies. Most of the publishing market remains in the hands of powerful publishing companies who knew better than others how to adapt to a changing world a few decades ago. Even if we cannot enter fully the publishing business, we should care about publications in physics and express our views as a society.

Practically all leading physics publishers in Europe are now Associate Members, so we

EPS RESTRUCTURING

A Sound Overall Basis

The President, Maurice Jacob, discusses the key points behind the restructuring scheme being prepared for Council in March. While many aspects were dealt with last year in Athens, what is new is a detailed assessment of the financial consequences.

The mandate given by Council in Zurich to the Executive Committee in 1991 led to a restructuring document which was accepted in its general spirit by Council in 1992, in Athens. However, a necessary condition for final approval was that the scheme should be put on a sound financial basis. This is now the case and this is the reason why the Executive Committee is considering presenting a restructuring document to Council in Nice next month. The document is presently being finalised now that we have collected answers to the consultative version sent around before Christmas.

The present plan keeps the dual structure of our Society, which is both *federative* in its being a society of national societies, and *fully international*, through the membership of its Divisions, Interdivisional Groups and committees, where individual physicists work together at the full European level.

What would be the main outcome of restructuring? Three points are worth mentioning at the present time:

1) Membership on the boards of our Divisions, Groups and committees will now be open to all members of the national societies adopting the "full membership" status (membership is presently restricted to the Society's IOM's).

2) The much wider distribution of *Europhysics News* which will eventually follow will make physicists in Europe more informed and concerned about the activities of EPS. This will foster their sense of participation in a pan-European enterprise.

3) EPS presenting itself as a society of some 60000 members will be even better recognized as a natural an important partner by the international organizations and institutions which play an increasingly important rôle in European science.

EPS achieves its stature through the framework and the legitimacy which it provides for actions. The hope is that younger physicists will increasingly feel at home within the Society, and find it the proper place to express their views about the need for the new forums, new facilities, and new structures which are increasingly needed at the international level to pursue research. We have tried whenever possible to help active scientists express themselves, and recent examples in nuclear physics and in supercomputing testify to this. Yet EPS will not substitute for the national societies, which are most efficient at some specific levels, but will develop in harmony with them.

According to the document, representation of the physics community at Council will be set up in a balanced way. The plan is to have a split between a national representation through the national Societies, and a fully international one, through the Divisions and Interdivisional Groups. Members of national societies will benefit, if they so wish, from all the rights and privileges of the present IOM's, short of a special representation at Council.

The IOM category is, however, maintained for people wishing to join the Society without being a member of a national society. It is suggested that the IOM category will also be open to members of a national society who declare themselves as supporting members to mark their special interest and concern for what the Society is doing and standing for. Individual members dedicated to the European ideal are indeed vital for our European society. However, the effort which supporting members invest in EPS will mean much more than their direct financial contributions. The increasing importance given to the Divisions and Interdivisional Groups in defining the Society's course of action should channel more strongly this thriving individual spirit.

Implementation is foreseen to be gradual, with some societies joining fairly soon and others wishing to wait a few years with the present status. Nevertheless, approval should be conditional on the same expression of overwhelming interest as the one which prevailed in Athens.

work with them on long-range programmes such as electronic publishing. But EPS does not yet have the rôle which it should eventually take on editorial boards, so efforts must be directed accordingly. We grant an EPS "recognized" status to journals which meet international criteria in agreement with the spirit of our society. All leading journals in Europe, particularly those serving an international community, are invited to apply (the scheme is currently evaluating renewals and new applications after the first five years of operation). There are also many physics journals in central and eastern Europe which cannot survive on economic grounds without

some coordination and some optimization of the fields covered. First contacts have shown that there is much reluctance to undertake the necessary changes - but we should keep trying, for this is the only way to keep in that part of Europe some physics publications which hard-pressed library budgets will still find necessary to accommodate.

Norbert Kroo, the Vice-President, with whom I have greatly enjoyed collaborating on the Executive Committee for several years, will be proposed as President to Council in Nice. I wish him the greatest possible success in tackling our many challenges, for there is still much to be done.