

PHYSICS AND GOVERNMENT

DOD will spread research funds

To the chagrin of many government-agency physicists, the Department of Defense hopes to use two thirds of its budgetary increase for research to start a new program for the institutions that now receive relatively little research support. With executive inevitability, a Johnson memo of last fall to his cabinet and agency directors, entitled *Strengthening the Academic Capability for Science Throughout the Nation*, has resulted in an \$18 million DOD "university program" that Secretary McNamara said will "broaden the research base by helping other institutions participate in [DOD research programs]." Meanwhile effects of the Johnson memo are already perceived in the broader geographic application of federal funds by many other agencies.

Specifically, the new DOD program hopes to accomplish three objectives:

1. build up new graduate research centers where they are now sparse
2. amalgamate some of the existing centers into small compact units
3. offer DOD research facilities to more schools.

Said McNamara, "With regard to the defense portion of this program, we plan to take the initiative and systematically visit universities that have not as yet had the opportunity to bid for defense research work. In the course of these visits, we hope to help these institutions determine their capabilities and inform them on how to prepare proposals."

Other agencies. When President Johnson issued his memo last fall, a committee of the Federal Council for Science and Technology was set up, under NSF Director Haworth, to determine how the agencies could implement the President's instructions. Moreover each agency gave Presidential Science Advisor Donald Hornig monthly progress reports that Hornig distilled and transmitted to Johnson. Each agency subsequently proceeded in its own way to carry out the instructions.

For example, the National Science Foundation will soon announce two new mechanisms of support for the smaller and weaker institutions of the country (see *PHYSICS TODAY*, April, page 69). The Atomic Energy Commission, replying to a *PHYSICS TODAY* query, said that "in the spirit of the Johnson memo, we will expand our national laboratories and contract research programs. In particular we are opening up more opportunities for the younger faculty members." The National Aeronautics and Space Administration asserted that "we have led in implementing the President's memo by our past [sustaining-universities] programs. We haven't anything particularly planned, but we will be guided by the memo in the future."

Criticisms. The new DOD program, it is said, grows out of a deeply American political tradition of populist support; it expresses not only the wish of Congress, but also the sentiments of a considerable fraction of the scientific community. Nevertheless there are some government-agency physicists who claim that their ongoing physical-research programs will be hurt by the new geographic emphasis. Since most of the DOD budgetary increase is allocated to the new "university program," very little additional support will be left over for existing programs. "Funds standing still means stagnation of programs," is a constant refrain heard these days.



Another argument directed against expanded geographic support by some scientists is that Congress and the people have been confusing research support with development support. They say that when we consider federal research support separately, our country has almost a natural dollar distribution per capita.

Whatever the arguments pro and con, the direction appears to be irresistibly toward greater geographic distribution of federal research money. A generation ago Senator Kilgore proposed that federal grants be distributed among the states on a quota system. Although his bill was defeated, we are still contending with ghosts of his ideas.

Whither Pake report?

Now that the Physics Survey Committee has completed its monumental study of physics in the United States (see *PHYSICS TODAY*, April, page 23), the federal government intends to use the report in evaluating physics support in the various agencies. To this end, the Office of Science and Technology has requested that an interagency committee be formed to study the Pake report and help propose government-wide policy and planning in support of university physics research. The chairman of this committee is Wayne R. Gruner, head of the physics section at the National Science Foundation.

In similar fashion, a committee is now being organized to study the Westheimer report on chemistry. Other committees studying the ground-based-astronomy and digital-computer reports have already completed their work. The National Academy of Sciences says that two additional studies now under way, concerning mathematics and the life sciences, will be completed in about a year and that they will likewise receive a thorough examination by interagency committees.

Overlap. Some critics of the reports have pointed out that the Pake and



THE WARNER & SWASEY CO.
CONTROL INSTRUMENT DIVISION

NEW RAPID SCANNING SPECTROMETER

**1 Millisecond to
scan a broad
wavelength
region**

MODEL 501



Designed to Study:

1. Transient biological phenomena, such as oxidation of blood; changes in visual pigments; changes in enzymes; etc.
2. Chemical kinetics of combustion of solid or liquid propellants.
3. Chemical history of ablation of materials subject to high temperatures and pressures.
4. Transient spectroscopic phenomena in hypersonic wind tunnels, shock tubes and plasmajets.
5. Chemical kinetic reactions, such as stopped flow, relaxation, fluorescence, phosphorescence.
6. The separated fractions from a gas chromatograph.
7. Emission and/or absorption spectra from any transient phenomenon.

Features:

1. Wavelength region from 3000Å to 9 μ . Width of scan determined by grating chosen.
2. Seven scanning speeds from 1 msec to 100 msec. 30Å / μ sec. max.
3. Continuous scanning with only 20% off time between scans.
4. Wavelength scale is linear.
5. Adjustable time delay between scans and before 1st scan is initiated.
6. Internal secondary standard for absolute radiance measurements.
7. Cassegrainian collector (f/5.5) focusable from 11" to infinity.
8. For emission or absorption spectroscopy.
9. Offset multiple scan data presentation.
10. Wide choice of detectors and gratings, easily interchangeable.

WRITE FOR DETAILS AND SPECIFICATION SHEETS



THE WARNER & SWASEY CO.
CONTROL INSTRUMENT DIVISION
32-16 Downing Street • Flushing, New York

Westheimer surveys do not have strictly parallel structures and for that reason it is difficult to use the surveys in comparing physics and chemistry. Attempting to overcome this failing, the interagency committees now being organized for physics and chemistry will possess an overlapping membership so that individual representation will be identical for several agencies, including the Defense Department and the Atomic Energy Commission. Thus some parallelism of approach will be achieved.

"It is important to realize," says an OST spokesman, "that these interagency committees will not make the decisions as to how much money will be spent for each discipline and sub-discipline. Such decisions are made by the individual agencies, which allocate funds for science to carry out their specific missions. What these committees will do is examine the analyses and conclusions of the Pake and other reports to learn what opportunities and problems exist in each field. For the effectiveness of the government agencies involved depends in part on the well-being of physics and other basic sciences."

Congress to study NBS?

One of the most repeatedly denied but continually persistent rumors heard these days on Capitol Hill is that Congress will soon perform a deep analysis of the National Bureau of Standards. The House Committee on Science and Astronautics, which

has jurisdiction over the bureau (together with the National Science Foundation and National Aeronautics and Space Administration), is slated to conduct the study sometime during the next session, according to Congressional sources.

NBS wants study. "A Congressional study of the bureau!" exclaims an NBS spokesman. "We certainly welcome hearings on the bureau's responsibilities and how they are being met." It is no secret that the bureau, in recent years, has suffered from a dearth of resources to pursue its several missions. Data on the properties of matter and energy, which are gathered by the NBS National Standard Reference Data System, are accumulating faster than NBS scientists are able to evaluate and process them. "The longer we wait to do the job, a job that will have to be done sooner or later," NAS chief Frederick Seitz told Congress, "the more it costs. The morass of unprocessed data is holding up scientific and technical progress to an alarming degree." Industry is in urgent need of an expanded standard-reference-materials program, which NBS could provide. Engineering standards and performance criteria are also becoming more sophisticated. "We have to take a new look," says the bureau, "not at single or relatively simple components, but at whole systems, and not just hardware but software as well, such as simulation of transportation systems that includes technical, social and cultural considerations."



NEW HEADQUARTERS of National Bureau of Standards at Gaithersburg, Md.