America. Scholarships will be held in trust for use after the war for those who enter military service. Forty per cent. of the one hundred and twenty successful contestants are now in military service.

Award of the scholarships was determined at Washington on the basis of individual interviews with the Board of Judges composed of Dr. Harlow Shapley, director of the Harvard Observatory; Dr. Harold A. Edgerton, director of the Occupational Opportunities Service of the Ohio State University, and Dr. Steuart Henderson Britt, chief of the Military Advisory Section of the National Roster of Scientific and Specialized Personnel of the War Manpower Commission.

The fourth talent search opened last autumn when 50,000 high-school principals and science teachers were asked to assist in finding the forty seniors most talented in science in private and denominational schools. Some 15,000 seniors entered. Of these, about 3,000 completed the requirements for being considered for the scholarship awards—a science aptitude examination, the writing of a one-thousand-word essay and submission by the faculty of scholastic and personal records and recommendations.

Speakers at the institute at which the entrants were judged included Major General James C. Magee, U.S.A., retired, former Surgeon General; G. Edward Pendray, secretary of the American Rocket Society; Dr. Roger Adams, Office of Scientific Research and Development, Washington; Dr. Warren B. Mack, president of the American Society for Horticulture and head of the department of horticulture, Pennsylvania State College, and Dr. George W. Corner, department of embryology at Baltimore of the Carnegie Institution of Washington.

IN HONOR OF PROFESSOR DUGALD C. JACKSON

FRIENDS of Professor Dugald C. Jackson, from 1907 to 1935 head of the electrical engineering department of the Massachusetts Institute of Technology, gathered at the Engineers Club on the evening of February 13 to celebrate the eightieth anniversary of his birth.

After a social half-hour in the library, the company filled the Assembly Hall at the birthday banquet. The speakers included President Compton, who presided; Dean Barker, of Columbia University; President Sah, of the National University of Amoy, China; Dean Moreland, Professor Hazen and Professor C. E. Tucker. Mr. Gerard Swope and Dr. Frank B. Jewett, on the original list of speakers, were not able to attend. President Compton read letters of appreciation from Dr. Jewett and from Dr. Vannevar Bush. President Sah brought greetings from China, and Dean Moreland on behalf of the engineering firm of Jackson and Moreland presented Professor Jackson with a set of the Encyclopaedia Britannica.

Professor Tucker spoke of the one hundred and seventy-four letters of greeting and appreciation that Professor Jackson had received on this occasion from various societies, friends and former students. Before presenting him with a volume of the letters bound in tooled leather, Professor Tucker read typical letters received from the American Academy of Arts and Sciences, the American Society of Mechanical Engineers, Brigadier General Forrest E. Williford, President William E. Wickenden, of the Case School of Applied Science, Professor Ralph G. Hudson, Harold S. Osborne, chief engineer of the American Telephone and Telegraph Company, and the Technology Club of Western Pennsylvania.

SCIENTIFIC NOTES AND NEWS

THE William H. Nichols Medal of the New York Section of the American Chemical Society was presented to Professor Vincent du Vigneaud, head of the department of biochemistry in the Cornell University Medical College, at a joint meeting on March 9 of the section and the Society of Chemical Industry. The award was made for his work as an "inspiring teacher, gifted scientist, tireless searcher for truth, in recognition of his researches on the structure of biotin and other outstanding contributions to the advancement of biochemistry." Dr. Edwin J. Cohn, professor of physical chemistry in the Harvard Medical School, spoke on "Vincent du Vigneaud—the Man," and Dr. Hans T. Clarke, professor of biochemistry in the College of Physicians and Surgeons of Columbia University, spoke on "The Work of the Medallist." The medal was presented by Dr. Robert Calvert, chairman of the jury of award. Dr. Beverly L. Clarke, chairman of the New York Section, presided. Professor du Vigneaud in his medal address discussed "The Relationship of Structure to Biotin and Antibiotin Activity."

THE 1944 Gold Medal Award of the American Institute of Chemists will be presented on May 11 at the Medal Meeting of the institute to be held in Columbus, Ohio. It will be presented to John W. Thomas, chairman and chief executive of the Firestone Tire and Rubber Company, in special recognition of his "executive ability in translating research results into large-scale production, which was a major aid in the development of America's giant wartime synthetic rubber industry."

THE Minnesota Branch of the American Association of Scientific Workers, in cooperation with the depart-

ment of physiology of the University of Minnesota, gave on February 23 a luncheon in honor of Professor A. J. Carlson, past national president of the association. Dr. Carlson made an address on "Why Should Scientists Organize?" Professor Kirtley F. Mather, of Harvard University, now national president of the association, was honored at a dinner meeting given on February 27 by the Minnesota branch. He spoke on the unique role of the American Association of Scientific Workers in assuring the utilization of science for the public good.

DR. G. W. BEADLE, professor of biology at Stanford University and national lecturer for the Society of the Sigma Xi, lectured on March 3 before the Louisiana State Chapter on "Genes and the Chemistry of the Organism." An informal luncheon at the Faculty Club honoring Professor Beadle was attended by the officers of the chapter, by members especially interested in genetics and by Dr. Fred C. Frey, dean of the university; Dr. Wm. O. Scroggs, dean of the Graduate School, and Dr. H. V. Howe, dean of the College of Arts and Sciences of the State University of Louisiana.

DR. ERNEST CARROLL FAUST, professor of tropical medicine at the Medical School of Tulane University, New Orleans, delivered on February 22 an address entitled "Malaria in the United States—A Historical Perspective" before the Louisiana State Chapter of the Society of the Sigma Xi. Professor Faust was honored by a dinner at the Faculty Club, which was attended by officers of the chapter, members especially interested in parasitology and by the president of the university.

DR. SYDNEY CHAPMAN, F.R.S., chief professor of mathematics at the University of London, has been elected a member of the Athenæum Club, which empowers the annual election by the committee of a certain number of persons of distinguished eminence in science, literature or the arts, or for their public services.

DR. HAROLD D. GREEN, formerly associate professor of physiology at the School of Medicine of Western Reserve University, has become professor of physiology and pharmacology at the Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C. Dr. Robert W. Lackey, professor of physiology, will serve as visiting professor of physiology for the trimester beginning on March 28.

DR. GORDON H. SCOTT, formerly head of the department of anatomy at the School of Medicine of the University of Southern California, has assumed his work as professor and head of the department of anatomy of the College of Medicine of Wayne University.

DR. BION R. EAST, since 1940 assistant professor of public-health practice in the DeLamar Institute of Public Health of Columbia University under the plan of integration of the Faculty of Dentistry with the Faculty of Medicine, has been appointed professor of dentistry and associate dean for dental and oral surgery.

THE third annual meeting of the Oregon Academy of Science was held at Portland on January 13. Officers were elected as follows: *President,* Stanley G. Jewett, Portland; *President-elect,* Thornton T. Munger, Portland; *Secretary,* F. A. Gilfillan, Corvallis; *Treasurer,* R. R. Huestis, Eugene.

THE Society of Economic Paleontologists and Mineralogists has elected the following officers for the year beginning on March 27: *President,* Dr. John R. Sandidge, Magnolia Petroleum Company, San Antonio; *Vice-president,* Dr. J. Brookes Knight, U. S. National Museum; *Secretary-Treasurer,* Dr. H. B. Stenzel, the University of Texas.

THE Potomac Division of the American Phytopathological Society held its second annual meeting on February 20 and 21 at the Bureau of Plant Industry Station, Beltsville, Md. The meetings were well attended, and thirty-four papers were presented. Officers elected for the present year were T. F. Manns, *President;* E. E. Clayton, *Vice-president;* V. F. Tapke, *Secretary-Treasurer,* and R. J. Haskell, *Councilor.*

DR. W. E. LOOMIS, professor of plant physiology at Iowa State College, has been appointed editor-in-chief of the Monograph Series of the American Society of Plant Physiologists. Other members of the board are Professor D. R. Hoagland, of the University of California; Professor J. W. Shive, Rutgers University; Professor F. W. Went, California Institute of Technology; Dr. Gordon Mackinney, University of California, and Professor W. F. Loehwing, University of Iowa.

LIEUTENANT COLONEL JOHN H. BELKNAP, at present on duty with the Army Air Forces in Washington, D. C., has been appointed Yates professor of electrical engineering and chairman of the newly established Division of Engineering of the University of Rochester. He will succeed the late Professor Joseph W. Gavett, Jr.

COLONEL I. S. RAVDIN, who has been since 1936 Harrison professor of surgery and director of the Harrison Department of Surgical Research of the School of Medicine, University of Pennsylvania, and who is now in command of an Army hospital in India while on leave of absence from the university, has been appointed to the John Rhea Barton professorship of surgery in the School of Medicine. Dr. Eldridge L. Eliason, who has held this professorship since 1907,

will postpone his retirement while Colonel Ravdin is on active service.

DR. ARLIE C. TODD, instructor of zoology at the Louisiana State University, has become parasitologist at the Agricultural Experiment Station of the University of Tennessee.

DR. C. B. JOLLIFFE, chief engineer of the RCA Victor Division of the Radio Corporation of America, has been elected vice-president in charge of its laboratories. He will succeed Otto S. Schairer, who has become staff vice-president. Mr. Schairer will be consultant and adviser on matters pertaining to research, development, patents, trademarks and licenses.

DR. ARTHUR N. PRATER has resigned his position with the Western Regional Research Laboratory to become director of research with the C. B. Gentry Company, Los Angeles.

SIR JOHN FORSDYKE, director of the British Museum in London, and Dr. Henry Thomas, keeper of printed books of that institution, recently made a tour of the United States and Canada for consultations with members of the administrative and scientific staff of leading museums in regard to preparation for postwar rehabilitation of museums in Great Britain.

BRIGADIER HUGH CAIRNS, Nuffield professor of surgery at the University of Oxford, and now directing a special neurological service in the British Army, is expected to visit the United States and Canada in April.

THE American Cancer Society will start in April a national campaign to collect five million dollars for a national program for research on the disease. Eric A. Johnson, president of the Chamber of Commerce of the United States, is head of the national executive council, and Dr. C. C. Little is managing director. Members of the scientific committee for the research program are Dr. Little, Professor Charles B. Huggins, of the University of Chicago; Dr. James B. Murphy, head of the cancer division of the Rockefeller Institute for Medical Research; Dr. C. P. Rhoads, director of the Memorial Hospital, New York, and now colonel in the Chemical Warfare Service, and Dr. Florence R. Sabin, of the Rockefeller Institute. Rear Admiral Charles S. Stephenson, who retired recently from the Navy Medical Corps, will be the executive secretary of the research division.

DR. J. BRAUN-BLANQUET, director of the Station Internationale de Géobotanique Méditerranéenne et Alpine at Montpellier, France, reports under date of January 7 that the station had not suffered in spite of the bombings of Montpellier, and that scientific work did not undergo any considerable setback. At present, some students are preparing doctorate theses. The "Communications de la SIGMA" now number eighty-eight. Dr. Braun-Blanquet and Dr. L. Emberger have been commissioned by the "Centre National de la Recherche Scientifique" to prepare a vegetation map of France (1/20,000). Montpellier will serve as headquarters, and the first map is ready for publication.

DR. JOSEPH W. BEARD, associate professor of surgery of the School of Medicine of Duke University, will deliver the twenty-first Ludvig Hektoen Lecture of the Frank Billings Foundation on Friday evening, March 23, at the Palmer House, Chicago. His subject will be "The Ultracentrifugal, Chemical and Electron Micrographic Characters of Purified Animal Viruses."

PROFESSOR ROBERT CHAMBERS, of New York University, gave from February 26 to March 2 a series of lectures and conferences at the Ohio State University, under the auspices of the Graduate School, the Society of the Sigma Xi and the Department of Physiology.

THE annual meeting of the American Society for Clinical Investigation, which was planned for Monday, May 7, in Atlantic City, has been cancelled.

THE activities of the Electronics Department of the General Electric Company under the direction of Dr. W. R. G. Baker, vice-president, will be centered in an industrial development on the outskirts of Syracuse, N. Y., near Liverpool. Activities in electronics are now carried on in several cities. It is expected that construction of the plant on a 150-acre plot will begin as soon as wartime restrictions are lifted. The size of the development will be about a quarter of the area occupied by the Schenectady Works, and it is estimated that the new factory will be ready eighteen months from the time the Government gives permission. The plant will include an administration building, a research laboratory and assembly shops. The movement of employees into the new plant is expected to be gradual. The centralization project will not affect the operations of the radio and television stations in Schenectady.

THE late Oscar M. Stewart, from 1901 to 1944 professor of physics at the University of Missouri, gave to the university the sum of $1,000 to be used, principal and interest, for some educational or scientific purpose connected with the department of physics. This fund may be used for undergraduate or graduate scholarships or fellowships for students in the Department of Physics. In addition to this gift, Professor Stewart set up a trust fund of considerably larger amount to serve the same purposes. Applications for assistance from these funds for the 1945–46 term

should be made at an early date to the chairman of the Department of Physics of the University of Missouri.

SIR HENRY TIZARD, president of Magdalen College, Oxford, formerly head of aircraft research at the Ministry of Aircraft Production, addressed the House of Commons recently at a meeting of the Parliamentary Scientific Committee on problems of aeronautical research with special relation to civil aviation. According to *The Times*, London, "he recommended that aeronautical research should be placed in the hands of an aeronautical research council, which should come directly under the Lord President of the Council, that the director of research at the Air Ministry should be represented on that body, and that the Government should be prepared to spend at least £1,000,000 a year for the purpose." He stated that "the future of transatlantic travel would lie in flying above the 40,000 foot level, and that it could never be a regular and economic service below that height. Flights across the Atlantic should before long be possible in automatically controlled machines which would not need any navigator on board."

DISCUSSION

BLANCAN AS A TIME TERM IN THE CENTRAL GREAT PLAINS[1]

THERE are extensive Cenozoic deposits of nonmarine and nonglacial clastic sediments in the Central Great Plains region of the western interior of the United States. These deposits, mostly unconsolidated, underlie the surface of this plains area to depths of more than 500 feet, and they are considered to be mostly of upper Tertiary (Pliocene)[2] and Quaternary (Pleistocene) age. During recent years their character, stratigraphy, faunas, floras and correlations have been studied in some detail. For the most part the term Ogallala formation (or group) has been applied to that part of these deposits agreed to be Pliocene in age, and a multiplicity of names has been applied to the clastic sediments agreed to be Pleistocene in age.

The placing of these strata within the standard scale of geologic time has been accomplished largely by a study of their contained faunas supplemented by paleobotanical and stratigraphic studies. These faunas, consisting mostly of fossil vertebrates, have generally proved satisfactory for the correlation of beds within the Great Plains region, but there is not yet general agreement as to placement in this region of the time line that marks the boundary between the Pliocene and the Pleistocene. In order to clarify conflicting points of view and in an attempt to unify usage of time terms in Nebraska and Kansas, the writers of this note, representing the Nebraska Geological Survey, University of Nebraska State Museum, State Geological Survey of Kansas and the Museum of Vertebrate Paleontology of the University of Kansas, during the autumn of 1944 examined in the field some of the significant localities in the Great Plains region of these two states. As a result, the following general stratigraphic relationships and local time classifications were agreed on.

The Tertiary strata of this region exhibit normal stratigraphic relationships (modified by some local channeling)—that is, younger beds overlie older beds in ascending order. On the other hand, the Pleistocene deposits, with exception of deposits in the Meade basin of southwestern Kansas and comparable areas, display a fluvial physiographic sequence; *i.e.*, the oldest deposits occur in high terrace levels and the younger ones occur in successive lower terrace levels. The point in time that marks the end of general upward accumulation of deposits is the close of the period of deposition of the "algal limestone" or "*Chlorellopsis* limestone." This unique limestone bed is generally accepted as marking the close of Ogallala deposition in Nebraska and northern Kansas. There is general agreement among the writers that the events at the close of "algal limestone" deposition were caused by the most important diastrophic episode of late Cenozoic history of the Central Great Plains, but there is lack of agreement as to the correlation of this episode with the standard Pliocene-Pleistocene time line.

In a committee report published in 1941,[3] correlations were suggested for the several vertebrate faunas from the Great Plains and provincial time zones were proposed. The term Blancan, from the Blanco locality in northwestern Texas, was proposed as the late Pliocene provincial time zone to include beds containing the Blanco fauna and faunas of equivalent age. However, in the committee report, Wood and others considered the Broadwater fauna of Nebraska as Pleistocene and the Rexroad fauna of Kansas as Blancan, which they correlated with the late Pliocene,

[1] The manuscript for this note has been read and approved by G. E. Condra, state geologist of Nebraska, and R. C. Moore, state geologist of Kansas, on leave.

[2] Except in parts of western Nebraska and adjacent states where Tertiary formations older than Pliocene are also present.

[3] Horace E. Wood and others, *Bull. Geol. Soc. America*, Vol. 52 (1941), pl. 1.