

(organized by former AEC chairman Admiral Lewis Strauss and including Edward Teller and Nobel prize winner Willard Libby) that recently announced support of Nixon (*Science*, 4 October) tend to be "hawks" on nuclear arms questions, but there would appear to be inadequate evidence to indicate what position the Nixon administration would take, for example, on a total nuclear test ban.

On health and education policy, the Nixon camp has prepared, but, at this writing, still had not released, full-scale statements. The next administration will face a number of questions about financing and possible extension of Medicare and Medicaid legislation. The Republican platform includes the most liberal plank on health care in GOP history, and Nixon's responses to questions on health care indicate that a Republican administration would accept the Medicare-Medicaid revolution but seek to restrict costs and shift control where possible to local authorities and, in particular, the medical profession. A Nixon administration might be expected to be friendlier than any preceding Republican administration to federal programs for training physicians and other medical personnel. On other education programs, the prospects are simply not clear.

In social legislation Nixon could be expected to favor a more limited involvement of the federal government. It is thought unlikely that any administration would dismantle the Poverty program, but Nixon would probably stress incentives to private initiative and the enlistment of private enterprise. He has taken a stiff attitude toward campus protest. In May he called the Columbia riots "the first major skirmish in a revolutionary struggle to seize the universities of this country and transform them into sanctuaries for radicals and vehicles for revolutionary political and social goals." Nixon's definition of a university is "a community of scholars seeking truth. It is a place where reason reigns and the right of dissent is safeguarded and cherished. Force and coercion are wholly alien to that community and those who employ it have no place there. . . ."

Legislatively, if Nixon were elected, much would depend on the composition of Congress. Polls now predict that the Democrats are likely to control the House of Representatives by a very narrow margin and the Senate by a reduced majority. The prospect is for domination by a conservative majority drawn from both parties.

Democratic majorities in Congress worked reasonably well with the White

House in the last 6 years of the Eisenhower administration, but Democratic party discipline was considerably firmer in the days of Speaker Sam Rayburn and Majority leader Lyndon Johnson than it has been recently in the House and Senate. And Eisenhower as President had a uniquely unpartisan aura.

Whether the Democrats would be willing to bury partisan resentment of the "old" Nixon remains a question. Certainly there is a "new" Nixon, to judge by the tone and technique of his well-organized and relaxed campaign. The man many people thought wrote his own political epitaph with his farewell address to the press after his defeat in the California gubernatorial race in 1962 has made perhaps the most remarkable of all political comebacks. He is not a charismatic leader and does not seem to need the mass admiration to which some politicians become addicted. What makes Nixon run is a question that neither his friends nor his foes have really been able to answer. But he managed to unify his party, largely, it seems, because of his traits of energy and perseverance. He hopes to unify the country the same way. And, it is perhaps those qualities which help most to explain the political rise and fall and rise of Richard Nixon.

—JOHN WALSH

Defense Funds: Congress Worries about Costs of R & D and ABM

Congress's growing concern about the size of the federal R & D budget was manifested in an unusually vivid manner on 3 October when the Senate, by a decisive 47 to 19 vote, passed a restricting amendment offered by Majority Leader Mike Mansfield (D-Mont.). Mansfield's amendment to the 1969 Defense Appropriations Act would have limited indirect expenses on Department of Defense research grants or contracts to 25 percent of the direct costs.

Fortunately, in the opinion of many research administrators, this amendment was deleted when the representatives of the Senate and House appropriations committees met in conference on 10 October. The conferees (and the

Congress) did agree, however, to adopt language on the subject of indirect research costs. Congress agreed "that new and comprehensive studies should be made of this entire area" by the General Accounting Office and by the appropriate congressional committees, studies which "should be directed toward achieving a uniform formula for the ascertaining of indirect costs on research grants *throughout the entire Government*" (italics added). According to the language adopted, indirect costs should be "based upon sound accounting principles"; "it appears," the statement continues, "that the proper proportion of indirect costs to direct costs should not exceed 25 percent." (It should be noted that research *contracts*

were eliminated from this expression of congressional concern.)

The Mansfield amendment was a subject of "some considerable controversy" in the House-Senate conference, according to Senator Richard B. Russell. Representative Emilio Q. Daddario (D-Conn.), chairman of the House subcommittee on science, research and development, had urged the House Appropriations Committee Chairman not to accept the amendment limiting indirect costs because his subcommittee "has carefully investigated the matter in the past, concluding that such restrictions are generally undesirable." On 11 October, Daddario told the House that he realized that the indirect costs issue might be raised again in the future. He said his subcommittee would look into this matter and determine whether the Bureau of the Budget Circular A-74, setting guidelines for cost sharing by universities receiving Federal Research grants, had been properly implemented since it was issued in 1965. (The subject of the allocation of indirect costs for federal

Handler Nominated for National Academy Presidency

Philip Handler, chairman of the biochemistry department at the Duke University School of Medicine, has been recommended by a special nominating committee to be the next president of the National Academy of Sciences. If elected, Handler will assume office on 1 July 1969, when NAS president Frederick Seitz begins full-time duties as president of Rockefeller University.

Although nomination by the committee (headed by Harry Eagle of Yeshiva University) usually assures the nominee of election, any 50 Academy members may nominate their own candidate for president. Such nominations must be received by 1 December. On 15 December the names of the nominees (or nominee) will be sent by mail ballot to the 800 National Academy members. The results of the election will be made public on 15 January.

For years Handler has been a leading figure in national science policy circles. For months he has been considered one of the most likely possibilities to receive the official nomination for the NAS presidency (*Science*, 14 June). Among other assignments, Handler has served as chairman of the National Science Board since 1966, as a Board member since 1962, and as a member of the President's Science Advisory Committee from 1964 to 1967. He served as chairman of the biochemistry study section of the National Institutes of Health from 1956 to 1959. Born in New York City in 1917, Handler received a B.S. degree from City College of New York in 1936 and a Ph.D. from the University of Illinois in 1939. He has taught at Duke University since 1939.

grants and contracts has long been debated, a debate which university scientists hoped had been concluded with the issuance of Circular A-74.)

The congressional worry about indirect costs of research obviously affects a broader area than research sponsored by the Defense Department. On 20 September, Mansfield announced his intention of sponsoring an amendment to limit indirect expenses to 25 percent of direct costs on all government research grants and contracts. He was, reportedly, dissuaded from making this wider proposal by senators worried about the effect of his amendment on research in areas which interested them. A significant point about the support enjoyed by the amendment was the fact that, immediately after Mansfield's presentation, Senate powerhouse Richard B. Russell (D-Ga.), chairman of the Armed Services Committee and ranking Democrat on the Appropriations Committee, took the floor to endorse the amendment.

In proposing the limitation on indirect costs, Mansfield and his supporters seem to have been moved by a variety of concerns. One slightly surprising motivation seemed to be resentment over inadequate geographical dis-

tribution. Mansfield argued that "it is the private institutions, some of which are subsidized almost entirely by the Government, that get the gravy under these programs and it is the land-grant colleges that get the droppings." Russell complained that the smaller educational institutions received insignificant amounts compared to the Ivy League colleges and institutions on the West Coast; the smaller institutions, he complained, "do not get the crumbs that poor Lazarus got from Dives' table." Gordon Allott (R-Colo.) argued that Congress, by tightening up on research, could avoid having "the great bulk" of research money spent in "a small area on the eastern coast and two or three big institutions on the west coast," and make more money available for land-grant universities in the West and Midwest.

Another thing that seemed to disturb Mansfield was the fact that the universities were meeting some of their educational and training costs by charging indirect research costs to the Defense Department and other research-sponsoring agencies. Mansfield said he favored direct subsidy to universities "through the agency of the Federal Government that has as its primary

purpose the improvement and furtherance of higher education," which would result in "a greater educational freedom."

Mansfield also seemed to be disturbed about information revealed in Foreign Relations Committee hearings on Defense Department research (*Science*, 24 May, 2 August). Mansfield said he was dismayed to learn that Federal Contract Research Centers—"creatures of the Federal government"—were paying salaries "that ranged from \$50,000 to \$90,000 a year."

Of course, a principal factor that troubled Mansfield, Russell, and their supporters was the size of the indirect costs. During the debate, information, based on Defense Department figures, on the overhead costs of various universities was discussed. These costs reportedly ranged from 28.6 percent for Johns Hopkins, 29.7 percent for the University of Pennsylvania, and 30.5 percent for Columbia University to the much higher figures ascribed to Princeton University (80 percent), Polytechnic Institute of Brooklyn (83.4 percent), and Worcester Polytechnic Institute (86.82 percent). The accounting systems of universities, which allocate these costs in different ways, were not discussed by the Senate.

Mansfield said facts had been unearthed which indicated that, for some colleges, R&D overhead moneys "have been used to clean off the college football field, to pay for janitorial services, and the like." The Majority Leader said he had been unable to obtain documentation on overhead costs at other research centers, but that "it has been suggested that the indirect cost figure is far above that of the universities." Mansfield said it was his understanding "that the General Electric program on Apollo receives in excess—perhaps well in excess—of 100 percent for overhead, maintenance, indirect costs, or whatever we want to call it."

Some senators, such as John O. Pastore (D-R.I.) and Jacob Javits (R-N.Y.), complained about the precipitate introduction of the Mansfield amendment. Several university presidents and several defense contractors, including members of the Apollo System Department of General Electric, made known their objections to the amendment. Before Mansfield introduced it, he wrote Philip Handler of Duke University, chairman of the National Science Board, to ask him, among other things, if it would "be possible to continue the current pace

of academic research with a reduced Federal expenditure by imposing some limits on the expenditure of the Federal grant for other than the research itself." Handler opposed such a move and explained that "the burden would then devolve upon the universities to provide for those services whose provision had been deleted from Federal expenditures. But the universities are themselves fully committed. . . . The contemplated action would simply send the university closer to the borders of bankruptcy" and "disrupt morale." Taking note of Handler's opposition, Mansfield did, however, make use of the figures Handler had provided him in support of his own case. These indicated that \$1.245 billion of the \$1.7 billion received by universities from the federal government in support of research in 1967 had been expended for expenses other than the most immediate cost of the research itself.

In the Senate debate there was obviously some confusion about the definition of "indirect costs" and lack of knowledge of government procedures to eliminate illegitimate expenditure. Some senators are probably just as happy that the Mansfield amendment was not accepted in conference. The intent of the Senate and the House, however, seems clear: a ceiling will once again be imposed upon indirect costs associated with research grants. Mansfield said he was interested in focusing greater attention on the extent of federal involvement in research "and the degree of laxity" that has accompanied this involvement. "The real purpose of this amendment," he said, "is to encourage further scrutiny, not only by Congress but by other Government and non-Government institutions as well; and to demonstrate that this is but the beginning of an in-depth evaluation that will continue over months and years ahead."

Research Funds

While the Congress had some harsh words to say about DOD's expenditure of research funds, the Department did receive most of the funds it requested. Congress appropriated slightly more than \$7.55 billion to DOD for its research, development, test, and evaluation activities, about \$442 million more than in fiscal 1968 but \$455 million less than the Administration had requested. Although the DOD will not be able to start the 50 new university centers under Project THEMIS which it had planned for 1969, it will

NEWS IN BRIEF

• **BAN ON SOVIET VISIT:** Congressional criticism notwithstanding, the State Department will grant about 40 Soviet scientists permission to attend an international space conference in the United States in mid-October, but it may cancel a scheduled tour of Cape Kennedy. The action follows a protest letter, which Representative Paul Rogers (D-Fla.) sent to Secretary of State Dean Rusk requesting that the trip for the Soviet scientists be canceled, particularly the Cape Kennedy tour. Rogers said that U.S. approval of the Soviet tour would be inappropriate in light of the Communist invasion of Czechoslovakia, Soviet aid to North Vietnam, the Pueblo incident, and the alleged increases in Communist intelligence work here. The State Department said that it did not plan to cancel the Soviet visit because U.S. government policy has been to encourage international scientific meetings and exchanges.

• **FISH FLOUR:** An economy-minded Congress has decided to build only one initial demonstration plant for the production of fish protein concentrate. The bill, which authorizes no more than \$1.9 million for a pilot plant to be constructed or leased by the Interior Department, amends an earlier act which authorized two plants. The purpose of the pilot plant will be to demonstrate the engineering and design feasibility of manufacturing the food supplement. In February 1967, after more than 5 years of controversy, a process for manufacturing fish flour was approved by the Food and Drug Administration to insure that the protein concentrate made from whole fish would be safe for human use.

• **PSYCHOLOGY JOURNAL:** The University of Illinois at Urbana has received the 81-year-old *American Journal of Psychology* as a gift from an alumnus, Karl M. Dallenbach, owner and retiring editor of the journal. The quarterly, valued at \$100,000, is a magazine for experimental psychologists. It has been moved from Austin, Tex., where Dallenbach was chairman of the psychology department at the University of Texas, to Urbana, where it will be published by the University of Illinois Press. The magazine now will be edited by a board, consisting of Professors Lloyd G. Humphreys of the Uni-

versity of Illinois, M. E. Bitterman of Bryn Mawr, and E. B. Newman of Harvard. The present circulation is 2600.

• **ASTRONAUTS TREATY:** A treaty requiring the immediate return of astronauts and space vehicles downed on foreign soil and on the high seas was ratified by the U.S. Senate, 66 to 0, on 8 October. The treaty, which provides that signatories conduct search and rescue operations for astronauts and spacecraft accidentally downed on their territory, was signed by the United States, the Soviet Union, and more than 70 other nations on 22 April 1968.

• **DRAFT BOARD FAUX PAS:** Chemist Clarence Noll, dean of the College of Science at Pennsylvania State University, has received a letter from the Media, Pennsylvania, draft board, notifying him that he has been classified 1-A. Noll apparently had written a letter of appeal for a student, the names became mixed up, and Noll received the student's classification notice. Noll is 60 years old.

• **CHANGE:** A new journal of opinion and commentary on higher education has been established by a \$275,000 grant from the ESSO Education Foundation. The new nonprofit magazine, *Change*, will focus on such wide-ranging university issues as curricular structure, the learning process, the university and the urban crises, experimental education and technology, student government, and radicalism. Published six times a year in New York by Science and University Affairs, *Change* will first be available in late December. The ESSO Education Foundation was established in 1955 by Standard Oil of New Jersey and a number of U.S. affiliates, to assist higher education.

• **RADIOACTIVE WASTE DISPOSAL:** The first international operation to dispose of solid radioactive wastes into the sea is described in a report by the European Nuclear Energy Agency. *Radioactive Waste Disposal Operation into the Atlantic, 1967*, may be obtained for \$1.80 from the Organization for Economic Cooperation and Development, Publications Center, 1750 Pennsylvania Avenue, N.W., Washington 20006.

probably have enough money to begin half that number of new centers.

In its report on the 1969 defense appropriations bill, the House Appropriations Committee commented that, although the United States had been successful in retaining technical military superiority in all respects, "the level of productivity of the research, development, test, and evaluation effort of the Department of Defense is not commensurate with the level of expenditures in support of the program." The committee argued that the DOD had created a very large "R&D Establishment" composed of in-house government laboratories, industrial contractors, colleges and universities and non-profit organizations, all of which lived permanently off DOD spending. The committee specially singled out the Federal Contract Research Centers as one of the "several areas in research and development in which unnecessarily high costs are incurred."

In the Senate, the Appropriations Committee on several occasions in its report on military appropriations recommended cuts in "social science studies, behavioral science studies, foreign policy research, research conducted in foreign institutions, and life sciences technology." In making this recommendation, the Senate Appropriations Committee seemed to be reflecting a more general congressional questioning of DOD sponsored social sciences research and of DOD's foreign research.

All in all, the Congress approved defense appropriations for fiscal 1969 of almost \$72 billion, the largest appropriations bill ever passed by Congress. The Congress cut slightly more

than \$5 billion from the Administration military request, but will doubtless be required to pass supplemental defense appropriations if the Vietnam war continues at its present intensity.

Especially in the Senate, there was some hope that more extensive cuts could be made in military spending this year. This hope was chilled however, after the Soviet occupation of Czechoslovakia, which aroused the Cold War fears and concerns of many senators. On 2 October, the Senate rejected by a 45 to 25 vote an amendment to block procurement, personnel and operating funds for the Sentinel ABM system, which marked the fourth time this session that the ABM system had been upheld in a Senate vote. The Senate fight against immediate deployment of the ABM was led by Philip A. Hart (D-Mich.) and John Sherman Cooper (R-Ky.). On 2 October, Cooper inserted a letter signed by four scientists—Hans A. Bethe, George B. Kistiakowsky, Jerome B. Wiesner, and Herbert F. York—supporting the position that ABM deployment should be delayed by a year or more.

The Senate also turned back Senator Joseph S. Clark's (D-Pa.) one-man fight to cut defense appropriations by a further \$8 billion to eliminate part of the "open, conspicuous, notorious, demonstrable waste" which Clark said was contained in the defense budget. Even though Clark is busy running in an uphill battle for reelection to the Senate this November, he took time out to sponsor these amendments and attack "the weapons cult" which he called "The Golden Calf of our nationhood." For the most part his amend-

ments were crushed by substantial margins, including an amendment which would have kept military research, development, test, and evaluation at the 1968 level. That amendment was defeated 54 to 13. Clark was successful in gaining Senate acceptance of an amendment which would have required semiannual reports to Congress on the amounts spent on chemical and biological weapons, including those used for defoliation and other military operations. This amendment was, however, eliminated in the House-Senate conference.

When the massive defense appropriations bill was passed by the Senate on 3 October there were only two votes cast against it. But it would be wrong to believe that all those Senators who voted for it did so with an untroubled conscience. Immediately before he cast his "aye," Thomas J. McIntyre (D-N.H.) told the Senate: "Our priorities are sometimes puzzling. We spend billions on weapons to maintain the strategic balance of terror, yet we are losing the war against fear and terror in our cities. It is important to realize that a battle in one of our major cities threatens the nation's security at least as much as a battle in a Vietnamese hamlet does.

"We can no longer afford to increase defense spending at the expense of our domestic programs."

McIntyre is a "solid" member of the Armed Services Committee. Attitudes toward the sanctity of military spending may indeed be changing if solid Armed Services Committee members feel compelled to utter such heresies on the Senate floor.—BRYCE NELSON

Budget Paradox: Spending Holds Even, Yet Researchers Are Hurt

Budget cuts imposed on the scientific community this year have produced a seeming paradox. On the one hand, federal budget experts are predicting that, despite the cuts, the amount of federal money spent on research and development, and on academic science, during the current fiscal year will about equal the amount spent the previous year. On the other hand, many academ-

ic scientists are screaming that deep budget cuts have undermined their ability to do effective research. Can both views be right? Oddly enough, the answer appears to be yes.

The explanation of how a level budget can cause problems lies partly in the fact that the cost of research keeps going up and therefore more money is needed just to keep even, and partly in

the fact that this year's budget crunch has fallen much more heavily on some agencies and scientists than others. Big agencies such as the Defense Department and Atomic Energy Commission have been able to protect their research budgets by making cuts in other programs—both expect to boost their spending and new commitments for basic research this year. The National Aeronautics and Space Administration, on the other hand, has suffered another in a series of bad budget years and is reducing its assistance to universities. Meanwhile, the National Science Foundation (NSF) and the National Institutes of Health (NIH), where research is the prime activity, have both had to scram-