

a detailed research proposal in this area, (iii) an estimate of the total cost of the study that would be proposed, and (iv) a statement concerning the research personnel and facilities that would be available for such a study and the schedule that would be observed.

The board is seeking research that results in instruments that will predict college success, as measured by intellectual or nonintellectual criteria, or both, and which will be suitable for mass administration to high school students.

Address correspondence to Dr. Joshua A. Fishman, Research Associate, College Entrance Examination Board, 425 West 117th Street, New York 27.

■ The number of students who have received grants for foreign study under the Fulbright program has increased steadily, except in 1952–53, from 22 during the initial year, 1948–49, to 979 in 1954–55. There was a slight decrease in the year 1955–56 to 956. The total number of students who have participated in the program is 5549. Of these, the largest number studied in France (1681, or about 30 percent). The figures and approximate percentages for some of the other countries are United Kingdom, 1147 (21 percent); Italy, 750 (14 percent); Germany, 615 (11 percent); Austria, 236 (4 percent); Netherlands, 199 (4 percent); Norway, 149 (3 percent); Belgium and Luxembourg, 132 (2 percent); Australia, 117 (2 percent).

Germany did not receive any Fulbright students until 1953–54. In 1955–56 France still has the most Fulbright students (257), but Germany has moved into second place with 221.

Twenty grants were made for study in China in 1948–49, but only half of the grantees went there, owing to the change of government. None has gone to China since.

■ The Sapelo Marine Laboratory of the University of Georgia, which is supported by the R. J. Reynolds Foundation, has completed its second year of operation. Four full-time research men are in residence—Robert Ragotzkie, Larry Pomeroy, John Teal, and Richard Dugdale. These men, and G. H. Boyd, E. P. Odum, R. B. McGhee, D. C. Scott, and P. R. Burkholder of the Athens campus make up the operational committee. Research is centered around, but not restricted to, the problems of the biological productivity of estuarine waters. Graduate student assistantships are available. Address inquiries to the Graduate School, University of Georgia, Athens.

■ The amount of the grant for the Kimble Methodology research award [*Science* 123, 455 (16 Mar. 1956)] has been increased from \$500 to \$1000.

■ The National Science Foundation has awarded 775 predoctoral graduate fellowships in the natural sciences and allied fields for the academic year 1956–57. Successful fellows were selected from 2892 applicants from all parts of the continental United States, Alaska, Hawaii, and Puerto Rico. Honorable mention was accorded 1366 applicants.

In addition to the predoctoral fellowships awarded, the foundation also awarded 80 postdoctoral fellowships.

Of the predoctoral fellowships, 296 awards were made to first-year graduate students, 302 awards were made to graduate students in the intermediate years, and 177 awards to terminal-year predoctoral students. Recipients include 264 persons who have been NSF fellows during the current academic year.

The largest group of predoctoral fellowships, 182, was awarded in chemistry. In other fields the number of awards were as follows: physics 165, engineering sciences 190, mathematical sciences 67, zoology 58, earth sciences 40, psychology 26, biochemistry 25, microbiology 20, botany 16, medical sciences 14, agriculture 11, anthropology 11, genetics 7, astronomy 7, general biology 3, biophysics 3. In addition, 11 awards were made in areas where the natural sciences converge with the social sciences.

Of the postdoctoral awards, 29 were made in the life sciences, 19 in chemistry, 13 in the mathematical sciences, 9 in physics and astronomy, 5 in the earth sciences, and 2 in the engineering sciences.

Predocctoral applicants were required to take examinations for scientific aptitude and achievement. These tests were administered by the Educational Testing Service, Princeton, N.J. The test scores, academic record, and recommendations regarding each candidate's abilities were then considered by panels of outstanding scientists in the respective fields of the candidates. This part of the selection procedure was carried out for the National Science Foundation by the National Research Council.

Candidates for the foundation's postdoctoral fellowships were judged on academic and research records and recommendations by panels of scientists in each field. The review of applications was conducted for the foundation by the National Research Council.

The fellows may attend any accredited nonprofit educational institution of higher learning in the United States or abroad. Predocctoral fellowships carry stipends of \$1400 for the first year, \$1600 for the intermediate years, and \$1800 for the terminal year of graduate study. Postdoctoral fellowships carry a stipend of \$3400. All fellowships include additional allowances for dependents, tuition, and other ordinary expenses.

An announcement of the National Science Foundation predoctoral fellowship program for 1957–58 will be made about 1 Oct. 1956. The postdoctoral program will reopen on 15 July 1956 and again on 1 Oct. 1956. Application forms will not be available until the programs are announced.

■ The Damon Runyon Memorial Fund has recently allocated grants totaling \$98,700 for cancer research in medical and educational institutions in New York, Washington, D.C., Palm Beach, Fla., Madison, Wis., and Stockholm, Sweden.

## In the Laboratories

■ Ground was broken on 15 March for the third building at the research center of the Association of American Railroads on the campus of Illinois Institute of Technology in Chicago.

Designed by Ludwig Mies van der Rohe, the \$500,000 building is the latest step in a long-range program to provide complete research facilities for the railroad industry. The structure will be used primarily for rail, track, ballast, detector car, and structural research.

■ Marquardt Aircraft Company will expand its research and development facilities at Van Nuys with a construction program calling for an expenditure of nearly \$6 million. Largest expenditure will be for modernization of the Marquardt Jet Laboratory, under U.S. Air Force sponsorship, to meet the need for "free jet" testing of supersonic ramjets under simulated altitude conditions and for high airflow test runs of longer duration, with shorter intervals between tests.

Free jet testing provides external, as well as internal, airflow at the ramjet engine inlet and more accurately simulates supersonic flight performance through direction of the air blast to provide either angle of attack or yaw conditions.

■ A materials and processes laboratory with testing facilities valued in excess of \$750,000 has been established at Lynn, Mass., by General Electric Company's medium steam turbine, generator and gear department. The laboratory, occupying close to 25,000 square feet, will have five groups: metallurgical engineering, mechanical engineering, chemistry and insulation engineering, physics and electrical engineering, and auxiliary operations.

■ A new research and administration center is being built by the Corning Glass Works in Corning, N.Y. The project is the largest ever undertaken by the 103-year-old concern, and when it is com-

pleted this fall, the company's research facilities will be more than doubled.

The center will have a nine-story office building, a three-story laboratory and a single-story research workshop. The buildings are rising on a 17-acre site near the Chemung River, adjacent to the Corning Glass Center.

The project is part of a \$65 million expansion program. This includes the construction of three plants in Corning and new factories in Albion, Mich., Danville and Harrodsburg, Ky., and Muskogee, Okla.

■ The General Electric Company and the Pacific Gas and Electric Company have decided to build and operate an atomic power plant to serve the San Francisco Bay area.

The plant, which will be located in the Livermore-Pleasanton area of Alameda County, will be completed during 1957 at a cost of between \$3 million and \$4 million. Initially, it will have a maximum generating capacity of 5000 electric kilowatts, and an ultimate capacity of 10,000 kilowatts or more. The plant will use a nuclear reactor of the boiling water type.

This brings to 15 the number of civilian atomic power plants under construction, in process of design, or proposed in the United States for completion during the period between 1957 and 1962. These plants involve a total expenditure of more than \$500-million; industry is prepared to meet approximately half this cost. As presently proposed, the 15 plants will have a total generating capacity of nearly 1 million kilowatts of electric power.

■ The U.S. Atomic Energy Commission has announced that it will add ordnance engineering functions to its weapons development activities in Livermore, Calif. The new function will be carried out by Sandia Corporation, Albuquerque, N.M., in support of the University of California Radiation Laboratory, Livermore. Sandia Corporation plans to build its staff at Livermore to about 250 by July 1957, reaching 800 to 1000 by July 1958. Most of those added will be engineers and draftsmen.

■ Plans for construction of a new plant to produce 7 million gallons of methanol a year have been announced by the Hercules Powder Company. The plant, to cost in excess of \$2 million, will be built at Louisiana, Mo., where Hercules now produces 40,000 tons of anhydrous ammonia a year and is completing construction of a pentaerythritol and formaldehyde plant. Methanol, used in the manufacture of antifreeze, solvent, plastics, coatings, drugs, and dyes, is also used to

make formaldehyde, principal raw material in the manufacture of pentaerythritol.

■ A new polyvinyl chloride resin plant with a production capacity of about 12 million pounds a year is being built at Leominster, Mass., by the Borden Company. This is Borden's first polyvinyl chloride plant; it will be completed in June.

The plant will produce a wide variety of specialty resins and vinyl chloride latices as well as general-purpose polyvinyl chloride for the calendering and extrusion fields. Manufactured in powder form, the polyvinyl chloride resins find many applications in the production of plastic items. These include calendered sheeting, coated fabrics, electrical wire covering, plastic floorings, surface coatings, phonograph record molding, paper coating, nonwoven fabrics, and leather finishes.

### Miscellaneous

■ The National Association of Manufacturers has assembled a survey of industry's support of high-school science, *Tomorrow's Scientists and Engineers*. To secure this brochure, with its suggestions on how to develop future scientists and engineers, write to The National Association of Manufacturers, 2 E. 48 St., New York 17.

■ Calls of 40 insects of the eastern United States are available on a 12-inch, 33 $\frac{1}{3}$  rpm record obtainable from Cornell University Records, a division of Cornell University Press.

This record, "The Songs of Insects," is the ninth of a series of records of wildlife sounds. The calls were recorded by Richard D. Alexander and Donald J. Borror, department of zoology and entomology, Ohio State University, with the assistance of Edward S. Thomas, Ohio Archaeological and Natural History Museum.

■ The best articles from European technical and industrial journals, translated and digested, are now available to American industry. The Organization for European Economic Cooperation, a multi-government agency set up to stimulate economic growth of member nations, will distribute its monthly publication *Technical Digests* in the United States. The periodical is designed primarily for those interested in manufacturing and production.

The Department of Commerce through its Office of Technical Services is cooperating with O.E.E.C. in making this new source of information available.

■ *Astronautica Acta* is the title of the new journal of the International Astronautical Federation, to which some 30 national societies adhere. In the United States the adherent societies are the *American Rocket Society* and the *American Astronautical Society*.

American members of the publication's advisory board are S. F. Singer of College Park, Maryland; E. R. Bergaust of Arlington, Va.; and H. S. Tsien of Pasadena, Calif.

■ *What's New in Food and Drug Research*, a quarterly bulletin reporting news and information of interest to people in the food, drug and cosmetic fields, is available without charge on letterhead request addressed to Food Research Laboratories, Inc., 48-14 33rd St., Long Island City 1, N.Y.

■ Positions for geophysicists are available in the Coast and Geodetic Survey of the Department of Commerce and in other federal agencies in Washington, D.C., and throughout the United States. A few positions may also be filled overseas. The salaries range from \$4345 to \$11,610 a year.

To qualify, applicants must have had appropriate education, plus, for positions paying \$4930 and above, appropriate professional experience. Graduate study may be substituted for experience. No written test is required.

Applications will be accepted by the Board of U.S. Civil Service Examiners, Coast and Geodetic Survey, Department of Commerce, Washington 25, D.C., until further notice.

■ The following chemicals are wanted by the Registry of Rare Chemicals, Armour Research Foundation of Illinois Institute of Technology, 35 W. 33 St., Chicago 16, Ill.: 3,4-dichlorophenol; 4-amino imidazole; didodecyl selenide; 4-hydroxy piperidine; lithium persulfate; magnesium diboride; ammonium pyrosulfate; azoethane; N-chlorosulfanilic acid; laurylmethylethyl sulfonium iodide; ethyl-*p*-benzoquinone; 2-ethoxyethylamine; 10-ethyl-5,10-dehydrophenarsazine; 1,1,2,2,3,3-hexachloropropane; 1,1,1,2,3,3-hexachloropropane; 4-(2'-hydroxyphenyl)-1,3-butanedione; 3-hydroxyphenylethanol; 3-hydroxyphenyl acetaldehyde; alpha-mycolic acid; methyl hydroxyacetate; and 8-octadecynoic acid.

■ The French Cultural Services will publish bibliographies of French scientific works. The first, which covers the years 1951-53, is now available and will be distributed free of charge from the French Cultural Services, 972 Fifth Ave., New York 21, N.Y.