

sity administration, seventeen members of the library staff and five members of the business administration. The new schedule will not apply to services given in the summer session or in extension work.

Remarking that the action of the trustees was consistent with a liberal policy adopted as far back as 1875, President Butler said:

They have now, through their careful husbanding of the university's resources, and by reason of recent benefactions, been able to take action which will add greatly to the satisfaction and material rewards of academic service at Columbia University. It is greatly hoped that this action will set an example to be followed at other institutions to the well-deserved advantage and comfort of the great body of American scholars engaged in the world of university teaching and research.

AMERICAN MEDICAL ASSOCIATION GRANTS FOR RESEARCH

THE committee on scientific research of the American Medical Association has made a grant of \$250 to Dr. O. Larsell, of the University of Oregon Medical School, Portland, in aid of his studies on the hemopoietic effect of nuclear extractives.

Dr. A. A. Maximow, professor of anatomy at the University of Chicago, has received \$1,000 from the association for paying skilled technical help.

Dr. G. A. Talbert and his collaborators of the physiological department of the University of North Dakota have received a third grant of \$300 for continuing the research on the "Constituents Common to the Sweat, Urine and Blood."

A substantial grant has been made to the department of agricultural chemistry of the University of Wisconsin for a quantitative study of the distribution in foodstuffs of copper which, from recent researches in that department, is now known to supplement iron in the building of hemoglobin in the mammal.

SCIENTIFIC NOTES AND NEWS

DR. WILLIAM D. HARKINS, professor of chemistry at the University of Chicago, has been awarded the Willard Gibbs gold medal of the Chicago section of the American Chemical Society.

THE Louis Edward Levy medal of the Franklin Institute of Philadelphia has been awarded to Dr. Vannevar Bush, professor of electric power transmission at the Massachusetts Institute of Technology, for two papers on the Product Integrator, a mathematical instrument developed under Dr. Bush's direction. The medal will be presented at the annual medal day exercises of the Franklin Institute on May 16.

At the annual general meeting of the Institute of Chemistry, held on March 1, the Meldola medal for 1927 was presented to Dr. J. H. Quastel, fellow of Trinity College, Cambridge.

THE editors of the *Journal de Mathématiques* announce that the volumes for 1928 and 1929 will be dedicated to the eminent mathematicians Paul Appell and Émile Picard, as a tribute upon the occasion of their scientific jubilees. The edition will be limited, and the volumes will not be reprinted.

DR. WEBER, professor in the University of Geneva, presided over the Congress of the Anatomists' Association which opened on April 3 in Prague. The vice-president is Dr. J. P. Hill, professor of embryology in the University of London.

WALDEMAR KAEMPFERT, of New York, the editorial and scientific writer, has been appointed director of the Rosenwald Industrial Museum, Chicago.

PROFESSOR DR. C. RAMSAUER, director of the Physical Institute of the Technical High School of Dantzig, Germany, has been appointed head of the new research laboratory which the Allgemeine Elektrizitäts Gesellschaft is establishing in Berlin.

DR. GEORGE T. PACK, for five years professor and head of the department of pathology, University of Alabama School of Medicine, has accepted an appointment at the Memorial Hospital for Malignant Diseases, New York.

DR. B. YOUNGBLOOD has resigned as director of the Texas Agricultural Experiment Station, effective on April 30, to continue the development of the cotton utilization research program of the U. S. Bureau of Agricultural Economics. He is succeeded as director of the station by A. B. Conner, who has been connected with the Texas station since 1904, as agronomist, vice-director and acting director.

EDGAR S. ROSS, senior fellow at the Mellon Institute, has resigned to become manager of research and development for the Hadley Good Roads Company, of Philadelphia.

DR. GEORGE T. MOORE, director of the Missouri Botanical Garden, is making an extended trip abroad, during which he will visit the leading botanical gardens and experiment stations of Europe, as well as the principal bulb and orchid growers.

PROFESSOR AND MRS. T. D. A. COCKERELL have left Siam for Australia after conference with Dr. Kerr on the Siamese flora and with Dr. Hugh M. Smith on Siamese fishes.

DR. WILLIAM H. F. ADDISON, of the University of Pennsylvania, who has been at the Instituto Cajal, Madrid, for the past two months, will go to London about the first of May to attend the Harvey tercentenary celebration.

DR. H. A. GLEASON, of the New York Botanical Garden, sailed on March 22 for Europe, where he will devote the ensuing six months to a continuation of his studies on the plant life of British Guiana. His work will be done mainly at the Royal Botanic Gardens, Kew, England, where the most important collections of Guiana plants are conserved.

DR. THOMAS A. JAGGAR, seismologist of the United States Geological Survey in charge of the Hawaiian Volcano Observatory, has left Washington to head the National Geographic Society's expedition to explore the Mount Pavlof sector of the Alaskan peninsula and Aleutian Islands volcanic chain.

ERNEST G. HOLT will head an expedition to South America to study bird life, which is being organized under the auspices of the Carnegie Museum and the National Geographic Society.

T. H. C. TAYLOR, entomologist of the Department of Agriculture of Fiji, recently visited the fruit-fly laboratory of the U. S. Bureau of Entomology at Ancon, Canal Zone, on his way from Trinidad to Fiji.

ACCORDING to the *Electrical World*, P. A. Maximov, president of the Soviet Electrotechnical Trust, has arrived in this country, accompanied by B. I. Bukhovtsev, production manager of the trust, to make a study of the electrical industry.

HARRY A. CURTIS, professor of chemical engineering at Yale University, sailed on April 11 as a representative of the U. S. Department of Agriculture to the International Nitrogen Conference which begins April 30. This is the conference to be held aboard the North German Lloyd steamer *Lutzow* in the Adriatic. Dr. Curtis expects to return early in June.

DR. SOLOMON KATZENELLENBOGEN, former chief resident physician at the Hospital Canton, Geneva, Switzerland, and lecturer in internal medicine at the University of Geneva, has arrived in Baltimore to take over his new duties as associate professor in psychiatry at the Johns Hopkins University School of Medicine.

DR. SERGIUS MORGULIS, professor of biochemistry in the University of Nebraska College of Medicine, has been invited to deliver the introductory lecture at the meeting of the congress of the Gesellschaft für Verdauungs- und Stoffwechselkrankheiten. The congress will hold its session in Amsterdam from September 12 to 15.

PROFESSOR SAMUEL J. BARNETT, of the physics department of the University of California at Los Angeles, has been selected to deliver the fourth annual research lecture at the university on April 20. His subject will be "The Elementary Magnet as a Spinning Top" and will be a popular treatment of the subject of gyro-magnetic phenomenon.

DR. COLIN G. FINK, head of the division of electrochemistry of Columbia University, has addressed the Maryland section of the American Chemical Society on "Corrosion, its Prevention and the Restoration of Ancient Bronzes."

D. MCFARLAN MOORE, of the Edison Lamp Works, recently addressed the chemical engineering students of Columbia University on "Neon and the Electric Conduction of Gases."

DR. W. W. LEPESCHKIN, professor of plant physiology, University of Prague, Czechoslovakia, will give an address at the Michigan State College on April 20, under the auspices of the Phi Sigma Society. The subject of the address is "Colloidal State of Substances as a Necessary Condition of Life."

PROFESSOR JAMES FRANCK, of the University of Göttingen, Germany, recently gave at Cornell University a series of five lectures on "Quantum Jumps of Electrons."

PROFESSOR BRUNO BLOCH, director of the dermatological clinic of the University of Zurich at Strassbourg, lectured at the Harvard Medical School on April 16. His subject was "Formation of Pigment in the Skin."

UNDER the joint auspices of the University of Chicago and the Institute of Medicine, the third John M. Dodson lecture of the Rush Alumni Association was given on April 16, at the University of Chicago clinics, by George Barger, professor of biologic chemistry, University of Edinburgh, on "The Thyroid Hormone."

ISAAC PHILLIPS ROBERTS, emeritus professor of agriculture in Cornell University and formerly dean of the College of Agriculture, died on March 17 at Palo Alto, California, in his ninety-fifth year.

THE ninth annual meeting of the Southwestern division of the American Association for the Advancement of Science will be held in conjunction with the first special joint meeting of the Pacific division at Flagstaff, Arizona, from April 23 to 26, inclusive. A feature of the meeting will be the attendance and participation in the programs of a number of members of the Pacific division. Under tentative plans each division will designate the regular annual meeting of the other as a special meeting of its own.

THE fifth annual meeting of the West Virginia Academy of Science will be held on May 18 and 19 at Davis and Elkins College, Elkins, West Virginia. On Friday evening an illustrated lecture on "South America and its Mineral Resources" will be given by Dr. Benjamin L. Miller, professor of geology in Lehigh University. The sections of the academy are: Biology, chemistry, geology and mining, mathematics and physics and social science. Dr. John L. Tilton, professor of geology in West Virginia University, is the president of the academy.

THE North Dakota Academy of Science will hold its twentieth annual meeting at the North Dakota Agricultural College, Fargo, on May 4 and 5. Dr. H. L. Walster, dean of agriculture at the North Dakota Agricultural College and agronomist at the experiment station, will preside. Professor J. Arthur Harris, head of the botany department of the University of Minnesota, will make the invitation address on the topic "The Biological Application of Practical Agricultural Experimentation."

THE Rocky Mountain Section of the Mathematical Association of America will meet at the Colorado School of Mines on April 20 and 21. The outside speaker will be Dr. E. B. Stouffer, dean of the graduate school and professor of mathematics at the University of Kansas.

THE fifty-seventh annual meeting of the American Public Health Association will be held in Chicago, from October 15 to 19, with headquarters at Hotel Stevens. The American Child Health Association and the American Social Hygiene Association will meet with this organization. Dr. Louis E. Schmidt is chairman of the local committee and Arthur E. Gorman is secretary. Sessions are being arranged for health officers, child hygienists, public-health nurses, laboratory technicians, vital statisticians, health education directors, food and drug experts, industrial hygienists and public-health engineers.

THE sixteenth annual meeting of the Eugenics Research Association will be held at the American Museum of Natural History in New York City on Saturday, June 2. This will be a joint meeting of the Eugenics Research Association and the American Eugenics Society.

DR. MARK H. INGRAHAM, associate secretary of the American Mathematical Society, writes that the society held its spring meeting in the west at the University of Chicago on April 6 and 7. The attendance was about 120, including approximately 100 members. There were 49 papers presented to the society: 15 in geometry, 7 in applied mathematics, 10 in algebra and 17 in analysis. On Friday afternoon Professors

E. B. Stouffer and E. P. Lane gave symposium addresses on "Recent Developments in Projective Differential Geometry." At the dinner held Friday evening Professor L. E. Dickson was presented with the first award of the Frank Nelson Cole prize. This was presented for his book "Algebren und ihre Zahlentheorie" and other works. These works are a continuation of the work in linear algebras for which he was presented with the thousand-dollar prize at the meeting of the American Association for the Advancement of Science in Cincinnati.

A CONFERENCE on the improvement of hard spring wheat was held at Fargo, North Dakota, on March 27, at the North Dakota Agricultural College, with Dr. J. L. Coulter, president of the institution, presiding. The aim of the conference was to discuss the development of wheats more resistant to disease, especially to stem rust, and possessing better quality. There were sixty-five in attendance at the conference. Addresses were made by plant breeders, plant pathologists and agronomists, and by men representing commercial interests. In addition to the addresses, committees were appointed to formulate a program of wheat improvement, to discuss the organization and cooperation of the program and the financing of it. The conference adjourned after having elected Dr. J. L. Coulter, *president*; Dr. Andrew Boss, *vice-president*, and Dr. L. R. Waldron, *secretary-treasurer*, and after appointing a program committee of eighteen and a finance committee of five.

A CONFERENCE on industrial gas and coke heat was recently held at the Mason laboratory of mechanical engineering at Yale University, under the auspices of the mechanical engineering department, cooperating with the Manufacturers' Association of Connecticut. Over two hundred and fifty engineering executives attended, from not only Connecticut, but from other eastern states. This was the second of a series of similar meetings on heat and heat treating inaugurated by the university and the Manufacturers' Association as a service to Connecticut industries, the first conference dealing with electrical heat-treating.

THE United States Civil Service Commission announces competitive examinations for men for biochemist (soil fertility), \$3,800 to \$5,000; associate soil technologist, \$3,000 to \$3,600, and assistant soil technologist, \$2,400 to \$3,000. Applications for these positions must be on file with the commission at Washington, D. C., not later than May 8. The examinations are to fill vacancies in the Bureau of Chemistry and Soils, Department of Agriculture, for duty in Washington, D. C., or in the field.

It is announced by Dr. Howard McClenahan, secretary of the Franklin Institute, that the institute now

has money and property in hand amounting to \$2,000,000, which it proposes to apply toward building on the Parkway a great museum of industry and physical science.

ENDOWMENT of \$7,000,000 is being sought for the Engineering Foundation and the Engineering Societies Library, according to an announcement by the board of trustees of the United Engineering Society, representing the national societies of civil, mining and metallurgical, mechanical and electrical engineers. One fund of \$5,000,000, it is planned, will be applied to the research projects of the foundation, and a second fund of \$2,000,000 to the maintenance of the library. The foundation was established thirteen years ago with a gift of \$500,000 from Ambrose Swasey, engineer and manufacturer of Cleveland, Ohio. This amount has been increased to about \$625,000.

AN appropriation of \$300 each year for a period of five years for the International Society for the Exploration of the Arctic Regions by Means of the Airship (see *SCIENCE* for April 6, page 363) will be recommended to the House by the Committee on Foreign Affairs. The committee, on March 31, voted a favorable report on the Porter resolution, designed to carry out the recommendations of President Coolidge on the subject. The 19 nations which are expected to contribute to the work of the society, of which Fridtjof Nansen is the president, are: Bulgaria, Denmark, Germany, England, Estonia, Finland, France, Italy, Japan, Latvia, the Netherlands, Norway, Austria, Sweden, Switzerland, Spain, Czechoslovakia, Russia and the United States.

THE final closing of a contract with the Amarillo Oil Company, of Amarillo, Texas, which, it is thought, will greatly increase the available supply of helium required for the operation of dirigibles, is announced by the U. S. Bureau of Mines. Under the terms of the contract, the bureau will undertake the extraction of the helium from natural gas from the company's leases on the Cliffside Structure in Potter County, Texas, at a new helium plant to be constructed by the government at Amarillo.

PURCHASE of a property at 135 North 19th Street, which will complete the site for the proposed building group of the Franklin Institute, was approved at a meeting of the institute on March 15. Henry Howson, senior vice-president of the institute, announced that the purchase gave that body title to the entire plot, 288 by 110 feet, along 19th Street, between Cherry and Race Streets. At the lecture which followed the meeting a report on the work of the Bartol Research Laboratories was submitted by Dr. W. F. G. Swann, director. Dr. Swann discussed the more important

researches which have been completed or are being carried on at this time.

THE Canadian correspondent of *Engineering and Industrial Chemistry* writes that the Dominion Government will proceed during 1928 with the establishment of National Research Laboratories for Canada at Ottawa. In the government estimates for the year, just made public by the minister of finance, the sum of \$750,000 is provided for the construction of the first unit of a series of laboratories for the conduct of industrial research and the determination of standards. This combines, in a way, the functions of such institutions as the Bureau of Standards at Washington and Mellon Institute of Industrial Research at Pittsburgh. The project has been under consideration for several years. With the necessary money voted for a building and equipment, the National Research Council will be able to make definite progress this year. Two other items in the government estimates are of interest to chemists. In the Mines Department appropriations, there is the sum of \$12,000 for the Explosives Division for organization and equipment purposes, and there is another item—\$50,000—for new laboratories in connection with the Fuel Testing Division. There are also increased appropriations for dairying, feed and fertilizer control and experimental farms. Canada's main estimates for the year are \$373,796,856, an increase of \$7,725,542 over the total provided for the current fiscal year. Supplementary estimates will be tabled towards the close of the parliamentary session.

THE Russian Academy of Sciences has decided to organize a joint expedition with German scientists for the purpose of exploring the Pamir. Among the members of the expedition will be geologists, meteorologists, botanists, geographers, etc. The Academy of Sciences will be represented in the expedition by Professor Korzhenevsky, of Tashkent University, the geologist Steherbakov, and Professor Belayev, while the Germans will include Professor Ficker, of the Berlin Meteorological Institute, the geologist Rickmers and others. The expedition is to take place in May.

THE request of the Stoll-McCracken expedition for permission to explore northeast Siberia and study mammals and birds has been approved by the All Union Society for Cultural Relations. Members of the expedition include Harold McCracken, associate editor of *Field and Stream*; Dr. H. E. Anthony, mammalogist of the American Museum of Natural History; Charles H. Stoll, New York financier; John Burnham, president of the American Game Protection Association; Carl Fredericks, president of the Camp-fire Club of America; George Potter, taxidermist, and

Mrs. Charles H. Stoll, photographer. The party proposes, after exploring Alaska and the Aleutian Islands, to arrive at Petropavlovsk, Kamchatka, on June 1, on board the ship *Morrissey*, commanded by Captain Bartlett. After Kamchatka the party will proceed to the Gulf of Anadir and then through Bering Strait to the mouth of the Kolymia River.

ACCORDING to *Industrial and Engineering Chemistry*, invitations have been received by the executives of large American chemical companies to attend an international nitrogen conference in the Adriatic, beginning April 30. The invitations were issued by the following, who comprise the largest nitrogen producers of Europe: Comptoir Français de l'Azote, Paris; Montecatini Società Generale, Milan; Nitram, Ltd., London; Norsk Hydroelektrisk Kvaestofaktieselskab, Oslo, and Stickstoff-Syndikat, G. M. B. H., Berlin. The scope and objects of the meeting will be to put on record the knowledge which has been gained since the conference held at Biarritz last year in regard to fertilizers in their relation to agriculture and to afford opportunity for discussion. Papers will be presented by J. Bueb, F. C. O. Speyer, L. Bretigniere, H. Warmbold, Sir Frederick Keeble, A. Demolon, Erwin Baur, H. J. Paige, T. H. J. Carroll and J. Galland.

UNIVERSITY AND EDUCATIONAL NOTES

THE cornerstone of the William H. Welch medical library at the Johns Hopkins University School of Medicine has been laid by the president of the university, Dr. Frank J. Goodnow, who placed in the stone a copper box containing correspondence between Dr. Welch, the university and the General Education Board, whose financial help made the library possible.

IMMEDIATE construction of a new chemistry building to cost \$350,000 has been authorized by the board of trustees of the University of New Hampshire. The establishment of a department of agricultural economics in charge of M. Gale Eastman has also been authorized.

THE *Journal* of the American Medical Association records the appointment of Dr. Stuart Graves, of Louisville, Ky., as dean of the school of medicine of the University of Alabama to succeed Dr. Clyde Brooks, who has been appointed chairman of a newly created faculty committee on research, for which the last legislature made a special appropriation. The appointment of Dr. Graves is said to be the first step

in a program to establish a four-year medical course at the university.

PROFESSOR A. B. COBLE, of the Johns Hopkins University, recently accepted a professorship of mathematics at the University of Illinois, where he had been prior to the present academic year.

DR. WILLIAM W. WATSON, assistant professor of physics at the University of Chicago, has been appointed assistant professor of physics at Yale University.

AT Princeton University, Dr. Herman Weyl, professor of high mathematics at the Eidgenössischen Technischen Hochschule in Zurich, Switzerland, has been appointed to the Thomas D. Jones research professorship of mathematical physics. The following three members of the department of mathematics have been promoted from associate professor to full professor: James Waddell Alexander, Solomon Lefschetz and Joseph H. M. Wedderburn.

IN place of the existing department of philosophy and psychology at University College, London, a department of philosophy and a department of psychology have been instituted. Professor C. E. Spearman, now Grote professor of philosophy of mind and logic, will be head of the department of psychology, his title being changed to professor of psychology in the University of London.

DR. WERNER HEISENBERG, of the University of Copenhagen, has been appointed professor of theoretical physics at the University of Leipzig.

DR. DEBEYRE has been appointed successor to the late Professor Lanesse in the chair of histology at the University of Lille.

DISCUSSION AND CORRESPONDENCE THE APPEARANCE OF INSTABILITY OF CONDENSED SUBSTANCES NEAR THE ABSOLUTE ZERO OF TEMPERATURE

IN a previous article in *SCIENCE*,¹ the writer called attention to the possibility of condensed substances becoming unstable and exploding under a high pressure at or near the absolute zero of temperature, and mentioned that *white tin* should behave in this manner. The criterion for the existence of such an instability is that if from external evidence it appears that the controllable internal energy of a substance can not lie below a certain value, and this can not be accounted for by integration of the specific heat down to the absolute zero of temperature, the substance

¹ LXVII, 1725, p. 69, 1928.