

Table 2 — Summary of EPS Finances for 1990-92 (in Swiss francs)

Item	1990 final estimate	1991 final estimate	1992 proposed
Total Income	819 628	866 060	926 710 <sup>(i)</sup>
Total Expenditure	807 405	757 600	868 000
Surplus	12 233	108 460	58 710
Accumulated Deficit	153 040	82 080 <sup>(i)</sup>	23 370

Notes: i) The accumulated deficit for 1991 includes an amortization of SFR 37 500.— for unpaid Associate Member fees accruing over several years.

ii) Allowances have been made for the deferred payment of Arts. 4b) and 4c) fees.

### Restructuring

Current operations of course continue with restructuring as a back drop — both at the Society level and across Europe. The President summarises the current situation on page 34 of this issue, including some of the financial aspects. Professor Choquard is firm on one point. As implied by Table 1 for 1991, income is now entirely in convertible currency and this will remain a basic principle as all European countries now essentially permit full convertibility. There remain, however, serious problems at both the individual and national levels. Individual physicists are increasingly finding that fees to European-level societies (EPS is no exception) represent a large proportion of the personal income. Second, some national societies presently have great difficulty in paying their contributions following the

changeover to different forms of support. Appeals for sponsorship are being considered so that Member Societies and IOM's experiencing difficulties will be able to keep paying their fees. But this is hopefully an interim measure.

The long-term situation may depend on the outcome of the restructuring now being considered by the Executive Committee. The Treasurer is obviously mindful of financial implications, noting that an essential requirement is stable financing once the Executive Secretary returns to Geneva. He essentially sees 1993 as a buffer year while the Society, through Council, considers future priorities based on the working paper being prepared for Council. Finally, he wishes to remind the Divisions, Groups and the national societies of last year's appeal for membership campaigns.

## Letter to the Editor

### Of Mice and Elephants

Somehow we all associate with "cute" and "friendly" a notion of smallness, and this is definitely true when we think of people. But when you dig a little deeper, you notice very quickly that there is a lot more emotional attachment to big beings. The cute toys in your children's room will be a crocodile, or perhaps a dinosaur. Elephants, gorillas and bears are the preferred toys, and jumbo-sized should be anything that wants to attract our attention.

There are many more mice than elephants, what could be clearer than that. It is, however, less evident that there are also many more tonnes of mice than of elephants, and probably yet even more tonnes as you go down the ladder to spiders and to insects. Being a physicist, I prefer not to speculate — although I have some guesses.

A similar relationship holds in the world of research projects. Much attention is given to the big projects in the range of several millions of ECU's. But mice, not elephants, are the more abundant species, by number and by importance: far more researchers are involved in small-scale activities. Consequently there should be far more money available to small-scale projects. Assuming, of course, that small really is beautiful, and that the quality of small-scale research and its impact on the future course of science

are not inferior to those of mega-projects. How about the initial work on buckyball chemistry, ceramic superconductors, the Mossbauer effect, noble gas compounds, dye lasers, the structure of photosynthetic reaction centres? Each was carried out in rather small groups, which cooperated with others but were rather generously funded at levels that made them indeed small projects.

Such small science is funded in the responsive mode by British research councils, or by what the German DFG calls their normal procedure. There is nothing wrong with having large facilities such as sources for neutrons or synchrotron light, or even the big accelerators and the space missions. What matters is the perspective. The really revolutionary ideas are usually not planned, or anticipated in the design of a huge research cooperation. So let us not divert all resources to the type of project where you have to know a few years ahead what you will be doing. As the people in research councils ought to know, you cannot afford failures when too much investment is involved, but the really interesting projects are risky, and some will have to fail. It is nothing to be proud of if every single project delivers the expected results.

Even international science is not necessarily of elephant size, as CERN and ESA and the like would suggest. Such institutions have their importance, and who would

question the enormous knowledge we have gained from those enterprises about the Universe, the solar system and the fundamental forces of nature. They probe questions which affect deeply our view of the world and allow experiments on questions which were until very recently the realm of metaphysical speculation. What should be known by more people, however, is that small-scale science benefits just as much from international cooperation as the big programmes.

It is of course commonplace that science is international, that scholars share their ideas at international conferences and publish in journals held by most (they hope) libraries of institutes doing related work. But on top of this there is great advantage to be gained by providing mechanisms for intense international collaboration. In a small country, e.g., Denmark, you have to be very lucky to find several colleagues with whom you can closely cooperate and discuss particular projects. But even in countries as large as France or the U.K., it is not always possible to assemble all the techniques required to answer questions in interdisciplinary fields such as the biophysics of photosynthesis or bio-inorganic chemistry.

The SCIENCE programme of the CEC, and its successor in the new Framework Programme, have a little of that flavour, but individual grants there are still huge compared to the small-scale networking mechanisms afforded by other institutions such as the European Science Foundation. The internationalization of small projects has yet to be established fully.

So come out from the holes, you mice. Foot-soldiers of science, leave the trenches and speak up! Let the world know about the glory of the small project! University presidents and science ministers love the tremendous visibility of the big programmes, and are assured good coverage in the press if they appear as their benefactors. Is it possible that our preference for big animals as childhood companions shows its effect here? The thinking needs to be changed. Let us work at making it socially unacceptable behaviour to praise a big project without proper tribute to the small grant which is so much more important to science. Nobody should be allowed to inaugurate a large facility without some ritual to the benefit of the small projects. It could at least be a tangible contribution towards a supporting university programme, and some strong commitment for "small science" in general ought to become the rule.

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### An Apology

We apologise for referring to Professor S. Porowski as the President of the Polish Physical Society on page 18 of the January issue of *Europhysics News*. The President is in fact Professor S. Pokorski.