NEWS and Notes

Roberts Rugh, associate professor of biology, New York University, has been granted a year's leave of absence to become associate professor of radiology at the College of Physicians and Surgeons, Columbia University, where he will work on a project on the biological effects of radiation. This work is under the direction of G. Failla and is supported by the AEC.

Henry C. Thomas, formerly associate professor of chemistry, Yale University, recently joined the staff of the Chemistry Department, Brookhaven National Laboratory.

Alfred Brauer, professor of zoology, University of Kentucky, is on a 6-month leave of absence at the Oak Ridge National Laboratory, where he plans to apply radiation techniques to problems of organization of insect eggs.

Raymond C. Truex, formerly associate professor of anatomy, College of Physicians and Surgeons, Columbia University, has assumed the duties of professor and head of the Division of Anatomy at Hahnemann Medical College and Hospital in Philadelphia, and **Eleanor Yeakle,** formerly research associate in the Department of Pathology, Columbia University, has been appointed assistant professor of anatomy at Hahnemann.

George Matsuyama, who received his Ph.D. at Minnesota working with I. M. Kolthoff, has joined the chemistry staff at Wesleyan University with the rank of assistant professor. His research interests are in the field of polarography.

William W. Greulich, professor of anatomy at Stanford University, and Mrs. Greulich left September 15 by air for Japan to continue a study of the effect of atomic radiation on the growth and development of youthful victims of Hiroshima and Nagasaki atom bombs. The research project, started last year, is being conducted through a grant received by the NRC from the Atomic Energy Commission and is under the direction of the Council's Committee on Atomic Casualties. On this trip facilities of a new hospital-laboratory at Hiroshima will be available. The Greulichs are expected to return to Stanford in December.

Robert A. Cooley has recently resigned as supervisor of the Liquid Propellants Section of the Naval Ordnance Test Station, Inyokern, California, to accept a position as associate professor of physical chemistry at the University of Missouri School of Mines, Rolla.

Robert W. Boyle, director of the Division of Physics, National Research Council of Canada, will retire on October 2. From 1912 to 1929 he was professor and dean of applied sciences at the University of Alberta. In the latter year he organized the NRC division of which he has since been director. Dr. Boyle is well known for his work on ultrasonics.

John H. Lilly, formerly associate professor of zoology at the University of Wisconsin, has been named professor of zoology and entomology at Iowa State College, Ames.

Joseph W. Sausville, who has been associated with the Nepa Division, Fairchild Engine and Airplane Corporation, Oak Ridge, Tennessee, and **Howard E. Everson,** formerly of Western Reserve University, have been appointed assistant professors of chemistry at the University of Cincinnati.

John F. Cornman, assistant professor of ornamental horticulture at Cornell University, has been named first director of the Cornell Plantations, a unique combination of botanical gardens and arboreta which has been under development since the opening of Cornell in 1868. The 1,000-acre tract, in addition to garden and arboretum areas, includes a herbarium in the College of Agriculture, extensive laboratory and library facilities, and the collection of palms and cultivated plants in the Bailey Hortorium.

Alexander N. Winchell has accepted an appointment as visiting professor in the School of Geology of the University of Virginia for the present school year. He will continue to do some consulting work. His address until next June will be University Station, Charlottesville, Virginia.

Clinton N. Woolsey, associate professor of physiology and neurophysiology at the Johns Hopkins School of Medicine, has been appointed to the recently created Slichter research professorship of physiology at the Wisconsin Medical School. He will continue his studies in the field of neurophysiology, to which his scientific contributions have already been extensive. Dr. Woolsey becomes the first appointee to this Chair, established by the Wisconsin Alumni Research Foundation as the Charles Sumner Slichter professorship in the natural sciences in memory of the late Prof. Slichter.

E. W. Brandes has relinquished his responsibilities as head of the Division of Rubber Plant Investigations at the Plant Industry Station (USDA), Beltsville, Maryland, to give full time to the Division of Sugar Plant Investigations at the same Station. Dr. Brandes, long head of sugar research in the Bureau, since 1940 has served as head of both Divisions. **Robert D. Rands,** principal pathologist in charge of the cooperative Latin-American rubber development project, has succeeded Dr. Brandes as head of the Rubber Division, which since 1947 has continued research phases of the wartime domestic rubber-production projects in the Southwest.

L. R. Hafstad, director of the Institute for Cooperative Research of The Johns Hopkins University, will continue this year as executive secretary of the Research and Development Board, on leave from the University. **Arthur E. Ruark** is assistant director of the Institute, with offices in Baltimore, and also a member of the Technical Staff of the director's office, Applied Physics Laboratory, Silver Spring, Maryland.

Visitors to U. S.

Douglas A. Hartree, professor of mathematical physics at Cambridge University, will discuss calculating instruments and machines and their applications in a lecture series to be held at the University of Illinois September 27–October 1. Dr. Hartree's visit is being sponsored by the University Graduate College and a special computer committee of the University Research Board.

Carl Robinow, formerly on the staff of St. Bartholomew's Hospital in London and authority on the structure of bacteria, who came to the United States last December as a visiting professor at Indiana University, will be Walker-Ames professor of microbiology at the University of Washington during the fall quarter. In addition to his teaching duties at the University Dr. Robinow will continue his research work and also present several public lectures.

Grants and Awards

Hornell Hart, Duke University sociology professor, has been named winner of the Edward L. Bernays Atomic Energy Award. The Award, a $1,000 government bond, was presented to Dr. Hart during the recent convention of the American Psychological Association in Boston. Dr. Hart's essay, "Social Science and the Atomic Crisis," submitted in a nationwide contest among leading social scientists sponsored by the Society for the Psychological Study of Social Issues, was judged the best action-related research in the social implications of atomic energy.

Nominations are being solicited for three $1,000 awards to be presented by the American Institute of Nutrition at its annual meeting next spring. One of these, the award established by Mead Johnson and Company to promote researches dealing with the B-complex vitamins, will be given to the laboratory (nonclinical) or clinical research worker in the United States or Canada who, in the opinion of the judges, has published during the previous calendar year the most meritorious scientific report dealing with this field. It may, however, be recommended that the award be made to a worker for valuable contributions over an extended period of time. The award of $1,000 and a gold medal made available by the Borden Company Foundation, Inc., will be in recognition of distinctive research by U. S. or Canadian investigators which has emphasized the nutritive significance of the components of milk or of dairy products. Although made primarily for publication of specific papers, this award may also be given for important contributions over an extended period of time and may be divided between two or more investigators. The Osborne and Mendel award, established by the Nutrition Foundation, Inc., for recognition of outstanding accomplishments in the general field of exploratory research in the science of nutrition, will be made to the investigator who, in the opinion of the judges, has made the most significant published contribution in the year preceding the Institute's annual meeting or who has published a series of contemporary papers of outstanding significance. This is open also to investigators in other countries, especially those sojourning in the United States or Canada for a period of time.

Nominations for these awards, accompanied by data relative to the accomplishments of the nominee, should be sent to the chairman of the Nominating Committee in each case before January 15, 1949. These chairmen are: B-complex award, Harold H. Williams, Cornell University, Ithaca, New York; Borden award, James M. Orten, Wayne University College of Medicine, Detroit 26, Michigan; Osborne and Mendel award, D. W. Woolley, Rockefeller Institute for Medical Research, New York City.

Colleges and Universities

The Stone Laboratory of Ohio State University, according to its director, Thomas H. Langlois, is continuing its probe, begun in 1938, of the prehistoric past of Lake Erie. The project, financed by the U. S. Geological Survey through the Great Lakes Research Institute, has its base of operations at the University laboratory located on Gibraltar Island. Here, the research group working under Ira T. Wilson, professor of biology at Heidelberg College, is attempting to determine how long the Lake Erie area was covered by glacier formations. Examinations are made of samples or "cores" of the sediment at various levels on the lake bottom. Exploration of the lake bottom to a depth 70 feet below its surface has now been made. Recent tests have shown that the upper 5 or 6 feet of bottom was composed of soft materials such as would be deposited by water of the present lake temperature. Below that depth, however, the cores brought to the surface were of a "varved" structure or series of layers of harder materials, indicating deposits in much colder water, such as that of a melting glacier.

Stanford University physicists, working under William W. Hansen, director of the Microwave Laboratory and co-inventor of the Klystron, are undertaking the production of an electron linear accelerator. The instrument, a gigantic atom smasher, is capable of hurling particles with 1,000,000,000 electron volts of energy. The project, sponsored by the Office of Naval Research, will extend over a three-year period.

Dr. Hansen predicts that the 160-foot accelerator will develop at least three times as much energy as the massive cyclotron at UCLA. The 400,000,000-electron volt output of this cyclotron is the greatest amount of energy that man has so far imparted to an atomic particle. A 12-foot "pilot model" of the accelerator, constructed by Dr. Hansen over a year ago, has already produced electrons of

6,000,000 electron volts. Through use of the new accelerator, Dr. Hansen hopes that experiments upon the fundamental nature of matter, creation of cosmic rays, protons, and neutrons may be made.

Reed College, Portland, Oregon, has announced 5 new staff appointments as follows: William L. Parker, Brooklyn Polytechnic Institute, as professor of physics; Kenneth E. Davis, University of Rochester, and Leo Seren, University of Idaho, as assistant professors of physics; Arthur H. Livermore, Cornell University Medical College, as assistant professor of chemistry; and George A. Livingston, UCLA, as botany instructor in the Biology Department.

Dr. Parker succeeds A. A. Knowlton, retiring head of the Reed Physics Department, who will serve as interim head of the Bennington College Physics Department. Raymond T. Ellickson, former associate professor of physics at Reed, has accepted the position of professor of physics and associate dean of the Graduate School, University of Oregon.

The Woman's Medical College of Pennsylvania recently established a Department of Oncology under a grant from the National Advisory Cancer Council. Isabella H. Perry will serve as director, with Mildred Pfeiffer acting as assistant director. The new program will include weekly general tumor conferences where a tumor board, representing the various departments and specialties, will confer on the problems presented by the cases referred to the conference; a tumor diagnostic clinic; and a monthly cancer research seminar.

The Division of Cancer Control, Department of Health, Commonwealth of Pennsylvania, has granted three fellowships in oncology to Cornealia Motley, Mary B. Dratman, and Janet Hampton. Sophie Brenner is also working in the Department under a state grant.

Industrial Laboratories

The General Electric Research Laboratory has completed a new 50,000,000-volt betatron for production of high-energy X-rays. The betatron will be employed in a study of high-energy radiation on living organisms, conducted by the Biology Department of Union College with the support of the AEC. The penetrating, effective rays of this machine are superior to those of lower-voltage betatrons, and it is hoped that qualified medical scientists will discover their value in cancer treatment. The compact new betatron, when mounted on trunnions, permits direction of the beam toward the patient at any desired angle. A second 50,000,000-volt machine is now under construction for the National Bureau of Standards.

The first American betatron was made by Donald W. Kerst, University of Illinois physicist. On leave from the University, Dr. Kerst aided G-E scientists in building the 20,000,000-volt equipment subsequently loaned to the University. Later, Ernest E. Charlton, head of the X-ray Section of the Laboratory, and his associate, W. F. Westendorp, constructed the 100,000,000-volt device, duplicates of which will aid in atomic studies at the Clinton National Laboratory and the University of Chicago.

Dr. Charlton credits Dr. Westendorp with the "biasing" technique resulting in the compactness of the new betatron. Basically, the betatron consists of a large electromagnet, at whose core, between circular pole faces, is a doughnut-shaped vacuum tube. Electrons, emitted from a hot filament within the tube, are circulated and constantly accelerated while the magnetic field increases. As the field reaches its maximum, the orbit of the whirling electrons is shifted, and they hit a tungsten target. This, in turn, generates a beam of high-voltage X-rays occurring 60 times per second. Dr. Westendorp's method involves special "bucking" coils carrying alternate and direct current. The effect of the biasing direct current is to shift the zero line of the cycle so that the electrons may be introduced earlier. They can then be accelerated over approximately a third of the entire cycle rather than a quarter. With more trips around the doughnut, the electrons acquire greater energy.

Lewis Warrington Chubb, director emeritus of the Westinghouse Research Laboratories, recently retired after a 43-year association with the Laboratories. The veteran scientist joined Westinghouse in 1905, helped found the Research Laboratories in 1916, and in 1920 was named head of all radio engineering activities. Dr. Chubb served as director of the Laboratories from 1930 until assuming his honorary emeritus post last March.

Recipient of nearly every major engineering and scientific honor, Dr. Chubb holds over 150 patents covering inventions in radio, electronics, jet propulsion, telephony, electrical equipment, radar, etc. In 1947 he was awarded the John Fritz Medal, one of the Nation's highest tributes to scientists and engineers.

Meetings and Elections

The U. S. National Commission on UNESCO meets at Boston on September 27–29. Both general and sectional meetings are scheduled. Chairman of the two section meetings on "Natural Sciences," which will feature a general discussion of UNESCO's program in the natural sciences to date and of the proposed program for 1949, will be Harlow Shapley, representative of the AAAS on the U. S. National Commission. The panels on Conservation of Natural Resources and on the Popularization of Science will present reports. Section meetings will also consider the following topics: The Engineering Sciences in UNESCO, Exchanges and UNESCO, and Science and the Maintenance of Peace.

In preparation for the Boston meeting the NRC Committee on UNESCO, of which Bart J. Bok, of Harvard University, is chairman, has issued a report entitled "The Natural Sciences in UNESCO" (September 1, 1948). This report, copies of which may be obtained upon request from the Committee, 2101 Constitution Avenue, Washington 25, D. C., summarizes the activities of the Natural Sciences Division of UNESCO and brings before the National Commission certain recommendations by the NRC Committee with regard to the natural sciences program of UNESCO.

Columbia-Presbyterian Medical Center recently sent 5 specialists abroad, in keeping with its policy of promoting the exchange of knowledge

and experience with medical men in foreign countries. Howard C. Taylor, Jr., director of obstetrics and gynecology of the Presbyterian Hospital and professor of obstetrics and gynecology on Columbia's Faculty of Medicine, has been visiting various German cities for clinical work. Edmund P. Fowler, Jr., director of the Otolaryngology Service of Presbyterian Hospital and Columbia professor of otolaryngology, flew to Oslo, Norway, and Stockholm, Sweden. Jerome P. Webster, attending surgeon at Presbyterian Hospital and professor of clinical surgery of Columbia's Faculty of Medicine, is in Shanghai, China, to conduct an 8-week course in plastic surgery, thereby inaugurating a program to develop the teaching of plastic surgery in China; Dr. Webster will also lecture in Peking, Canton, and Nanking. Michael Heidelberger, chemist of the Presbyterian Hospital and professor of biochemistry at Columbia, planned to attend the 8th Congress of Biological Chemistry in Paris, and also to lecture on biochemistry and allied subjects in various French and Swiss cities. Henry T. Randall, assistant resident in surgery at Presbyterian Hospital, has been visiting cancer research centers in London, Edinburgh, Stockholm, Paris, and elsewhere to report on the latest trends in cancer research and treatment in those centers.

The 41st annual New England Intercollegiate Field Geologists Excursion is scheduled for October 9–10 at Burlington, Vermont. Charles G. Doll, professor of geology at the University of Vermont, will be host leader. Prof. Doll will be assisted on the hard rock, glacial, and economic geology trips by Marland P. Billings, Donald Chapman, Al Chidester, and others. Those planning to attend should make reservations at Hotel Vermont or Hotel Van Ness, Burlington.

The meeting of the International Cancer Research Commission, which was to have been held in Paris October 17–22, has been postponed until next year.

The 6th Annual Pittsburgh Conference on X-Ray and Electron Diffraction will be held November 19–20 at Carnegie Institute of Technology, Pittsburgh, Pennsylvania. This year's conference is being sponsored by the local members of the American Society for X-Ray and Electron Diffraction (ASXRED), Carnegie Institute of Technology, the University of Pittsburgh, and the Mellon Institute of Industrial Research.

Technical papers will be presented in four sessions on Friday and Saturday. The principal address of the Conference will be delivered Friday evening by Sir Lawrence Bragg, director, Cavendish Laboratory, Cambridge, England. Roman Smoluchowski, of the Metals Research Laboratory, Carnegie Institute, is serving as general chairman of the Conference, while Harold P. Klug, of the Mellon Institute, is acting as chairman of the Program Committee.

Those wishing to attend should send the necessary advance registration notice to: C. W. Cline, Aluminum Research Laboratories, Box 772, New Kensington, Pennsylvania.

The 30th summer meeting of the Mathematical Association of America was held at the University of Wisconsin, Madison, September 6–7, in conjunction with the summer meeting and colloquium of the American Mathematical Society and meetings of the Institute of Mathematical Statistics, the Econometric Society, and Section A of the AAAS. About 717 persons were in attendance, including 322 members of the Association. The list of speakers was given in the July 30 issue of *Science* (p. 104). R. L. Moore, of the University of Texas, gave his retiring address as vice-president of the AAAS and chairman of Section A on the subject "Spirals."

Plans were laid for the annual meeting of the Association to be held on December 31 at Ohio State University, for a meeting next June at Rensselaer Polytechnic Institute in conjunction with the meeting of the American Society of Engineering Education, and for the 31st summer meeting to be held in September 1949 at the University of Colorado.

The annual meeting of the Mt. Desert Island Biological Laboratory was held in its Bowen Hall, August 12, at Salsbury Cove, Maine. The officers elected for 1949 are: Dwight E. Minnich, president; Wm. H. Cole, vice-president; Roy P. Forster, secretary; John Whitcomb, treasurer; J. Wendell Burger, director; Mrs. H. V. Neal, clerk. Homer W. Smith and Philip R. White were elected to the Executive Committee, and Mary Gardiner and Edward Smith were chosen as new Trustees.

According to Dr. Burger, 29 biologists and assistants actively conducted research at the Laboratory during the current season, particular emphasis being placed on renal physiology and on tissue culture, the latter under the supervision of Philip White. Modernization of the Laboratory during the last few years was reported upon at the meeting. A grant from the American Philosophical Society has permitted the purchase of basic apparatus for work in physiology, while another grant from the same Society forms the Ulric Dahlgren Memorial Fund, the annual income from which will be used for fellowships at the Laboratory. Several of the Laboratory's 14 buildings have been given official names, thereby honoring distinguished zoologists and friends. These include: Bowen Hall, Byrnes Cottage, Dahlgren Hall, Halsey Laboratory, and Neal Laboratory.

The Chicago Chapter of the American Institute of Chemists has elected the following officers for the coming year: Johan A. Bjorksten, chairman; Herman S. Bloch, vice-chairman; Mary Alexander, Universal Oil Products Company, secretary-treasurer; Charles L. Thomas, national councilor; and Bruce M. Bare, Archie B. Cramer, Gustav Egloff, and Clifford A. Hampel, Chapter councilors.

Scientists in many fields will be interested to learn that the *Review of petroleum geology in 1947* is now available for distribution as Vol. 43, No. 3, of the *Quarterly* of the Colorado School of Mines. According to H. M. Crain, director of publications at the School, this is the sixth such annual review published in the *Quarterly* in cooperation with the American Association of Petroleum Geologists. The review has been prepared by F. M. Van Tuyl, W. S. Levings, and L. W. LeRoy, who have had the cooperation of J. H. Johnson, R. C. Holmer, and H. E. Stommel, of the faculty of

the Colorado School of Mines, as well as other leaders in the fields of geology, geophysics, and petroleum engineering both here and abroad. Covered are important events of the year; advances in petroleum geology and allied subjects, including developments in the training of geologists and geophysicists and new maps and publications of general interest; aerial photographs; world exploration and development; production and reserves; trends in petroleum geology and geophysics; and the future of the petroleum industry. Of the 334 pages, 128 are devoted to a bibliography of some 3,500 listings.

The review may be obtained from the Department of Publications, Colorado School of Mines, Golden, at $3.00 a copy postpaid.

The National Registry of Rare Chemicals, 35 West 33rd Street, Chicago 16, Illinois, is presently interested in obtaining the following "wanted" chemicals: titanium tetrafluoride, glyoxal sulfate, pyocyanin, phenol sulfatase, 4,7-diaminodiphenylene oxide, titanium dichloride, dichlorophosphorylfluoride, 4-chloromethylimidazole, L-tartaric acid, hypoxanthine deoxyribose phosphoric acid, cytosine desoxyriboside, thymine desoxyribose phosphoric acid, diglycylglycine, magnesium ferrite, hypaphorine, tert.-butyl thionitrite, borneol glucuronide, alloxazine adenine dinucleotide, isocoumarin, and 9,10-diphenylenephenanthrene.

Annual Reviews, Inc., nonprofit organization with headquarters at Stanford University, recently announced two additional forthcoming volumes for 1950. In addition to the *Annual Review of Psychology* and the *Annual Review of Physical Chemistry,* (see *Science,* July 30, p. 106), plans are under way for publishing an *Annual Review of Medicine* and an *Annual Review of Plant Physiology.* The editorial board of the new *Annual Review of Medicine* will consist of Windsor Cooper Cutting, of Stanford University, editor; Henry Wise Newman, Stanford, associate editor; and an editorial committee with the following membership: Alfred Blalock, of Johns Hopkins Hospital; J. S. L. Browne, of the Royal Victoria Hospital, Montreal; Allan M. Butler, of Harvard Medical School; Eaton M. MacKay, of the Scripps Metabolic Clinic; and Sidney C. Madden, of Emory University.

For the *Annual Review of Plant Physiology* the editorial board will consist of Daniel I. Arnon, of the University of California, editor, and an editorial committee consisting of David R. Goddard, of the University of Pennsylvania; Paul J. Kramer, of Duke University; A. E. Murneek, of the University of Missouri; Marion W. Parker, of the Bureau of Plant Industry, USDA; and Kenneth V. Thimann, of Harvard University.

Nine new White Dwarf stars have recently been discovered by Willem J. Luyten, chairman of the Department of Astronomy, University of Minnesota, and David MacLeish, of the Cordoba Observatory in Argentina. These stars are so dense that, if a cubic inch of them were brought down to earth, the matter would weigh anywhere from 1 to 1,000 tons. Of the 100 White Dwarfs now known, 61 have been found through the work done on the motions of stars at the University of Minnesota, with the active participation of the Steward Observatory, University of Arizona, and of the Cordoba Observatory. The first White Dwarf was discovered by the law of gravitation before it was actually seen with a telescope in 1862.

These stars, although dwarfs in every respect from size to amount of light shed, are very hot on their surfaces. They shine with a light much whiter than that of the sun and often become even blue in color. Their discovery and significance not only caused a minor revolution in astronomical and physical thinking, but forged another and very important link in the chain of events leading to the atomic bomb, according to Dr. Luyten.

The Smithsonian Institution, Washington, D. C., under its curator of physical anthropology, T. D. Stewart, is building up a collection of minutely accurate casts of skulls and other fossil bones of primitive man and his apelike precursors. Through this collection, it is hoped to build a complete record, accessible in one location, of the development of the entire human race. This will obviate the necessity for traveling to the many, scattered locations where these humanoid relics are now located. Should the original relics chance to be damaged or destroyed, casts can readily be made from the Smithsonian collection. A notable example of this, Dr. Stewart pointed out, was the recent disappearance of the skulls of China man, second oldest generally recognized member of the human race of which remains have been found. These skulls, located in Peiping early in the war, were apparently lost at sea while being transported to a place of supposed safety. As the Smithsonian has accurate casts of the China man skulls, a record of this particular stage in man's development has not perished.

Make Plans for—

American Institute of Electrical Engineers, October 5–7, Washington, D. C.

American Society of Photogrammetry, semiannual meeting, October 7–8, Franklin Institute, Philadelphia, Pennsylvania.

1948 National Industrial Chemical Conference and **National Chemical Exposition,** October 12–16, Chicago Coliseum, Chicago.

Electrochemical Society, fall meeting, October 13–16, Pennsylvania Hotel, New York City.

Industrial Minerals Division, American Institute of Mining and Metallurgical Engineers, October 14–16, Sheraton-Coronado Hotel, St. Louis, Missouri; October 15, Elks Club, Los Angeles, California.

5th Annual Seminar for the Study and Practice of Dental Medicine, October 17–21, Desert Inn, Palm Springs, California.

National Academy of Sciences, autumn meeting, November 15–17, University of California, Berkeley; special visits to Stanford University, November 18, and to Los Angeles area, November 19–21.