

fers upon you the degree of doctor of science and admits you to all its rights and privileges.

Arthur Holly Compton, Sc.D.

Professor Phelps: Professor of physics at the University of Chicago. Born in Ohio, a graduate of Wooster College, taking his doctor's degree in physics at Princeton, Dr. Compton has been professor of physics at Chicago since 1923. In 1927 he was awarded the Rumford gold medal by the American Academy of Arts and Sciences. In the same year he received the Nobel prize in physics. He has positive genius as an experimenter. Everything he undertakes has been so carefully planned that significant results have followed, sooner than any one has a right to expect. He has made a brilliant contribution to the theory of light. From work on the scattering of X-rays by electrons he has obtained a striking confirmation of the idea that light has a corpuscular nature as well as a wave form. More recently his work on the diffraction of X-rays by gratings has led to new values of the electronic charge and of Planck's constant, which may ultimately lead to important theoretical developments.

President Angell: In recognition of your notable discoveries in the field of fundamental physical science, whose revolutionary implications are still but partially fathomed—discoveries achieved at an age when many men are just completing an apprentice training—and in the confident belief that your future career will be increasingly brilliant and fruitful, Yale University confers upon you the degree of doctor of science and admits you to all its rights and privileges.

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Professor Phelps: The grand old man of surgery. Born in the prehistoric year of 1836, he took the degree

of doctor of medicine at P. and S. in 1861. After five years in Germany he enjoyed a wide practice as an oculist, and later became an adept in major surgery where his language was as keen as his instruments. For forty-four years he was a member of the American Surgical Association, and at one time its president. As a professor in the Yale Medical School in the dark hours before the dawn, he visualized the proper development of the school of medicine and labored in the face of many obstacles for the correlation of Yale University and New Haven Hospital, and, "when the thing that couldn't had occurred," he saw the travail of his soul and was satisfied. He was a curious combination of the most advanced methods in science with the most conservative methods of transportation. A visitor to our city remarked that New Haven was a one-horse town. It was a one-horse town, and Dr. Carmalt had the horse. He was beloved by his patients, respected by his colleagues and esteemed by his fellow citizens, both for his skill and for his downright sincerity.

President Angell: Endowed with remarkable mental and physical vigor, he has built his life, now approaching its centenary, into the very fabric of the community he has so faithfully served. He has lived to see the Yale School of Medicine and the New Haven Hospital, to both of which, amid difficult and discouraging conditions, he has given so many years of his life, develop into powerful institutions of the very first class. His unflagging devotion to the promotion of sound and progressive methods in medicine and surgery has justly brought him wide recognition and respect. Yale University regards it an honor to confer upon him, as a wise and intrepid leader in the community and in the nation, the degree of doctor of laws and to admit him to all its rights and privileges.

SCIENTIFIC NOTES AND NEWS

THE William H. Welch Medical Library and the department of the history of medicine of the Johns Hopkins University will be dedicated on October 17 and 18. The dedication of the medical library will be made by President Joseph S. Ames, with an address by Professor Harvey Cushing, of Harvard University. The department of the history of medicine will be inaugurated by Professor Welch, and an address will be given by Professor Karl Sudhoff, of the University of Leipzig. In connection with the dedication there will be conferences on medical libraries and on the history of medicine.

THE honorary degree of doctor of laws has been conferred by Glasgow University upon Madame Curie.

THE University of Durham has conferred the honorary doctorate of science on Sir Frank Dyson, astronomer royal.

A PROFESSIONAL degree in civil engineering was conferred by Iowa State College upon Professor H.

S. Carter, head of the civil engineering department of South Dakota State College.

THE British Institution of Mining Engineers has conferred on George S. Rice, chief mining engineer of the U. S. Bureau of Mines at Washington since its formation in 1910, the institution's medal "in recognition of his eminence in all matters relating to the safe working of coal mines."

DR. H. B. Herrick, formerly chief surgeon under General Gorgas in the Panama Canal Hospital and now carrying on a private practice in Panama City, has been decorated with the "Medal to Merit" by the government of Ecuador through its legation. The distinction, which is the highest awarded by Ecuador, was given to Dr. Herrick in recognition of his surgical skill.

THE proceeds of the Daniel-Pidgeon Fund for the year 1929 have been awarded by the council of the Geological Society of London to Mr. J. Selwyn Turner, who proposes to investigate the faunal suc-

cession in the Coomhola Grits and Carboniferous Slate of County Cork.

DR. H. JUDSON OSTERHOF, who has been with the department of engineering research of the University of Michigan, has accepted a position as research physical chemist with The Goodyear Tire and Rubber Company, at Akron, Ohio.

DR. JAMES C. SMALL, director of laboratories, Philadelphia General Hospital, has resigned, effective on September 1. Dr. Small will continue his research in rheumatic diseases and will also engage in private practice of medicine.

DR. M. E. HURST, of Brown University, formerly instructor in mineralogy and petrography in the department of geology, has accepted a position with the Ontario Bureau of Mines.

DR. MAX S. RABINOWITZ, house surgeon in orthopedics at the Hospital for Joint Diseases, New York City, has received that institution's third annual scholarship of \$2,400 for specialized study. The scholarship was founded by the late Dr. Henry W. Frauenthal and provides for a year's study, equally divided between Europe and the United States. The recipient is expected to write a thesis on some special phase of his year's work.

THE Lamme Memorial Scholarship, providing for a year of research work, has been awarded to L. R. Ludwig, of Wilkesburg, Pennsylvania, by the Westinghouse Electric and Manufacturing Company. The award will be made annually in honor of the late Benjamin Garver Lamme, chief engineer of the Westinghouse company. Mr. Ludwig will study in the Technische Hochschule, at Charlottenburg, Germany.

E. B. SANIGAR, junior investigator in electro-metalurgy in the University of Sheffield, has been awarded by the American Electro-Chemical Society the Edward Weston fellowship in electro-chemistry. He has elected to hold it at Columbia University. He has been engaged on research work in silver plating.

THE Medical Research Council of Great Britain announce that on behalf of the Rockefeller Foundation they have made the following awards of traveling fellowships for the academic year 1929-30: Olive Burton Buckley, King's College Hospital, London; Dr. George Aleck Crocker Gough, National Institute for Medical Research, London; Dr. William Robert Henderson, Royal Infirmary, Edinburgh; Dr. Donald Hunter, assistant physician, London Hospital; George Eric Lewis, London Hospital; Moses Myer Suzman, College of Medicine, Newcastle-upon-Tyne, and Janet Maria Vaughan, University College Hospital, London. Dr. Gough's fellowship is tenable at the University of

Munich, the others at centers in the United States. Dr. Lewis has been appointed on modified conditions while receiving emoluments from another source.

DR. VERNON L. KELLOGG, secretary of the National Research Council, has been appointed a member of the committee to advise the director of national parks on matters of educational policy and development.

APPOINTMENT of a communications committee to study proposed legislation involving wire and wireless control is announced by the American Engineering Council. The chairman is Edwin F. Wendt, of Washington, D. C. Other members are: O. H. Caldwell, New York, federal radio commissioner; Dean Dexter S. Kimball, Cornell University; Frank A. Scott, Cleveland, and Charles B. Hawley, Washington, D. C.

THE jury appointed by the International Committee of the Red Cross to make the award in the international competition for the discovery of a detective reagent for yperite is made up as follows: F. Haber, Sir William J. Pope, F. Swarts and G. Urbain. The jury will meet in April, 1931, at Paris to examine the proposals, conduct tests on those which seem likely to meet the conditions and will then make the award to one or more of the competitors.

Professor V. C. Finch, of the department of geography at the University of Wisconsin, is making studies in the Peace River region in Canada. His purpose is to observe how the settlers, 500 miles north of the United States boundary, are adapting themselves to the conditions of their environment, their mode of housing, the site of their farmsteads and similar problems.

PROFESSOR P. S. KUPALOV, staff member of the laboratory of Dr. Ivan P. Pavlov at the Institute of Experimental Medicine in Leningrad, has been during the summer engaged with Howard S. Liddell, assistant professor of physiology at Cornell University, in research on the problems of conditioned reflexes. Professor Kupalov is working under a grant by the Heckscher Foundation.

R. D. CANAN, assistant professor of dairy husbandry at Purdue University, has resigned, effective on September 1, to assume charge of the educational work in production of the National Dairy Products Corporation, of New York City.

PROFESSOR C. W. BROWN, head of the department of geology at Brown University, is on leave for the first semester. He will visit Hawaii and Japan, attending the International Power Conference in the latter country. During his absence Dr. Bradford Willard will be acting head of the department. Dr. Willard has now returned from his summer's work

with the Pennsylvania Topographic and Geological Survey, during which time he was engaged in a detailed study of the Silurian rocks of Pennsylvania.

PROFESSOR R. H. WHITBECK, of the department of geography of the University of Wisconsin, leaves in October to make a geographical study of the region about the Caribbean Sea.

DR. E. E. CLAYTON, in charge of plant disease investigation on Long Island for the New York Agricultural Experiment Station, sails on September 7 for seven months in Europe. He will make a study of cruciferous crop diseases in Denmark and Holland and conduct special research work under Dr. V. H. Blackman, of the University of London.

DR. CARL E. LADD, director of extension in the State College of Agriculture at Cornell University, sailed on August 16 for England where he will attend the first International Conference on Agricultural Economics at Dartington Hall, Devon.

E. M. LOEB, lecturer in anthropology at the University of California, has returned from a year spent in Europe as a Guggenheim fellow. He has been making a study of Sumatra and adjacent islands.

ASSISTANT PROFESSOR PERRY BYERLY, University of California seismologist, has returned from England, where he spent the better part of a year studying the dispersion of surface earthquake waves with Dr. Harold Jeffreys, of Cambridge University. In addition to his study at Cambridge, Professor Byerly visited a number of seismological stations in continental countries and in England.

F. C. ELFORD, first vice-president of the World Poultry Congress of 1930, accompanied by Mr. P. A. Francis, poultry commissioner of the Minister of Agriculture and director of the congress, Mr. W. A. Schleit, representing the congress committee of the United States, and Mr. W. W. Baird, of the Nappan Experimental Station, Nova Scotia, left London last week on a six-weeks' continental tour in the interests of the congress. The tour is of an official character and is undertaken in order to obtain as much support as possible from countries which have evinced interest in the congress. The itinerary includes Paris, Lisbon, Madrid, Barcelona, Genoa, Rome, Milan, Berne, Zurich, Munich, Prague, Vienna and Budapest; and it is possible that it may be extended to include the Balkans, Palestine and Egypt.

THE U. S. Civil Service Commission states that the date of the close of receipt of formal applications for the position of assistant technical director (chief chemist), Chemical Warfare Service, Edgewood Arsenal, Maryland, has been extended to October 2.

MR. KEMP, the Union Minister for Agriculture, opened the Pan-African Agricultural and Veterinary Conference in Pretoria on August 1.

PLANS are being completed for the Ninth Congress of Industrial Chemistry, to be held at Barcelona, Spain, October 13 to 19, 1929. The honorary executive and general committees have been appointed, and the King of Spain has consented to accept the honorary presidency of the congress. Six groups, comprising seventeen sections, will hold meetings on October 14, 15, 16 and 17. October 18 and 19 will be devoted to excursions and industrial visits. Detailed information may be obtained from the Society of Chemical Industry, 49, Rue des Mathurins, Paris (8), France.

THE fourth International Congress of Archeology will be held in Barcelona from September 23 to 29.

Industrial and Engineering Chemistry reports that the executive committee of the German Society of Rubber Chemists and Engineers has extended to the members of the rubber division of the American Chemical Society an invitation to attend its next meeting, which will be held in Frankfurt-am-Main on June 8 and 9, 1930, in connection with the annual meeting of Verein Deutscher Chemiker. By vote of the executive committee of the rubber division this invitation has been accepted.

ORGANIZATION of the Pan-American Institute of Geography and History will be effected at a conference planned to be held at Mexico City. Historic and geographic organizations of nearly all the republics of the Western Hemisphere will send delegates to the conference, including the American Geographical Society of New York, the Geographic Institute of Rio de Janeiro and the Mexican Society of Geography and Statistics. Dinners will be given by President Portes Gil and other government officials. Visits will be made to near-by sites of archeologic and historic interest. Clarification of boundary problems between American republics will be one object of the new organization. Sessions will be conducted in Spanish, English, French and Portuguese.

THE British Medical Research Council announces that it is about to begin publication of a "System of Bacteriology in Relation to Medicine," which will be issued in nine volumes, each of some 400 pages.

THE Pacific Science Congress at Java recommended the exchange of earthquake data between Pacific countries at monthly intervals to facilitate their study; that oceanographic stations be established in the various lands contiguous to the Pacific Ocean as a means of ensuring a complete international survey of all phases of this great body of water, and an inten-

sive survey of the structure of coral reefs in the Society Islands.

THE National Metal Congress will be held in Cleveland the entire week of September 9 by the American Welding Society, the Iron and Steel Division of the American Institute of Mining and Metallurgical Engineers, the Iron and Steel Division of the American Society of Mechanical Engineers, the Institute of Metals Division of the American Institute of Mining and Metallurgical Engineers and the American Society for Steel Treating. The schedule provides for most of the plant inspections in the mornings, so that the afternoons will be free to attend the metal exposition in the Public Auditorium of Cleveland.

PRESIDENT HOOVER, by recent executive order, has set aside as a refuge and breeding ground for birds, Snake Key, Dead Man or Bird Key and North Key, in the island group known as Cedar Keys, off the west coast of Florida. The refuge will be known as the Cedar Keys bird refuge and will be administered by the Bureau of Biological Survey of the U. S. Department of Agriculture. The islands in the new reservation serve as important nesting and wintering grounds for hundreds of aquatic birds, including several species of herons, pelicans and cormorants, some of which are becoming greatly depleted in numbers. It is unlawful within the refuge to hunt, trap, capture, wilfully disturb or kill any wild animal or bird, or to take or destroy the eggs of any wild bird; to cut or burn any timber, underbrush, grass or other natural growth; wilfully to leave or suffer fire to burn unattended near any timber or other inflammable material; to leave a fire near any forest or timber; or wilfully to molest, injure or destroy any property of the United States.

THE Forest Reservation Commission established by Congress to be guardian over the national forests east of the Mississippi River has authorized the purchase of 111,238 acres to be added to 14 forests in 11 states and has designated six new purchase units in four states. The total purchase price is set at \$296,977.96, an average of \$2.67 per acre. Funds for the additional tracts are appropriated under the Weeks and McNary-Clark Acts. The national forests already established which will receive additional territory under the new purchase are as follows: Alabama National Forest, Alabama; Allegheny National Forest, Pennsylvania; Cherokee and Georgia National Forest, Georgia; Tawas, Mackinac and Marquette National Forests, Michigan; Monongahela National Forest, West Virginia; Natural Bridge and Shenandoah National Forests, Virginia; Superior National Forest, Minnesota; White Mountain National Forest, New

Hampshire; Ozark National Forest, Arkansas, and Savannah National Forest in North Carolina, South Carolina and Georgia. The six new purchase units authorized by the commission are to be known as Oneida National Forest, in Forest Vilas and Oneida Counties, Wisconsin; Flambeau National Forest in Price County, Wisconsin; Moquah National Forest in Bayfield County, Wisconsin; Geweenaw National Forest in Iron and Houghton Counties, Wisconsin; St. Croix National Forest in Pine and Carlton Counties, Minnesota, and Green Mountain National Forest in Windsor, Bennington and Rutland Counties, Vermont. The latter will be Vermont's first national forest.

THE Bureau of Standards reports that a new process for the production of large disks of optical glass will be described in the August number of its *Journal of Research*. This process was developed by the bureau's glass section in connection with the making of the 70-inch disk for the mirror of the large reflecting telescope at Ohio Wesleyan University. The raw materials were melted and stirred in a large pot, which was then tapped near the bottom. The molten glass flowed through an iron trough into a combined mold and annealing furnace located in a pit in front of the furnace. The temperature was accurately controlled by electrical means; the whole period of cooling and annealing occupied 8½ months. The resulting disk proved to be remarkably well annealed and no difficulty was experienced in drilling an eight-inch hole at the optical axis to accommodate the Cassegrainian mounting. The paper will describe the method of making the pots, modifications in the construction of the melting furnace, the arrangement of the mold and annealing furnace, the methods of measuring and controlling temperatures, the melting and casting of the glass, the method of annealing the glass, the determination of the quality of the annealing and the drilling of the hole at the center of the disk.

THE National Research Council has received a fund of \$10,000 for a cooperative investigation with the Bureau of Standards on the preservation of publications. The investigation planned consists of surveys in public libraries to find the existing conditions as to the deterioration of publications and to find means of remedying conditions found to be harmful. Consideration will be given to all materials used in books and to the influence of the atmospheric conditions in libraries. Librarians and others concerned with the preservation of valuable records published in book form have noted with considerable alarm the rapid deterioration of many such publications, and there has sprung up a general demand for accurate information which will assist in developing measures to prevent deterioration.

A CORRESPONDENT of the *Journal* of the American Medical Association reports that an institute of preventive medicine has been established at Leyden, the first of the kind to be created in the Netherlands. On the administrative committee will serve Mr. W. J. M. Van Eysinga, professor at the Faculté du droit and rector of the University of Leyden; Mr. P. I. Idenburg, general secretary Professor Dr. J. A. Barge, of the faculté de médecine; Professor Dr. E. Gorter, of the faculté de médecine, and Dr. M. D. Horst, director of the medical service at Leyden. The institute has a threefold purpose: (1) the application of preventive measures to diseases; (2) the study of new

problems of preventive medicine, and (3) the instruction of physicians and nurses, together with responsibility for publicity campaigns. The society will occupy itself particularly with prenatal care, the care of infants, children of preschool age, and school children, and the care of adolescents and adults. In addition, the institute will study, as far as possible, the prophylaxis of occupational diseases. At the start, only a part of the program can be carried out, but it is hoped that, with the aid of subscriptions, it will soon be possible to realize the entire program. The administration is composed of five persons, while the general committee comprises at least sixty members.

UNIVERSITY AND EDUCATIONAL NOTES

DR. CLARENCE STONE YOAKUM, director of the bureau of university research at the University of Michigan, has been appointed dean of the college of liberal arts at Northwestern University.

ASSISTANT PROFESSOR H. M. GEHMAN, of Yale University, has been appointed head of the department of mathematics at the University of Buffalo.

DR. W. H. CHANDLER, professor of pomology in the college of agriculture at the University of California, has been appointed head of the division of pomology. Dr. Chandler succeeds Dr. W. L. Howard, who has been appointed director of the branch of the College of Agriculture at Davis.

IN the school of chemistry at the University of Minnesota, Dr. George Glockler has been appointed associate professor of inorganic chemistry to replace Dr. R. E. Kirk, who becomes head of the department of chemistry at Montana State College; Dr. D. S. Villars replaces Dr. N. W. Taylor, who has leave of absence for 1929-30 to study in Berlin under a Guggenheim fellowship. Dr. R. E. Montonna has been

promoted to an associate professorship of chemical engineering.

A. W. QUINN has been appointed instructor of mineralogy and petrography in the department of geology of Brown University. Mr. Quinn was with the U. S. Geological Survey during the past summer. He takes the place of Dr. M. E. Hurst, who has joined the staff of the Ontario Bureau of Mines.

DR. BENNO E. LISCHER, professor of orthodontics, Washington University, St. Louis, from 1901 to 1924, and since then special lecturer in orthodontics at the University of Michigan, has been appointed professor of orthodontics in the University of California.

PROFESSOR H. H. WOOLLARD has been appointed as from September 1 to the university chair of anatomy tenable at St. Bartholomew's Hospital Medical College, London.

MISS ELLEN GLEDITSCH has been promoted to a professorship in chemistry at the University of Oslo, where she has been an associate professor since 1916.

DISCUSSION

QUALITY VERSUS QUANTITY IN UNIVERSITY FACULTIES

IN SCIENCE for July 12 and 19 appear papers on the economic status of American university teachers by Professor B. R. Andrews, Dr. F. P. Bachman, Professor R. H. True and Professor H. F. Clark. These papers are from the symposium at the last annual meeting of the American Association for the Advancement of Science. Together with the report of Mr. Trevor Arnett, of the General Education Board, and the studies at the University of California by Peixotto and at Yale, these contributions make an extensive discussion of this subject.

As one who worked hard on one of these studies,¹

¹ "Incomes and Living Costs of a University Faculty," edited by Yandell Henderson and Maurice R. Davie, Yale University Press, 1928.

I venture to say that it is all wasted effort unless the members of the teaching profession obtain from it a clear understanding of what they have to do, both individually and through academic public opinion, if salaries are to go up. And salaries must go up if there is to be improvement, and not deterioration, in the quality of university teaching and particularly in the quality of university teachers.

Certainly our colleagues now have generally no such effective understanding of the essential elements in the situation. Only a day or two ago I heard one of them from a sister university express appreciation of the Yale study, together with the hope that it would influence salaries at his own institution. But in the next sentence he stated, and with evident satisfaction, that in the undergraduate school of his university the