

does not mean that we should not apply some discrimination in deciding in which areas of science we should mount a major effort. If, for example, we spend vast sums of money in going to higher and higher energies in nuclear physics we must ask ourselves whether we may be putting too high a proportion of our best scientific manpower into the pursuit of what is, after all, only one of many fields of science. Again, is it better to spend the available money this way than to promote studies which might lead more directly to the opening up of vast new fields of technology—for example, in the area of direct generation of electrical power? These are questions which we in Britain must ask ourselves. They are not easy questions and it is very difficult to answer them; but an answer must be found, and I believe that the necessary criteria for making such hard choices are already available.

As I have said, we face this problem in Britain now; it has indeed been with

us for some time past, but now we can no longer evade it. But the same problem looms up also in America, and there are clear signs of concern about it. At present both countries are probably spending around 3 percent of their gross national product on research and development, and that expenditure is at present increasing at about 15 percent per annum. This rate is far above the rate of increase of the gross national product, and quite clearly we cannot go on increasing research and development indefinitely at 15 percent per annum; if we did, it would absorb the entire national income by about the year 2000. Since there is no evidence that I know of to indicate a slowing down in the rate of advance or in the rising cost of research and development, it is clear that sheer economics will force upon all of us the need to establish priorities and make deliberate choices in science.

There are many other aspects of scientific policy in Britain which could

be discussed, but it is perhaps best to leave matters on this note. For the central issue of scientific policy in Britain, as in all other countries at the present time, comes down simply to this question of determining in the light of a country's resources in money and manpower the priorities in science and technology that are essential if its economic future is to be assured. And in the long run the enormity of this problem, coupled with the essentially supranational character of science and technology, may help to hasten the day when the old and often bitter national rivalries may be overcome, and science, with its immense potentialities for good, may serve as the cement which will bind together all mankind.

Note

1. Until 1956 DSIR, which, unlike the other research councils, had the structural pattern of a government department, operated with an advisory rather than an executive council, but this made little real difference in its operation.

News and Comment

Congress: A Higher Education Bill Is Considered a Likely Prospect, But Hard Bargaining Lies Ahead

Before Congress decamped for the 4th of July recess the House Education and Labor Committee did everything but take one final formal step to report a higher-education aid bill which in several important ways is a companion piece to the elementary- and secondary-education act passed earlier in the year.

The new House bill, in one main section, puts emphasis on programs to help solve urban problems, and in another provides a precedent-shattering sort of aid to students in "exceptional financial need." These and several other features make the bill—along with the elementary- and secondary-education act, the poverty program, and the Appalachia act—fit squarely into the category of "Great Society" legislation.

Like the school-aid measure, the new bill is an artfully compounded legislative ragout calculated to please different palates. A loan-insurance and interest-subsidy plan in the bill is meant to endear it to the middle class. And a program of grants and fellowships to bolster "developing institutions" should help assuage some of the mounting resentment in Congress and back home on behalf of those colleges and universities which have remained on the outside looking in at the feast of federal support of scientific research.

The House version builds on the administration bill (H.R. 3220) introduced in February. But, while the new bill preserves the spirit of the original, it considerably alters the letter. In addition, committee changes have resulted in estimated costs for fiscal 1966 being more than double the total of \$250,000 called for in the original.

So extensive are the changes that a "clean bill" was deemed necessary. This means that a new bill had to be introduced and passed by the committee. This had not been done when Congress recessed on 1 July, but close observers saw no hitches developing to prevent reporting of the bill; this would send it to the Rules Committee and thence to the floor.

In the Senate, the education subcommittee of the Committee on Labor and Public Welfare this week was meeting in executive session to "mark up" its own version of higher-education legislation. While the House committee devoted itself to making extensive changes in the bill, the senators, it is understood, are disposed to add several totally new sections.

On the House side, the title on financial aid to students was the most controversial part of the measure within the committee, as it is likely to be outside it. Scholarships have been the perennial hot potato of higher-education legislation, and the subject of financial aid was the chief cause of a delay of more than a month in committee action on the bill.

At one point the idea of federal scholarships for undergraduates on any terms was dropped. A compromise was reached, however, reportedly in part

as a result of exhortation from the White House. The term *scholarships* was scrapped in favor of *educational opportunity grants*. The change was made partly, it appears, in the interest of analgesic nomenclature, but also to describe more clearly the intent of the program. Scholarships imply high academic achievement, and the group of young people the committee was aiming to help are those who have potential which, because of circumstances, they may not have realized in high school. To be eligible, a student must show evidence of academic or creative promise. While no rigid means test is specified, the grantee must be in the category of exceptional financial need and, without the grant, unable to go to college.

Recruiting Program

During its deliberations the committee seems to have been impressed by figures showing how much more closely college attendance relates to family income than to ability. The legislators also concluded, after testimony in the hearings, that the colleges and universities, which are already swamped with applicants, are doing little to recruit students from among young people of high ability from low-income families. Institutions wishing to participate in the opportunity grant programs will have to make an effort to locate needy youths of ability and encourage them to attend college.

Grants will range from a maximum of \$800 a year to a minimum of \$200. The new program is designed to mesh with the existing program of National Defense Education Act student loans. A student from a low-income family is expected to combine grant with loan from NDEA funds or institutional sources and perhaps with income from jobs under the work-study program, initiated under the poverty program and now, under the new bill, transferred to the Office of Education for administration.

Also under the financial assistance section of the bill is a program of federal insurance of commercial loans to students unable to obtain loans from state or private loan programs. Under the plan the government would insure 100 percent of the unpaid principal, but not the interest, on loans up to an annual maximum of \$1000 for undergraduates and \$2000 for graduate students and to a maximum total of \$5000 for undergraduates and \$7500 for graduate students. The Secretary of

Health, Education, and Welfare would set a limit on the rate of interest chargeable by the lender (a limit of 6 percent and, in exceptional cases, 7 percent would be prescribed).

(A crack in the consensus being cultivated appeared 2 weeks ago when the American Bankers Association made it known it was not pleased with the provisions of the section. Representative Edith Green (D-Ore.), chairman of the subcommittee which handled the bill expressed displeasure, saying that she had been led to believe by administration emissaries that the bankers—who are important to the success of any scheme involving commercial loans—had accepted the section. As a result the provision may well become controversial as the bill moves forward.)

An interest subsidy also would be available to students from families with annual incomes below \$15,000. Under the program the government would pay the interest on commercial loans while the student was in college and 3 percentage points of the interest afterward.

An amendment accepted as part of the final compromise on the bill would extend work-study benefits to students in training in postsecondary nonprofit technical schools which meet acceptable standards but are not covered by national accrediting organizations.

One of the issues which split the Democratic majority on the House committee was the question of whether the multiplication of federal programs of assistance to students would cause inequities. It was suggested, for example, that some students would get grants while other, conceivably of equal need and merit, would get loans. The compromise under the bill by no means solves the problem entirely, but it does establish an order of eligibility under which the neediest students would be eligible for grants, insured loans, interest subsidies, and jobs financed by the work-study program, while the most affluent would have loan insurance available to them.

Another section of the bill, which represents a higher-education complement to the poverty program, is the section providing for "community service programs." The purpose is to involve colleges and universities in the solution of problems such as those in housing, government, recreation, employment, youth opportunities, transportation, health, and land use. The inspiration for the new section was the

extension programs of the Land Grant institutions. The committee doubled the \$25-million authorization proposed in the original bill and also put much stronger emphasis on the solution of problems peculiar to urban and suburban areas. Funds could be spent on either research projects or education programs likely to help alleviate such problems.

For underdeveloped institutions the bill would authorize \$30 million in the first year to "assist in raising the academic quality of colleges which have the desire and potential to make a substantial contribution to the higher education resources of our Nation but which for financial and other reasons are struggling for survival and are isolated from the main currents of academic life. . . ."

Programs of two kinds are envisioned: (i) grants for cooperative agreements and (ii) a program of national teaching fellowships. The grants would be designed to pay part of the cost of planning and operating cooperative arrangements which show promise of strengthening developing institutions between these institutions and other educational institutions, organizations, or business entities. Exchanges of faculty or students, faculty improvement programs of various kinds, cooperative use of facilities and equipment, and projects to improve curriculum are all envisioned.

National teaching fellowships would be awarded by the Commissioner of Education to well-qualified graduate students and junior faculty members of stronger institutions to encourage such people to teach at developing institutions. The stipend for the fellowships would not exceed \$6500 a year, plus \$400 for each dependent, and would supplement salary or other funds received from the developing institution. The fellowships would be for no more than 2 years.

Books for the Buildings

For college and university libraries the new bill provides what amounts to a follow-up to the college facilities act passed late in 1963, which helped to build library buildings.

A total of \$50 million in fiscal 1966 would be authorized for the purchase of books, periodicals, documents, magnetic tapes, and other library materials. Under a complicated formula 75 percent of the money would go in grants not to exceed \$5000 per institution.

Any remainder would be allotted in the form of supplemental grants to institutions or groups of institutions in amounts determined on the basis of enrollment. An institution would be required to match the federal money and not to reduce its annual expenditure for libraries.

The other 25 percent would be used for special-purpose grants to institutions that demonstrate a "special need" for added library services and show promise that the expenditure would improve the quality of educational services.

Another \$15 million would be available to support training in "librarianship" and also to finance research and demonstration projects to improve libraries or the training of librarians.

Finally, \$5 million was added during subcommittee consideration of the bill as a gesture essentially toward encouraging the establishment of research libraries. The money would be transferred to the Library of Congress to be used for speeding up its cataloging services. Funds could be used to acquire scholarly materials from anywhere in the world, to expedite the cataloging process after receipt of the materials, and to facilitate the exchange with other libraries of materials not needed by the Library of Congress.

The big increase in money in the new bill over the original comes in the authorization of an additional \$230 million in grants for the construction of undergraduate facilities and \$60 million for graduate facilities. These are increases above the \$460 million and \$60 million for undergraduate and graduate facilities already approved by the House in the Higher Facilities Education Act for the fiscal year which began on 1 July.

A noteworthy innovation in the bill, reportedly incorporated mainly on the urging of Mrs. Green, is the provision of an advisory council to the Committee on Education and Labor "to make studies or recommendations" on programs established under the act. The Executive agencies have until now had a monopoly on advisory councils. By creating one of its own from among experts who are not government employees the committee could be setting Congress an example in narrowing the gap in expertise between the Executive and Legislative branches.

While it is still being assumed in Washington that a higher-education aid bill will be passed during this session of Congress, there is cause for uncertainty as to what form it will take.

President Johnson publicly gave higher-education legislation a high priority last month, and this was interpreted by some to mean that his prestige and persuasive powers would be deployed in behalf of the bill now emerging from the House committee.

But the Senate appears bent on adding major provisions to the measure, such as a revived GI Bill and establishment of a "national teachers corps" to serve in low-income areas (the President last week espoused this idea in a speech at the National Education Association convention in New York).

A bill combining House and Senate provisions would probably turn out to be too expensive for the Bureau of the Budget to accept or the Congress, under normal circumstances, to approve. Furthermore, when, as seems inevitable, representatives of the House and Senate meet in conference to reconcile differences over their respective versions, it appears certain there will be conflicts on such points as the degree of emphasis to be placed on urban and suburban problems in the community-service programs.

The circumstances, therefore, are quite different from those which prevailed when the Senate earlier in the year accepted the House version of the school bill, thereby avoiding any unpleasantness or delay. This time reaching a meeting of minds is likely to make the legislative summer seem longer and hotter.—JOHN WALSH

The Doctors' Debate: What To Do When Medicare Comes Is Main Topic at Stormy AMA Session

For about 20 years the American Medical Association has been campaigning intensively against federal medical insurance tied to Social Security. In the course of the fight the association has spent millions of dollars, alienated itself from substantial portions of the medical and scientific communities and the general public, and, in the opinion of many observers, downgraded itself from a professional society to little more than a trade association or lobby. Now, with the passage of a medicare bill drawing closer and closer, the association is facing a major defeat, and as the doctors gathered in New York a few weeks ago for their 114th annual convention, the atmosphere of gloom resembled nothing so much as descriptions of the French at Dien-bienphu. The mood of the meeting was

well caught by the medical reporter who circulated around the press table a bogus account of the deliberations which began: "New York, June 21—Seven dentists yesterday responded to an emergency call from the American Hotel here, promptly treating 43 physicians for a condition called 'bruxal fracture.' The doctors had broken their teeth by gnashing them." Teeth-gnashing, breast-beating, and wailing were indeed the order of the day.

Medicare and the Doctors

Why the doctors so fear medicare is by no means an easy question to answer. To the leadership of the AMA, the elected and appointed officials based in Chicago, the issues seem essentially threefold. First, they do not believe that the medicare bill passed by the House in April and approved by the Senate Finance Committee 2 weeks ago is necessarily the best way of getting medical services to the aged individuals who need it most. Second, they believe that concern over the costs of the program will inevitably lead the government to take a more active role in determining what medical services are dispensed, and how they are dispensed. And, finally, AMA leaders believe that the specific bill in question already provides the specific vehicles for eventual government control over medical practice.

The adequacy of the protection afforded by H.R. 6675 is indeed open to question (see box). The string of deductibles under both the compulsory and the voluntary supplemental plans, together with the limitation on duration of hospital or nursing-home stays, make it probable that the very poor and the very sick will still have difficulty paying their bills. Senator Russell Long (D-La.), who made an unsuccessful effort in the Senate Finance Committee to eliminate the ceiling on hospital stays and scale the payments required of a patient receiving services to ability to pay, was recently quoted as saying that the bill provided "free care for the millionaires who can afford it." (The House version requires a flat payment of \$40 for 60 days of hospital care; the Senate version adds an additional 60 days, with the patient paying \$10 per day toward the costs.) Despite the bill's gaps, however, it is unlikely to make medical care any worse for the impoverished elderly, and is quite likely to improve it. In addition, the fact is that no one has yet produced an alternative plan likely to do the job better on a remotely reasonable financial