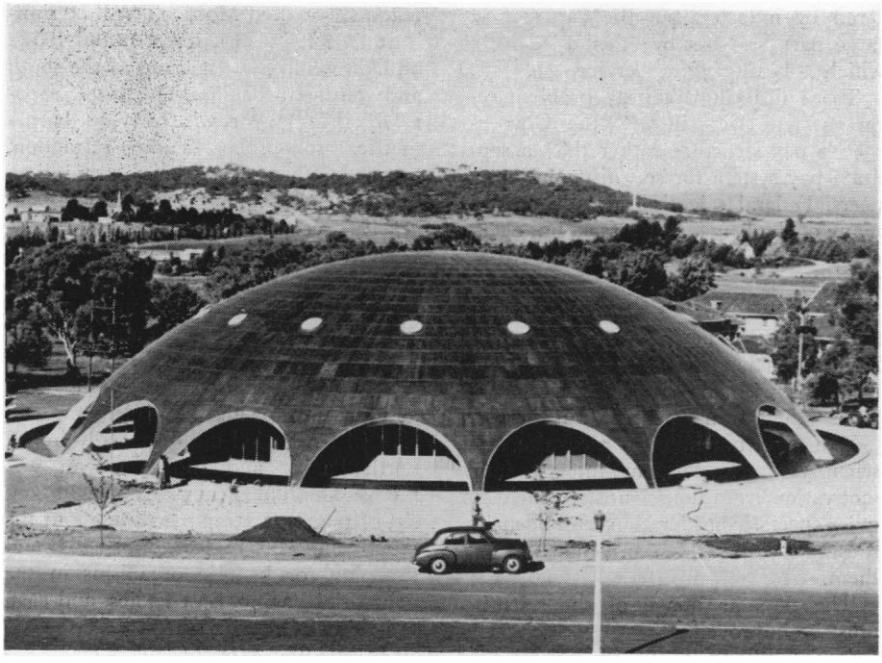

The new Australian Academy of Science Building in Canberra.

to launch a vigorous academy. With the help of the Australian Government and the Royal Society of London, the group of founders obtained a Royal Charter which established the Australian Academy of Science as a body with proper legal status and adequate prestige. In the early part of 1954 Her Majesty Queen Elizabeth II visited Australia and was graciously pleased to present her charter to the provisional council of the academy at a simple ceremony at Government House, Canberra, on 16 February 1954, thus following the precedent of King Charles II, who presented his charter to the Royal Society of London in 1662.

The charter required that the academy should be enlarged to at least 50 fellows within 3 months. Six fellows, distinguished for their achievements in the natural sciences, are elected annually, and the total fellowship is now 81.

The first task of the academy was to take over, from the National Research Council, Australia's representation in international scientific affairs. An early duty was the organization of Australia's participation in IGY and, as an indication of the confidence in the young academy, the necessary grant from the Australian Government was provided. The coordination of Australia's scientific resources for IGY was placed in the hands of a national committee and carried out on an honorary part-time basis.

The academy has a general policy of supporting other Australian scientific bodies, such as the professional bodies. The question of an academy publication was considered, but it was decided to support existing publications rather than to start a new one. In particular, there is a group of eight journals—for example, the *Australian Journal of Physics*—whose scientific direction is in the hands of a Board of Standards appointed jointly by the CSIRO (Commonwealth Scientific and Industrial Research Organization) and the Academy of Science.

Not all the activities of the Australian Academy of Science can be listed here. The academy continues to have the confidence of the Australian Government and is consulted on questions of scientific policy. Like its counterpart in the United States, the academy has its headquarters in the national capital. A new building to house the academy, in contemporary (and, in some quarters, controversial) design was opened in May.

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Australian Academy of Science, Canberra

Engineering Enrollment Falls, Teachers' Salaries Rise

Freshman engineering enrollment has declined markedly for the first time in 8 years. Furthermore, one out of five engineering schools expects a further drop in freshman enrollment next fall. In 1958, 70,029 engineering freshmen enrolled in the nation's schools, as compared with 78,757 in 1957, a drop of 11.1 percent. However, total college freshman enrollment in this country continued to increase, having risen nearly 7 percent over the previous year.

These facts were announced recently by the Engineers Joint Council, which reported on a special survey of its Engineering Manpower Commission that had been conducted in cooperation with the American Society for Engineering Education. The study, *Trends in Freshman Engineering Enrollment,* covered 223 institutions in the United States that grant degrees in engineering.

According to the heads of the engineering schools, applications of qualified students fell for three reasons: (i) because of a false appraisal of the long-range engineering career opportunities on the part of counselors, students, and parents, based on reports in the general press on reduction of company engineering complements during the 1957–58 recession period; (ii) because of increased concern about rigors of the engineering curriculum; and (iii) because of increased interest of potential engineering students in other scientific fields resulting in diversion of students to other educational pursuits.

The Engineering Manpower Commission survey was under the direction of a four-man committee, which included H. H. Armsby, chief for engineering education, Office of Education, U.S. Department of Health, Education and Welfare; D. S. Bridgeman, consultant Engineering Manpower Commission; R. W. Cain, project director, Scientific Manpower Studies, National Science Foundation; and L. K. Wheelock, executive secretary, Engineering Manpower Commission.

Teacher's Income Studied

Another recent study by the Engineers Joint Council shows that the average professional income of engineering teachers in the United States has risen 8.3 percent since 1956 and their basic teaching salaries have increased 13.5 percent over the 2-year period. The survey covered more than 5000 engineering teachers, or about half of the teachers in this field in the United States.

By the nature of their occupation, engineering teachers must do research; therefore, they earn more than basic teaching salaries. Thus, the average total professional income of engineering teachers, which was $8862 in 1956, was $9598 in 1958. The basic salary average rose by $894 per year, but there was a decline of 7 percent in outside income. For deans and department heads, however, there was an increase in both teaching and outside income.

The total income of engineering teachers in public institutions rose more than the total income of those in privately supported institutions. Engineering teachers holding advanced degrees earned more. In general, the survey

showed that the teaching salaries of engineering educators increase with age. These basic salaries ranged from a low of $6744 in the South to $8392 in the Pacific region.

The report, entitled *Salaries and Income of Engineering Teachers, 1958,* was published by the Engineers Joint Council as a supplement to a recent report, *Professional Income of Engineers —1958,* and was prepared by the Bureau of Business and Economic Research at Northwestern University, Boston. Copies are available from the Engineers Joint Council, 29 W. 39 St., New York 18, N.Y., at 25 cents to cover handling cost.

Scientific Manpower in Government

Attractive features found only in government scientific and technical programs must be emphasized if federal agencies are to be more successful in attracting and retaining their required share of first-rate scientists and engineers. This advice to federal officials was underscored by several prominent scientists, engineers, and personnel officials in speeches to the 2-day government-wide Conference on Scientific Manpower, held recently in Washington, D.C. Some 500 federal officials and others concerned with government scientific staffing attended the conference, which was sponsored by the U.S. Civil Service Commission, with the Office of Naval Research as host agency.

The conference was arranged to consider solutions to the problem of insuring the maintenance of highly competent research and development staffs in federal laboratories. The speakers included James R. Killian, Jr., special assistant to the President for science and technology; A. B. Kinzel, vice president for research, Union Carbide Corporation; Roger W. Jones, chairman of the Civil Service Commission; Rocco C. Siciliano, special assistant to the president for personnel management; Guy Suits, vice president and director of research, General Electric Company; Ralph D. Bennett, manager of the General Electric Company's Vallecitos Atomic Laboratory in California; John G. Darley, associate dean and head of the department of psychology, University of Minnesota; and Harry C. Kelly, assistant director for scientific personnel and education, National Science Foundation.

Conference participants emphasized the following points.

Competition for superior scientific personnel can be expected to continue, and possibly to be intensified in the foreseeable future.

It is unlikely that government compensation for scientists and engineers can be made fully competitive with pay offered by industry, but the gap can in large part be offset by other attractions which only the federal service can offer.

The solution to the pay problem requires more flexibility in the Government's pay structure rather than a separate pay system for scientists and engineers. Federal scientists already receive many of the benefits they seek, but agencies need to make them more aware of this fact.

The Government's career scientific service must be flexible enough to allow for advancement to top levels for scientists who wish to stay in creative work rather than transfer to administration.

The Government must recognize that scientists have different interests and motivation from nonscientists, which require special consideration, and agencies must develop attractions that interest them.

The popular image of the scientist must be improved.

Undue reliance on outside laboratories for new work of large scientific interest could greatly impair the morale of government scientists and the vitality of needed public facilities.

The Government has shown marked improvement in the recruiting of scientists and engineers in the past 2 years.

One of the most important challenges to the Government is the need to correct erroneous concepts of public service.

Speakers from industry, government, and universities stressed the point that federal scientific and technical programs offer unusual and challenging opportunities which exist nowhere else, and that the Government should take steps to point up the many areas in which it offers superior attractions. Among the benefits of the Government's career scientific service cited were the opportunity to conduct research on a wide variety of exciting and challenging programs; to engage in basic research without production-related pressures; to work in the most modern and fully equipped facilities without worry about the adequacy of research funds; to participate in pioneering work in new areas of science and technology; to publish research results without fear of compromising the employer's competitive position; to gain public recognition of professional achievements; and, finally, to participate in work that is important to national security and progress.

Expedition Monsoon

During the months of February to August 1960 two ships of the University of California's Scripps Institution of Oceanography will engage in a deep-sea expedition to the western Pacific and eastern Indian Ocean. The expedition, tentatively called Monsoon, will be similar to the 1952–53 Capricorn and 1957–58 Downwind investigations of the south and southeast Pacific. The ships, separately and together, will carry out bathymetric, sonoprobe, seismic-refraction, magnetic, heat-flow, bottom-sampling, bottom-photographic, hydrographic, and gravity reconnaissance studies of the western Pacific, part of the East Indian Archipelago, and the eastern part of the Indian Ocean. Measurements of carbon dioxide in the atmosphere and near-surface water will be made throughout the cruise. Large-volume water sampling and radioisotope and trace element studies will be carried out, especially in the north Pacific and Indian Ocean segments. The biological program will consist of plankton sampling throughout the cruise and of mid-water trawls and dredging for benthic organisms in the equatorial Pacific, East Indies, and eastern Indian Ocean.

As in the case of the Downwind cruise, there will be two expedition leaders. Henry W. Menard will supervise the East Indies-Indian Ocean operations; Robert L. Fisher will direct the ships' operations in the Philippine, Japanese, and Kuril areas.

NIH Grants Division Reorganized

The 31 study sections of the Division of Research Grants at the National Institutes of Health have recently been divided into four research groups for review of research grant applications. These review panels are comprised primarily of nongovernment scientists who have also the added responsibility of surveying the status of research in their respective fields and making recommendations to the Public Health Service as to what additional activity should be undertaken. The new administrative structure will enable the four research groups, operating under the Research Grants Review Branch of the Division of Research Grants, to expedite the large volume of research grant applications and at the same time to maintain a high quality of professional review.

The head of each group will coordinate the activities of his study sections and serve as project review officer for applications falling within the province of his group. The four research groups and their respective scientist-administrators are as follows: (i) clinical research, Clinton C. Powell, formerly executive secretary of the radiation and surgery study sections; (ii) biochemistry and physical science, Elsa O. Keiles, formerly executive secretary of the metabolism and nutrition study section; (iii) biological sciences, J. Palmer