

electric power systems; for contributing to new pollution legislation; and for conducting a landmark world food study. Hornig and his staff are also praised for defusing the politically explosive issue of the "technological gap"; and for inducing President Johnson to take a major stand, in his 1965 State of the Union message, in support of population control. "Any one thing by itself probably seems insignificant," says David Z. Robinson, vice president for academic affairs at New York University, and a former OST staffer. "But when you add it all up the cumulative weight is impressive."

Criticisms of Hornig

The most significant criticisms of Hornig generally involve things he allegedly failed to do rather than things he did. Thus several experienced government hands, including Carey and Shannon, fault Hornig for not developing plans for science and technology in the post-Vietnam period. Other observers complain that Hornig was not very creative or innovative. They note that, in an administration which prided itself on new domestic policies, it is difficult to think of any dramatic new departures in federal science programs. Moreover, those who feel technology had a role to play in Vietnam criticize

the science advisory apparatus for failing to contribute much to the war, which was, after all, the major problem confronting the Johnson administration. Other observers complain that Hornig did little to cultivate the power centers of a Congress that became openly hostile to R & D funding; and that Hornig was a poor administrator who tried to do too much himself and failed to use his staff as effectively as he might have.

As was the case with his White House captain, Hornig's albatross was the budget problem caused by the Vietnam War. His greatest failure, in the eyes of much of the scientific community, was his inability to protect researchers from the impact of cutbacks in domestic spending. But if this was a failure, it was a failure in only a limited sense. Hornig acknowledges that he was "not satisfied" with the level of R & D funding, but he feels that support of science "didn't fare badly" in comparison with other federal programs. Many observers assert that Hornig did an admirable job in minimizing the impact of cutbacks which could not be avoided. They note that the science adviser is not a lobbyist for the scientific community, and they praise Hornig for his frankness in telling his money-hungry colleagues where to get off. In a speech last May,

for example, Hornig criticized mathematicians who "seriously propose" that the public should support creative work "on the beaches of Rio de Janeiro or in the Aegean Islands." The public which pays the bill, Hornig said, "is not in tune with such colossal intellectual conceit." To put it mildly, this outspoken comment offended many mathematicians.

The experiences and tribulations of the past 5 years have led Hornig to conclude that the science advisory apparatus needs strengthening. Hornig has publicly suggested that a cabinet-level Department of Science be created, and that a Council of Scientific and Technical Advisors (analogous to the influential Council of Economic Advisors) be established and made responsible for submitting an annual report on the state of science and technology. Several other prominent statesmen of science, including Wiesner, have also suggested major structural changes. At this point it is not clear what changes, if any, the Nixon administration will make. But even without any structural changes, if Nixon is able to end the war, and if federal science budgets start to climb again, life may be a good deal easier for the new science adviser, Lee A. DuBridge, than it was for Hornig.

—PHILIP M. BOFFEY

A Private University: Academics Seek To Set Up Britain's First

London. While American academics hunt new routes to the federal treasury, a group of their British counterparts, joined by several Americans teaching here, are seeking to get away from government money and set up Britain's first privately financed university.

The British effort, endorsed in a declaration issued by 46 academics, mainly on economics faculties throughout the United Kingdom, has touched off one of this country's characteristically acerbic and often cranky controversies, with the left-wing *New Statesman* asserting that "the authors of this document are suffering from irrational

frustration to such an extent that they are prepared to say anything." That journal's interest may possibly have been aroused by the fact that the declaration came out under the imprint of the Institute of Economic Affairs, a rightist research organization that feels the marketplace, rather than what passes here for socialism, is the correct remedy for Britain's assorted ailments. In any case, since Britain currently excels in contention-cum-inactivity, the odds are that American academe will get a blank check on Washington long before the 46 realize their goal. (The number, in fact, has already been low-

ered by at least one—a senior academic who dropped out with the privately offered explanation that "I discovered that the others want something that I don't want.")

Just what it is that the others want is a good way from being clear, for the details so far are somewhat sketchy. But what is clear is that, by and large, British academics are ill-tempered over the treatment that higher education is being accorded by their financially straitened government, and also by the government's growing demands that the universities bend themselves more toward doing something for their country. Last month, for example, the chief executive of Liverpool University, Vice Chancellor W. H. Barnes, indignantly resigned after issuance of a government report suggesting that student opinion might be of some value in awarding merit raises for teaching. "I cannot," he said, "in all conscience accept a situation in which the traditions and independence of British university life are slowly but inexorably being

whittled away." Prime Minister Wilson instantly repudiated the report; one newspaper reported that Wilson, himself a onetime university don, was believed to regard the suggestion on student opinion as "sheer lunacy."

Thus, the proposal for a private university, though under low-keyed discussion for several years, is coming to a head at a time when university-government relations are especially raw. In this circumstance, it might be thought that there would be considerable support for establishing at least one private institution under a system where all others are overwhelmingly dependent upon government funds. But, though support may be mustering—the declaration of 46 came out late in December—the present indications are that many academics and others have been put off, not so much by the concept of a private university, as by the peculiar formulation and views presented in the declaration of the 46 and in a follow-up document* written by the man who is so far the project's chief public advocate, H. S. Ferns, professor of political science at the University of Birmingham.

Though the genesis of the proposal is stated mainly to be a distaste for what is deemed government interference in academic affairs, the proposed university turns out to be a strikingly utilitarian institution designed to prepare students to earn a living in a competitive industrial society, rather than teach or do research—which, after all, is what the government, with limited success, has been trying to get the universities to do anyway. As stated in Ferns's pamphlet, "To consider humane understanding and the cultivation of sensibility as the main purpose of university education with a view to denying its vocational and practical value in civilised living is a perverse aspect of decadence, and is based on a false view of human experience and of the consequence of educative effort. . . . There is a place in Britain for at least one university which is prepared to say what its students need to study in order to prepare themselves for a creative and responsible place in the modern world: to be governed in designing its programs by the demands of society and not by the demands of discovery on the frontiers of knowledge."

**Towards an Independent University*, 31 pages, 5 shillings (60 cents) (The Institute of Economic Affairs, Eaton House, 66a Eaton Square, London, SW1, England). Included is the declaration signed by the 46 academics, "The Urgency of an Independent University."

NEWS IN BRIEF

● COLUMBIA TO STUDY NASA

LAW: A faculty committee at Columbia University is studying the implications of a federal law that could deny National Aeronautics and Space Administration (NASA) research grants to schools that bar military recruiting on their campuses. The statute, part of the 1969 NASA authorization act passed on 3 July 1968, will be examined by Columbia's Committee on Externally Funded Research and Instruction, a faculty group established last October to insure that research funds from non-university sources do not violate Columbia's academic goals. The action over the NASA research statute was generated when students assailed military recruiting efforts on the Columbia campus last week. University officials estimate that Columbia derives about \$72 million a year from government sources, \$1.2 million of which comes from NASA.

● NSF INSTITUTIONAL GRANTS

CHANGE: The National Science Foundation (NSF) has broadened the base of its institutional grants for science programs, thus making a larger number of the less affluent universities eligible for the grants. NSF plans to change its method of calculating institutional grants by including university research awards of other federal agencies. (NSF's institutional grants for science are not awarded for a specific purpose and may be used by the university for any scientific project it chooses.) The institutional grants until now have been awarded to universities as a variable percentage of the total NSF grants given. The change in the NSF formula will now mean that institutions with substantial support from other federal agencies will probably receive larger NSF grants than in recent years, while those receiving grants primarily from NSF may be reduced. NSF officials told *Science* that the change in the formula, instead of the base, will make as many as 100 more institutions eligible for institutional grants.

● CONNECTICUT COLLEGES CO-

ED: Two Connecticut colleges have announced they will be coeducational next year. Trinity College and the Connecticut College for Women will admit undergraduates of the opposite sex for the first time next year.

● DOCTORS IN CITIES:

A university report shows that there are twice as many physicians per capita in New York City as there are in the United States as a whole. A report of the Urban Research Center of the City University of New York shows that there are about 28 doctors for every 10,000 persons in New York City as compared with 13 for each 10,000 for the whole nation. The report shows a general trend among physicians away from rural communities into densely populated areas.

● AUSTRALIA ASKS U.S. AID IN ATOMIC EXCAVATION:

The U.S. government has indicated that it will act on an Australian request that the U.S. Atomic Energy Commission (AEC) be authorized to participate in a study of the possible use of nuclear explosives to build a harbor at Cape Keraudren, in northwestern Australia. The Australian government wants the U.S. to contribute nuclear material and technical knowledge; they plan to use the port for export of vast iron ore deposits in the undeveloped area. The U.S. officials say that U.S. participation in the project could give rise to some problems concerning the Nuclear Test Ban Treaty, which prohibits any nation from releasing nuclear particles into the atmosphere outside its own territory.

● NIH INSTITUTE OUTSIDE BE-

THESDA: A National Institutes of Health (NIH) environmental health research division was elevated recently to Institute status. Located at Research Triangle Park, North Carolina, the new National Institute of Environmental Health Sciences (NIEHS) is the first and only NIH institute to be located outside of Bethesda, Md. Concern over selection of its site generated congressional debate in 1963–64 over the need to decentralize government health research facilities. Under its new status, NIEHS plans to continue its evaluation of environmental hazards, such as air and water pollution, and pesticides. NIEHS also plans to maintain research links with the neighboring medical schools of Duke University, University of North Carolina, and North Carolina State, and will support university-based research projects elsewhere. Congress appropriated \$17.8 million for its activities in fiscal 1969.

Ferns emphatically points out that research will most certainly have a place in the university, but the manner in which time is to be allotted for it suggests that it might have been useful if there had been at least one scientist among his colleagues. (There was none.) To keep down costs, he writes, teachers will have to be more productive, and, for this purpose, he recommends teaching loads as high as 25 hours per week, and the adoption of teaching techniques designed to weave together various fields and disciplines. "In order to see how this can be done," he advises, "we must turn from the academics to the journalists to see how they transmit the complicated and difficult to the uninformed or partially informed. A high level of understanding joined with a will to study methods of communication can solve this problem. The solution is more challenging than 85 percent of the problems with which contemporary academics wrestle." But teaching, he contends, "depletes energy and intellectual resources, and the attempt to mix research and teaching weakens both activities." So, the solution is to recognize "that teaching is the main activity at one period of time and learning and research at another."

"Accordingly, individual staff members . . . will have to be given at least one year in six of paid leave for intellectual refreshment and the uninterrupted pursuit of intellectual inquiry."

"Hand in hand," Ferns continues, "there must be developed a new conception of academic liberty—not necessarily the best or the only conception of academic liberty, but one required for university independence. . . . Put briefly, it will be necessary to develop in the university a business conception of duty, in place of the aristocratic and rentier conception of duty. In a private university, the teacher's liberty will consist in being able to take it or leave it and having the economic means to do so; but not in the liberty to impose his conception of his duty on the organization."

As for finance, Ferns states that, with a goal of at least 3500 students, \$12 million will be needed as starting capital, but with loans and part-time jobs available to help students meet the cost of \$3600 a year for tuition and living expenses, it should be possible to have all the institution's expenses covered by fees and research contracts. "To suppose otherwise is to pander to the false notion that education is a special kind of activity dependent on chari-

table impulses or state subsidies"—which, come to think of it, is more or less how American academic leaders have come to describe it.

Ferns's views are stated to be his own, and it is also stated that there were some reservations to specific propositions among the 46 who signed the declaration on "The Urgency of an Independent University." And well there might have been, for that document offers some curious points of view, such as "We believe that student unrest and demands for democracy are aggravated by the virtually complete dependence of both staff and students on public subvention"—a conclusion that might be of interest to the various private universities in the United States that have been ripped up by student rebellions. It is also stated in the declaration that "We believe that fuller scope and incentive for contract research for governmental and private institutions and firms, possibly in association with teaching, could lead to a more fruitful interrelationship between the University and industrial and social life as is common in the United States."

At this point, members of the group sponsoring the private university have held several meetings, and have decided to seek a government charter for the institution and to set up a planning committee, under the chairmanship of Sir Sydney Caine, former director of the London School of Economics (LSE). Then they have to seek money and settle on a site. Among the better-known academics associated with the project are Max Beloff, of Oxford; Harry Johnson, of the University of Chicago and LSE; M. L. Burstein, of the University of California, Santa Barbara, and of Warwick University; and W. H. Barnes, the now-resigned vice chancellor of Liverpool University.

Once the proposal was out, opposition came swiftly. Even the conservative *Daily Telegraph* commented, "It would be well if the idea of a private university could be detached from Prof. Ferns's rather sordid views about the proper content of higher education." Lord Balogh, of Oxford, responded with a letter to the *Times*, stating that the signatories of the declaration "know full well that the 'State' has interfered too little with the 'autonomy' of academics and not too much." And two Cambridge dons wrote the *Times* that the rapid expansion of British higher education in recent years has created a desirable diversity. "Bristol, Edinburgh, Essex, Manchester,

Sussex, and Warwick, for example, differ at least as much among themselves in their own ways as, say, Berkeley, Columbia, Harvard, Massachusetts Institute of Technology, Northwestern, and Wisconsin."

There was, however, no dissent from Ferns's concluding remarks, which, in part, stated: "There seems to be an accumulating body of evidence that British society is not performing as well as its past history and its present opportunities would suggest it can perform. Whether there is any significance or truth in this evidence is difficult to say, but the impression of malaise is there and affects attitudes and confidence. Our socio-economic and political organization seems to have become over-elaborate and constipated."

—D. S. GREENBERG

RECENT DEATHS

M. Jean Allen, 49; chairman of the department of biology at Wilson College; 23 December.

Harold R. W. Benjamin, 75; former dean of the University of Maryland College of Education; 12 January.

E. Calvin Cheek, 45; college psychiatrist at the City College of New York and professor in the department of student personnel services there; 12 January.

Vaclav Hlavaty, 74; professor emeritus of the department of mathematics at Indiana University and twice president of the Czechoslovak Society of Arts and Sciences in America; 11 January.

Ulysses G. Lee, Jr., 55; historian, educator, and authority on Negro history and culture; 7 January.

Eugene P. Northrop, 60; Ford Foundation representative in Turkey and former chairman of the department of mathematics at the University of Chicago; 5 January.

Reginald H. Painter, 67; professor of entomology at Kansas State University and most recently on sabbatical leave as special field staff member of the Rockefeller Foundation to the International Maize and Wheat Improvement Center in Mexico; 23 December.

Vladimir V. Sakharov, 66; Soviet geneticist; 10 January.

William S. Smith, 61; curator of the department of Egyptian art at the Museum of Fine Arts in Boston and authority on Egyptian art, archeology, and history; 12 January.