thority to approve all travel under grants, or to permit them to make unrestricted shifts of funds among budget categories. . . ."

Also under consideration are recommendations that would tighten up control over funds for equipment and travel. One of these recommendations would require specific NIH approval for foreign travel; another would establish a ceiling of $2500 for the purchase of equipment without specific approval. Terry stressed that NIH plans to study these proposals further before it comes up with any firm decisions.

Fountain, who has chatised NIH for what he considers indifference to earlier recommendations of his committee, said he would wait and see what developed, but he did not seem very optimistic. "I believe I speak for our entire Committee," he wrote to Terry, "when I express the hope that this will not become just another case of announced intentions without effective implementation."

Meanwhile, Senator William Proxmire (D-Wis.) failed to get the Senate to cut the NIH appropriation back to what the administration requested. Proxmire, however, got 32 election-year votes for his proposal, a fact which NIH has duly noted.—D.S.G.

Wiesner Confirmed To Head New Science Office

The Senate last week unanimously approved the nomination of Jerome B. Wiesner as director of the newly established Office of Science and Technology. Wiesner's nomination occasioned his first formal appearance before a Congressional committee since he joined the administration as Kennedy's special assistant for science and technology. He retains that post while serving as director of the new office and will also continue as chairman of the President's Science Advisory Committee (PSAC), an 18-member group of nongovernmental consultants drawn from science, industry, and education. He will also continue as chairman of the Federal Council on Science and Technology, which is the intragovernmental counterpart of the PSAC. In relations between science and government, Wiesner probably occupies the most influential position in the country. Following are excerpts from his testimony before the Senate Labor and Public Welfare Committee. (A limited number of complete transcripts may be obtained without charge from the committee at Room 4230, New Senate Office Building, Washington, D.C.)

Geographic Allocation of Federal Research and Development Activities

I and my advisers . . . have become firmly convinced that the growth of technical industry in an area requires the existence of adequate academic facilities. It is very difficult to maintain or build technical competence in an area that does not have a good scientific educational base. And so, while I think the federal government can do its part in attempting to diffuse the development and research resources, I think the local communities have a very important responsibility to create the proper kind of scientific and academic environment. . . .

The Federal government can help by its granting procedure. However, we have to be very careful in the use of this technique. I think it would be a serious mistake for the federal institutions that make grants for research and development to weight too heavily considerations other than technical competence. I think that we might want to provide additional funds, supplementary funds, for area development, but I think that if a large proportion of the resources that the nation is going to spend on research and development and engineering were allocated on a basis other than the qualification of the institutions and the industries to do the best possible job, we would risk having a serious deterioration in our work.

So what I would suggest is that in the field of research and the field of scientific education, we consider the special provision of additional resources for these development problems, rather than try to change the basis on which research activities are allotted.

There are some areas of the country that used to be outstanding, for example, in the Midwest, where I came from. I think there has been a scientific decline there during the past decade or two because of too large a concentration on the consumer goods industry. I know, for example, of a Midwest college that produced 150 Ph.D.'s during the last decade in a specialized field and only one of them remained in the Midwest, probably because there were few research opportunities in the area as challenging as those on the west and east coasts. . . . I think it is a problem that the Federal government should help to correct. I am confident that we will try. However, it does require very active support and participation of local groups. . . .

Availability of Scientific and Engineering Manpower

There is no simple answer to the question because we are trying to predict the future. Also, the problems are not the same in all fields. . . . A related question is whether we are using our manpower effectively. Sixty to seventy percent of the technical people in this country work for the government directly or indirectly. And the efficiency and the effectiveness with which we use these people makes a very great difference.

At the moment, our general feeling is that there is no shortage of scientific manpower, or at least no large and general shortage. There is, however, a very great shortage of the more highly trained people, people with advanced degrees. Therefore, we believe that the nation must make a major effort to increase the percentage of students who study for advanced degrees. We also see serious problems, though, in maintaining growth in technical fields, for we must almost double the number of working scientists and engineers in the next decade if we want to continue our past rate of growth. . . . I believe that the federal government will have to help in a large way, particularly in increasing the quality, that is, in increasing the number of college trained people with advanced degrees. But I would not want to make specific recommendations on this, because we are still in the middle of our studies.

Increasing the Attraction of Careers in Science

. . . I think that most American scientists would feel that it should not take special bribes to get people into the field, but I do think that there are many things that we can do. . . .

. . . one of the most serious problems that the nation faces is in our ability to attract scientists and engineers into government. I spend a considerable amount of time trying to persuade people to come into government employment. We have, probably, half a dozen high-level technical positions in

government unfilled today. In some cases, I have talked to dozens of people to attempt to fill them. . . . Unless we can have in our government, in our laboratories and in the administration of research, people of outstanding caliber, people who are as good as the people they are trying to supervise, we cannot and will not make effective use of our resources. Here I think that pay is the primary problem. The federal pay scale has not kept pace with the industrial scale.

International Movement of Technical Manpower

. . . I think that the movement of technical manpower is still in our direction. . . . As a matter of fact, the European countries are quite concerned about the amount of recruiting that has been done by American industry abroad. There is a need to reduce—I do not want to call them abuses—a certain amount of motion in that connection. It is my own impression that the people change jobs more frequently than is desirable from the point of view of a productive career.

The National Academy of Sciences is planning to study the question of the use of technical manpower. . . . I do think it is a field in which we will have to be extremely careful. There is reluctance to impose too much direction in the areas where there is government financing of work. However, there appear to be many opportunities to increase the effectiveness and productivity of our technical manpower resources.

Jerome B. Wiesner

Proposals To Establish a Federal Department of Science

I really am of two minds regarding a Department of Science. I think that some of the proponents . . . feel . . . that it would provide better coordination, that is, a pulling together of the scientific programs of the government and an avoidance of duplication. I do not believe that complete coordination is possible, because we have a number of government departments with unique missions engaged in research. If we took the research and development out of the agencies, they would not be able to carry forward their jobs. On the other hand, there are a number of independent activities in the federal government which are located where they are only for historical reasons.

It might well be that a collective, what you might call a Department of Science, would make them more effective. On the other hand, this would be true of only a small part of the total federal research and development effort. . . . While I think there is some justification for the proposition that we bring related activities together, I would be very much against putting them in one agency. Nor am I at all certain that it would make any substantial improvement in our management of the scientific programs to have the head of that department a member of the cabinet.

Freezing of Armaments at Present Levels

If we could freeze them and then provide adequate verification procedures so that we would know that they were frozen, I believe that it would be to our advantage. This is a technical problem that we must face in detail when we talk about it. That is, how can we ascertain that agreements are being honored.

Personnel Plans for Office of Science and Technology

We are going to transfer the organization that was built up in the White House to the new office. We have a staff of about 25 people. And we plan to add to the group so that there might be 35 people in a year or so. And I expect that it will stay reasonably close to that level. We will pay considerably more attention to the coordination functions I have talked about than in the past. We have already identified a number of areas in which we expect to work.

Announcements

An International Commission for the Standardization of Pharmaceutical Enzymes has been organized under the International Pharmaceutical Federation for the purpose of defining "in a uniform manner the activities of pharmaceutical enzymes, as well as the methods of assay and control." Other subjects which are to be examined include the stability of pharmaceutical enzymes and their activation or inhibition by the other drugs or ingredients with which they may be compounded.

To set up a documentation that is as complete as possible, the commission is soliciting information or suggestions from pharmacists in practice, research, or control laboratories, and manufacturers. (E. A. Lazo-Wasem, Wilson Laboratories, 4221 S. Western Blvd., Chicago 9, Ill.)

The former presidential yacht *Williamsburg* is to be reactivated as a United States **biological research vessel** for the International Indian Ocean Expedition. Activation, to be supervised by the Woods Hole Oceanographic Institution under a National Science Foundation contract, will include conversion of the presidential suite into laboratory areas, installation of a wet lab for receipt and bottling of specimens, and equipping of a dry lab. In addition, winches and a small crane will be installed for dredging and deep-sea work, and a side deck platform will be added for longlines fishing.

After a shakedown cruise, the 243-foot ship is scheduled to begin the 2-year Indian Ocean cruise in early 1963.

The American Institute of Physics, under the terms of a 2-year cooperative publishing project with the Physical Society of Japan, has agreed to underwrite 500 U.S. subscriptions to the new monthly **Japanese Journal of Applied Physics** in order to promote its acceptance in this country through a variety of physics organizations and education institutions. The journal, published in Japanese, is available at a subscription rate of $10 to nonmembers of the Japanese society.

The program, the first in a planned series of cooperative ventures between U.S. scientific societies and their Japanese counterparts, is supported by a grant from the National Science Foundation. (American Institute of Physics, 335 E. 45 St., New York 17)