

ultraviolet irradiation and properly reinforced with pigments of optimum optical characteristics can be used to advantage. As a result of the studies reported, such polymers are available in the silicones and acrylates. Other investigations currently in progress may be expected to lead to the development of even more stable and efficient materials for controlling the reflectance and emissivity of bodies in space, and thus for controlling their temperature.

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News and Comment

Civilian Technology: Opposition in Congress and Industry Leads to Major Realignment of Program

When the Kennedy administration came into office, it let loose a gusher of proposals aimed at bringing new ideas, practices, and government money into numerous aspects of national life. Among these proposals, one of the most ambitious and imaginative was the Commerce Department's Civilian Industrial Technology (CIT) program, which was designed to stimulate American industry to partake more deeply of advanced science and technology. (*Science* 15 Feb., 28 June 1963.)

Industry, with a few exceptions, reacted adversely, contending that CIT would simply be taking taxes from successful industries to promote research aimed at building up faltering competitors. In unison with industrial lobbyists, Congress last year took up this theme and gave CIT one of the worst drubbings afforded any Kennedy proposal. Earlier this month, in what might be called a well-ordered retreat to previously prepared positions, the remnants of CIT fell back to the Commerce Department's National Bureau of Stand-

ards (NBS), where, the hope is, it will be able to regroup and prosper along lines less threatening to industry.

In line with this move, the CIT program itself is disappearing as an organizational entity; its various parts are to be distributed among four newly established groupings which will encompass all of the Bureau's activities. These are:

1) The Institute for Basic Standards. Under the directorship of Robert D. Huntoon, NBS Deputy Director for basic standards and services, it will handle all NBS programs of basic measurement standards, including the recently established National Standard Reference Data Program.

2) The Institute for Materials Research. With Earl C. Schoonover, Deputy Director for technological standards and services, as acting director, the institute will combine NBS programs in chemistry and metallurgy aimed at developing uniform material property measurements.

3) The Central Radio Propagation Laboratory at Boulder, Colorado. Headed by its present director, C. Gordon Little, the laboratory will continue its programs of services to government and industry.

4) Institute of Applied Technology. Headed by Donald A. Schon, an Arthur D. Little, Inc., staff member who joined the Commerce Department to head its Office of Technical Services (OTS), the institute will inherit the principal remnant of CIT, a \$1-million textile research program, which was the only part of CIT to receive congressional approval. In addition, the institute will handle the OTS technical information programs, designed to provide industry with information on new processes and techniques, and it will be in charge of a variety of other NBS activities related to industrial innovations.

Meanwhile, at the direction of Congress, the managers of the departed CIT program are now drafting legislation that would authorize one of the most cherished parts of their design—a university-based extension service that would provide industry with technical counsel in much the same manner that the Agriculture Department's extension service aids the nation's farmers. Early in the game, there prevailed the hope that the Commerce Department had authority to carry out this activity without new legislation, but the Congress, in its antipathy to CIT, felt otherwise.

The defeat administered CIT has had no visible effect on the spirits of J. Herbert Holloman, the Commerce Department Assistant Secretary for Science and Technology, who was the key man behind the original program and who is behind its current regrouping. Numerous persons associated with or interested in CIT are now proclaiming that, if Holloman had accepted their

advice, all would have been well. By all accounts, it appears that Holloman, like most people, has a preference for his own ideas. But in view of the virulence of industry's response to the concept of government-supported industrial research, it appears that no amount of sugar coating or tact could convince America's successful firms that some of their taxes should support research that clearly would aid less successful firms.

The intent now is to reorient the program toward research that would help industry, but not any particular industry. Clearly, this can be done, and, in fact, it has been done by NBS for years through its materials standards research. But the preparation of voluminous data on the properties of a particular building material, for example, is quite different from the original concept, which was to prod industry into jumping into the mainstream of science and technology.

Under the revised CIT concept, the Commerce Department is encouraging industry itself to set up cooperative research associations. And it is also encouraging a regional approach to the problems of stimulating economic growth through research and development. As part of these efforts, the Department earlier this month convened a meeting of state, federal, and industrial executives to inventory industrial research activity and stimulate thinking about state and regional efforts. This work is in its very early stages, and so far its main fruit has been an agreement that the Department should sponsor an annual national conference along with periodic regional conferences.

—D. S. GREENBERG

Congress and Science: Inquiries into R&D Are Currently Quiet

The various congressional inquiries into federal activities concerning research and development are currently in phases of quiescence or off-stage staff work. But it is reasonable to expect that by early spring, when major bills are well along in the legislative process, the members will be showing more interest in their R&D studies. The following is a status report.

Elliott Committee

By far the most ambitious inquiry is the one that has been assigned to the House Select Committee on Government Research, chaired by Representa-

tive Carl Elliott (D-Ala.). The committee, which was given \$553,000 and a little over a year to conduct a comprehensive study of federal R&D activities, took testimony from a total of 72 witnesses at hearings in November, December, and January. (When these hearings are published, probably around mid-March, notice will be carried in *Science*.)

After making an analysis of the hearings, the committee staked out ten studies of gargantuan proportions. As reported by the committee, these are:

1. Administration of research projects.
2. Major research facilities.
3. Fiscal and contractual policies.
4. Impact of government research on higher education, industry and business, and geographical areas and states.
5. Providing student assistance.
6. Inter-agency coordination of research projects.
7. Statistical review of government research. (Cost and purpose of federally financed activity.)
8. Documentation, dissemination, and exploitation of research results.
9. Manpower for research.
10. National goals and policies.

The day-to-day conduct of these studies has been in the hands of an eight-man staff which will now be joined by a technical director, William B. Farrington, a M.I.T.-trained geophysicist who is vice president of the Empire Trust Company of New York. In addition, two advisory groups have been appointed. Serving on the General Advisory Committee will be:

Harvey Brooks, dean of engineering and applied physics, Harvard;

Paul W. Bachman, vice-president of Koppers Company, Inc., and chairman Research Committee of the National Association of Manufacturers;

George Feldman, attorney, and member of the board of the Communications Satellite Corporation (COMSAT);

Beardsley Graham, president of Spindletop Research Corporation and member of the COMSAT Board;

Nelson W. Polsby, professor of political science, Wesleyan University;

Alex X. Pow, vice president, University of Alabama;

John W. Whelan, professor of law, Georgetown University;

Edward C. Wise Jr., senior specialist for science and technology, Library of Congress, who will serve as consultant.

Serving as members of the Science-Engineering Advisory Committee, which will consult with the Select Committee, will be:

Lloyd B. Berkner, president, Graduate Research Center of the Southwest;

Robert C. Berson, dean, South Texas Medical School, University of Texas;

Donald Douglass, Jr., president, Douglass Aircraft Corporation;

Max Tishler, president, Merck, Sharp and Dohme Research Laboratories;

Henry Heald, president, Ford Foundation;

Pendleton Herring, president, Social Science Research Council;

John H. Rubel, vice president for long-range planning, Litton Industries, Inc.;

Albert B. Sabin, Children's Hospital Research Foundation, University of Cincinnati;

E. V. Smith, dean, School of Agriculture, Auburn University;

Elvis Stahr, president, University of Indiana;

Charles Townes, professor of mathematics and physics, M.I.T.;

J. W. Beams, University of Virginia, department of physics.

In addition to appointing these groups, the committee has sent questionnaires to all federal agencies involved in research and development. Further hearings will probably be held, but they have not been scheduled as yet.

As for what is likely to come out of this, the committee staff acknowledges that it will have to perform a vast amount of difficult work if it is to produce a meaningful report by the end of this year, when the committee's mandate automatically expires. If it does produce such a report, it is probably safe to assume that the committee will receive an extension.

However, experienced staff members on other committees with R&D jurisdiction are frankly skeptical about the likelihood of Elliott's group coming up with anything significant. It should be pointed out that there is considerable competition among committees in this area, and the skeptics may be speaking from self-serving viewpoints, but they feel that it would be a good trick to produce a comprehensive report on even one of the ten study areas in a year. Furthermore, they argue that there is little illumination to be obtained by sending questionnaires to federal agencies. "They put their best foot forward and tell you only what they want to tell you," one experienced staff member remarked. The reply of the Elliott committee is that the questionnaires are only an opening wedge in