

European Science Foundation

Living with level funding

Strasbourg

This year's general assembly of the European Science Foundation (ESF), at the European Parliament on 9–10 November, was curiously disappointing. For almost the first time since its creation in 1974, the foundation spent as much time deciding how and when to bring good projects to an end as on the problems of how best to launch new enterprises.

Part of the trouble is that the foundation seems to have been infected with the present preoccupation of its members — all of them research organizations in the member states (which include Yugoslavia, Turkey and Israel as well as countries in Western Europe and Scandinavia) — the problem of living within a constant budget. In this spirit, the assembly spent much of its energy this year wrestling with the question whether one of its first and most successful programmes, the European Training Programme in Brain and Behaviour Research, should be pushed towards independence one, two or three years hence. But the assembly's consideration of new projects has also been strangely flat and uncritical.

The foundation is for practical purposes a club whose members are publicly supported grant-making agencies in the member states. Each national group pays a collective subscription determined by its home state's Gross National Product, but may then contribute voluntarily to the several "additional activities" that make up the foundation's research programme.

In such circumstances, it is hard to tell how large is the effort subsumed under the umbrella of ESF. This year, for example, central expenditure will amount to FF6.8 million (£0.5 million), but cash contributions for additional activities will amount to FF5.7 million and there seems to be a gentlemen's agreement that overhead costs should be concealed wherever possible. The proposal that central expenditure next year should rise to FF8.1 million — rather less than 0.05 per cent of the budgets of its members — was accepted without a trace of dissent, no doubt in gratitude for the foundation's implicit undertaking that from now on it will take on new projects only when it has discarded others.

The counterweight for the proposed abandonment of the brain and behaviour programme is the European Geotraverse project, a plan to mount a series of deep seismic soundings along a north-south band running from northern Norway to Tunisia, together with coordinated geological, geochemical, geomagnetic and magneto-telluric measurements (see *Nature* 29 July, p.413). The project was enthusiastically endorsed by the assembly, or at least by those of its members whose national boundaries lie near to the traverse.

Enthusiasm does not however mean money. The traverse project will require 14 million Swiss francs (£3.75 million) for central funds, while the planners (led by Dr P. Fricker, secretary-general of the Swiss National Science Foundation) hopes that a further FF8 million will be spent by member states on regional studies. In the event, roughly half the countries concerned were able to commit themselves, in a genteel version of a political fund-raising affair, to contribute to the costs of coordinating the enterprise.

In future, the foundation hopes to have a better mechanism for recruiting contributions towards such additional activities, the assembly having adopted at this meeting a set of proposals negotiated by a group under Dr Fricker that will allow

European space research

Backing away from Ariane?

European astronomers, increasingly concerned about the delays in the Ariane rocket programme, are pleading that the European Space Agency (ESA) should consider launching their next X-ray satellite, called EXOSAT, on a Thor-Delta rocket. A decision to switch launchers at this stage would embarrass (but possibly relieve) Arianespace and cause contractual problems (but probably decrease the cost). According to one senior X-ray astronomer, however, the case for switching launchers is now undeniable on scientific grounds.

The three-stage Ariane rocket has failed, for different reasons, on two out of five of its launches. A committee of inquiry has determined that the failure on the last launch was due to problems with lubrication and design tolerances in the rocket's turbopumps. These are being modified before the next launch in April. On present plans EXOSAT would be launched on the following Ariane in the middle of next year.

EXOSAT, the only X-ray astronomy satellite expected to fly for several years, represents a significant investment over the past few years by European astronomers. Several aspects of its design reflect the recent rapid development of X-ray detectors.

The satellite was originally designed to be launched on a Thor-Delta rocket, and the subsequent decision to change to Ariane had a strong political (chauvinistic) element. Accordingly, only minor structural modification would be necessary to go back to a Thor-Delta launcher, which has an enviable record of successful launching.

Now British, German and Dutch astronomers have written to ESA asking that EXOSAT be an urgent item for discussion at the December meeting of the

interested members' budget contributions to be negotiated while projects are being developed. As things are, members have no cause to dissent in public from proposals they consider to be half-baked, knowing that silent assent need cost them nothing.

For the rest, the assembly reappointed Professor Herbert Curien as president for a further three-year term, heard Sir Hermann Bondi plead for a better understanding and appraisal of environmental problems, agreed that something should be done to improve legislation covering archaeological sites, agreed that similar laws are needed to secure meteorites for science, applauded those of its members seeking to persuade some European government to play host to a European source of synchrotron radiation and approved a plan to hold an interdisciplinary meeting on the criteria for progress in science in whose specification the word "discovery" does not appear. ●

Science Programme Committee and requesting that "all possibilities be considered". Any recommendation made by that committee would have to be ratified by the council of ESA, which would normally place much weight on the programme committee's recommendations.

A Thor-Delta would cost about 10 million accounting units (AU) — about £5.4 million at current prices — less than Ariane but ESA has already paid Arianespace 30 million AU for the EXOSAT launch. Arianespace might, however, be relieved not to have to launch EXOSAT. First, it is under pressure from commercial users to launch their satellites on schedule. Second, the EXOSAT launch would require a hitherto untested fourth stage to be added to Ariane, leading to the increased possibility of another failure.

There are other technical reasons why X-ray astronomers would push hard for a switch. Thus it is possible that a Thor-Delta could be ready in time to launch EXOSAT at the end of the current window. (EXOSAT's orbit is highly elliptical, permitting more extended observations of variable sources and more continuous contact with ground tracking stations than with previous X-ray satellites. The "windows" are those periods in the year during which a launch would provide the appropriate combination of solar cell illumination and the correct location of the orbital apogee in the sky.) With Ariane, this window ends in January, and another launch would not be possible before the middle of next year. The use of a Thor-Rocket, obviating the need of Ariane's transfer orbit, would extend the window to February, giving the possibility of an "early" launch and the avoidance of six months' degeneration of X-ray detectors stored in laboratories.

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