

Primary Particles of Physical Reality;
 Physics in Education;
 Physics in Production;
 Physics and the Problems of War and Peace.

The Mexican Ambassador to Washington, Dr. Francisco Castillo Nájera, and Governor Bautista of Puebla made an official visit, early this month, to the State of Massachusetts, at which time they delivered the autographed invitations of the President and of the Governor to guests from the United States, through Dr. Harlow Shapley, director of the Harvard College Observatory, whose cooperation with the Mexican Government for a close collaboration between men of science of both countries, was highly praised by both the Ambassador and the Governor in their addresses at the special meeting of the American Academy of Arts and Sciences in Boston, organized in their honor.

In his autographed invitation, President Avila Camacho of Mexico stated that his Government organized the Conference on Physics "inspired by its desire to contribute to the maintenance and advancement of science and culture in the American Continent, as a means to limit the collapse both have suffered in the countries devastated by the present conflagration."

Professor Albert Einstein was one of the invited guests, but his health will prevent his attendance, although he hopes to send a paper to be read at the conference. Among the guests are Dr. S. Chandrasekhar and his wife, from British India, at present residing in this country.

Señor Salvador Duhart, first secretary of the Mexican Embassy in Washington, will proceed to Mexico accompanying the guests of the President and the Governor, all of whom will gather in San Antonio, Texas, the last day of this month, to continue by rail to Mexico City and Puebla.

The new Benioff-vertical seismograph, recently acquired by the State Government of Puebla for the

National Astrophysical Observatory at Tonanzintla, will be inaugurated after it has been installed and put into operation by Dr. L. Don Leet, director of the Harvard Seismological Station, who is one of the invited guests.

PACIFIC DIVISION OF THE AMERICAN ASSOCIATION FOR THE ADVANCE- MENT OF SCIENCE

PLANS for the twenty-seventh annual meeting of the Pacific Division of the American Association for the Advancement of Science are almost complete. The dates have been fixed for the period June 14-19, the host institution to be the Oregon State College, Corvallis.

To supplement the preliminary announcement in the issue of SCIENCE for March 5, it might now be stated that there will be three addresses of public interest during the course of the meeting: one by Professor Linus Pauling, president of the division, on the "Relation of Molecular Structure to Biology and Medicine"; the second by Professor Eliot Mears, Stanford University, on "Post-war Problems of the Pacific Area," and the third by Professor Agnes Fay Morgan, University of California at Berkeley, on "Nutrition in Wartime." These addresses will be presented on the evenings of June 15, 16 and 17.

Tuesday, June 15, will be devoted to general sessions. In the morning there will be a divisional symposium on a "Century of Science in the Pacific Northwest," with a group of addresses covering the fields of agriculture, engineering and forestry. In the afternoon several papers in the field of reviews of current research will be presented: *Genetics*, George W. Beadle, Stanford University; *Botany*, A. S. Foster, University of California at Berkeley; *Zoology*, A. R. Moore, University of Oregon, and *Mathematics*, R. M. Winger, University of Washington.

SCIENTIFIC NOTES AND NEWS

DR. VINCENT DU VIGNEAUD, professor of biochemistry at the Cornell University Medical College, has been given the \$1,000 award of the Mead Johnson and Company for research on the B-complex vitamins, in recognition of his work on the structure of biotin.

DR. SYLVANUS G. MORLEY, archeologist of the Carnegie Institution of Washington, has been awarded the Loubat Prize of \$1,000 of Columbia University.

DR. GEORGE D. BIRKHOFF, Perkins professor of mathematics at Harvard University, has been elected an honorary member of the Royal Irish Academy in the department of science.

DR. H. S. JENNINGS, professor emeritus of the Johns Hopkins University, was presented, on April 8,

with a portfolio of letters of greeting from his former students and friends in honor of his seventy-fifth birthday. Dr. Jennings is now at the University of California at Los Angeles.

SIR ALDO CASTELLANI, formerly professor of tropical medicine and head of the department of medicine of the School of Medicine of the Louisiana State University, now Lieutenant Colonel in the Italian Army, has been decorated by the Italian Government for his "abnegation and devotion during the operations in North Africa."

It is reported in *Nature* that the trustees of the Ray Lankester Fund have appointed Dr. Shu-Ping Chu, of Queen Mary College, University of London, as

investigator for 1943-44 to carry out research at the Plymouth Laboratory of the Marine Biological Association on the effect on the development of marine algae of the presence or absence of different substances in sea water.

THE Council of the American Institute of Nutrition met in Detroit on March 31 in the annual business session. The officers for the coming year are H. B. Lewis, *President*; Icie Macy Hoobler, *Vice-president*; Arthur H. Smith, *Secretary*; W. H. Sebrell, Jr., *Treasurer*; Lydia J. Roberts, Genevieve Stearns and T. H. Jukes, *Councillors*.

DR. CLYDE LEAVITT, assistant dean of the New York State College of Forestry, Syracuse University, who now has leave of absence, will retire on November 1.

DR. GRAHAM PHILLIPS DUSHANE, of the University of Chicago, has been made acting professor of biology at Stanford University to serve during the spring and summer quarters.

It is reported in *Popular Astronomy* that Dr. Carlos U. Cesco and Dr. Jorge Sahade, of the Astronomical Observatory at La Plata, Argentina, have been appointed volunteer research assistants at the McDonald and Yerkes Observatories and will arrive in the United States in the latter part of the summer. They are being sent by their government to investigate methods in astronomy and astrophysics now in use at the Yerkes and McDonald Observatories. Guido Münch Panagua, of the National Observatory of Mexico at Tacubaya, has been appointed assistant at the Yerkes and McDonald Observatories for one year. He will replace one of the assistants who has left to join the armed forces.

DR. FREDERICK P. KEPPEL, who retired recently as president of the Carnegie Corporation, has been elected a director of the Columbia Broadcasting System.

MAURICE L. MOORE, formerly research chemist in the Medical-Research Division of Sharp and Dohme, Inc., has joined the Scientific Laboratories of Frederick Stearns and Company, Detroit, as director of organic research.

DR. S. C. OGBURN, JR., acting research manager and technical supervisor, in charge of new product development of the General Chemical Company, has been made manager of the Research and Development Department of the Pennsylvania Salt Manufacturing Company. During the past year, he served as Washington representative of the Technical Department of the General Chemical Company. Earlier he was professor and head of the department of chemical engineering and chairman of the division of engineering of Bucknell University.

DR. C. MARTIN WILBUR, curator of Chinese archeology and ethnology at Field Museum, Chicago, has leave of absence to join the staff of the Office of Strategic Services at Washington, D. C., for the duration of the war.

BRIGADIER GENERAL JAMES STEVENS SIMMONS, A.U.S., director of the Preventive Medicine Division of the Office of the Surgeon General, U. S. Army, delivered the John Wyckoff lectures at New York University on April 15 and 16. The titles of the lectures were "The Preventive Medicine Program of the United States Army" and "The Present State of the Army's Health."

DR. HARLAN TRUE STETSON, of the Massachusetts Institute of Technology, gave the address at the University of Maine on April 15 in a celebration program commemorating the quadricentennial of the death of Copernicus. The occasion was under the auspices of Sigma Xi, and the subject of the lecture was "The Earth and Sun: from Copernicus until To-morrow."

DR. OTTO LOEWI, research professor of New York University, gave a series of lectures and conferences recently at the Ohio State University under the auspices of the Graduate School and the Society of Sigma Xi.

DR. LAURENCE H. SNYDER, of the Ohio State University, addressed on March 31 the colloquium of the Yerkes Laboratories for Primate Biology at Orange Park, Fla. He spoke on "Heredity in Apes and Man."

IN an article by Dr. Henry, entitled "Doctorates in Science," in the issue of *SCIENCE* for April 9, Dropsie College is referred to as primarily theological. The Dropsie College is a postgraduate, scientific institute in Hebrew and Semitic civilization, non-sectarian and non-theological in nature.

DR. FRANK E. E. GERMANN, executive secretary of the Southwestern Division of the American Association for the Advancement of Science, has announced its decision that owing to war conditions it is inadvisable to hold the annual meeting at Colorado Springs. It is planned to extend the terms of the present officers until such time as the next meeting can be held.

THE Midwestern Psychological Association, by a vote of 123 to 6, has decided to suspend all meetings, elections of officers and new members and collection of dues, until the wartime restrictions on travel are removed. The normal activities of the association will be resumed at the end of the war when the officers will call a meeting. The newly elected president is Professor S. L. Pressey, of the Ohio State University;

the newly elected member of the council is Professor M. A. Tinker, of the University of Minnesota.

UNDER the auspices of the Pittsburgh Committee for the Copernican Quadricentennial, the Polish Institute of Arts and Sciences, now playing the role of the Academy of Science in Exile, will hold three conferences on pure and applied science at Mellon Institute during the week of the celebration, which will be held from May 11 to 13. *A Conference on Pure Science* will be held on May 11 at 4:30 P.M., when the speakers will be Dr. Mrzowski, of the University of Chicago, and Dr. O. E. Jennings, head of the department of biology, University of Pittsburgh, curator of botany and director of education, Carnegie Museum; *A Conference on Applied Science* on May 11 at 8:15 P.M., at which T. Sendzimir, metallurgical engineer, and Dr. H. H. Lowry, director, Coal Research, of the Carnegie Institute of Technology, will speak; *A Conference on Nutrition* on May 12 at 2:30 P.M., at which the speakers will be Dr. Maria Gutowska, Massachusetts State College, and Dr. Herbert H. Longenecker, professor of biochemistry, director of the Buhl Foundation Research Projects, University of Pittsburgh.

THE research conferences to be held this summer at Gibson Island under the auspices of the American Association for the Advancement of Science include a symposium on "Hormones," to be held from July 19 to July 23, with F. C. Koch, Armour and Company, Chicago, chairman, and H. Jensen, the Upjohn Company, Kalamazoo, vice-chairman. The speakers will include A. White, Yale Medical School; B. Chow, the Squibb Institute for Medical Research; George W. Irving, U. S. Department of Agriculture, Southern Regional Research Laboratory, New Orleans; C. N. H. Long, Yale Medical School; M. H. Kuizenga, Dwight J. Ingle and H. Jensen, the Upjohn Company; F. D. W. Lukens, University of Pennsylvania; W. T. Salter, Yale Medical School; Thomas R. Wood, University of Pittsburgh; T. F. Gallagher, University of Chicago; E. Schwenk, Schering Corporation, Bloomfield, N. J.; S. Gurin, University of Pennsylvania; H. L. Fevold, U. S. Department of Agriculture, Western Regional Research Laboratory, Albany, Calif.; Louis Levin, College of Physicians and Surgeons, Columbia University; K. W. Thompson, Yale Medical School, and F. C. Koch. Requests for additional information should be addressed to the director of the conferences, Dr. Neil E. Gordon, Wayne University, Detroit, Mich.

THE British Association held a conference at the Royal Institution on March 20 and 21 to discuss "Science and the Citizen: the Public Understanding of Science." Sir Richard Gregory, the president, opened the conference, and in addition to members of

the association scientific men from the British overseas Empire, representatives of the allied nations and others interested in scientific movements attended. The subjects at the four sessions were, respectively, the exposition of science, radio and cinema, science as a humanity, and science and the press. Sir Henry Dale, president of the Royal Society and director of the Royal Institution, presided at the first session; the chief speakers were Sir Lawrence Bragg, Professor Allan Ferguson and Professor J. A. Lauwerys. A message was read from Sir John Anderson, Lord President of the Council.

It is stated in the daily press that ninety-six institutions and agencies throughout the United States will receive gifts amounting to \$1,945,000 under a deed of trust from the estate of Louis D. Beaumont, valued at \$13,000,000. He was one of the founders of the May Department Stores Company, a national chain, who died in New York last October 1. The residual estate will be divided among charitable, literary, scientific, educational and religious organizations to be selected. Among the cash bequests are \$200,000 to Western Reserve University, and \$100,000 each to St. Louis University and Washington University, St. Louis, and the University of Denver.

THE *Journal* of the American Medical Association states that the William Buchanan Foundation of Texarkana has given to the University of Texas \$200,000 for a five-year program on child health. The details were concluded at a meeting in Galveston, Texas, between Dr. Stanley J. Seeger, Texarkana, president of the foundation, and Dr. Chauncey D. Leake, dean of the medical branch. The program will be worked out in conjunction with the department of pediatrics of the medical branch, correlating the activities of the department of other state and national agencies. Its purpose is to afford the profession in Texas an opportunity to maintain the latest methods in connection with the promotion of child health, especially attention to be given to the problems of the adolescent in wartime.

ONE TENTH of the residue of the estate of the late Sir Edward Beatty, a former president of the Canadian Pacific Railway, has been bequeathed to McGill University. The university will also receive Sir Edward's library.

THE National Research Council announces the award for the academic year 1943-44 of fourteen fellowships of the value of \$750 each, thirty studentships of \$650 each and twenty-one bursaries of \$250 each. The group of sixty-five successful candidates for these postgraduate scholarships comprises graduates of fifteen Canadian universities who will conduct

research work in the coming year at eleven of these institutions. As a result of war conditions, the fields of science in which the scholarship holders will work are reduced in number as compared with a few years

ago. By far the greatest number will work in various branches of chemistry related to the war effort. Smaller numbers will work in physics, engineering and other subjects largely connected with war research.

DISCUSSION

DESTRUCTION OF RED BLOOD CELLS AFTER FAT INGESTION

JOHNSON and Freeman¹ have shown that the thoracic duct lymph of dogs fed fat is markedly hemolytic. Fatty acids and soaps, which have presumably escaped resynthesis into neutral fat during absorption, are present in duct lymph in quantities sufficient to account for the hemolysis observed.²

Although this lymph empties but slowly into the blood stream, after a fat meal the circulating red blood cells become exposed to a sufficient quantity of the hemolytic agent to cause an acceleration of the normal daily red blood cell destruction, so that in dogs³ and in man⁴ the daily excretion of the degradation products of hemoglobin is greater on a high fat diet than on a low fat diet.

More directly, Longini, Freeman and Johnson⁵ have demonstrated in dog's lipemic blood the presence of an agent which increases the fragility of red blood cells.

It has now been possible to show that drinking one pint of 32 per cent. cream (150 cc of fat) causes human serum to become injurious to red blood cells, increasing their fragility. Details of this experiment will be published elsewhere.

Although the extra blood destruction resulting from fat ingestion seems to be insufficient to produce anemia in normal individuals, whose bone marrow is capable of replacing these extra cell losses, it remains to be determined: (1) whether regeneration of red cells after blood loss, when the bone marrow is excessively taxed, might be hastened by a low fat diet, and retarded by a high fat diet, or (2) whether abnormalities in fat absorption or abnormal sensitivity of cells to the hemolytic agent described might contribute to the production of certain human anemias not associated with blood loss.

These possibilities are under investigation in this laboratory.

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¹ Victor Johnson and L. W. Freeman, *Am. Jour. Physiol.*, 124: 466, 1938.

² L. W. Freeman and Victor Johnson, *Am. Jour. Physiol.*, 130: 723, 1940.

³ L. W. Freeman, A. Loewy, A. Marchello and Victor Johnson, *Fed. Proc.*, 1: 25, 1942.

GONADAL HORMONES IN SNAKES

ANDROGENIC and estrogenic content of the gonads of several vertebrates has been tested since the work of Allen and Doisy,¹ Martins and Rocha e Silva,² Moore, Gallagher and Koch.³ Also the gonads of ovoviparous snakes contain these substances. We have assayed an alcoholic extract from the testes and ovaries of 324 *Bothrops jararaca* and *Crotalus terrificus terrificus*. The residue of alcoholic distillation was extracted by ether, this evaporated and the oil matter so obtained mixed with arachnis oil.

Assays for androgens were made in spayed colchicine treated rats, according to the method first described by Martins⁴ and in Leghorn white capons by the comb method. With a total dose of 10 mg of testicular tissue in 1 cc of arachnis oil, a positive effect was observed in both tests.

Assays for estrogens made by the Bülbring and Burn technic,⁵ with estrone in parallel, gave a concentration of 2,000 estrone units per kg of fresh ovaries, a value in accord with that mentioned by Fraenkel and Martins.⁶ Tests on capons for possible androgens in ovarian extract after estrogenic separation were negative.

As Porto,⁷ also in this laboratory, found progestational substances in the corpora lutea of the same *Crotalidae*, we can say that gonads of those snakes contain the three kind of sexual hormones.

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NAMES, RUSSIAN AND OTHER

THE note by Dr. Hrdlička on "Russian Names" (in SCIENCE of March 12) raises a point in a problem of

⁴ H. W. Josephs, L. E. Holt, H. C. Tidwell and C. Kajdi, *Jour. Clin. Invest.*, 17: 532, 1938.

⁵ Joan Longini, L. W. Freeman and Victor Johnson, *Fed. Proc.*, 1: 51, 1942.

¹ E. Allen and E. A. Doisy, *Jour. Am. Med. Assn.*, 81: 819, 1923.

² Th. Martins and A. Rocha e Silva, *C. R. Soc. Biol.*, 102: 485, 1929.

³ C. R. Moore, T. F. Gallagher and F. C. Koch, *Endocrin.*, 13: 367, 1929.

⁴ Th. Martins, *C. R. Soc. Biol.*, 126: 131, 1937.

⁵ E. Bülbring and J. A. Burn, *Jour. Physiol.*, 85: 320, 1935.

⁶ L. Fraenkel and Th. Martins, *Mem. Inst. Butantan*, 13: 393, 1939.

⁷ A. Porto, *Mem. Inst. Butantan*, 15: 27, 1941.