

ESF warns of dangers of shortfall in posts for young scientists

"THERE is a potentially dangerous situation in Europe which is causing young scientists who might otherwise choose a career in research not to do so," Sir Brian Flowers, president of the European Science Foundation (ESF), said last week. He was speaking after the ESF assembly had approved the annual report for 1978.

A recent ESF study has shown that in most of its members' countries, "the majority of those now in employment will stay in office until the beginning of the 1990s when they will reach their normal retirement age. The demand for replacements during the next 15 years will be exceedingly low." The annual report says available posts are now so few that the chance of a junior research assistant getting a permanent university appointment has gone down from 70% in the 1960s to 15% this decade.

The problem of making posts available to young research workers is well-known. The ESF draft report adds one extra argument. In the past, it says, 65% of a university's budget was spent on personnel and the remaining 35% on maintenance, administration, upkeep of the library and research. Now the share taken by salaries has increased, leaving less for the other activities including research.

The ESF does not suggest what should be done. For the present it merely points out the dangers and urges countries to find their own solution.

The assembly approved a budget of 3.996m French francs for 1979. Among the activities it will finance are three new ones, two in the humanities—Byzantine and Chinese studies—and one covering the ESF's work in synchrotron radiation.

Ten member organisations are providing an additional 500,000 French francs for a feasibility study on building a European Synchrotron Radiation Facility. Such a machine would be distinguished from existing machines by its very high brightness, specially designed elements for each wavelength range, undulators which are very bright emitters and a beam time structure for time resolved studies. ESF hopes to complete its report within a year so a quick decision can be made whether to build the facility.

At the meeting of the Assembly, Sir Brian welcomed Dr John Goormaghtigh who takes over as Secretary-General from Dr F. Schneider in January 1980. Dr Goormaghtigh works in the social sciences.

Judy Redfearn

Wiesner attacks increasing government regulation of US university research

INCREASING attempts to regulate university research have led to floundering relationships between the federal government and the academic community that have reached a "point of crisis", according to Dr Jerome B. Wiesner, science adviser to President Kennedy and now president of the Massachusetts Institute of Technology.

Speaking at a conference of research administrators in Washington last week, Dr Wiesner said that this could seriously curtail the effectiveness of the nation's major research universities, and that the increasing intrusion of the federal government into university affairs threatened their capacity to produce innovative ideas.

He singled out for particular attack proposals published earlier this year by the Office of Management and Budget to introduce significant changes in the accounting procedures—currently listed in the so-called Circular 21—by which universities compute how much they should be reimbursed for the direct and indirect costs of carrying out federally-sponsored research projects.

OMB has claimed that the revisions are aimed at rationalising the procedures used by different government agencies, and reducing the risks of the possible misuse of funds. Dr Wiesner, however, said that the proposed changes, which have been widely criticised by the research community, would weaken universities as institutions and reduce their capacity to

conduct high quality research.

"There is no question, for example, that they limit in a destructive way reimbursement for indirect costs that are necessary and essential. There is no question that a number of the proposals are inequitable or administratively impracticable or both."

He called on President Carter to defer implementation of the revisions until a full study of the current problems faced by university research workers had been completed. "The proposed revisions to A-21 not only sacrifice flexibility but, far more significantly, they move in the direction of viewing universities in the same manner as commercial organisations and away from the concept of a partnership between the universities and the federal government."

Dr Wiesner also criticised the recent decision of Congress, in passing the National Science Foundation's budget for the fiscal year 1979, to place a ceiling of \$48,000—the maximum rate payable to Government scientists—on the salaries of university research scientists receiving university support.

"What this means is that Congress is limiting the reimbursability of salaries of the best faculty, the stars, the Nobel Prize winners, those people who make our institutions great. Universities will have to make up the difference, starting with an already substantial impact, and that's only the beginning," he said.

David Dickson

Few surprises in UNCSTD draft plan of action

A DRAFT plan of action has been published by the secretariat of the United Nations Conference on Science and Technology for Development (UNCSTD), scheduled to take place in Vienna next August. The plan will be discussed by the UN General Assembly in New York next week, and a revised version will then be considered by the conference's preparatory committee when it meets at the beginning of next year.

There are few surprises in the draft plan, which is essentially a synthesis of the various proposals made in the national and regional papers which have already been submitted to the secretariat (a number of countries—perhaps most noticeably the United States—have yet to complete their national papers).

The draft plan of action has reduced the proposals to 201 separate recommendations grouped into two main sections: science and technology

for development, and "institutional arrangements and new forms of international co-operation in the application of science and technology."

Popular themes include the need for codes of conduct covering both the transfer of technology and the behaviour of multinational companies, the need to improve scientific and technological information services and policy-making machineries, and concern about the effect of the "brain-drain" to developed countries. There are also suggestions for encouraging cooperation in research between developing countries, and ways of re-orienting educational systems towards national needs; and several countries ask for an emphasis on the development of appropriate technologies.

Other suggestions range from the proposal that developed countries set aside 0.5% of their gross national product for research related to Third World issues, to the suggestion that

regional "multinational" companies be set up to break the monopoly of foreign transnationals in selected areas of interest to a particular region—something that could be achieved, it is suggested, by pooling the resources of a group of countries in the region and by arrangements for market-sharing, as is now done by the Andean pact countries of South America.

The draft plan says little about basic science. One of the few explicit references is in paragraph 63, which says: "One developing country and one market economy country recommend the fostering of basic research as an important basis for indigenous scientific and technological development." But the same paragraph continues: "Several countries recommend a more utilitarian rather

than an academic approach to the results of scientific research and underline the special importance of applied research and technological development for countries with limited resources."

Nor is much attention given to the obstacles to applying science and technology to development although they had been stressed previously by the conference secretariat. The introduction to the plan of action admits that "the approach by most governments in the preparation of their national papers has been to deal implicitly with obstacles throughout their papers."

As a result, the secretary-general of the conference, Dr Frank Joao de Costa, says that he has adopted the same approach in the outline of the

plan of action; and the introduction states that the number of obstacles treated explicitly "has necessarily been limited."

The two resulting paragraphs are vague and generalised. The first says merely that "systematic analysis and study" of such obstacles is a prerequisite for their elimination. And the second, in language somewhat typical of the whole document, states: "Many developing countries consider that the absence of an awareness of science and technology, often in the context of the social structure, cultural heritage, value system and religious traditions of a country may constitute an important obstacle to the application of science and technology."

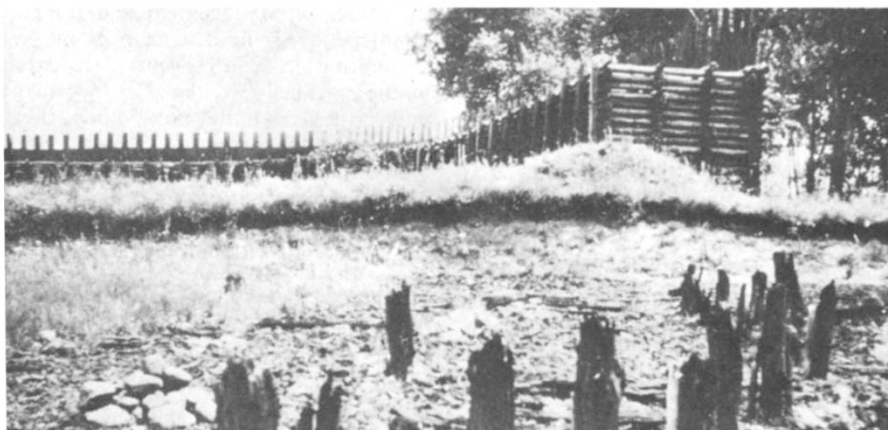
David Dickson

Problems of preserving a 2,500-year-old township

SINCE its discovery in 1933, Biskupin has posed a considerable problem to Polish archaeologists: how to excavate this prehistoric township whose timbers were preserved virtually intact in the peat without the immediate deterioration and decomposition of the finds once they are in contact with the air. A conference of wood conservation specialists, organised last September by the Polish State Archaeological Museum, which is responsible for conservation work at Biskupin, indicated, however, that during the last three years extremely satisfactory results have been attained at attempts at conservation *in situ*.

Biskupin, which dates from circa 550 B.C., was an island settlement of two-bedroomed wooden houses, arranged rectilinearly and enclosed by a palisade. Abandoned when the water-level of the lake rose, the houses collapsed and their timbers were preserved in the peat. The value of such a site for early iron-age archaeology is inestimable; however, until recently the problems of conserving the timber finds seemed insurmountable.

The new conservation programme at Biskupin uses a polyphenol resin to preserve the timber. The method is adapted from one introduced six years ago by Yurii Vikhrov, of Minsk, (Byelorussian SSR). In the Polish method the fluid is applied with a brush, and then cured by sunlight, temperature or catalyst hardening. Curing time depends



Reconstruction of the palisade with original wood in the foreground. Below: applying the solution.

on the conditions, but, using hot-air blowers, a typical figure would be 30 hours at 100 °C.

The resin penetrates the wood to a depth of 3 cm; this gives a mechanical strength that is quite sufficient for conservation; indeed, this method has already been used for the conservation of a whole mediaeval house at Breston-Bug. According to Teresa Stanczuk-Rozycka, head of the conservation laboratory of the State Archaeological Museum, the method, although expensive, nevertheless works out at only 20% of the cost of the method used in Sweden to conserve the timbers of the *Vasa*, and, unlike the Swedish method, is suitable for work *in situ*. Mrs Stanczuk-Rozycka further said that the September conference showed that the overall results of the method were extremely good, and that the programme of conservation would go forward.

At present, the conservation teams propose to work only on the remains of the gate and ramparts, excavated during the early digs, which are now under the greatest risk. With all future



excavations, however, running conservation of the wood in parallel to the actual digging work will be carried out as a matter of routine.

And, since the actual technique of applying the fluid and, if necessary, the hot air blowers, is extremely simple, a large team of skilled conservationists will not be necessary. "Anyone can do it", Mrs Stanczuk-Rozycka, told *Nature*, "for example, students!"

Vera Rich