

especially as the "reform" of the universities has blocked posts for the new generation of scientists, however well-qualified, since large numbers of mediocre young scientists secured life-long tenure in earlier years.

At the beginning of April the German Research Council published its *Grauen Plan* ("Gray Paper") analysing the present state of research in the Federal Republic. From its assessment of the present situation, and the many obvious deficiencies thus revealed, it derives suggestions for improving research, though it accepts that not all the ideas it puts forward can be carried out. The Paper covers the years 1976 to 1978, and is the most detailed and honest document yet compiled about German research. The main section deals with the structure of the universities and the financing of research. For the first time, moreover, scientists from universities were consulted in the drawing up of the document: out of 1,300 scientists approached for their views on the state of research in universities and the condition of their own field of work, 1,000 responded. The results of this inquiry are also included in the Paper, which in parts is more a catalogue of inadequacies than the report of an enquiry, though it should not be overlooked that particular institutes are in fact in the lead internationally.

To overcome at least the financial stagnation of research, Professor Maier-Leibnitz called upon the Ministers of Culture and Science in the Federal Republic and its component States to increase the capacity for work in the country's universities, by promoting and supporting important research and at the same time making use of existing but insufficiently used research facilities. In this way, with less resources, a considerable improvement in quality could be achieved—something which had been greatly neglected during the continuous expansion of higher education. An increase

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*Students at Saarland University: for them, what sort of future?*

in the budget of 10% (DM60 million) would be sufficient to begin with, which amounts to only  $\frac{1}{4}$ % of the DM13,000 million which is spent annually on higher education in the Federal Republic.

In this connection it must soon be clarified whether the balance between applied research and pure research is to be maintained in Germany. The former has expanded rapidly over the past few years through government grants. Those private institutions entrusted with the furtherance of science have so far refrained from open criticism of this development. To understand the problem it is only necessary to consider the vast sums which have been spent on applied research. Whereas the state granted DM850 million in 1974 to further general research in universities and private institutions, it allocated DM3,200 million for advanced programmes of applied technology (nuclear research and technology, space research and technology, data processing, marine research and other technology).

Criticism of the disproportion between applied research and pure research may be justified when it is

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considered that Germany is living on the results of past research, without worrying about the future. No politician seems to give serious consideration to the scientific source for the technology of the 1980s. This behaviour is reminiscent of the carelessness with which people treated questions of raw materials and the environment until recently. Many scientists are worried about the situation: it puts the Federal Republic at a disadvantage internationally; it also threatens those industrial nations which are short of raw materials, whose economies depend on the progress achieved in their laboratories.

The final decision on the relationship of pure research to applied research lies with the political authorities. They have never shown any special enthusiasm for pure research, which has little propaganda value for them in comparison with basic technological projects. Publicity and politics are not, as is often claimed, the enemies of science; they are simply indifferent to pure research. The "Gray Paper" ought to bring about a change of attitude. But will any of the politicians read it? □

## The state of health of NIH

Colin Norman in Washington looks at the National Institutes of Health, just investigated by a Presidential Commission

ON various occasions in the past few years, the National Institutes of Health (NIH), one of the largest and most prestigious biomedical research centres in the world, has been beset with personnel and budgetary upheavals. Two NIH directors have been fired, ostensibly for political reasons, repeated clashes between Congress and the Executive branch over the overall health budget have frequently thrown

planning at NIH into utter confusion, and many of the agency's programmes have been suffering from chronic shortages of cash while others have been receiving relatively generous support. It has not been a very happy place.

The problems which have plagued NIH and, by extension, the universities and medical schools whose work NIH supports, stem from a variety of

sources. They range from the fact that NIH's budget has climbed to more than \$2,000 million a year, which makes the agency politically very visible, to false public hopes that medical science can produce swift solutions to complex health problems. But the chief irritant is clearly the 1971 National Cancer Act.

The instrument which officially launched the federal war on cancer, the act abruptly changed many established methods of supporting, planning and managing biomedical research. It also elevated the National Cancer Institute (NCI) to a privileged position in NIH, and caused vast sums of

money to be poured into cancer research while other areas of biomedical research have been growing slowly, if at all. But the Cancer Act, more than any other single factor, has sharply focused political attention on NIH's affairs.

Early in 1974 when morale at NIH was at a low ebb, following some particularly severe upheavals, Congress, at the instigation of Senator Edward M. Kennedy and ultimately with the support of the then Secretary of Health, Education and Welfare, Caspar Weinberger, passed a bill establishing a Presidential Commission to investigate NIH's affairs and make recommendations for relieving some of the strains. Chaired by Franklin D. Murphy, a former medical school dean who is now chairman of the Times Mirror Corporation in Los Angeles, the panel conducted an exhaustive 15-month inquiry, taking evidence from scores of witnesses and commissioning several independent studies of key aspects of federal health policy. It submitted its long-awaited report to President Ford and Congress on April 30.

A plea for more stability in funding, and for NIH to be left under the control of scientists rather than politicians, the report with its voluminous appendices offers few radical suggestions for changing NIH's operations. Its central message is summed up in the introduction: "The United States can take pride in a remarkably productive biomedical and behavioural research effort. The panel is convinced that despite the appearance of strains in the structure and some dislocation in the parts, the edifice is sound".

Though some people have been quick to criticise the report as being a self-serving document (five of the seven panel members were drawn directly from medical schools), it nevertheless offers some constructive analysis of NIH's activities. Perhaps its most far-reaching and controversial suggestion is that a tentative stem should be taken to re-integrate the National Cancer Institute into the rest of NIH. This should be accomplished, the panel suggests, by re-constituting a powerful committee which now oversees the working of the National Cancer Act into a more broadly based body with jurisdiction over the entire NIH effort.

To understand why such a seemingly mild suggestion is controversial, it is necessary to appreciate some of the history of the National Cancer Act and present cancer politics. The act stemmed largely from the recommendations of a blue-ribbon panel of scientists and lay members chaired by Benno C. Schmidt, a New York industrialist with influential political connections and a persuasive manner. The panel, which reported in December

1970, argued that NCI should be separated from the NIH bureaucracy, be given a separate budget and that its director should be appointed directly by the President. An independent status, the panel argued, would give cancer research greater visibility and enable NCI to adopt a more sharply focused research effort.

The plan was fought at the time by many scientists who were alarmed at the prospect of separating cancer research from closely related fields of study, and when Congress passed the National Cancer Act, it kept NCI within NIH, but only just. The NCI director is appointed directly by the President, and the NCI budget is drawn up and submitted separately from the budgets of other NHI institutes. The Act also established a powerful, three-member President's Cancer Panel to oversee the working of the act and to provide an extra link between NCI and the White House. Benno Schmidt was appointed chairman of the Cancer Panel. He has since devoted much of his time and considerable talents to his duties.

Since passage of the Act, the NCI budget has grown swiftly, though not as rapidly as the Act envisaged. Between 1970 and 1975 NCI's budget rose by 280%. In the same period, the budget for the National Heart and Lung Institute doubled (research on cardiovascular diseases was given a boost by a bill passed by Congress in 1972), but the budgets for all the other eleven institutes combined rose only by 20%. Cancer's share of the total NIH budget climbed from 16.6% to about 35%. At the same time, NCI began funding a growing share of its research activities by contracts rather than

grants, a move which created some discontent in the biomedical research community.

Considerable resentment has been expressed at the privileged position of NCI, and the fact that the growth in support of cancer research has seemingly been made at the expense of other less politically favoured areas of research. Nevertheless, the cancer budget has considerable popular support and is defended by a powerful coalition of politicians, cancer researchers and others, not least of whom is Benno Schmidt. It would be politically difficult simply to merge NCI back into NIH, which is why the panel is very cautious in its recommendation.

It begins by noting that it "both recognises and supports the priority for cancer research established by the Congress", and suggests that the special status of NCI be retained "at this time". It recommends, however, that the President's Cancer Panel be reconstituted by statute as the President's Biomedical Research Panel, with responsibilities extending over all functions of NIH. Its membership should be broadened, it should provide a link between NIH and the White House, and offer advice on the total biomedical research effort. Finally, the panel suggests that "this proposal provides the opportunity, if experience so dictates, to fully integrate the national cancer programme with the other programmes of NIH in due time". The panel's report notes that Benno Schmidt, who was one of the seven panel members—further testimony to his influence over biomedical research matters—did not participate in decisions leading to this recommendation.

## Panel proposals

THE following are among the more important recommendations of the President's panel.

- The President's Cancer Panel should be reconstituted and its responsibilities should extend over all NIH programmes.
- A new NIH advisory board should be established to provide advice to the Director of NIH and a measure of public input into NIH policy.
- No new research institutes should be established, and consideration should be given to amalgamating some existing institutes.
- The research programmes of the Alcohol, Drug Abuse and Mental Health Administration should be strengthened, but the panel decided, by a 4 to 3 vote, to recommend against transferring them to NIH.
- Investigator-initiated grants, rather than contracts, should continue to be the chief means of supporting

research by NIH.

- The Director of NIH should have at his disposal a contingency fund of not more than 1% of NIH's budget, to initiate new studies.
- Legislation should be passed to preserve the secrecy of peer review deliberations and to protect the confidentiality of grant proposals until they have been funded.
- NIH should resist pressures to participate in long-term patient care.

The panel members were: Franklin D. Murphy, Times Mirror Corporation (Chairman); Ewald W. Busse, Duke University Medical Center; Robert H. Ebert, Harvard Medical School; Albert L. Lehninger, Johns Hopkins University Medical School; Paul A. Marks, Columbia University College of Physicians and Surgeons; Benno C. Schmidt, J. H. Whitney and Co.; and David B. Skinner, University of Chicago Hospitals and Clinics.

The proposal is likely to be controversial for several reasons. First, many scientists who have been resentful of the privileged position and burgeoning budget of the cancer programme will not be happy to see the panel responsible for much of that growth placed in charge of the rest of NIH. In that regard, however, it should be noted that while Schmidt has skilfully fought for the interests of the cancer programme, he has also spoken out on many occasions against letting NCI's budget grow at the expense of other areas of NIH. A second factor is, however, potentially more disturbing. The establishment of a powerful committee to oversee the programmes of NIH, though it will have no direct executive power, could seriously undermine the authority of the NIH Director. Though the present incumbent, Dr Donald S. Fredrickson, said in an interview last week that he would willingly work with such a panel if it is established, he would clearly not relish the thought of there being two Popes in charge of NIH and finding that he is the one in Avignon.

Another major point which the panel

addresses is the confusion introduced into NIH planning by the repeated scraps between Congress and the Administration over the budget for the Department of Health, Education and Welfare, of which NIH is a part. Every year, Congress approves a larger budget for HEW than the president requests, and the matter becomes a political football with vetoes, budget deferrals and so on clouding the picture. Consequently, NIH frequently doesn't receive its budget until the fiscal year is nearly over, and it doesn't know until the last moment how much money is going to be available.

Fredrickson acknowledged last week that such uncertainties are a "very serious problem for NIH". But it is difficult to see a solution. Certainly, the panel's recommendations are unlikely to be accepted. The panel, in short, suggests that Congress and the Executive Branch should approve a new budgeting system for NIH which would allow forward funding of multi-year grants and contracts through a single appropriation instead of the present system under which new budgets must be approved each year. That

system would, however, introduce more inflexibility into the federal budget, and would thus run counter to the desires of this Administration. The proposal, moreover, could just as easily apply to the rest of the Federal Government's \$20,000 million-a-year research budget, so the Administration would be wary of setting a precedent.

Finally, it should be noted that the strains within NIH and the rest of the biomedical research community have been less apparent in recent months. In part, that is due to the introduction of some new policies, such as a new granting arrangement in NCI to replace some contracts, and improvements in the quality of peer review of contract proposals. It is also due in part to the appointment last year of Fredrickson as NIH Director. A skilled administrator who has earned the respect of both scientists and politicians, Fredrickson has had a considerable calming influence. Nevertheless, many of the fundamental problems which have led to discontent in the past remain, and it is unlikely that the panel's pitch for more independence for NIH will solve them. □

## USA

# Human rights guidelines adopted

*Colin Norman reports on moves in the United States to combat the repression of scientists*

FOLLOWING a recent spate of complaints that it has been too timid in speaking out against violations of human rights, particularly those of scientists, the National Academy of Sciences has adopted a set of guidelines to govern its actions when future infringements are brought to its attention. One of the Academy's most outspoken critics on such matters, Dr Jeremy J. Stone, Director of the Federation of American Scientists, last week welcomed the guidelines as offering a "constructive approach".

Proceeding from the observation that "violations of human rights . . . occur in many—perhaps all—countries", the guidelines suggest that the Academy should try to battle such violations by "persuasion on moral humanistic grounds". But they add that this approach "may require fortification by stronger measures".

The Academy operates for the US government a number of scientific exchange agreements with other countries, which gives Academy officials considerable contact with their foreign counterparts. In the past, the Academy has used such contacts to make private, face-to-face representations on behalf of beleaguered

scientists, particularly repressed Soviet intellectuals. But only in the case of Andrei Sakharov has the Academy issued a public protest, and a number of scientists, both inside and outside the Academy, have recently criticised it for not speaking out more forcefully on other occasions.

The guidelines state that the Academy will continue to remonstrate influential officials in other countries, choosing individual cases of scientists and engineers to protest. "We will continue to use the quiet informal contact as our principal mode of communication with peer groups and governments in other countries", the guidelines state, but they add that "we do not eschew entreaty by public vehicles; indeed, we anticipate that such action will occasionally be appropriate". The strongest leverage which the Academy has in such negotiations is the threat of withdrawal from participation in exchange agreements, and the guidelines recognise that such a measure is available. Indeed, "it is always implicit in the background, but (it is a measure) that we can use only rarely".

In a related development, Academy members adopted a resolution at the annual meeting last month affirming principles of freedom of inquiry and expression. They urged colleagues around the world to join them in

sending the following (or similar) signed statement to the Academy:

I hereby affirm my dedication to the following principles.

- That the search for knowledge and understanding of the physical universe and of the living things that inhabit it should be conducted under conditions of intellectual freedom, without religious, political or ideological restrictions.
- That all discoveries and ideas should be disseminated and may be challenged without restriction.
- That freedom of inquiry and dissemination of ideas require that those so engaged be free to search where their inquiry leads, free to travel and free to publish their findings without political censorship and without fear of retribution in consequence of unpopularity of their conclusions. Those who challenge existing theory must be protected from retaliatory reactions.
- That freedom of inquiry and expression is fostered by personal freedom of those who inquire and challenge, seek and discover.
- That the preservation and extension of personal freedom are dependent on all of us, individually and collectively, supporting and working for application of the principles enunciated in the United Nations Universal Declaration of Human Rights and upholding a universal belief in the worth and dignity of each human being."

An Academy official said last week that the Academy will act as repository for such statements and make public the response. Confidentiality will be guaranteed to those who request it.

Signed statements should be sent to the National Academy of Sciences, 2101 Constitution Avenue NW, Washington DC 20418. □