

gency" teachers, that is, persons with inadequate academic preparation according to existing standards.

Although part of the shortage of qualified teachers is caused by the rise in the birth rate during the early 1940's, the unattractiveness of the profession itself is a basic cause. Low salaries deter bright students, especially men, from entering the profession. The resulting predominance of women, many of whom teach for only a few years, further aggravates the shortage. The limited curricula and relatively poor mental ability of students in many teachers' colleges further deter bright students from entering training.

In attempts to relieve the present shortage strong emphasis has been placed on stop-gap measures such as emergency certificates, and advertising appeals to former teachers to return to the schools. These measures do no more than touch the surface of the problem.

Many states have tried to remedy the shortage through basic measures such as increasing state aid to local school systems to give greater flexibility to school budgets and by seeking to improve the quality of teacher training.

To be successful, such basic measures must be part of a coordinated program. Although few other measures will be effective without an improvement in the salary structure, neither can salary increases alone be relied upon to raise both the quantity and quality of the nation's teachers.

Physicians. Although there is widespread agreement that there are shortages of particular kinds of doctors for specific functions, there is no agreement on how many doctors the country now needs. It has been estimated by The President's Commission on the Health Needs of the Nation that the country will require from 22,500 to 45,000 more physicians than it will have in 1960.

A more rapid increase in the number of medical

school graduates would help to reduce many health deficiencies in the population and to relieve the exceedingly long hours and hard work of many doctors.

Increasing the number of doctors trained requires an increase in the capacity of the medical schools. A substantial increase in their capacity is made difficult by the high cost of medical training, the shortage of teachers and of clinical material, and the necessity of maintaining the quality of training.

Increasing the number of doctors will not in itself solve some of the most serious shortages such as those in rural areas, for salaried positions, and for the practice of various specialties.

Improved medical care can also be brought about by improving the utilization of the existing supply of doctors through the employment of additional auxiliary personnel and other measures.

Manpower Policies in a Democratic Society. Because of the international situation, the Federal Government now has a heavy responsibility to develop within its authority new approaches to long-range manpower policies.

The basic information for the solution of many manpower problems is not available. A theoretical framework for the analysis of manpower shortages, and better knowledge of the factors which influence the supply of scientific and professional personnel are especially needed.

A democratic society must rely on voluntary and primarily indirect methods for attaining its manpower goals. The creation of conditions which will make for a reasonable balance between the supply of and demand for highly trained manpower can only be the product of a vast cooperative undertaking.

An important part of the solution must be the development of a more sympathetic climate for intellectual endeavors which will make them attractive to able young people.



News and Notes

First Palynology Conference

THE First Palynology Conference was held at Yale University on February 21, 1953. The purpose was discussion of current investigations being carried out principally on the North American continent by workers in the field of microfossil research. Although originally outlined as a local meeting between the group at the University of Massachusetts, headed by L. R. Wilson, and that at Yale, the plan was enlarged to include the majority of workers in the United States. Seventeen papers were presented and informally discussed during two sessions. Those concerning research being

undertaken on Pleistocene material were presented during the morning session, but in the afternoon, the papers were for the most part concerned with pre-Pleistocene studies. Paul B. Sears presided at the morning gathering, and Edward S. Deevey, Jr., presided during the afternoon.

Participants, their affiliation, and titles were as follows in the order of their presentation:

Stanley A. Cain, University of Michigan: "The Use of Size-Frequency in the Determination of Species of Pollen"; John F. Grayson, University of Michigan: "A Size-Frequency Study of Fossil *Pinus* Pollen from Lake Bottom Sediments of the George Reserve, South-

eastern Michigan"; Eilif Dahl, University of Oslo, Norway: "Climatological Interpretation of Postglacial Pollen and Microfossil Records"; David G. Frey, Indiana University: "Wisconsin and Post-Wisconsin Palynology of Eastern North Carolina"; Patrick Butler, Harvard: "Pollen Studies of Smalls Swamp, Cape Cod, and of the Barnstable Marsh, Cape Cod"; Alan C. Donaldson, University of Massachusetts: "A Microfossil Analysis of a Cape Cod Peat Bog"; Heikki Ignatius, Yale: "Late-Glacial and Postglacial History in North-Central Quebec—Ontario, Canada"; L. R. Wilson, University of Massachusetts: "Peat Pollen Studies in the Region of Eastern Ontario, Canada"; Estella Leopold, Yale: "Current Pollen Studies in Certain River Terraces of Northeast Wyoming"; William S. Benninghoff, U. S. Geological Survey: "Some Applications of Palynology to the Earth Sciences in Alaska"; Daniel Livingstone, Yale: "Some Pollen Diagrams from Northern Alaska"; Calvin J. Heusser, Yale: "Additional Pollen Profiles from Southeastern Alaska"; Margaret K. Wolfe and E. S. Barghoorn, Harvard: "Fossil Maize from the Valley of Mexico"; K. H. Clisby, F. Foreman, and L. Zeevaert, Oberlin College and Mexico City: "Fossil Pollen and Stratigraphy

from Two Deep Cores under the City of Mexico"; Richard P. Hamilton, University of Massachusetts: "Plant Microfossils in the Lower Wilcox of Arkansas"; Arthur E. Le Blanc, University of Massachusetts: "Microfossil Studies of Sediments from Rockport, Texas"; Elso S. Barghoorn, Harvard: "Pollen and Spores of the Brandon Lignite and their Paleocological Significance."

The meeting included a conducted tour of the Geochronometric Laboratory by Dr. Deevey and a buffet supper at the home of Dr. and Mrs. Sears. An opportunity was also afforded for the examination of microscope slides to members of the conference. Enthusiastic response to this meeting stimulated an invitation from Stanley A. Cain for a Second Palynology Conference to be held at the University of Michigan next year. Abstracts of papers presented at this first meeting are planned to be included in the forthcoming issue of the *Pollen and Spore Circular*.

CALVIN J. HEUSSER

*Osborn Botanical Laboratory/
Yale University*

Scientists in the News

Hugo Benioff, Professor of Seismology, California Institute of Technology, has been appointed to a one-year term on an advisory panel of the National Science Foundation. He will represent the pure science of geophysics. Dr. Benioff has also been elected vice president of the Section of Seismology, American Geophysical Union.

Robert Bierstedt has been appointed Professor of Sociology and Chairman of the Department of Sociology and Anthropology at the College of the City of New York. Dr. Bierstedt, now Associate Professor of Sociology at the University of Illinois, will take office Sept. 1.

Lyman J. Briggs, former director of the National Bureau of Standards, has received from the Scientific Apparatus Makers Association an award for outstanding achievement in fulfilling his responsibilities to the scientific and technical professions of America.

C. O. Claggett, Professor of Biochemistry and agricultural chemist in the North Dakota Experimental Station, is the new president of the North Dakota Academy of Science.

A. Erdélyi, Professor of Mathematics at the California Institute of Technology, has been elected a Foreign Member of the Academy of Sciences of Turin, Italy. Dr. Erdélyi is also a Fellow of the Royal Society of Edinburgh.

Clarence N. Ferguson has joined Bjorksten Research Laboratories, Inc., Madison, Wis., as research chemist. He will do exploratory research on glass-filled plastic film.

Willis A. Gortner, head of the Chemistry Department of the Pineapple Research Institute, Honolulu,

plans to spend three months of his sabbatical leave in the laboratories of the Bjorksten Research Foundation. He will work on problems related to the fundamental chemistry of aging, in conjunction with a program carried on at the Foundation.

Palmer H. Graham, Associate Dean of the New York University Washington Square College of Arts and Sciences, will retire at the close of this semester. Dr. Graham was also professor of mathematics, head of that department, and acting dean during his 33-year career at NYU.

William H. Hall, Dean of the Duke University College of Engineering, has resigned. Dr. Hall has been a member of the faculty for 38 years and dean of the college since it was established in 1939. He will remain at Duke as J. A. Jones Professor of Engineering. **Walter J. Seeley** will succeed Dr. Hall as dean, effective July 1.

James G. Halpin, Chairman of the University of Wisconsin Poultry Husbandry Department since 1909, will retire in June. He intends to continue his research in poultry feeding, and is currently concerned with teaching chickens to eat hay.

Charles Huggins, Chicago surgeon and research investigator, received the 1953 Research Award of the American Pharmaceutical Manufacturers' Association.

Wingate M. Johnson, Professor of Clinical Internal Medicine, will become associate dean of the Bowman Gray School of Medicine. Dr. Johnson will be acting head of the medical school in July, when **Coy C. Carpenter** begins a leave of absence to serve as Fulbright visiting professor in Egypt (*SCIENCE*, 117, 494).

Wilbur E. Kellum, U. S. Navy, has received the Theodore C. Lyster Award of the Aero Medical Association, for achievement in the general field of avia-

tion medicine. Other Association awards went to **Walter F. Grether** and to **James P. Henry**, for accomplishment in the psychological and psychiatric aspects of aviation medicine.

Karl Maramorosch, plant pathologist at the Rockefeller Institute for Medical Research, will spend part of the summer at the Virus Research Laboratory in Wageningen, Holland, at the invitation of the Wageningen Agricultural University. Dr. Maramorosch has also been selected by the organizing committee of the VI International Congress of Microbiology in Rome as a speaker in the Plant Virus Section. He will report on the multiplication of plant viruses in insects.

Herman Mark of the Polytechnic Institute of Brooklyn, has been made an honorary doctor of Uppsala University. Dr. Mark will lead a discussion on macromolecules at a symposium in Uppsala in connection with the 13th International Chemistry Congress in Stockholm, July 29-August 4.

John R. McGibony, Medical Director and Chief of the Division of Medical and Hospital Resources, U. S. Public Health Service, has been named Professor of Hospital and Medical Administration in the University of Pittsburgh School of Public Health. He will succeed **Glidden L. Brooks**, who has resigned as of July 1, to become Medical Director of United Cerebral Palsy.

Henry E. Meloney, Hermann M. Biggs Professor of Preventive Medicine at the College of Medicine of the New York University-Bellevue Medical Center, has resigned, effective June 30. He has accepted appointment to the faculty of the School of Medicine of Louisiana State University, New Orleans.

James H. Potter has been appointed Professor of Mechanical Engineering, Associate Dean, and head of the Mechanical Engineering Department at Stevens Institute of Technology. Dr. Potter has been on leave from the University of Illinois, participating in the "educator program" of the Du Pont Company. He will succeed **Richard F. Deimel**, now Professor Emeritus, at Stevens.

Emil H. Praeger has been selected by the Metropolitan Section of the American Society of Civil Engineers as Metropolitan Engineer of the Year. Mr. Praeger won the citation for his concept and design of Pier 57, Hudson River.

Milton Rosenbaum, Professor of Psychiatry at Cincinnati University's College of Medicine, will assist in the establishment of a new department of psychiatry at the Hebrew University-Hadassah Medical School in Jerusalem. Dr. Rosenbaum left New York for the Holy Land on May 26.

Willard O. Thompson, editor of the *Journal of the American Geriatrics Society*, has been named by the Mississippi Valley Medical Society as its Distinguished Service Award recipient for 1952.

Education

The Griffis Medical College Library Fund has been established, income from which will be expended for books for the **Cornell University Medical College** in New York City. The fund was endowed by Stanton Griffis, Cornell alumnus and trustee emeritus.

A program leading to the Ph.D. in Agronomy at the **University of Florida**, Gainesville, has recently been authorized. Areas of specialization will be crop production or genetics and plant breeding. The program will begin in September.

Fifty-two college and secondary school students with potential ability for leadership in scientific research have been chosen to participate in this summer's research training program at the **Roscoe B. Jackson Memorial Laboratory** at Bar Harbor, Me. The students, representing both private and public institutions from 25 states, will have direct experience in research problems with workers at the laboratory, which is devoted principally to the study of the heredity of cancer and allied diseases.

Grants and Fellowships

The following AAAS Research Grants have been awarded: Illinois State Academy of Science, to Troy C. Dorris, Quincy College, to Dorothea Franzen, Illinois Wesleyan University, to Sister M. Joan, College of St. Francis, Joliet, and to W. M. Gersbacher, Southern Illinois University; Louisiana Academy of Science, to John B. Entriken, Centenary College, Shreveport, to George H. Bick, Tulane University, and to John A. Moore, Louisiana Polytechnic Institute, Ruston; Ohio Academy of Science, to Louis Mills Thomson, University of Toledo, to D. C. Crowell, College of Wooster, and to Cecil Riser, Junior Academy Division, O.A.S.; Tennessee Academy of Science, to John M. Carpenter and to J. Gordon Ogden III, University of Tennessee.

Harlem Hospital, New York City, and six universities throughout the country have been recipients of **Damon Runyon Memorial Fund** grants for cancer research, totaling \$113,600. Other recipients include Howard University College of Medicine, Stanford University School of Medicine, University of Louisville, University of Kansas Medical Center, University of Chicago, and University of Florida.

Six new undergraduate scholarships supported by industry have been set up at **Lehigh University**. The value of the six new grants will be \$5400, and the donors include National Aniline Division of Allied Chemical and Dye Corporation, New York, and Clevite Corporation, Cleveland.

The National Research Council has announced the availability of the **Merck Senior Postdoctoral Fellowships in the Natural Sciences** for 1953-54. Citizens of the U.S. with a Ph.D. or equivalent in physics, biol-

ogy, or chemistry, and with at least three years' post-doctoral experience in their major field, of which only one year may have been fellowship work, are eligible. The Fellowships carry stipends of \$6000 and traveling expenses.

At a conference sponsored jointly by the **National Research Council** and the **National Science Foundation**, meeting May 20, representatives of 21 industrial companies discussed the role of privately supported industrial fellowship programs in meeting the needs of the nation for trained scientific manpower. The conference provided opportunity for exchange of views among industrial representatives on the responsibilities of business and industry for support of advanced scientific training through fellowships and the means by which fellowship programs have been privately established. It was apparent that a need exists for cooperation among public and private institutions sponsoring industrial fellowships if future needs for scientific manpower are to be met. Similar conferences in the future may serve to bring this about.

Wayne University has received \$45,338 in gifts and grants. Three grants from the U. S. Public Health Service were received for research in problems related to blood coagulation and to the use of estrogen determination for investigation of hormonal functions. Carl Djerassi of the chemistry department will explore natural products from cacti and will direct a fellowship in organic chemistry made possible by a grant from the Squibb Institute.

In the Laboratories

The **Blood Grouping Laboratory** of Boston, under the direction of Louis K. Diamond, has resumed the production of blood typing anti-sera on a commercial scale. A new building which will house the research and production activities of the laboratory is now under construction, and will be ready for occupancy early this summer. The new building will permit greatly increased production of anti-sera for the identification of all the common antigens and most of the rarer ones. Research will center around the causation, treatment, and prevention of erythroblastosis fetalis, transfusion reactions, identification of blood group antigens, and antibodies, as well as studies in the basic problems of human immunology.

New additions to the staff of the **Los Alamos Scientific Laboratory** include: Edward Baron, Bernard Hayes, George L. Ragan, Ruth M. Scully, Evan E. Campbell, Paul D. Edwards, and Wilhelm T. Kowalewski.

A new underground atomic laboratory has been completed at **Yale University**. The 20' x 40' inner chamber will house a 20-million volt linear accelerator which is scheduled to begin operation late this summer. The machine is to inaugurate a new research program in the field of nuclear physics.

Meetings and Elections

A meeting of the **American Physical Society** will be held at the University of Rochester June 18-20, on the River Campus of the College for Men. The Society's Division of Electron Physics will meet at the University on the same dates. About 15 invited and 80 contributed papers will be presented by physicists from both the U. S. and Canada.

A conference of nuclear physicists at **Indiana University** discussed the riddle of the structure of the atomic nucleus. Allan C. G. Mitchell of the Indiana University Physics Department, arranged the conference. In attendance were Maria Goeppert Mayer, University of Chicago; E. J. Konopinski, Indiana University; L. W. Nordheim, Duke University; M. E. Rose, Oak Ridge Laboratory; E. Feenberg, Washington University; and K. Ford, Princeton University.

The **American Chemical Society's 13th National Organic Chemistry Symposium** will be held June 15-18 at the University of Michigan, Ann Arbor. New approaches to the synthesis of penicillin, advances in the study of growth factors, and recent research on the action of the body's enzymes will be described. Hermann O. L. Fischer, lecturer in biochemistry, University of California, will address the symposium dinner.

A symposium on the biology and control of oyster predators, principally the carnivorous snails, will be a feature of the annual meeting of the **National Shellfisheries Association**. The meeting will be held at the Oyster Institute of North America, New Orleans, June 22-25.

The **New Orleans Academy of Sciences** has elected the following new officers: president, Karlem Riess, Tulane University; vice president, Joseph A. Ewan, Tulane; secretary, John H. Mullahy, Loyola University; treasurer, Philip C. Wakeley, U. S. Forest Service. Elected to the executive committee were Jack Sands, Southern Regional Laboratory, and Paul Bailey, Loyola. Garland Taylor of Tulane University was appointed curator.

Officers of the **North Carolina Academy of Science** for 1953-54 are: president, D. B. Anderson, North Carolina State College; vice president, Florence L. Schaeffer, Woman's College of the University of North Carolina; secretary-treasurer, John A. Yarbrough, Meredith College.

New officers of the **Society for Research in Child Development** include H. V. Meredith, University of Iowa, president, and Celia B. Stendler, University of Illinois, secretary. Members of the Governing Council will be Roger Barker, Nancy Bayley, Icie M. Hoobler, Boyd McCandless, Esther McGinnis, and Carroll E. Palmer.

A **Summer Conference on College Biology**, sponsored by the National Science Foundation, will be held at the University of Oklahoma, June 15-19. The topic

will be "Integration of recent research findings into the introductory training of scientific personnel." Harriet Harvey, Department of Zoological Sciences, University of Oklahoma, is director of the Conference.

The **Wenner-Gren Seminar in Physical Anthropology** will be held at the Forsyth Dental Infirmary for Children, Boston, June 22-25. The overall problem will be "The role of physical anthropology in medical and dental research." All interested persons may attend, and information is available from the director, W. M. Krogman, Graduate School of Medicine, University of Pennsylvania.

Miscellaneous

Paul S. Martin, Chief Curator of Anthropology of the **Chicago Natural History Museum**, has left to open the nineteenth in a series of archaeological expeditions to the Southwest. John B. Rinaldo, museum archaeologist, will shortly join Dr. Martin, as will other archaeologists and a corps of workers to help on the "dig." Further investigations on the prehistoric Mogollon Indians will be carried out in Pine Lawn Valley near Reserve, New Mexico.

Recent foreign visitors at U. S. government departments included: at the **Department of Agriculture**, Joachim von Schweinichin, Milan, Italy; at the **National Bureau of Standards**: Lawrence Wettern, West Drayton, England; Norman E. G. Hill, Royal Aircraft, England; C. A. Jarman, London; David Kendall, Oxford University; Jean Ginoux and Jacques Planquart, Brussels; Miguel A. Catalan, Madrid; Guro Gjellestad, Oslo; Oscar Peters, Louvain, Belgium; N. M. Mowart, England; Mikishi Abe, Japan; Ernst Halpern, Vienna; Eugen Dorrer, Paris; C. W. Bunn, England; N. Minorsky, University of Aix-Marseilles, France; Paul Erdős, Budapest; Taichiro Shiraiwa, Hajime Suzuki and Atsushi Nakamura, Tokyo; and Toyohiko Okabe and Yoshitaka Iwasa, Kawasaki City, Japan.

• **Duke University** will launch a new Medical Town-Hall for the people of Durham and the state of North Carolina. The first program, a panel on polio, will be held in Duke's Page Auditorium June 7 at 4 P.M. Speakers will include Duke faculty members, as well as guests who are authorities in their fields. Portable microphones will be set up for the convenience of the public, and about a half hour of the time will be used for questions. Admission to the programs will be free.

A group of eight engineers, six from Thailand and two from Turkey, has been given training at **Geological Survey** headquarters in Washington, D. C., in a version of the course given periodically to new members of the Survey's Water Resources Division. At the end of a week's training, the group began a tour, receiving additional instruction in Utah, Oregon, Washington, and Colorado on irrigation practices. The trainees hope to aid in the systematic development of their nations' ground water resources. The Thailand

group includes Duang Bunnag, Thongchai Chotibut, Phrasarn Leelasara, Paisarn Sukumparnich, Adul Thavisri, and Vichin Tiraparnish, all engineers in the Royal Irrigation Department. Turkish representatives are Sebahattin Sayin and Osman Bedi Usta of the Hydraulic Department, Ministry of Public Works, in Ankara.

Members of the **National Research Council**, industry, and the military met at the Quartermaster Food and Container Institute for the Armed Forces in Chicago on April 28-29. Purpose of the session was a study of current research and development contracts sponsored by the Institute, and possible additional contracts. The NRC Committee on Packaging is responsible for advising on the adequacy of outside contracts for research and development work.

New journals received: *ABT*. Abstracts of Bioanalytic Technology. Editor, H. E. McDaniels, Council of American Bioanalysts, The John Crerar Library, 7 West Madison St., Chicago. \$5.00 per year. Quarterly . . . *Acta Pathologica Japonica* Vol. 1, No. 1, Jan. 1951. The Japanese Pathological Society The Pathological Institute of the Tokyo University, Hongo, Tokyo. \$3.00 per year. Quarterly . . . *Australian Journal of Chemistry*, Vol. 6, No. 1, Feb. 1953, and *Australian Journal of Physics*, Vol. 6, No. 1, March 1953, were formerly published as *The Australian Journal of Scientific Research, Series A: Physical Sciences*. The volume numbering of these new periodicals continues that of the earlier journals. Editor, N.S. Noble. 30s per year for each of the two journals. Both are quarterly . . . *Australian Journal of Zoology*. Vol. 1, No. 1, Jan. 1953. Editor, N.S. Noble. C.S.I.R.O., Melbourne, Australia. Issued as material becomes available. 7s 6d per issue . . . *Bulletin*. American Anthropological Association. Vol. 1, No. 1, April 1953. Formerly, *News Bulletin*. Published by the Association. Executive secretary, F. Johnson, Andover, Mass. Free to members, Quarterly . . . *Everyday Science*. Vol. 1, No. 2, Jan. 1953. Editor, B. D. Kochhar. Northern India Science Association, Hargold Road, Ambala. Cantt., India. 10s per year, foreign. Quarterly . . . *Publicaciones de la Comision Nacional de la Energia Atomica*. Serie Matematica, Vol. 1, No. 1, Buenos Aires.

The **University of Michigan** will give its entire crustacean collection to the U. S. National Museum. The collection has particularly good specimens from the regions of the Great Lakes and the Ozark Plateau. It is felt that more use can be made of these specimens by researchers at the Museum, which has long been a major center for work on the Crustacea.

CORRECTION. In the obituary on F. R. Moulton published in the May 22 issue of *SCIENCE*, the date of Dr. Moulton's retirement from the AAAS was wrongly given. Although Dr. Moulton served the Association as Permanent Secretary until 1946, he continued to fill this position under the new title of Administrative Secretary until January 1949.