GENERAL SCIENCE

Research To Be Supported

Has been advocated at Senate hearings, but world implications of atomic energy proposals overshadow national science plans.

➤ THERE is going to be government support on a large scale for the sort of scientific research that will wrest new secrets, not just from the atoms, but many other sectors of the scientific unknown.

That much was clear with the Senate hearings on the National Research Foundation bills in their second week. And coupled with the broad research set-up are provisions for a plan for scholarships and fellowships for promising young scientists that will keep the scientific personnel of the nation up to fighting strength, ready to battle disease, poverty, and depression as well as military enemies.

The difference of opinion in the hearings arises with regard to how the proposed National Research Foundation is to be controlled and whether or not the act shall specify the degree of patent control the government shall exercise over the results of researches.

The organization for the proposed foundation provided in the bill of Senator Harley M. Kilgore (Dem., W. Va.), is a so-called "in-line" plan, consisting of a director, with an advisory committee with scientists in its membership and working divisions headed by scientists and committees of scientists. The director would have powers and responsibilities similar to those of a federal department head, and he would be appointed by the President and confirmed by the Senate and therefore be removable by the President. This form of organization has been supported in testimony of Secretary of Commerce Henry Wallace and Budget Director Harold D. Smith.

The other suggested organization for the Foundation would put control in a board of nine Presidential appointees who would serve without compensation and who would appoint a director to serve under them. This procedure was recommended by the "The Endless Frontier" report of Dr. Vannevar Bush, director of the Office of Scientific Research and Development, and is provided in the bill of Senator Warren G. Magnuson (Dem., Wash.).

The Kilgore form of organization is attacked on the ground that it puts the control of scientific research into the realm of so-called "political" control, while the Magnuson plan is criticized because the director is too far removed from democratic control and the governing board would tend to be static and unresponsive to changing conditions.

In both plans, just as in the wartime OSRD, scientists themselves would plan the details and carry out the researches. Under both plans the research itself would be done largely through contracts by university and other non-profit laboratories and industrial laboratories, not by the Foundation itself.

Who shall own the discoveries and any patents resulting is another controversial question. Under the OSRD, and current Army and Navy practice, the government retains only the right to use the results of the research in the work of the government itself. The commercial rights in patents go to the individual scientist and are usually assigned to the industrial or other laboratory conducting the investigation, even though the research is done largely or wholly with government money. This practice is virtually continued under the Magnuson bill through its failure to cover the matter of patents. The Kilgore bill provides that inventions and discoveries resulting from federally financed projects shall be the property of the United States, directs that they shall be patented, and authorizes nonexclusive licenses for all who wish them.

The Kilgore provisions are not favored by industrialists and scientists allied with industry, who would rather see the kind of contract made with the laboratories varied to suit the conditions of the particular piece of research to be done. They predict reluctance on the part of industrial laboratories to undertake investigations with government money if patent rights are lost. On the other hand, supporters of the Kilgore bill feel

BRITISH "FROGMEN"—In their skin-like diving suits, "frog" goloshes, and streamlined breathing helmets, these men of the submarine commando army swam underwater, towing on the surface explosive-packed pneumatic dinghies, placed their demolition charges so skillfully that 3,000 otherwise indestructible underwater steel obstacles blew up under German noses. They also cleared the enemy minefields laid off the invasion coast to make the safe landings on D-Day possible.

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that if the public's money is spent the results of the investigation should be made available to all by the government.

Decisions upon these differences, important as they are for the future of American science, begin to seem somewhat unimportant when compared with the vastly larger decisions that will have been made should the May bill on atomic energy control in its present form be passed by Congress.

Under this bill potentially complete control of almost all chemistry and physics, and almost any other branch of science, is placed in the hands of a presidentially appointed commission of nine members, practically secure from removal during their nine-year terms, who in turn appoint an atomic energy administrator who wields unparalleled powers for peacetime. He can force the firing of anyone concerned with any phase of the work without being challenged in the courts. He can seize any property in the nation. He can declare any field of industry or science to come under his control.

Such an atomic energy act would be a declaration of an atomic bomb armament race, and, in fact, the mere consideration and tacit Presidential support of it, is a challenge to other nations with which the United States has been allied, particularly the U.S.S.R.

It is not alone a question as to how we here in America consider this proposal. We need to know how it is received in Moscow and we can guess that it can play a large part in stopping the building of world cooperation so urgently needed.

The atomic bomb is explosive enough, but the attitude toward atomic energy control may start a chain reaction of international rivalry that we will not be able to stop.

Science News Letter, October 27, 1945

PHYSICS

Atom Research Threatened

Secrecy proposals for all atom research threaten continued investigations. Scientists organize to express views before control is imposed.

➤ AMERICA is in danger of a stoppage of fundamental researches on the atom, the sort of scientific inquiries that gave birth to the atomic bomb.

Scientists by the thousands, those who have been working at the research Shangri-Las of Los Almos, New Mex., Clinton, Tenn., Hanford, Wash., and Chicago, Ill., are concerned about the secrecy provisions in the proposed atomic energy control bill and the chances of having a $300,000 fine or 30 years in jail held over them if they misjudge whether their researches should and should not be announced.

Rather than work under such restraint, many of them, as Dr. Harold C. Urey, Nobelist and heavy water discoverer, has suggested, will turn to safer fields of inquiry such as biological and physiological chemistry. Government control would apply to private, university and industrial investigation in nuclear physics and related chemistry because a license would have to be obtained by every investigator.

If this happens, the brilliant war researches that have produced the practical explosive release of atomic energy and the prospect of application of these researches to peacetime use, will be hampered.

Even now the research work at the government laboratories has slowed down tremendously. The scientists feel that they are not encouraged to push on in experiments that might be productive of new weapons and applications to non-military uses.

The return of a considerable number of the scientists to university and industrial laboratories was expected after the end of the war, but the present exodus to unrestrained research and teaching may deplete the staffs of the atomic laboratories to a dangerous degree.

The attempt in Congress to railroad the atomic control bill with only one day of hearings with pro-control government witnesses only heard has impressed the atomic scientists with the necessity of making their own expert opinions known.

Spontaneously in each of the major centers of atomic research, Oak Ridge, Los Almos and Chicago, groups composed of more than nine-tenths of the scientists there, have organized and formulated statements which point out the necessity for international control of the atomic bomb. The secrets of "know-how" in fabricating the bombs from plutonium can be learned in five years' work or less by another nation, such as the U.S.S.R., they estimate, and for that reason it is considered impractical to try to keep the atomic bomb the exclusive property of the United States, Britain and Canada. Moreover, there is the danger that intensive research in rival laboratories may bring forth new methods of atomic energy release which may have immediate military application.

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"Aquiculture" is raising fish in farm ponds on fertilized water-plants.

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