He served Iowa as state entomologist and entomologist for the State Agricultural Experiment Station and, at the same time, was a special agent for the Bureau of Entomology, USDA.

During this period of research for the Federal Government, Dr. Osborn conducted the first comprehensive study of insects, ticks, and mites that affect and carry diseases to man and domestic animals. In a publication issued by the U.S. Department of Agriculture in 1896 following these studies, he described methods for the control of such pests. So far-reaching were these methods that many of them still were in general use in 1945. The appearance of hydrocarbon insecticides, such as DDT, in 1945 changed some of them, but basic control measures that he suggested remain almost the same now as when he first published them 58 years ago.

Osborn became head of the department of zoology and entomology at Ohio State University in 1898. He knew by that time that the dozen or so trained agricultural entomologists then in existence were incapable of doing all the work that needed to be done. He thereupon developed the idea of establishing a school for the sole purpose of training entomologists skilled in controlling insect pests and able to tell people how they could do the job themselves.

When he retired from active teaching in 1916, Osborn had seen a majority of this country's economic entomologists receive all or part of their technical education and training in his classes. E. O. Essig said, in his *A History of Entomology* (1931):

> He probably trained more entomologists in America than any other teacher. His students are now to be found in every State in this country and in most foreign countries. Many of them are in positions of great responsibility.

No less than 25 percent of the 4500 professional entomologists in the United States received all or part of their training in the department of zoology and entomology, Ohio State University, and many of them were in Dr. Osborn's classes.

Osborn received honorary degrees from Iowa State College in 1916, University of Pittsburgh in 1930, and Ohio State University in 1936. He was a member of numerous scientific organizations, both domestic and foreign and was president of five of them. He was a life member of several, including the California Academy of Sciences and Le Société Entomologique de France. He was editor of a number of scientific journals over the years.

Honors due a great scientist were given Osborn during his lifetime. Today we feel the force of the contribution that he made to our national economy through teaching. But this is only a beginning. We cannot even guess how much his services will mean to the future of the peoples of this earth.

DAVID G. HALL

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News and Notes

Electrolytes in Biological Systems

The annual meeting of the Society of General Physiologists was held at the Marine Biological Laboratory, Woods Hole, Mass., 8–9 Sept., with 90 registrants. The first day was devoted to a symposium on *Electrolytes in Biological Systems,* dedicated to W. J. V. Osterhout and M. H. Jacobs, which is summarized here by its organizer, A. M. Shanes.

Dean B. Cowie and Richard B. Roberts described careful and extensive radioisotope studies with *E. coli, T. utilis* and *N. crassa,* which revealed a high rate of entry into or exit from the cellular water by ions, glucose-1-phosphate, fructose-1:6-phosphate, cystine, glutamate, methionine, and glutathione. Proteins, however, are excluded. Penetration also was demonstrated by the competitive displacement, by exogenous labeled or unlabeled amino acids, of amino acids produced by the bacteria from glucose precursor. The authors concluded that the protoplasm of these microorganisms is in direct contact with the environment, the cell membrane being unable to affect appreciably the movement of small molecules; how the cells retain their metabolic intermediates under these circumstances was discussed.

"Sodium and potassium regulation in *Ulva lactuca* and *Valonia macrophysa*" was described by George T. Scott and Hugh R. Hayward. The dependence of normal ion distributions on metabolic processes was demonstrated by the effects of metabolic inhibitors and by the ability of substrates and of photosynthetic processes to counteract these inhibitors. Of particular importance, in the light of the recent tendency to emphasize the sodium ion, was the clear demonstration that the kinetics of sodium and potassium movement can be quite different or completely independent.

In his paper, "Relationship of cell surface enzymes to ion transport in yeast," Aser Rothstein described the biochemical and ionic interactions that experiments in his laboratory indicate to be restricted to the surface of the yeast cells, and their implications for ion transfer.

"Electrolyte transport in mitochondria" was discussed by Gilbert Mudge. The metabolic activity of the mitochondria partially determines the concentration and rate of exchange of potassium but not of sodium. These isolated organelles were found to contain 3 times as much potassium as sodium. The experimental conditions, that is, the manner of preparation and the concentrations of various components in the medium, were shown to be extremely important for the nature of the results.

Daniel C. Tosteson, in reviewing literature on the erythrocyte, pointed out that available evidence indicates that potassium outflux and sodium influx are governed by electrochemical gradients, while the reverse fluxes involve chemical interactions with the surface of the cells. Red cells treated with n-butanol and those taken from the duck were found to be more suitable for an experimental analysis of these fluxes than normal human red cells. The significance of findings with these preparations was discussed.

In the "Factors governing ion transfer in 'resting' nerve," presented by Abraham M. Shanes, special emphasis was given to the link between metabolism and ionic fluxes. Changes in influx and outflux in the presence of inhibitors and substrates provide a means of distinguishing among at least four possible metabolism-dependent mechanisms, namely, intracellular ion binding, membrane selectivity, membrane potential production, or direct transport at the cell surface. It was pointed out that caution is necessary in applying hypothetical relationships, which purport to distinguish passive from active transfer, to actively metabolizing cells.

"Ion transport and ion exchange in frog skin" was summarized by Ernst G. Huf. Subjects discussed were fluid transport, movement of cations other than sodium, the structure of frog skin, experimental modification of the potassium content of the skin, and factors governing the active transport of sodium, particularly the part played by potassium.

Abstracts of the symposium papers and of the 18 short research papers given on the second day will appear in the *Journal of Cellular and Comparative Physiology*.

At the business meeting the elections of C. Stacy French as vice president and of Hans Gaffron and Leigh Chadwick as councilors were announced, and president-elect F. A. Brown, Jr., was reappointed to the editorial board of *Physiological Reviews*. John Buck continues as secretary-treasurer. The meeting closed with a notable social hour at the L. V. Heilbrunn estate.

JOHN BUCK

National Institutes of Health, Bethesda, Maryland

Science News

In connection with the recent **suit for patent infringement** filed by Mary A. Marcus against Selman A. Waksman [Science **120**, 966 (10 Dec. 1954)], the trustees of the Rutgers Research and Endowment Foundation have issued a statement, which says:

> The trustees . . . will fight in court the . . . charges . . . because they are brought without the slightest legal, scientific or moral foundation. . . . The Marcus charge that Dr. Waksman appropriated any of her work is false. Messrs. Cooper, Byrne, Dunham, Keith & Dearborn, patent counsel for the Foundation, . . . have rendered their opinion . . . that streptomycin produced under the Foundation's patent does not infringe Miss Marcus' patent and that the streptomycin patent is valid. . . .
>
> The vaccine and extract covered by Miss Marcus' patent were claimed therein to be a remedy for one specific disease, psoriasis. . . . Her vaccine and extract are not, and never have been, employed as a recognized treatment for psoriasis or any other disease. . . .
>
> The integrity and validity of the Marcus claim are completely refuted by her long delay in asserting them. The tremendously important investigations of Dr. Waksman and his associates have been extensively reported over a period of fifteen years in the scientific literature and the public press. The streptomycin patent now under attack was issued September 21, 1948. . . .

Plans for wider use of **atomic power in the United Kingdom** received additional impetus with the recent opening by the Atomic Energy Authority of the Reactor School at Harwell. The school will offer a 3-mo, $700 course to students from private industry in the techniques of atomic power, with particular emphasis on the design and construction of power stations.

Opening the school, John Cockcroft, director of the Atomic Energy Research Establishment, foresaw a developmental period of 8 yr during which electricity will be generated by the first power stations (now under construction), improved stations will be erected, and full-scale breeder reactors will be built that will do work that now requires 20 million tons of coal. The reactor school represents U.K. industry's first opportunity to enter the field of atomic power; though operation of the power stations is to be in the hands of the state-owned British Electrical Authority, it is evident that nuclear power is no longer to be a Government monopoly.

An Indiana University research team, headed by Marvin Carmack, chemistry department, and W. R. Breneman, zoology department, will test *Lithospermum ruderale*, a plant used medicinally by Western American Indians that may be effective against some kinds of tumors. The Cancer Institute of the U.S. Public Health Service has awarded $26,000 for the study.

A dependable, inexpensive, easily portable apparatus for making **direct blood pressure readings** has been developed by the Laboratory of Technical Development of the National Heart Institute, Bethesda, Md. The device, when attached to a conventional electrocardiograph, produces accurate pressure recordings formerly available only by the use of costly and complex instruments.

Physicians find the customary inflated cuff method of taking an indirect blood pressure reading satisfactory for most diagnostic purposes. Occasionally, however, to obtain very precise measurements, it is necesary to read blood pressure directly within the blood vessel. The complicated apparatus heretofore required for doing this has usually been available only in special clinics or large hospitals. With the new develop-

ment, physicians now can utilize their own electrocardiographs to record pressures taken through a strain gage pressure pickup.

F. W. Noble, J. J. Callaway, and B. B. Boone, of the National Heart Institute, recently described the new instrument in the *Journal of Laboratory and Clinical Medicine*. They added a switch and capacitors to a commercially available strain gage type manometer so that information about direct blood pressure is translated into an electric form acceptable to the conventional electrocardiograph. A technical development linking and improving upon existing instrumentation, this new method has been demonstrated to be dependable and satisfactory in clinical trials. It is expected to provide savings in time and expense over present techniques and apparatus.

A group of Albany physicians headed by C. Stuart Welch, has reported **transplanting a liver** from one animal to another. The group has indicated that the experiment—performed on dogs—was the first successful transplanting of this type reported in medical history. The experiment, involving grafting the liver of one dog into the abdomen of another, succeeded several times. After the operations the livers functioned, in producing bile, for as long as 5 days. However, Welch commented that it was "highly improbable" that the experiments would lead within the foreseeable future to transplanting of human livers. Livers are one of the most difficult human organs to keep alive.

The regents of the University of California have paid in full the **claims of 5 former professors** involved in a loyalty oath controversy. The men resigned from Berkeley after the regents, at the direction of the California Supreme Court, had ordered them reinstated with 16 others dismissed in 1950. The 21 faculty members refused to sign a special loyalty declaration that was later declared unconstitutional. They sued the regents for their salaries or for severance pay.

According to Stanley A. Wiegel, attorney for the professors, no settlement offers have been made to the 16 who returned to the university. Included in the group of 5 was Gian Carlo Wick, now professor of physics at the Carnegie Institute of Technology.

On 13 Dec., Gibson E. Gorman, Superior Court judge in Chicago, ruled that a baby born of **artificial insemination** was illegitimate when the donor was a third party. In an unusual decision, the jurist also held that the wife who had insemination from a third party was guilty of adultery, irrespective of the husband's consent. But if the husband is the donor, artificial insemination does not violate public policy or morals and is not adultery.

The issue is one that has had few court tests and has resulted in conflicting opinions. The American Medical Association has said that it knows of only three previous court decisions, one by the New York State Supreme Court in 1947 holding that such a child was not illegitimate; the court ruled that the husband, while not contributing to conception, assumed the role of foster or adoptive father. A 1948 case in Great Britain held that insemination did not consummate a marriage. In a 1921 case in Canada, the courts intimated, but did not rule specifically, that insemination without consent of the husband was adultery.

R. G. Bunge, W. C. Keettel, and J. K. Sherman of the State University of Iowa have established a **frozen human semen bank**, probably the first of its kind. They let its existence be known in a recent report on the semen freezing and storing method published in the journal of the American Society for the Study of Sterility. Three normal babies have already been born, and a fourth is almost ready to be born, fathered by human semen frozen and stored in the bank.

Physiologists have long wondered why the **hearts of hibernating animals** do not stop when body temperatures drop to the hibernating point, sometimes only a few degrees above freezing. The hearts of ordinary animals stop long before reaching the temperature at which hibernators spend the winter. Peter R. Morrison and A. R. Dawe, respectively of the zoology and physiology departments at the University of Wisconsin, have found that the hearts of animals going into hibernation are hyperirritable, and the slightest stimulus will cause them to beat furiously at near-normal temperature. But this same hyperirritability will keep them beating slowly at extremely low temperature that would stop the heart of a nonhibernator.

Morrison collected northern hedgehogs, Arctic ground squirrels, and Franklin ground squirrels on a trip to Alaska that was part of an Air Force-sponsored research project to study problems of cold survival. The hyperirritability of the hearts of these three northern animals develops when the temperature of the animal's body is reduced to about 68°F. In deep hibernation the heart rate slows to as few as 2.2 beats/min, and it may show unusual patterns such as paired beats or beats in bursts. On the way out of hibernation the increase in heart rate precedes any rise in body temperature. If it could be learned what causes the hyperirritability of the hearts, the information might have practical application in human "deep-freeze" heart surgery.

A new instrument, a **penetrometer**, that provides a method for measuring the compactness of underwater sediments without disturbing them has been developed by scientists at the University of Rhode Island under contract with the Office of Naval Research and the Navy Hydrographic Office. The new instrument consists of a steel tube with a probe on the end that is driven through a hollow shaft into the bottom by a motor and a mechanism that measures and makes a permanent record of resistance at depths up to 200 ft. The working mechanism is mounted on a 5-ft frame resembling a bell buoy. It weighs 145 lb without the lead weights that hold it in position underwater. The

motor for driving the probe is equipped with a watertight cover that can be pressurized. In addition to probing the ocean bottom, the penetrometer may be used on land as a soil-mechanics instrument for highway planning.

The **giant American redwood** is being hybridized and transplanted by Russian foresters and botanists. In *Voks,* the bulletin of the U.S.S.R. Society for Cultural Relations with Foreign Countries, it is reported that "one can already see three-year-old sequoias around Moscow." Apparently the first redwoods were brought to Russia in the 1860's but in "tsarist Russia," the article states, they were grown exclusively to decorate parks on the southern coast of the Crimea and the Caucasus. Now, however, Soviet scientists have tried introducing the sequoia into the forests of the Crimea and other parts of the Soviet Union. "Using Michurin's [Michurin is considered the Burbank of Russia] methods, botanists have set themselves the task of moving sequoias farther north."

Excellent provision for the **housing of large animals** has been made at the National Institutes of Health, Bethesda, Md. The new quarters, providing outdoor exercise facilities, the opportunity for companionship, efficiency in cleaning and maintenance, and good ventilation, were designed under the supervision of W. T. S. Thorp, former chief of the section of comparative pathology and hematology and of the laboratory aids branch, and now assistant dean and director of the School of Veterinary Medicine at the University of Minnesota. The quarters are well worth a visit by persons planning new accommodations for experimental animals.

One of the richest **titanium deposits in the world,** consisting of mountains of high-grade rutile ore, is about to be tapped by the Republic Steel Corp. of Cleveland to give the United States a new supply of the strong, rustless, light metal for use in jet planes, rockets, air-borne equipment, armor, and eventually in all fields of industry. The new mine, discovered a little more than 1 yr ago, lies near Pluma Hidalgo, Oaxaca, Mex. Already more than 25 million tons of ore, expected to average at least 20 percent titanium dioxide (rutile) have been proved by digging into the mountainsides with exploratory tunnels or adits. In one place the rock runs 95 percent rutile.

One of the most interesting among the lesser-known activities of the South Pacific Comission is the work being done to **trace and preserve valuable manuscripts** on the islands. Usually these are grammars, dictionaries, vernacular textbooks and similar linguistic works; but many manuscript histories, studies of local peoples, collections of folklore, family records and the like are also known to exist. Members of the commission staff are assiduously tracking down manuscripts and typescripts of all kinds likely to be of value to scientists or historians. In each case the present owner, when found, is asked to loan it to the commission for photocopying and immediate return.

When the photocopies have been prepared, one is sent to the Library of Deposit nominated by the member government to whose territory the original manuscript relates. Additional copies of each manuscript are also made available at cost to any organization or individual desiring to purchase them on application to the Executive Officer for Social Development, Box 5254, GPO, Sydney, N.S.W., Australia. Notification of copying and deposit is made by numbered deposit notices published in the commission's *Quarterly Bulletin.* More than 35 manuscripts and typescripts have been copied up to the present.

Fred L. Soper, director of Pan American Sanitary Bureau, Regional Office of the World Health Organization, recently called a conference in Washington, D.C., on **yellow fever.** An outbreak of the disease in Trinidad focused attention on the potential hazard in the United States, whose southern half has extensive areas harboring the yellow fever mosquito *Aedes aegypti.* Attending the conference were officials of the U.S. Public Health Service, the Army and Navy, the Atomic Energy Commission, the State Department, the Rockefeller Foundation, the Gorgas Memorial Institute, and the Pan American Sanitary Bureau.

One yellow fever patient, or an apparently healthy person carrying the yellow fever virus, could start an epidemic if he or she reached one of our *Aedes*-harboring ports and was bitten by one of these mosquitoes which could then spread the disease. Yellow fever in Trinidad this past fall cost that small place $23 million because of quarantine and consequent loss of trade and tourists. *Aedes aegypti,* which can survive winter as far north as Norfolk, Va., could be eradicated from the United States at relatively small cost.

Theodor Svedberg, founder and head of the Gustav Werner Physics Institute, Uppsala, Sweden, who was Nobel prize winner in chemistry in 1926, has originated two **scientific textile designs.** Exploding atoms—in cyclamen, Chinese lacquer red, and orange on black squares—are printed on dove-grey coarse linens. Physicists can recognize Bohr's electronic curve, which surrounds the atomic nucleus, and also the spiral of an atomic explosion caused by cosmic radiation and caught on a photographic plate. After completing the atomic drapery, Svedberg turned his attention to genetics and devised "Chromosomes." The color scheme is black on dove-grey linen with white stripes.

A new 36-min movie, **"The Wisconsin cleft palate story,"** in sound and color, has been produced by the Wisconsin Bureau for Handicapped Children, Department of Public Instruction, in cooperation with the University of Wisconsin Medical School, Department of Speech, and University Hospitals. It shows the integration of services necessary in the rehabilitation of a cleft-palate child. The film can be rented from the Bureau of Visual Instruction, University of Wiscon-

sin, 1323 W. Johnson St., Madison, for a nominal fee. It is available for purchase through the Photographic Laboratory, University of Wisconsin Extension Division, 1204 W. Johnson St.

Discovery of a **new antibiotic, primycin,** has been announced by T. Valyi-Nagy, J. Uri, and I. Szilagyi of the University of Debrecen, Hungary, in the 11 Dec. issue of *Nature*. The material is made by microorganisms found in the larvae of the wax moth, *Galeria melonella*. Primycin seems to be active against viruses, as well as against such larger organisms as the staphylococci that cause boils. Although good results in treating superficial infections in man are reported, the new antibiotic may have limited usefulness, for trials on animals showed it to be toxic.

Reorganization of the U.S. Department of Agriculture's research in **forest insects and forest diseases in the Northeast** has been completed. Under the reorganization, R. C. Brown, entomologist, and J. R. Hansbrough, pathologist, are now members of the staff of the Northeastern Forest Experiment Station, with headquarters at Upper Darby, Pa. Brown is chief of the experiment station's new division of forest insect research; Hansbrough is chief of the new division of forest disease research. Both men were formerly stationed at New Haven, Conn.

Most of the technical personnel in forest insect and disease research are to remain in New Haven. Their combined offices there will be known as the Forest Insect and Disease Laboratory of the Northeastern Forest Experiment Station. Philip B. Dowden is administrative officer for the New Haven laboratory.

Scientists in the News

Harvey L. White, professor of physiology and head of the department at the Washington University School of Medicine, St. Louis, will be the George Cyril Graves lecturer in physiology at the Indiana University School of Medicine, 10–19 Jan. His topic will be *Some Aspects of Renal Physiology*. The annual lectureship was established in 1948 in honor of Dr. Graves, who in 1940 bequeathed his entire estate to the physiology department.

The New York State Museum and Science Service has announced the formation of the New York State Geological Survey, which combines the offices of geology and paleontology into a single administrative and scientific unit under the leadership of **John G. Broughton,** the State geologist.

Christopher C. Shaw, captain, U.S. Navy, and senior medical officer at the Philadelphia Naval Shipyard, has been awarded the Sir Henry Wellcome medal and $500 prize money given annually for an essay judged to be "the most useful original investigation in the field of military medicine."

Gordon N. Scott, consulting engineer in Los Angeles, and **W. H. J. Vernon** of England have been selected to receive 1955 National Association of Corrosion Engineers awards. The awards will be made during the NACE 11th annual Conference and Exposition in Chicago, 7–11 March. Scott, who has been in corrosion work more than 20 yr, will receive the Frank Newman Speller award. He has written many papers on cathodic protection and coating of underground and underwater structures and was a contributor to the only proceedings published by NACE following its first meeting in 1944. Vernon will receive the Willis Rodney Whitney award. He has published many treatises on corrosion and its relationships to bacteria, inhibitors, coatings, economics, and so forth.

J. F. Wallace, formerly director of the Rodman Laboratories at Watertown Arsenal, Boston, has been appointed associate professor in the department of metallurgical engineering, Case Institute of Technology. At Rodman he supervised research and development work in the processing and fabrication of new metals and alloys for both industrial and military applications.

The William H. Walker award of the American Institute of Chemical Engineers has been given to **Edwin R. Gilliland,** professor of chemical engineering at Massachusetts Institute of Technology, in recognition of his publication record during the past few years and in particular for four papers contributed to *Chemical Engineering Progress*. Gilliland is an authority on separation processes and applied industrial chemistry.

At its annual meeting in Cleveland on 4 Nov., the American Documentation Institute presented a scroll of appreciation to **Atherton Seidell,** one of its founders. Seidell was one of the first to propose the extension of library services to scientists by microfilm. He worked to establish microfilm services in the Library of the U.S. Department of Agriculture, the Armed Forces Medical Library, the Pasteur Institute, the Faculty of Medicine of the University of Paris, and several other French centers.

Seidell's enthusiasm for microfilm grew from his need for copies of chemistry papers for research in connection with his work on solubilities, a book widely used by chemists. He has said that without microfilm copies of papers in libraries all over the world the book could not have been compiled. As a consequence, he was a pioneer in the establishment of free microfilm services in research libraries.

In order to inform the medical profession of new articles available on microfilm, he founded, in 1941, the *Current List of Medical Literature,* a publication that has become one of the world's great scientific indexes. Seidell is also noted for his efforts in promoting an inexpensive viewer for short strips of microfilm, and a microfilm projector well within the means of the independent researcher.

Irwin H. Slater, former assistant professor of pharmacology at the University of Rochester School of Medicine and Dentistry, has joined the research laboratories of Eli Lilly and Co., Indianapolis, where he is in charge of neuropharmacology in the pharmacological division.

Besse B. Day, formerly in charge of the statistical office of the U.S.N. Engineering Experiment Station, Annapolis, Md., has been transferred to the Bureau of Ships, Department of the Navy, Washington. The new position carries the responsibility for developing and coordinating a program of statistical techniques for all of the bureau's experimental work. **F. R. Del Priore** will head the statistical work at the Annapolis experiment station.

The American Institute of Chemists has awarded its annual achievement citation to **Eduard Farber,** chief chemist of the lumber and wood products laboratory of Timber Engineering Co., research affiliate of the National Lumber Manufacturers Association. Farber was cited for his achievements in wood chemistry and forest products utilization, and for his contributions to the history of chemistry.

Alfred Blalock, professor and director of the department of surgery, Johns Hopkins University, will deliver the Roswell Park lecture sponsored by the Buffalo Surgical Society on 10 Feb. 1955. Blalock will be awarded the society's gold medal, the eighth time the award has been made since its inception in honor of Dr. Park, professor of surgery at the University of Buffalo from 1883 through 1914.

Louis A. Krumholz, former staff member of the information and reports division of Oak Ridge National Laboratory, has taken charge of the Lerner Marine Laboratory on North Bimini Island, Bahamas, British West Indies. The laboratory was set up in 1947 to further the investigation of the fundamental aspects of marine biology, and is owned and operated by the American Museum of Natural History, New York.

Frank Fremont-Smith, medical director of Josiah Macy, Jr. Foundation, and president of the World Federation for Mental Health, has joined **John R. Rees,** director of the federation, on a tour of countries in the Middle and Far East. The two scientists will establish relationships and explore ways in which the organization may extend its mental health and human relations activities into those regions.

T. A. Bancroft, director of the Statistical Laboratory, Iowa State College, has been on a 3-mo assignment in the Near East and India at the request of the Food and Agriculture Organization of the United Nations. During the first 6 wk he visited experiment stations and ministries of agriculture in Egypt, Syria, Iran, and Iraq to collect information on the present use of experimental designs and survey techniques in research investigations. After that he lectured at the Experimental Designs Training Center, in New Delhi, which is sponsored by FAO.

Another professor in the Iowa Statistical Laboratory, **George W. Snedecor,** will also be on special assignment as a consultant in experimental statistics for the Institute of Statistics, Consolidated University of North Carolina, for 4 mo beginning in January. He will work primarily with the staff of the Woman's College in Greensboro and also with the staff of the Negro Agricultural and Technical College there.

Texas Medical Center, Houston, announces the following appointments:

Arthur Kirschbaum, formerly professor and head of the department of anatomy at the University of Illinois, has been named professor and chairman of the department of anatomy at Baylor University College of Medicine. At present he holds the same position at the University of Texas Dental Branch.

Leon Dmochowski, former experimental pathologist in cancer research at the School of Medicine, University of Leeds, England, and visiting professor of microbiology at Columbia University, will be professor of anatomy at Baylor and consultant in electron microscopy at Anderson Hospital.

Henry Browning, who has been assistant professor of anatomy at Yale University and associate professor of anatomy at both the University of Puerto Rico and Indiana University, will be associate professor of anatomy at both Baylor and the University of Texas Dental Branch.

John Trentin, formerly assistant professor of anatomy at Yale, was appointed July 1 as associate professor of anatomy at Baylor and at the dental branch.

The American Institute of Chemical Engineers announces the retirement of **Stephen L. Tyler,** secretary and executive secretary of the institute for 17 yr. At the time Tyler joined the institute in 1937 membership was 1486. It has now grown to 14,500. On 1 Jan. 1955 Tyler will become secretary of the committee on education of the Engineers' Council for Professional Development, a conference of engineering societies. **F. J. Van Antwerpen,** editor of the institute's periodical *Chemical Engineering Progress,* will succeed Tyler.

On 31 Dec. **George A. Baitsell,** a former editor of *Science,* retired as editor of the *American Scientist*; he will serve as science editor for the Yale University Press. The *American Scientist* editorial office will be at Princeton University, with **H. S. Taylor,** dean of the graduate school, as the new editor.

R. Tucker Abbott has been announced as the first incumbent of the Henry A. Pilsbry Chair of Malacology established by the Academy of Natural Sciences of Philadelphia in recognition of the work of **Henry A. Pilsbry,** a world authority on mollusks and curator of mollusks and other invertebrates for the academy,

now in his 92nd year. The endowment for the chair is being provided by Alfred J. Ostheimer, president of the Natural Science Foundation, and other friends of the academy. Abbott, a native of Watertown, Mass., has been associate curator of mollusks for the U.S. National Museum, Washington. He is the author of the recently published *American Seashells,* an identification guide to 1500 American marine mollusks [*Scientific Monthly* 79, 414 (Dec. 1954)].

William F. Ashe, newly appointed chairman of the department of preventive medicine at Ohio State University, has returned from India where he was a consultant in thermal environmental health attached to the FOA Technical Cooperation Mission in New Delhi. He will travel to India periodically to analyze data gathered and to help formulate recommendations to management, labor, and government concerning the solution of worker health and productivity problems resulting from the "heat loads" in India's industrial plants.

Harry A. Winne, electrical engineer and retired vice president of General Electric Co., will be presented the 1954 John Fritz medal during the winter general meeting of the American Institute of Electrical Engineers in February in New York. Winne will be honored "for service to his country in war and peace through his distinguished leadership in the electrical industry." He is the 51st winner of the medal.

Necrology

John A. Britton, Jr., petroleum engineer and retired director of the Enjay Company, Short Hills, N.J., 16 Dec.; **John A. Caputo,** 56, oral surgeon and former professor at the New York University College of Dentistry, New York, 17 Dec.; **George L. Carlisle,** 77, mining engineer, explorer, and conservationist, Norfolk, Conn., 22 Dec.; **Charles M. Child,** 85, professor emeritus of zoology of the University of Chicago, author, and investigator at the Marine Laboratories of Stanford University, Calif., 20 Dec.; **John A. Donnellon,** 41, associate professor of education at Maryland College, Scranton, Pa., 21 Dec.; **Ida T. Hill,** 79, archeologist and author, New York, 21 Dec.; **John Poindexter,** 37, plant morphologist and assistant professor of biology at Occidental College, Los Angeles, 11 Dec.; **Pierre Sergescu,** 60, mathematician, former director of the Polytechnical School of Bucharest, and permanent secretary of the International Union of Sciences, Paris, 22 Dec.; **Frances I. Seymour,** 54, gynecologist, author, editor, and director of the National Research Foundation for Fertility, New York, 17 Dec.; **Harry L. Shoemaker,** 62, civil engineer and retired executive of the Standard Oil Company, East Orange, N.J., 19 Dec.; **Russell W. Stovel,** 77, electrical engineer and authority on electric generating stations, Upper Montclair, N.J., 21 Dec.; **Elizabeth C. White,** 83, pomologist, Whitebog, N.J., 27 Nov.

Meetings

The National Academy of Sciences–National Research Council was asked by officials of both industry and Government to establish within the Academy–Research Council framework a committee to concern itself with the common interests and relationships of industrial and governmental research, particularly in the area of applied research. Conferences between industrial and governmental research executives and directors recommended that a small committee be organized to explore the need for better acquaintance and understanding between Government and industry research leaders, and to consider methods for accomplishing this objective. As a result, the **Government-Industry Research Committee** has been organized, with the following membership: Edgar C. Bain, United States Steel Corp., chairman; Allen V. Astin, National Bureau of Standards; D. P. Barnard, Deputy Assistant Secretary of Defense, Research and Development; Ralph Bowin, Bell Telephone Laboratories, Inc.; Ralph Connor, Rohm and Haas Co.; Hugh L. Dryden, National Advisory Committee for Aeronautics; Paul D. Foote, Gulf Research and Development Co.; G. E. Hilbert, Agricultural Research Service, U.S. Department of Agriculture; Randolph Major, Merck and Co., Inc.; Roy C. Newton, Swift and Co.; Alan T. Waterman, National Science Foundation.

At its first meeting the committee concluded that effective mechanisms already exist in many fields for furthering mutually helpful relations between Government and industrial research. However, the committee agreed to hold itself available as necessary to assist in exchanging views and ideas designed to improve such relations where either Government or industry groups may feel this to be desirable. When its services are requested, the committee proposes to consider first the extent to which the need can be satisfied by existing mechanisms. If appropriate, the committee will then consider designation of an *ad hoc* group of individuals active in the particular field concerned to assist in bringing about improved understanding and closer relationships between Government and industry people in that field.

The **American Orthopsychiatric Association** will hold its 32nd annual meeting at the Hotel Sherman, Chicago, Ill., 28 Feb.–2 Mar. 1955. This is the first meeting of the association in Chicago since 1949. Approximately 100 scientific papers will be presented by psychiatrists, psychologists, social workers, educators, sociologists, and anthropologists. There will be all-day sections on childhood schizophrenia, child development, and psychotherapy with children. Visual material of specific use in mental health education will be presented for 2 days. Twelve workshops are planned, and numerous technical and commercial exhibits will be on display. Papers, symposiums, and round tables will discuss a wide range of orthopsychiatric interests including adolescence, juvenile delinquency, testing, use of the clinic team, research,

treatment of psychosomatic disturbances, mental health in the community, rehabilitation, desegration, and other related material.

The American Orthopsychiatric Association, founded in 1924, is an interdisciplinary association of psychiatrists, psychologists, social workers and members of allied fields, including education, anthropology and sociology. Its members come from all parts of the United States, Canada, and abroad. Inquiries should be directed to Dr. Marion F. Langer, American Orthopsychiatric Association, 1790 Broadway, New York 19.

The New Jersey Academy of Science will hold its **first annual meeting** in Chester on 29 Jan. The program will be largely organizational in character. Abstracts of papers to be presented must reach the secretary, C. J. Daley, Audiovisual Dept., Cranford High School, Cranford, N.J. *not later than 15 Jan.* All those planning to attend should notify the secretary *by 24 Jan.*

Supported by the largest group of sponsors since its founding in 1950, the fifth annual **Rochester conference on high energy nuclear physics** will be held at the University of Rochester 31 Jan.–2 Feb. under the chairmanship of Robert E. Marshak, who is also chairman of the University of Rochester physics department. The purpose of the conference is to bring together a representative group of leaders in experimental accelerator physics, cosmic radiation, and theoretical physics for a full and informal discussion of latest results and developments.

The sponsors of the conference this year include the International Union of Pure and Applied Science, the National Science Foundation, the U.S. Atomic Energy Commission, the U.S. Office of Naval Research, and a group of Rochester industries. Foreign representation is expected to be unusually large—approximately 30 scientists from at least 12 countries. Total registration is limited to 100 invited scientists. A complete record of the proceedings will be made available after the meetings. Subjects tentatively scheduled for discussion include nucleon scattering at high energies, including polarization effects; meson physics, including meson field theory; and elementary particles. The conference dates were chosen so that participants can include in their travel plans the meeting of the American Physical Society, 27–29 Jan., in New York.

Society Elections

Southern Society of Cancer Cytology: pres., H. Hudnall Ware; pres.-elect and sec., J. Ernest Ayre; treas., J. K. Cline. The vice presidents are C. C. Erickson and L. I. Platt.

Alabama Academy of Science: pres., William T. Wilks, State Teachers College, Troy, Ala.; chairman local arrangements committee, Henry Wlaker, University of Alabama.

American Society for Horticultural Science: pres., E. S. Haber, Iowa State College; v. pres., M. B. Davis, Central Experimental Farm, Ottawa, Canada; sec.-treas., Freeman S. Howlett, Ohio Agricultural Experiment Station, Wooster; ed-bus. mgr. for the *Proceedings,* Henry Munger, Cornell University.

American Institute of Chemical Engineers: pres., Barnett F. Dodge, department of chemical engineering, Yale University; v. pres., Arthur K. Doolittle, Carbon and Carbide Chemicals Co., So. Charleston, W. Va.; treas., George Granger Brown, dean of engineering, University of Michigan; exec. sec., F. J. Van Antwerpen, editor of the A.I.Ch.E. journal, *Chemical Engineering Progress.*

Association of American Medical Colleges: pres., Vernon W. Lippard, Yale University School of Medicine; pres.-elect, Robert A. Moore, Schools of the Health Sciences, University of Pittsburgh.

Institute of Radio Engineers: pres., John D. Ryder, Michigan State College; v. pres., Franz Tank, Swiss Institute of Technology.

Central Society for Clinical Research: pres., Clayton G. Loosli, University of Chicago; v. pres., Randall Sprague, Mayo Clinic, Rochester, Minn.; sec.-treas., Robert H. Ebert, University of Chicago.

Tennessee Academy of Science: pres., Frederick T. Wolfe, Vanderbilt University, Nashville; v. pres., C. S. Chadwick, Geo. Peabody College for Teachers, Nashville; sec., Isabel H. Tipton, University of Tennessee, Knoxville; treas., James W. White, University of Tennessee, Knoxville.

Education

New York University has released the following new faculty salary schedule: professors, $9000 to $16,000; associate professors, $6500 to $9500; assistant professors, $5000 to $7000; instructors, $3600 to $5000. Salaries of all faculty members now below the minimum will be increased at least to the minimum figure for next year. An increase in student tuition from $20 to $25 per point was also announced.

An **artificial kidney** that employs sausage casings to purify human blood is now ready for use at **Stanford School of Medicine** in San Francisco. The device, one of less than a dozen artificial kidneys in the nation, will be operated under the supervision of J. Max Rukes. The new machine will be available to physicians generally and will be used for urologic research.

The **University of Kansas City** is making use of R.C.A. "TV eye" **closed-circuit television** equipment as a classroom aid in teaching dental surgery. Through the use of the compact equipment, built around a

small TV camera weighing less than 5 lb, surgeons at the university's School of Dentistry are enabled to project close-up details of oral operations to more than 100 students seated in a lecture hall a floor away.

The installation was a gift to the School of Dentistry from the alumni association. It includes a telescopic lens fitted to the camera that allows it to "get inside" the patient's mouth and a two-way intercommunication system by which the surgeon can describe the operation as he performs it and hear and answer questions from the students.

The **Netherlands Universities Foundation for International Co-operation** announced that its annual summer session will be held 19 July–6 Aug. at the University of Groningen. The session is entitled "Trends in modern civilization," with the subclassification "Civilization and technics." Information and forms for registration may be secured from Mrs. A. F. P. Volten, Secretary, Summer Session NUFFIC, 27 Molenstraat, The Hague, Netherlands.

New York University recently dedicated its new **Institute of Mathematical Sciences** for advanced research and instruction. Niels Bohr, Nobel prize winner and Danish physicist, was the principal speaker. Richard Courant, professor of mathematics at NYU, is the scientific director of the institute which has as one of its major facilities a computing center that is equipped with a Univac.

The Swedish Government has appropriated Kr. 1.2 million for the construction of a new 11,000 ft^2 laboratory for the Institute of Hydraulics at the **Royal University of Technology in Stockholm.** In addition, 26 private and municipal power companies have contributed Kr. 265,000 for instruments and other technical equipment. The laboratory marks the second stage in a large-scale plan of creating a "city of science" of research institutions around the university. B. H. Hellström, an expert on hydraulics, is the director of the institute.

Ground-breaking ceremonies for the **new Hayden Science Building** were held recently at **Brandeis University,** Waltham, Mass. A gift of $500,000 from the Charles Hayden Foundation made this addition possible. The total cost of the three-story, 60,000 ft^2 structure is expected to exceed $1 million.

Available Grants and Fellowships

The **Division of Research Grants of the National Institutes of Health** will establish two new study sections, one in biophysics and the other in human embryology, on 1 Jan. 1955. Research applications for review at the first meetings of the two sections *will be accepted until 1 Mar.* The biophysics study section will consider project proposals concerned with molecular biology, particularly from the standpoint of the disciplines of physics, physical chemistry, colloid chemistry, and protein chemistry. F. O. Schmitt of Massachusetts Institute of Technology will serve as chairman of the group, and Irvin Fuhr of the NIH Division of Research Grants as executive secretary.

The human embryology and development study section will review research proposals concerned with such problems in human reproduction as infertility, pregnancy and labor, congenital malformations, and the newborn, especially the premature. Louis Hellman, of the State University of New York, New York City, has been named chairman, and Elsa O. Keiles, Division of Research Grants, executive secretary.

The establishment of these two new sections will bring the total number of study sections in the Research Grants Division of NIH to 19.

The department of biochemistry at the **University of Washington** announces the availability of several predoctoral fellowships for 1955–56. These offer stipends of $135/mo for the academic year, and remission of tuition and laboratory fees. Fellows are also eligible for full-time research assistantships during the summer months. Applications should be addressed to the Executive Officers, Dept. of Biochemistry, University of Washington, Seattle 5, Wash.

The **Fund for the Advancement of Education,** established by the Ford Foundation, is offering approximately 150 faculty fellowships for 1955–56 to college teachers throughout the United States. The fund hopes through these fellowships to strengthen college teaching in the liberal arts and to stimulate widespread consideration of the purposes, the means, and the ends of liberal education.

To a greater extent than in previous years the applicant's proposed program will be judged on the basis of its potential contribution to the strengthening of his institution's program of liberal education. Furthermore, related applications from two or more members of one faculty will be considered. As in the past, the awards will be made to able younger teachers throughout the country who wish to broaden their qualifications for teaching within a program of liberal education. Efforts will be made to seek out those teachers having the greatest possibility for growth and development rather than those who have already achieved recognized prominence in their fields.

Fellowships are available in the humanities, the social sciences, and the natural sciences but not in technical or professional subjects. The fellowship program is not intended to provide for the completion of doctorate study, or for the support of private and individual research projects.

Each fellowship provides a grant approximately equivalent to the salary of the recipient at the time of application, and certain expenses in addition. Candidates should be men and women between the ages of 30 and 45 who have been teaching steadily for several years, and each must be nominated by his institution. An institution of less than 600 undergradu-

ates may nominate not more than two candidates; institutions with 600 to 1500 undergraduates may nominate not more than three; and institutions with more than 1500 may nominate not more than four candidates. In each case, the institution nominating a candidate must agree to continue the recipient in his teaching career in 1956–57. It is expected that each fellow will return to his sponsoring institution for at least 1 yr.

Application forms and full information concerning this program are being distributed to the presidents of all colleges and universities in the United States. *Applications must be submitted by 31 Jan. 1955* and announcement of the awards will be made on or about 15 April. Application forms and further information may also be obtained from the Committee on Faculty Fellowships, Fund for the Advancement of Education, 655 Madison Ave., New York 21.

Grants and Fellowships Awarded

Recent **AAAS research grants** are as follows:

Oklahoma Academy of Science to W. C. Greer, Oklahoma A. & M. College. Effects of sewage pollution on Stillwater Creek.

Hawaiian Academy of Science to M. E. Smith, Honolulu. Relationship between word variety and mean letter length of words and their relationship to chronologic and mental age.

Hawaiian Academy of Science to R. N. Akamine, Honolulu. Carbohydrate-protein complexes in cartilage autografts and homografts.

Indiana Academy of Science to J. Wood. Plant fossils to be found in the Smithsonian Institution.

Indiana Academy of Science to W. Welch. Monographic study of Hookeriaceae.

Kansas Academy of Science to H. H. Hopkins, Fort Hays Kansas State College. Bibliography of the vegetation of Kansas.

The **Rockefeller Foundation** made the following scientific grants during the third quarter of 1954:

University of Natal, Union of South Africa. To institute a department of family practice, 5 yr, $127,000.

Royal Technical College, Glasgow. Postgraduate training and research program in environmental control engineering, 5 yr, $82,000.

Pasteur Institute, Paris. Dept. of Biochemistry, J. Monod, director. Research equipment, $50,000.

University of Edinburgh. J. P. Kendall and E. I. Hirst, chemistry. Research in the field of the natural high ploymers, 5 yr, $45,000.

University of Pavia, Italy. G. Frizzi and C. Jucci, zoology. Chromosomes in the salivary glands of anopheline mosquitoes, 3 yr, $22,000.

Marine Biological Association Laboratory, Plymouth, England. Fundamental research in marine biology, $30,000.

National Nursing Accrediting Service. To bring nursing schools of the U.S. up to standards of full accreditation, 3 yr, $63,771.

Strangeways Research Laboratory, Cambridge, England. Purchase of electron microscope, $30,000.

University of London. J. T. Randall, biophysics. Application of physical techniques to biological problems. 3 yr, $30,000.

Gordon Research Conference of the AAAS. To finance visits of foreign scientists to the U.S., 3 yr, $30,000.

Royal Institution of Great Britain and Davy Faraday Research Laboratory. Structure of proteins, 2 yr, $15,000.

Birmingham University, England. M. Stacey. Research in chemistry of carbohydrates, $15,000.

University of California (Berkeley). Extension Division. To establish a certificate course in medical care administration, $7000.

University of California (Berkeley). H. E. Jones, child welfare. Visit to social science research and training centers in Europe, $880.

Johns Hopkins University. G. O. Gey, cellular pathology. Visit to European laboratories conducting work in cell research and virology, $500.

Inter-American Society of Soils Scientists. Meetings of the society for period ending 31 Mar. 1956, $10,000.

Massachusetts Medical Society. To continue an educational program for the practising physician, $7500.

University of Arizona. Conference on cloud physics research, $5000.

New York University–Bellevue Medical Center. Books on sanitation, public helath, and preventive medicine as a memorial to General W. C. Gorgas, $5000.

University of Puerto Rico. D. M. Q. Negron, nursing education. Visit to nursing centers in the United States, $1300.

University of Puerto Rico. G. Arbona, preventive medicine and public health. Observation of U.S. medical and hospital care programs, $800.

Commonwealth of Puerto Rico. O. Costa-Mandry, pathology and medical education. To observe U.S. regionalization programs, $350.

McGill University, Montreal. Preparation for the 10th International Congress of Genetics, $3500.

University of Liège, Belgium. C. Liébecq. Research in carbohydrate chemistry, $1000.

University of Paris. B. Ephrussi. Research in chemical genetics, $2200.

Karolinska Institute, Stockholm. F. S. Sjöstrand, anatomy. Toward purchase of electron microscope, $6000.

University of Geneva, Institute of Physiology. J. Posternak. Equipment, $5000.

University of Glasgow, Scotland, Conferences of European scientists on genetical problems. $7500.

University of Aberdeen, Scotland. Equipment to be used in general biochemical research, $7200.

University of St. Andrews, Scotland. Equipment for research in marine biology, $2000.

West Africa Yellow Fever Service: Virus Research Institute, Lagos, Nigeria. Air conditioning equipment, $895.

Christian Medical College, Ludhiana, India. C. E. Taylor, preventive medicine. Promotion of preventive medicine teaching and investigations, $8500.

Medical College, Indore, India. J. C. Sachdev, physiology. Equipment, $5500.

Lady Hardinge Medical College, New Delhi, India. S. Padmavati. Equipment and supplies for cardiology unit, $4000.

Medical College Hospital, Patna, Bihar, India. U. N. Shahi, chest surgery. Equipment, $4000.

Nilratan Sircar Medical College, Calcutta, India. S. K. Chatterjee, thoracic surgery. Equipment, $4000.

Medical College Hospital, Trivandrum, Travancore-Cochin, India. R. T. Kesavan Nair. To observe trends in surgery and in medical and nursing education in the U.S. and Great Britain, $3950.

Medical College, Baroda, India. A. N. DeQuadros. Visit to U.S. medical centers, $3850.

Christian Medical College, Vellore, India. L. R. Allen. To promote preventive medicine teaching and investigation, and develop village medical services, $3700.

Medical College, Amritsar, India. Y. Sachdeva. Chest surgery equipment, $3200.

Government of India. R. A. Kaur, minister of health. Visit to U.S. medical centers and public health agencies, $2600.

Indian Council of Medical Research, New Delhi, India. C. G. Pandit. Visit to medical centers and government health agencies in the U.S. and Puerto Rico, $1700.

Institute of Public Health, Tokyo. Department of Microbiology. Application of tissue culture methods to the study of viruses, $2000.

Institute of Public Health, Tokyo. Y. Koya. Observation of teaching of public health and preventive medicine in the U.S., $1900.

Kyushu University Medical School, Fukuoka City, Japan. H. Mizushima, hygiene and public health. Observation of teaching of public health and preventive medicine in the U.S., $1900.

Kyoto University, Japan. K. Onodera. Research in carbohydrate chemistry at Ohio State University, $2000.

Ministry of Health and Welfare, Tokyo. M. Kaneko, nursing section. To observe nursing and midwifery programs in Europe, $900.

Republic of Korea. Purchase of medical and public health publications for selected institutions, $5000.

Seoul National University Medical School, Korea. S. W. Shim, preventive medicine. To observe teaching of preventive

medicine and public health in the Philippines and Japan, $1550.

University of the Philippines, Quezon City. J. S. Salcedo, Jr., chemical hygiene and nutrition. To observe developments in biochemistry and nutrition in Europe and the U.S., $3000.

University of Minas Gerais, Belo Horizonte, Brazil. J. B. Sumner, biochemistry. Equipment, $5000.

University of São Paulo, Brazil. J. L. Pedreira de Freitas, hygiene and preventive medicine. Visit to departments of preventive medicine in the U.S. and South America, $3250.

University of Rio Grande do Sul, Pôrto Alegre, Brazil. Establishment of Casimiro Tondo as director, Institute of Biophysics Research, $1000.

Ministry of Agriculture, State of Rio Grande do Sul, Brazil. Equipment for investigation in soil physics, $525.

Ministry of Agriculture, Santiago, Chile. R. Cortes, entomologist. Visits to agricultural research centers in entomology in Latin America and the U.S., $3350.

University of Chile, Santiago. E. Thiermann. Visit to the National Institutes of Health, Bethesda, Md., $500.

Ministry of Agriculture and Animal Industry, Mexico City. J. Loredo, Federal Extension Service. Visit to the U.S. Department of Agriculture and various state extension service centers, $1200.

Ministry of Agriculture and Animal Industry, Guadalajara, Mexico. R. Palacios. Visit to U.S. agricultural research centers, $975.

University of San Marcos, Lima, Peru. Faculty of Veterinary Medicine for project with Ministry of Agriculture on the study of diseases of the alpaca under M. Moro, $7300.

Fellowships

Y. Acosta-Sanchez, Central de Asistencia Social, Lima, Peru. Nursing education, Canada.

A. M. Akman, Refik Saydam Central Inst. of Hygiene, Ankara, Turkey. Bacteriology, U.S.A.

O. Andersen, Rural Univ. of Minas Gerais, Viçosa, Brazil. Agriculture-horticulture, U.S.A.

K. Aras, Univ. of Ankara, Turkey. Biochemistry, Canada.

M. I. Ardao, Inst. of Investigations of Biological Sciences, Montevideo, Uruguay. Experimental biology-biochemistry, U.S.A.

J. Baddiley, Lister Inst., London. Biochemistry-enzymes, U.S.A.

V. Balagopal Raju, Univ. of Madras, India. Pediatrics, U.S.A.

S. Bang, Ministry of Health, Seoul, Korea. Public health, U.S.A.

J. Barúa, Univ. of San Marcos, Lima Peru. Agriculture-veterinary biochemistry, U.S.A.

J. M. Borgoño Dominguez, Jefatura Sanitaria Provincial, Santiago, Chile. Epidemiology, U.S.A.

J. M. N. Boss, Middlesex Hospital Medical School, London. Cytology, U.S.A.

A. Campos Tierrafria, Office of Special Studies, Mexico City. Agriculture-plant parasitology, U.S.A.

C. Cardona A., National Univ. of Colombia and Ministry of Agriculture, Medellín. Agriculture-plant parasitology, U.S.A.

L. L. Cavalli-Sforza, Istituto Sieroterapico Milanese and Univ. of Parma, Italy. Biology-chemical genetics, U.S.A.

J. P. L. Cazeneuve, Centre National dela Recherche Scientifique, Paris. Social anthropology, U.S.A.

V. Contreras Vilu, San Borja Hospital, Santiago, Chile. Rheumatoid diseases, U.S.A.

J. Cookson, Univ. of Edinburgh, Scotland. Child psychology, U.S.A.

F. Cornet (France) World Health Organization. Public health nursing and nursing education, Canada.

F. A. Couto, Escola Superior de Agric. Viçosa, Brazil. Agriculture-horticulture, U.S.A.

G. G. Duarte, Univ. of São Paulo, Brazil. Biostatistics, U.S.A.

K. C. Dube, Mental Hospital and Medical College, Nagpur, India. Psychiatry, U.S.A.

J. E. Dutra de Oliveira (Brazil), Vanderbilt Univ. Nutrition, U.S.A.

R. E. Egli, Inst. of Industrial Hygiene & Physiology of Effort, Zurich, Switzerland. Industrial medicine, U.S.A.

J. Fadel-Khoury, Syrian Univ. Hospital, Damascus. Nursing education, U.S.A.

G. E. Fogg, Univ. of London. Biochemistry-photosynthesis, U.S.A.

J. R. J. Freire, Secretariat of Agriculture, Pôrto Alegre, Brazil. Agriculture-microbiology, U.S.A.

C. Garces Orjuela, National Univ. of Colombia, Medellín. Biology, agriculture-plant parasitology, U.S.A.

K. G. Grell, Max Planck Inst. for Biloogy, and Univ. of Tubingen, Germany. Biology-protozoology, U.S.A.

C. T. Gurson, Univ. of Istanbul, Turkey. Pediatrics, U.S.A.

W. Hamdan, American Univ. of Beirut, Lebanon. Nursing education, U.S.A.

M. Hashimoto, Toyonaka Health Center, Osaka, Japan. Public health administration, U.S.A.

H. J. Hubener, Univ. of Frankfurt, Germany. Biochemistry, U.S.A.

Y. Inoue, Fukuoka Prefectural Public Health Nursing School, Fukuoka City, Japan. Public health nursing, U.S.A.

L. Izquierdo, Catholic Univ. of Chile, Valparaiso. Embryology, Belgium.

T. Kamiya, Fukui Prefectural School of Nursing, Fukui City, Japan. Nursing education, U.S.A.

S. R. Kapoor, King George's Medical College, Lucknow, India. Experimental physiology, U.S.A.

P. C. Karli, Univ. of Strasbourg, France. Biology, U.S.A.

H. Kato, Kyoto Univ., Japan. Social psychology, U.S.A.

R. R. A. F. Kehl, Univ. of Marburg/Lahn, Germany. Medicine, U.S.A.

Y. Kobayashi, Inst. of Public Health, Tokyo. Architectural hygiene, U.S.A.

A. G. Kunjamma, School of Nursing, Trivandrum, India. Nursing education, U.S.A.

E. L. Lima, Conselho Nacional de Pesquisas, Brazil. Mathematics, U.S.A.

F. K. Ludwig (Germany), Univ. of Paris. Pathology, U.S.A.

A. Marthinsen, Univ. of Oslo, Norway. Social medicine, U.S.A.

A. Matallana (Colombia), Harvard Univ. Pharmacology, U.S.A.

D. M. McLean, National Health and Medical Research Council, Melbourne, Australia. Virology, U.S.A.

F. Megale, School of Veterinary Science of the State of Minas Gerais, Belo Horizonte, Brazil. Agriculture-veterinary obstetrics, U.S.A.

J. M. Mogey, Univ. of Oxford, England. Sociology, U.S.A.

K. H. Moller (Denmark), World Health Organization. Public health administration, England.

M. I. Narvaez, Office of special studies, Mexico City. Agriculture-plant breeding, U.S.A.

B. K. H. Ochwadt, University of Göttingen, Germany. Physiology, U.S.A.

M. Ohira, Kyushu University, Fukuoka, Japan. Industrial hygiene, U.S.A.

J. E. Orjuela-Navarrete, Ministry of Agriculture and National Center of Agricultural Investigations of Tibaytatá, Bogotá, Colombia. Agriculture-plant parasitology, U.S.A.

B. Palacios Lopez, Ministry of Health, Santiago, Chile. Sanitary engineering, U.S.A.

V. N. Panse, B.Y.L. Nair Charitable Hospital, Bombay, India, Social medicine, U.S.A.

K.-G. Paul, Medical Nobel Inst., Stockholm. Biochemistry-enzymes, England.

J. Pemberton, University of Sheffield, England. Epidemiology, U.S.A.

L. A. Philipps V., Ministry of Agriculture, Lima, Peru. Agriculture-veterinary virology, Chile.

J. N. Pohowalla, King Edward Medical College, Indore, India. Pediatrics, U.S.A.

G. Quievreux, Ecole Professionnelle d'Assistance aux Malades, Paris. Nursing education, U.S.A.

I. Ramirez Araya, Department of Agriculture, Santiago, Chile. Agriculture-plant breeding, Mexico.

L. O. Roberts (England), World Health Organization. Public health, U.S.A.

C. Rodriguez Estrada, Univ. of Guadalajara, Mexico. Physiology and pharamacology, Mexico.

C. Rodriguez Villegas, Ministry of Agriculture, Lima, Peru. Agriculture-animal sterility, U.S.A.

H. Rosado Espinosa, Department of Agriculture, State of Mexico, Toluca. Agriculture-extension methods, U.S.A.

P. M. Sheppard, Oxford Univ., England. Biology-genetics, U.S.A.

L. Sinisterra, Univ. del Valle, Cali, Colombia. Clinical endocrinology and nutrition, U.S.A.

T. Sofue, Univ. of Tokyo. Cultural anthropology, U.S.A.

J. R. Sotelo, Instituto de Investigacion de Ciencias Biologicas, Montevideo, Uruguay. Experimental Biology-cytology, U.S.A.

T. Takatsu, Kyoto University, Japan. Medicine, U.S.A.

A. Tello Garust, University of San Marcos, Lima, Peru. Agriculture-poultry pathology, Chile.

T. Thomas, Christian Medical College and Hospital, Vellore, India. Thoracic surgery, U.S.A.

K. Toyokawa, Univ. of Tokyo. Microbiology, U.S.A.
T. Usui, Institute of Public Health, Tokyo. Public health statistics, U.S.A.
H. C. Varma, King George's Medical College, Lucknow, India. Anatomy and embryology, U.S.A.
V. M. Vega, Ministry of Agriculture, Bogotá, Colombia. Agriculture-soils science, U.S.A.
A. Velez-Gil, Surgical Clinic, Cali, Colombia. Surgery, U.S.A.
E. V. B. Vianna, Univ. of Brazil, Rio de Janeiro. Experimental biology-mathematical genetics, U.S.A.
O. L. Wade, Birmingham Univ., England. Hematology, U.S.A.
K. W. W. H. Walton, Birmingham. Univ., England. Pathology, U.S.A.
T. Weis-Fogh, Univ. of Copenhagen, Denmark. Biology-physiology, England.
J. F. Wilkinson, Univ. of Edinburgh, Scotland. Biochemistry-microbiology, U.S.A.
P. R. Wöien, Health Service of Norway, Oslo. Public health administration, U.S.A.
J. W. Wright (U. of S.A.), World Health Organization. Environmental sanitation, U.S.A.
K.-M. Yao, Department of Reconstruction, Taipeh, Taiwan. Sanitary engineering, U.S.A.
E. W. Yemm, Bristol Univ., England. Biochemistry-microbiology, U.S.A.
M. Yudelevich Kachenowsky, Corporacion de Fomento, Santiago, Chile. Agriculture-forestry, U.S.A.

During 1954 the **Explorers Club** has made grants from its Exploration Fund to the following persons: James P. Chapin, curator emeritus of the American Museum of Natural History, to continue work on the birds of the Belgian Congo at the Belgian IRSAC research station, Bukavu, Belgian Congo; Theodore P. Bank, II, to assist the Bering Sea-Aleutian Expedition of the University of Michigan, which has conducted archeologic and ethnologic investigations in the areas of the Alaskan coast and the Aleutians; S. Dillon Ripley, research associate at the Peabody Museum of Yale University, to pursue ornithologic studies in Netherlands New Guinea; Lorus Milne, professor of biology at the University of New Hampshire, to study the light-receptor organs of certain animals in the jungles of Central America. The Exploration Fund Committee consists of Alexander Wetmore of the Smithsonian Institution, Charles Hitchcock of the American Geographical Society, and Samuel Stein, Charles R. Vose, James A. Allis, and Serge A. Korff (chairman) of New York University.

The following grants and fellowships are listed in the annual report for 1953–54 of the **Life Insurance Medical Research Fund**, New York.

Grants

Harvard Medical School. Eric G. Ball. Sources of cardiac energy, 1950–56, $32,300.
University of Washington School of Medicine. H. Stanley Bennett. Fine structure of heart and vessels, 1950–56, $39,835.
Medical College of Alabama. Richard J. Bing. Metabolism of the human heart, 1952–55, $24,014.
Western Reserve University School of Medicine. Gerhard A. Brecher. Dynamic aspects of blood flow, 1947–55, $53,400.
State University of New York Medical Center at New York City. Chandler McC. Brooks. Excitatory process of the heart, 1951–56, $18,518.
University of Pennsylvania Graduate School of Medicine. Julius H. Comroe, Jr. Capillary blood volume of the lungs, 1952–56, $40,320.
Columbia University College of Physicians and Surgeons. Zacharias Dische. Regulation of heart metabolism, 1950–55, $26,800.
Massachusetts General Hospital. John Gergely. Contractile proteins of heart muscle, 1953–55, $10,800.
Vanderbilt University School of Medicine. Margaret E. Greig and William C. Holland. Permeability and enzyme activity of heart tissue, 1950–54, $20,670.
Medical College of Georgia. W. F. Hamilton. Blood pressure and blood flow, 1946–56, $81,080.
University of Wisconsin Medical School. John W. Harman. Role of mitochondria in heart respiration, 1950–56, $36,660.
University of Utah College of Medicine. Hans H. Hecht. Physiology of single heart muscle fibers, 1951–55, $22,775.
Western Reserve Unviersity School of Medicine. Normand L. Hoerr. Circulation in small blood vessels, 1948–54, $60,150.
State University of Iowa College of Medicine. Steven M. Horvath. Cardiovascular reactions to stresses, 1950–53, $21,945.
University of Washington School of Medicine. Frank M. Huennekens. Metabolism of one-carbon units, 1954–56, $8800.
University of Washington School of Medicine. Rex. L. Huff and David D. Feller. Blood volume and body density 1953–55, $14,040.
University of Wisconsin Medical School. Henry A. Lardy. Intermediary metabolism, 1951–55, $31,980.
University of Minnesota Medical School. Nathan Lifson. Exchange of materials across capillary walls, 1952–54, $16,200.
Massachusetts General Hospital. Fritz Lipmann. Enzyme mechanisms in biosynthesis, 1953–55, $30,240.
University of North Carolina School of Medicine. A. T. Miller. Metabolic studies of obesity, 1954–56, $13,200.
Western Reserve University School of Medicine. W. F. H. M. Mommaerts. Chemical phenomena in heart activity, 1953–55, $10,800.
Vanderbilt University School of Medicine. Elliot V. Newman. Theory and use of dye dilution principle, 1952–55, $24,450.
Harvard School of Public Health. Stanley J. Sarnoff. New evaluation of Starling's Law, 1953–55, $14,580.
Harvard School of Public Health. Fredrick J. Stare. Nutritional deficiencies and cardiac metabolism, 1948–54, $42,210.
Duke University School of Medicine. Eugene A. Stead, Jr. Cardiovascular and respiratory physiology, 1946–56, $130,240.
University of Rochester School of Medicine and Dentistry. Elmer H. Stotz. Heart metabolism, 1950–56, $28,260.
California Institute of Technology. A. van Harreveld. Fetal circulation, 1952–54, $10,585.
University of Minnesota Medical School. Maurice B. Visscher. Cardiovascular and renal physiology, 1946–54, $83,585.
Tulane University School of Medicine. Walter S. Wilde. Sequence of chemical and physical events, 1952–55, $19,440.
Harvard Medical School. A. Clifford Barger. Development of heart failure, 1951–56, $23,492.
University of Oregon Medical School. William D. Blake. Regulation of kidney function, 1950–56, $28,860.
Woman's Medical College of Pennsylvania. Phyllis A. Bott. Electrolyte excretion by kidney units, 1952–55, $14,670.
Emory University School of Medicine. H. D. Bruner. Lymph flow from the kidney, 1954–56, $17,600.
Johns Hopkins University School of Medicine. Francis P. Chinard. Passage across capillary walls, 1950–56, $44,775.
Harvard Medical School and Peter Bent Brigham Hospital. Lewis Dexter. Circulation in the lungs, 1947–56, $91,700.
New York University-Bellevue Medical Center. David P. Earle. Body fluids and kidney function, 1947–55, $66,150.
New York University-Bellevue Medical Center. Ludwig W. Eichna. Venous congestion, 1951–55, $33,030.
Saint Louis Unviersity School of Medicine. C. Rollins Hanlon. Vascular obstruction in the lungs, 1953–55, $14,040.
Medical College of Alabama. Tinsley R. Harrison. Regulation of salt excretion, 1951–55, $29,880.
Temple University School of Medicine. Mary Ellen Hartman. Vascular responses in the kidney glomerulus, 1954–56, $4180.
Western Reserve University School of Medicine. Walter Heymann. Kidney Disease in children, 1947–54, $55,890.
University of California School of Medicine. John H. Lawrence. Total body water, 1947–53, $33,075.
University of Cincinnati College of Medicine. William D. Lotspeich. Production and excretion of ketone bodies, 1952–55, $28,080.
University of Pennsylvania School of Medicine. Hugh Montgomery. Arterial oxygen in cardiac patients, 1951–54, $21,240.
Long Island College of Medicine, Hoagland Laboratory, Brooklyn and Overlook Hospital, Summit, New Jersey. Jean Oliver. Structural and functional aspects of kidney activity, 1948–57, $37,550.
University of Pittsburgh Graduate School of Public Health. Roebrt E. Olson. High output heart failure, 1953–56, $24,840.
Cornell University Medical College. Robert F. Pitts. Regulation of acid-base balance 1950–57, $46,860.

Johns Hopkins University School of Medicine. Richard S. Ross. Plasma volume in congestive failure, 1954–56, $10,230.

University of Wisconsin Medical School F. E. Shideman. Transport of sodium by kidney tubules, 1951–55, $23,022.

University of Pennsylvania School of Medicine. William C. Stadie. Disturbances in acid-base balance, 1951–54, $7980.

University of Texas Medical Branch. H. G. Swann. Interstitial pressure in the kidneys, 1953–55, $13,824.

University of Wisconsin Medical School. William B. Youmans. Decreased peripheral resistance, 1953–55, $11,664.

University of Southern California School of Medicine. Hans H. Zinsser. Glomerular elastic constants, 1952–54, $16,740.

University of Michigan Medical School. David F. Bohr. Humoral factors in hypertension, 1950–55, $28,795.

University of Western Ontario Faculty of Medicine. Alan C. Burton. Behavior of small blood vessels, 1947–55, $46,530.

University of California School of Medicine, Los Angeles. William G. Clark. Metabolism of pressor amines, 1951–55, $30,310.

Stanford University School of Medicine. J. M. Crimson. Capillary blood flow, 1949–54, $23,185.

University of Cincinnati College of Medicine and Emory University School of Medicine. Eugene B. Ferris, Jr., and M. A. Blankenhorn. Hypertensive disease, 1950–55, $32,880.

Washington University School of Medicine. Robert F. Furchgott. Activity of smooth muscle, 1950–56, $33,660.

Hotel-Dieu Hospital, Montreal. Jacques Benest. The sodium-retaining hormone, 1953–55, $10,800.

Duke University School of Medicine. Philip Handler. Humoral relationships in hypertension, 1946–55, $75,405.

Howard University College of Medicine. Edward W. Hawthorne. Cortical ablation and renal hypertension, 1954–56, $16,830.

Northwestern University Medical School. Paul Kezdi. Regulation of presso-receptor activity, 1954–56, $7480.

State University of New York Medical Center Syracuse. Gordon K. Moe. Autonomic blocking agents, 1951–56, $29,112.

Mount Zion Hospital, San Francisco. Ray H. Rosenman. Potassium and blood pressure, 1952–55, $24,450.

Washington University School of Medicine. Henry A. Schroeder. Amino acid metabolism, 1952–55, $18,470.

Vanderbilt University School of Medicine. John B. Youmans. Long-term high dietary sodium chloride, 1954–56, $15,620.

New York University. Benjamin W. Zweifach. Behavior of peripheral blood vessels, 1953–55, $10,692.

Harvard University. Konrad Bloch. Biosynthesis of Cholesterol, 1954–57, $29,700.

University of California School of Medicine. I. L. Chaikoff. Development of arteriosclerosis, 1947–56, $92,025.

Columbia University College of Physicians and Surgeons. Erwin Chargaff. Substances active in blood clotting, 1949–55, $43,980.

Tulane University School of Medicine. Emmanuel Farber. Degenerative changes in tissues, 1953–55, $10,800.

University of Washington School of Medicine. T. Lloyd Fletcher. Changes in vascular grafts, 1953–55, $8524.

Mount Zion Hospital, San Francisco. Meyer Friedman. Control of blood cholesterol, 1953–55, $17,280.

University of California School of Medicine. John W. Gofman. Lipoproteins and arteriosclerosis, 1951–55, $42,060.

University of California School of Medicine. David M. Greenberg. Metabolism of cholesterol, 1953–55, $14,580.

University of Washington School of Medicine. Donald J. Hanahan. Ergosterol metabolism, 1953–55, $10,800.

Louisiana State University School of Medicine. Russell L. Holman. Experimental arterial disease, 1949–54, $41,758.

University of Saskatchewan School of Medical Sciences. L. B. Jaques. Heparin and thrombosis, 1949–54, $19,575.

University of Kansas. Kenneth E. Jochim. Circulatory changes in arteriosclerosis, 1953–55, $8316.

Mount Sinai Hospital, New York. Paul Klemperer. Connective tissue, 1949–55, $37,992.

University of Chicago. Division of the Biological Sciences. M. E. Krahl. Lipoproteins as regulators of metabolism, 1954–56, $19,800.

University of California School of Medicine at Los Angeles. N. B. Kurnick. Desoxyribonuclease, 1952–55, $17,280.

State University of New York Medical Center at Syracuse. John M. McKibbin. Essential tissue lipids, 1946–55, $56,406.

University of Chicago, Division of Biological Sciences. Henry T. Ricketts. Vascular disease and diabetes, 1952–54, $10,800.

Columbia University College of Physicians and Surgeons. Beatrice Carrier Seegal. Experimental vascular disease, 1952–56, $27,240.

University of Vermont College of Medicine. Durwood J. Smith. Vessels of arterial walls, 1953–55, $12,960.

Harvard School of Public Health. Fredrick J. Stare. Relation of sulfur metabolism of arteriosclerosis, 1954–56, $26,400.

Yale University School of Medicine. Levin L. Waters. Development of arteriosclerosis, 1949–55, $42,360.

Western Reserve University School of Medicine. Harland G. Wood. Propanediol phosphate in metabolism, 1952–56, $39,240.

University of Tennessee College of Medicine. Donald B. Zilversmit. Deposition and mobilization of arterial lipids, 1951–55, $18,984.

New York University College of Dentistry. Marjorie B. Zucker. Blood coagulation, 1950–53, $9570.

Washington University School of Medicine. Robert J. Glaser. Streptococcal infections and rheumatic fever, 1949–55, $44,925.

University of Utah College of Medicine. Vincent C. Kelley. Pituitary-adrenal system, 1952–55, $32,600.

Tulane University School of Medicine. Edwin D. Kilbourne. Viral myocarditis, 1954–56, $20,900.

New York University-Bellevue Medical Center. Colin M. MacLeod. Streptococcal products, 1946–56, $117,697.50.

Vanderbilt University School of Medicine. Robert W. Quinn. Response to streptococcal antigens, 1954–56, $8800.

Western Reserve University School of Medicine. A. B. Stavitsky. Antibody formation and hypersensitivity, 1954–56, $15,400.

Washington University School of Medicine. W. Barry Wood, Jr. Cellular physiology of inflammation, 1952–56, $58,840.

University of Minnesota Medical School. Ivan D. Baronofsky. Problems basic to heart surgery, 1953–55, $16,200.

Yale Unviersity School of Medicine. D. D. Bonnycastle. Plasma constituents which improve heart action, 1951–54, $10,500.

Stanford University School of Medicine. Emile Holman. Basic studies for cardiovascular surgery. 1949–55, $52,835.

State University of New York Medical Center at New York City. Clarence Dennis. Surgical repair of congenital anomalies, 1953–55, $21,600.

University of Chicago, Division of the Biological Sciences. E. M. K. Geiling. Metabolism and action of heart drugs, 1947–55, $64,134.

University of Minnesota Medical School. C. Walton Lillehei. Intracardiac surgery under direct vision, 1954–56, $9900.

Johns Hopkins University School of Medicine. E. K. Marshall, Jr. Cinchoninic acid derivatives, 1949–54, $36,390.

University of Vermont College of Medicine. R. J. McKay, Jr. Age differences in the heart, 1951–54, $2330.

Columbia University College of Physicians and Surgeons. Andre Cournand. Heart action-effects of treatment, 1954–56, $20,900.

University of Pennsylvania School of Medicine. Carl F. Schmidt. Drug effects on the heart, 1946–56, $101,350.

Johns Hopkins University School of Medicine. Samuel A. Talbot. Ballistocardiography, 1952–56, $33,780.

University of Puerto Rico School of Medicine. David B. Tyler. Effects of drugs on heart metabolism, 1953–55, $11,448.

University of Southern California School of Medicine. John Leyden Webb. Cellular actions of cardiovascular drugs, 1946–55, $95,745.

Fellowships, 1954–55

Irwin A. Almenoff, University of Minnesota Medical School. Histo- and cytochemical techniques.

Robert W. Chambers, University of British Columbia. Purification and structural determination of hypertension.

Morley Cohen, University of Minnesota Medical School. Methods of intracardiac surgery.

Sherold Fishman, University of Pennsylvania School of Medicine. Intermediary metabolism with reference to arteriosclerosis.

Eugene J. Gangarosa, University of Rochester School of Medicine and Dentistry. Streptococcal hypersensitivity.

Thomas O. Gentsch, Yale University School of Medicine. Effects of hypervolemic stress on arterial grafts.

Jack Peter Green, Danmarks Tekniske Hojskole, Copenhagen. The mechanism of action of dicumarol and vitamin K.

Warren R. Guild, Peter Bent Brigham Hospital, Boston. Combined heart and kidney disease.

Edward C. Heath, Purdue University. Glucose metabolism in Penicillium chrysogenum.

John B. Lyon, Emory University School of Medicine. The role of insulin and anti-insulin factors in metabolism.

William P. McCann, Johns Hopkins University School of Medicine. Drug and hormone effects on kidney enzyme systems.

Donald M. Pitcairn, Harvard Medical School. Cardiovascular adjustments in pregnancy.

Oscar W. Portman, Harvard School of Public Health. New preparation for evaluation of the cholesterol cycle.

Roy Ellot Ritts, Jr., Peter Bent Brigham Hospital, Boston. Tissue reactions in bacterial allergy.

Stanley N. Rokaw, Harvard Medical School. Experimental pulmonary disease and the pathogenesis of cor pulmonale.

David Schachter, Columbia University College of Physicians and Surgeons. Biochemical nature of renal tubular transport.

Herbert O. Sieker, Duke University School of Medicine. Retinal vessels in normal subjects and in patients.

Henry Stude, Jr., Yale University School of Medicine. Effects of cardiac glycosides on myocardial excitabliity.

Donald F. Tapley, Johns Hopkins University School of Medicine. Hormonal control of intermediary metabolism.

Leonard Warren, Massachusetts Institute of Technology. Synthesis of nucleic acids in animal tissues.

Henry O. Wheeler, Columbia University College of Physicians and Surgeons. Delay in the passage of blood through the splanchnic systems.

T. Franklin Williams, University of North Carolina School of Medicine. Mechanisms that suppress antidiuretic and antisaluretic stimuli.

Francis E. Yates, Harvard Medical School. Renal excretion of electrolytes and water in heart failure.

Norman L. Carden, University of Wisconsin Medical School. Pharmacology.

Benjamin G. Covino, Boston University School of Medicine. Physiology.

Barbara A. Drake, Stanford University. Study in biochemistry.

Franklin M. Harold, University of California School of Medicine. Physiology.

Harold O. Kammen, Stanford University. Biochemistry.

Cyril Max Kay, Harvard University. Physical chemistry.

Norman B. Marshall, Harvard School of Public Health. Nutrition.

Marilyn Wales McCaman, Washington University School of Medicine. Pharmacology.

Leonard M. Napolitano, Saint Louis University School of Medicine. Neuroanatomy.

Carl F. Rothe, Ohio State University Graduate School. Physiology.

Norman Strauss, University of California School of Medicine. Bacteriology.

Maria-Michaela Smits Thompson, Harvard Medical School. Biochemistry.

Samuel I. Yamada, University of Western Ontario Faculty of Medicine. Biophysics.

Instruments

A variable speed model of Eberbach's light duty **laboratory stirrer,** the "hollow spindle" Lab-Stir, is now available. A rheostat permits continuous stirring at speeds from 100 to 1550 rev/min under load. (Eberbach Corp., Bull. 440 X-54, Dept. Sc., Ann Arbor, Mich.)

Model 515 Alphatron **vacuum gage** indicates pressures from 0.001 to 10 mm-Hg. The pressure is read from a single four-decade logarithmic scale. The instrument utilizes a sealed radium source that emits alpha particles and produces ionized gas molecules which are collected on a plate to produce a current proportional to the pressure. (Naresco Equipment Corp., Dept. Sc., 160 Charlemont St., Newton Highlands 61, Mass.)

Fast, simple projection of true-color microscope specimens for group study is made possible by a new **microprojector.** The instrument has a prealigned optical system with four turret-mounted objective lenses. Correct spacing of the carbon electrodes in the arc illuminator is maintained automatically, and viewing time is 1 hr or more per set of carbons. Magnification range is 30 to 3000x at a projection distance of 12 ft. (Bausch and Lomb Optical Co., Catalog E-246, Dept. Sc., 635 St. Paul St., Rochester 2, N.Y.)

An **isotope analyzer** designed to perform rapid and accurate qualitative and quantitative analyses of isotope mixtures containing beta-emitting components has been announced by the Forro Co. The instrument utilizes a technique based on the absorption and scattering of beta rays in elements of high atomic number [*Zeitschrift für Physik* **138**, 441 (1954)]. The analyzer may be operated with any scaling unit having a high voltage power supply and input sensitivity of 0.25 v. Three models, sensitive to activities of 0.2×10^{-9}, 1.2×10^{-9}, and 4×10^{-9} c, are available. (Forro Scientific Co., Dept. Sc., 833 Lincoln St., Evanston, Ill.)

Chromatoplat is a stainless steel platform designed to replace the tripod assembly in 12-in.-diameter chromatographic chambers used for either ascending or descending chromatography. The platform is held in the chamber at any distance from the top by an expanding collar. Two solvent assemblies or simple troughs can be used concomitantly. (Nalge Co., Inc., Dept. Sc., 625 S. Goodman St., Rochester 2, N.Y.)

In the Laboratories

The **Atomic Industrial Forum, Inc.,** New York, has announced the formation of an industrial Nuclear Reactor Materials Committee. Companies cooperating in the organization of the committee are Allegheny Ludlum Steel Corp., Aluminum Co. of America, The Babcock and Wilcox Co., Climax Molybdenum Co., International Nickel Co., Lukens Steel Co., Nuclear Metals, Inc., Republic Steel Corp., Titanium Metals Corp., and Vanadium Corp. of America.

If a zoning change is made, **General Foods** will build a food research center on a 55-acre site in Tarrytown, N.Y. The company has outgrown its present laboratory facilities in Hoboken, N.J. The proposed center will consist of several two-story-and-penthouse buildings that will be air-conditioned and sound proof and that will furnish working space for approximately 600 employees.

The establishment of a new instrument division, as well as a change in the corporate name of the company, has just been announced by the **Nuclear Research and Development Co.,** 6425 Etzel Ave., St. Louis, Mo. The new company name is **Nuclear Consultants, Inc.,** reflecting the medical and industrial consulting service that is a major function of the organization.

The new division, to be known as the NRD Instrument Co., will produce and sell the products that the company previously manufactured only for use in its

consulting activities. In addition, a completely new line of scintillation counting instruments has been developed. The expansion was made necessary by the increasing use of radioisotopes in hospitals and clinics.

A new a-c network calculator has been built by the **Westinghouse Electric Corp.** and put into service at the East Pittsburgh, Pa., plant. The machine is designed to accommodate the largest interconnected systems and power pools in existence today. It has a total of 668 circuit components for representing generators, transformers, transmission lines, and loads. The newest feature is individual load regulation for the 36 generator units.

More than 100 educators, scientists, and petroleum industry leaders participated recently in formal opening ceremonies for the enlarged research laboratory of the **Carter Oil Co.,** Tulsa, Okla. The new building, containing 56 rooms, much new scientific equipment, and a 90-ft drilling research tower where actual drilling operations may be carried on as from a steel derrick, has increased Carter's research facilities by 50 percent. The staff of 220 technicians conducts research relating to oil exploration and production for Carter and other affiliates of the Standard Oil Co. (N.J.).

This year the Parke, Davis and Co. Journal, *Therapeutic Notes,* celebrates its 60th anniversary. The "parent" edition of this journal is sent to approximately 175,000 physicians and allied professional people. Five other editions are published—British, Australian, Spanish, French, and Portuguese—resulting in a circulation of 500,000 and a distribution that reaches every country outside the Iron Curtain.

Plans are under consideration for the construction of a $5,750,000 laboratory for research in nuclear-powered flight. It would be built within a 50-mi radius of East Hartford, Conn., and would be operated by the **Pratt and Whitney Division of the United Aircraft Corp.** under contracts with the Air Force and the Atomic Energy Commission.

Ground has been broken for the **New England Institute for Medical Research** in Ridgefield, Conn. This laboratory is a nonprofit institution supported by private grants and gifts. In addition to physicians in various medical specialties, there will be doctorate personnel in the physical sciences, including nuclear physics, physical chemistry, engineering, electronics, and so forth, as well as personnel in histology, bacteriology, immunology, biochemistry, and radoibiology.

The physical plant will occupy an area of approximately 25,000 ft². A grant has been made for the building of a linear electron accelerator as part of the program for investigation in neoplastic diseases. Clinical facilities will be added in order to make isotopes available to the physicians of the area for both diagnosis and therapy.

Miscellaneous

A 7-vol. *Patent Abstract Series,* has been announced by the Office of Technical Services of the U.S. Department of Commerce. Important details of more than 4300 Government-owned inventions are given in these extensive pamphlets along with instructions on how to get more information and how to apply for use of the inventions under nonexclusive, royalty-free licenses.

The abstract of each invention presents a clear and concise summary with special reference to unusual features. Construction details are provided for machines, devices, apparatus, and products. The identity of chemical compounds is disclosed. In the case of processes, procedure is described. Other information includes the patent number, the name of the inventor, and the name of the Government agency administering the patent.

The series was prepared by the Government Patents Board from its Index of Inventions. It is published jointly by the Department of Commerce and the Small Business Administration as an encouragement to American industry to take greater advantage of the technical information developed from research financed by the Government. Titles of the publications are as follows: *Instrumentation,* $2; *Chemical Products and Processes,* $3; *Food Products and Processes,* $1; *Metal Processes and Apparatus, Machinery, and Transportation Equipment,* $2; *Electrical and Electronic Apparatus,* $4; *Ordnance,* $2; *Ceramic, Paper, Rubber, Textile, Wood, and Other Products and Processes,* $1.

Price of the complete set is $12. Orders may be placed through the nearest U.S. Department of Commerce field office or may be sent directly to Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C. Make check or money order payable to OTS, Department of Commerce.

The Bureau of Land Management of the Department of the Interior has announced that *The 1955 Ephemeris,* the new edition of the astronomical almanac, may be obtained by sending 25 ct to the Superintendent of Documents, Government Printing Office, Washington 25, D.C. The book contains tables and charts of the positions of major planets and is used in making rectangular surveys of public lands and in mapping and navigation.

Honoring the memory of the late Albert F. Blakeslee, internationally known botanist, geneticist, and director of the Smith College Genetics Experiment Station, the college has announced establishment of the **Albert F. Blakeslee Memorial Fund** to be used to endow a science lectureship. A committee of Blakeslee's associates at Smith, Amherst College, Mt. Holyoke College, and the University of Massachusetts has been formed to raise money to bring distinguished scientists in various fields to Smith to deliver public lectures. Contributions may be sent to the Albert F. Blakeslee Memorial Fund, Smith College, Northampton, Mass.