

OLD WORLD

Support for the European Research System

A DUAL method of supporting research within universities is essential if research is to flourish according to a recent report published by the Organization for Economic Cooperation and Development (*The Research System, Vol 1, France, Germany, United Kingdom*).

In a detailed inquiry into how research is organized and financed in these three European countries, which each spend approximately the same percentage of their gross national product on research, the OECD concludes that financial support for the institution encourages the university to have a policy towards research whereas financial support for the individual "encourages the value of research".

This endorsement of the European system of providing money for research, which directly contrasts with the system in the United States where individual grants are usually the sole means of support, is further strengthened by the statement that such a system must be assessed on a regular basis which in Britain, as in Germany, is done every five years.

The report also poses pertinent questions about the link between university teachers and researchers. It says that "the model of a teacher-researcher can no longer be defined in the same terms as even fifteen years ago". It points out that research with its need for teamwork and the need to man equipment continually does not leave the scientist much time for teaching. Therefore, according to the report, there is a need to define "a more precise distinction between advanced postgraduate teaching and basic teaching, and between research proper and the administration of a research team".

The report, however, draws a line at separating universities into those that carry out research and those which are entirely devoted to teaching.

The university systems in France, Germany and Britain do not come out completely unscathed and each system is accused of resisting change. In particular the systems are accused of being "sluggish" because they are reluctant to conduct multidisciplinary research.

The method of examining research projects in Britain is complimented as being the "most open". The French CNRS, the report says, makes use of "the least manageable form of committee system" whereas the Germans have "succeeded in establishing committees by research projects".

Science carried out within a government framework has, according to the

report, done all that has been asked of it, but such an arrangement is susceptible to certain failings. There is a risk that the political and administrative atmosphere might conflict with the requirements of fundamental research. Such an atmosphere will turn scientists into civil servants says the report—a transition, incidentally, which in Britain Lord Rothschild and the government in its white paper has been trying to encourage. Even giving the government laboratories and agencies legal autonomy has not been enough to avoid this danger, says the OECD and research within government agencies still

does not have the genuine autonomy it needs.

Even though the report was largely compiled before the upheaval caused by the Rothschild report in Britain some of its recommendations are particularly apt. It points out that in a transition period difficulties are bound to arise for all those who are exposed "to the backlash of experimentation and of trial and error". "In institutions whose structures and whose very purposes are being challenged at all levels, unrest generating discontent among scientists may jeopardize the equilibrium and soundness of research."

ATOMIC ENERGY

Inflation Bites Home at the IAEA

THE International Atomic Energy Agency is running into financial difficulties. In spite of an overall expenditure of \$13 million in 1971, and an approved budget for 1972 of \$15.3 million, certain areas of the agency's work have suffered. Its technical co-operation activities accounted for \$2.12 million of the agency's regular budget in 1972 compared to \$1.25 million in 1970, but the agency declares that the real resources available, once inflation and fluctuating exchange rates have been taken into account, are substantially less. As a result the agency had to turn down 44 requests from member states for assistance this year; in 1971 it only turned down 27 such requests.

Nevertheless the agency had a very active year, executing nine large projects for the United Nations Development Programme, compared with three in 1971. This increase, the agency says, "is to some extent a reflection of the growing ability of nuclear energy centres in developing countries to make a direct contribution to industrial and economic growth". These projects include the construction of a national nuclear energy centre in Chile, exploration for uranium in Greece and Pakistan, and the development of agricultural production through the application of nuclear technology in Brazil.

The agency's training programme is also feeling the pinch, however. This year the number of training fellowships financed through the agency has fallen to its lowest level since 1967—only 288 were awarded, against 384 last year. This sharp drop is due in part to the curtailment of UNDP funds for regional and inter-regional projects; as a result all but one of the 1972 training

courses are being financed from the agency's regular programme and not with UNDP assistance.

The agency also reports that 52 nuclear power reactors were ordered in 1971, with a total capacity of 46,572 MW. The agency says that previous forecasts that nuclear power will account for about 14 per cent of the world's electricity generation in 1980, and about 50 per cent by the turn of the century, still seem valid; by the year 2000 about 3.5 million MW of nuclear generating capacity should be installed.

The agency's planned programme of work for the next five years has also just been released. The bulk of it will be a continuation along familiar lines with expansion where additional finance will permit. More work is expected on radiation attenuated vaccines, and on food that has been disinfected by irradiation, for example.

The agency also sees a substantial increase in the number of developing countries ordering nuclear power plant in the next five years and much more of the agency's time and money will be spent facilitating this. Further, an increased effort will be made to discover and evaluate uranium sources in developing countries, but the intensification in these activities will lead to a cut in spending on reactor technology. Work on advanced nuclear projects, such as ship propulsion and magneto-hydrodynamics, will, however, continue at the present level.

The agency has also published its 1973 proposed budget which it puts at \$18.1 million. Unhappily, the agency fears that most of the increase will again be swallowed up by inflation and changing rates of exchange.