of NASA and its predecessor agency). The investment in human resources likewise has been huge. According to an NSF report of 1963, the scientists, engineers, and technicians working in federal laboratories exceeded 300,000.

In the SPRD case study, 192 federal laboratories or groups of laboratories were reported to be doing some R & D work (or monitoring and sampling) related to environmental pollution. The participation of this large number of facilities, operated by nine different agencies, in one area of research caused the authors to ask, "Are many small laboratories more efficient and effective than a smaller number of larger centers?" Some scientists, aware of the administrative burdens and complexities of large research laboratories, would answer affirmatively.

The authors of the study were impressed by what often seemed a surprising lack of information at the headquarters of various agencies about agency laboratory facilities—information which, if readily available, could facilitate management decisions. They were impressed, too, by the fact that, while scores of new laboratories interested in environmental pollution have been established during the last 50 years, few laboratories have been closed. Moreover, in the case of 116 laboratories for which information was obtained, 75 had had no change of mission during their history. Here, however, the study took note of the U.S. Geological Survey's comment: "The substance or depth of analysis might change, but not the basic questions. Each new problem, such as detergent pollution or pesticide residues, is, in reality, an old problem with a new name."

The study may be criticized by some scientists for seeming to suggest that there is greater inflexibility and inertia in the deployment of scientific and technical personnel than there actually is. The abler scientists and engineers who hear, via the grapevine, of exciting new opportunities in their field often may quit their present jobs if they are working on problems of declining interest or importance. Some "redeployment" always goes on, whether or not it follows from conscious management decisions.

On the other hand, it may be argued that this constant shifting of talent as new centers of interest and opportunity develop is one of the reasons why the SPRD study deserves attention. Laboratories lose vitality through the departure of their bright young men. In such situations, a reexamination by management of the laboratory's performance and *raison d'être* seems indicated. Is the laboratory still productive? Is its orientation too narrow? Has it overlooked new opportunities? Does its mission still represent a real need?

Edward M. Glass, assistant director of Defense Research and Engineering (for laboratory management), believes that the SPRD study is useful in that it has emphasized the need for the government to look at its internal R & D establishment on a systems basis. Although Glass says DDR&E has been giving a great deal of attention to this matter, he adds, "Sometimes we need a report like this to point out that more needs to be done."

Glass observes that, even though most R & D activities may not be placed within the defense budget's broad mission categories (strategic offensive systems, strategic defensive systems, and the like), it is important that they be related to specific missions within the R & D category. He notes that the Defense Department has some 140 in-house research, development, testing, and evaluation (RDT&E) activities. "The question is," he said, "can we fashion the in-house organization to get a better focus on important problems?"

Glass regards the large Naval Ordnance Test Center at China Lake, where the focus is on air-to-air and air-to-ground missile systems, as an excellent example of how RDT & E activities can be oriented to specific missions. It is better, he believes, to have various R & D units grouped together and given a broader mission orientation than to have them widely scattered with each pursuing its own narrow objectives (be it R & D on propulsion, aerodynamics, or something else).

The questions raised by the SPRD study doubtless will receive wider and earlier attention within the government if the Reuss subcommittee follows up the study with hearings next year. The subcommittee's agenda will not be fixed until after the new Congress has convened and the chairman has met with his colleagues to discuss priorities. Whatever the subcommittee does, Reuss already seems to have accomplished something by bringing out a report which has stirred interest in the Bureau of the Budget, where great power resides.—LUTHER J. CARTER

# Research in Washington: Plans Afoot for Advanced Study Center

Ever since George Washington tried and failed to establish a national university in the nation's capital, plans have been offered, with varying degrees of success, to raise the city's status in the world of scholars. Nevertheless, Washington still ranks in the bush leagues of scholarship, although it contains some of the world's greatest libraries, several universities and colleges, a host of research institutions, and large numbers of resident and visiting scholars.

Now a new effort to get at the problem is under way—specifically, an effort to establish an institution, or perhaps several institutions, where scholars might have space, quiet, and assistance in using Washington's extensive research resources without having to be affiliated with any particular institution.

Several developments have taken place in the past year or so. The first was in April 1965, when the Smithsonian Institution announced that it was including an advanced study center in its plans for renovating the old Smithsonian building. Two floors are being converted for use of visiting scholars and scientists; the facilities will include study rooms, offices, meeting places, lounges, a dining-room, a library, and space for special activities and entertainment. Congress appropriated $2.1 million for the renovation, and, hopefully, the job will be completed by next summer.

The next encouragement for a scholars' center came last March, when members of the House and the Senate introduced identical resolutions urging establishment of an "International Cen-

ter for Advanced Study" under the aegis of the Smithsonian. Besides work space and living quarters, this proposed center would include an information clearinghouse to keep track of opportunities for advanced study and research in various fields, in and out of Washington.

The resolutions called on the Smithsonian to "stimulate interest in and support for" the proposal.

The call didn't have to be very loud because the national museum's director, S. Dillon Ripley, was listening for it. Ripley, a long-time proponent of such a facility, thinks the center should have a senior staff in residence, on either a permanent basis or long-term assignment, and that it should give both pre- and postdoctoral students and "junior" scholars opportunities to work on research of their own choice. It should, he feels, offer fellowships but not degrees, and should act as a communication link between universities around the country and institutions in Washington.

The Woodrow Wilson Memorial Commission, which President Kennedy appointed 5 years ago, provided the third encouraging development with its suggstion that a center for scholars would be fitting memorial to the 28th President. The commission went further and recommended that this memorial be developed as an integral part of a national historial site being planned for the area of Pennsylvania Avenue between the White House and the Capitol.

The commission's report, sent to President Johnson in September, quoted Robert S. Goheen, president of Princeton, who had said during hearings that there is a great deal of support in the academic community for the idea of having a place in Washington "for scholars who need to work on the incomparable assemblages of materials . . . relating to the study of American history and the analysis of public and international affairs." Goheen envisaged a sort of refuge for transient scholars "where many persons, young and old, can get on with their work, and be aided in doing so, whether they need to stay two days, two months, or two years in Washington."

Ripley has given the commission another view; he told the hearings that he sees a center of about 30 Fellows, "each concerned with a particular area of knowledge or a particular set of intellectual problems that are not, as such, adequately dealt with in universities or other academic centers." The commission presented both men's ideas in its report but was itself noncommittal about how a scholars' center would be organized.

However, the commission did say it was impressed by a proposal of Ripley's that the center be 'formally associated with the Smithsonian Institution as a bureau under the guidance of its own Board of Trustees, with its own Director and administrative staff. . . ." The commission also quoted Ripley's estimate of costs for a full-fledged research center—about $15 million for construction and $10 million for the site—and agreed with him that the year-to-year operations should be privately funded.

The commission dissolved upon giving its report to the President. But in the report it bequeathed responsibility for future plans and details to another group, the President's Temporary Commission on Pennsylvania Avenue (whose job it is to oversee activity in the urban-renewal area of that street) or its permanent successor. However, the temporary commission has no statuatory powers and not even any assurance that it will be made permanent.

Appended to the Wilson Commission's report was a suggested draft for legislation to implement the recommendations. Senator Harrison Williams (D–N.J.), a member of the commission, introduced the draft, S. 3884, in the last session of Congress. But he did so on 4 October, too late in the session for any hope of action.

What will happen next? At the moment the reports, resolutions, and bills are more or less in limbo in the office of Senator Claiborne Pell (D–R.I.), chairman of the Senate Rules Committee's subcommittee on the Smithsonian Institution. The next round will be played out in the new Congress.

—MARION ZEIGER

### Alfred S. Romer Honored by Paleonotologists

Alfred S. Romer, of Harvard University, has been awarded the Paleontological Society Medal. Romer, who is president of the AAAS, was cited for contributions to the study of fossil vertebrates, for his efforts in organizing the Society of Vertebrate Paleontologists, and for his efforts in training and inspiring student paleontologists.

## Announcements

The American Psychological Association recently presented its first Richardson Foundation creativity award and a $5000 honorarium to **J. P. Guilford**, a professor in the psychology department at the University of Southern California and a past president of APA. The award cites him "for stimulating, revitalizing, and facilitating psychological research on creativity" through his research on measurement of personality traits and intellect basic to originality.

The award was created last year when the Richardson Foundation gave APA a grant to provide a prize for the next 5 years for "the most outstanding contribution during the preceding year or recent years toward improving the means of identifying creative and innovative talent or developing or utilizing such talent."

### New Journals

The Chemical Society of Mexico has published a journal for high school chemistry students in Latin America. The first issue of the *Revista iberoamericana de Educación Química* (vol. 1, No. 1, July–September 1966; José I. Bolivar, editor) contains only translations from U.S. chemistry journals; later issues will also include work translated from journals in other languages, and Latin American authors are invited to submit original papers. The *Revista* is directed by an editorial board which represents several South American countries. Funds for the first three issues came from grants from the National Science Foundation and the Agency for International Development, administered by the American Chemical Society. It is planned that the journal become self-supporting. Subscriptions are available for $2 a year ($25 Mexican), from the Sociedad Química de México, Administración de Correos No. 4, México 4, D.F.

*Journal of Computational Physics*, vol. 1, No. 1, August 1966. J. Adler, S. Fernbach, M. Rotenberg, Eds. Techniques for solving data handling problems and mathematical equations arising in the description of physical phenomena. (Academic Press, 111 Fifth Avenue, New York 10003. Vol. 1, 4 issues: $25 for institutions, $10 for individuals.)