

important advances in fundamental aspects of evolutionary theory.

Kon, George Armand Robert. Research professor of chemistry at the Royal Cancer Hospital. Distinguished for his researches in organic chemistry. During recent years his work on the polyterpenes has provided the basis for a number of important developments.

McCance, Andrew. Director and general manager, Messrs. Colville's Ltd., Motherwell. Distinguished for his work in the steel industry and particularly for his applications of physical chemistry to the processes of steel making.

Penfield, Wilder. Director of the Montreal Neurological Institute. Distinguished for his researches in neuro-histology and as a neuro-surgeon.

Pilgrim, Guy Ellecock. Formerly superintendent of the Geological Survey of India. Distinguished for his contributions to the geology of India, particularly in the field of Tertiary stratigraphy, and for his researches in vertebrate paleontology.

Stradling, Reginald Edward. Chief adviser, research and experiments department, Ministry of Home Security. Distinguished for his researches on the properties of building materials and for his direction of the Building and Road Research Stations and of the researches relating to civil defense.

Sykes, Charles. Superintendent of the metallurgy department of the National Physical Laboratory. Distinguished for his fundamental scientific research.

Synge, John Lighton. Professor of applied mathematics, Toronto. Distinguished for his contributions to mathematics, particularly to the geometry of dynamics, the theory of relativity, hydro-dynamics and electricity.

Temple, George Frederick James. Professor of mathematics, Kings College, London. Distinguished for his contributions to mathematical physics, particularly to quantum theory, relativity and mechanics.

Du Toit, Alexander Logie. Lately consulting geologist to the De Beers Consolidated Mines. Distinguished for his contributions to the geology and petrology of South Africa, particularly his work on the Karroo system and his comparative study of the equivalent succession of South America.

Zuckerman, Solly. Professor of anatomy, University of

Birmingham. Distinguished for his studies on the morphology and relationship of the primates and on their reproductive physiology. He has also made outstanding contributions to the study of social behavior in the lower primates.

#### MEDAL DAY OF THE FRANKLIN INSTITUTE, PHILADELPHIA

MEDAL DAY ceremonies of the Franklin Institute will be held on Wednesday evening, April 21, at half past five o'clock and will open with a reception to the medalists at which a portrait of Past-president P. C. Staples will be unveiled. A dinner and the presentation of awards will follow.

Certificate of Merit to Carl S. Hornberger, Central Scientific Company, Chicago. The Longstreth Medals jointly to Robert Griffin De La Mater and William Schwemlein, the Parkersburg Rig and Reel Company, W. Va. The Wetherill Medal to Robert Howland Leach, Vice-president, Handy and Harman, Bridgeport, Conn. The Brown Medal (posthumously) to Albert Kahn, Albert Kahn Associated Architects and Engineers, Inc., Detroit. Received by Mrs. Kahn. The Henderson Medal to Harry Miller Pflager, senior vice-president, General Steel Castings Corporation, Illinois. The Levy Medal to Anders Henrik Bull, assistant engineer, Board of Transportation of the City of New York. The Potts Medals to Francisco Ballén, director, National Guano Administration, Lima, Peru, and Paul Renno Heyl, National Bureau of Standards. The Cresson Medal to Charles Metcalf Allen, professor of hydraulic engineering, Worcester Polytechnic Institute. The Franklin Medal and Certificate of Honorary Membership to George Washington Pierce, Rumford professor of physics, emeritus, and Gordon McKay professor of communication engineering, emeritus, Harvard University, and to Harold Clayton Urey, professor of chemistry and executive officer, department of chemistry, Columbia University.

Following the presentation of the awards Dr. Pierce will make an address entitled "Songs of Insects" and Dr. Urey will speak on "The First Ten Years of Heavy Hydrogen."

## SCIENTIFIC NOTES AND NEWS

DR. KARL T. COMPTON, president of the Massachusetts Institute of Technology, will deliver the Pilgrim Trust lecture at Burlington House, London, on May 6. The Pilgrim Trust sponsors an exchange of lectures on alternate years between the National Academy of Sciences and the Royal Society.

THE Charles Frederick Chandler Medal, awarded annually by Columbia University for noted achievements in the field of chemistry, has been given this year to Willard H. Dow, of Midland, Mich., president of the Dow Chemical Company. The Chandler Medal was established in 1910 in honor of Professor Chand-

ler, a pioneer in industrial chemistry. The presentation to Mr. Dow will take place on May 20 in Havemeyer Hall, when he will deliver the Chandler lecture.

THE Eggleston Medal of the Columbia University Engineering Schools Alumni Association has been awarded to Thomas H. Chilton, director of the technical division of the engineering department of E. I. du Pont de Nemours and Company, Wilmington, Del., for "distinguished engineering achievement." The award is made in recognition of "outstanding achievements in the discovery and formulation of principles underlying the unit operations of chemical engineer-

ing and in the application of these to process development, to equipment design and to chemical plant construction and operation." The presentation will be made at the seventy-second annual dinner of the engineering alumni on April 29.

THE council of the Royal Society of Edinburgh has awarded the Makdougall-Brisbane Prize for 1938-1942 to Sir William Wright Smith, regius professor of botany at the University of Edinburgh, "for his papers within the period of the award, and in recognition of his valuable contributions to systematic botany."

THE faculty of medicine of the University of Berne has conferred the degree of doctor of pharmacy, *honoris causa*, on Dr. Arthur Stoll, of Basle, in recognition of "his contributions to the chemistry of medicinal plants." Our correspondent writes that "Dr. Stoll was first to describe new methods to isolate active principles of drugs heretofore available only in the form of unstable galenicals. The isolation in pure form of such principles has not only widened their therapeutic application, but has opened entirely new indications owing to specific actions not obtainable with the crude drug (*i.e.*, ergotamine). This is the first time the faculty of medicine of the University of Berne has conferred this honorary degree."

It is stated in *Nature* that Dr. Leslie H. Lampitt, chief chemist and a director of Messrs. J. Lyons and Co., Ltd., has been awarded the medal of the Society of Chemical Industry, given for conspicuous services to the society. Dr. Lampitt has served on the council of the society for many years and has been its honorary foreign secretary and is now its honorary treasurer. He is also chairman of the Chemical Council. He has published many researches on foodstuffs.

THE Council of the British Institution of Naval Architects has awarded the Gold Medal of the institution for the year 1942 to W. C. S. Wigley, for his paper "Calculated and Measured Wave Resistance of a Series of Forms Defined Algebraically, the Prismatic Coefficient and Angle of Entrance being Varied Independently." The Wakeham Prize for 1942 has been awarded to N. Hancock for his paper, "Blade Thickness of Wide-Bladed Propellers."

THE American Association of Dental Schools has elected the following officers: *President*, Allen T. Newman, of New York University; *President-elect*, F. W. Hinds, of Baylor University; *Vice-president*, Alvin W. Bryan, of the State University of Iowa. Carl O. Flagstad, of the University of Minnesota, was re-elected secretary-treasurer. The 1944 meeting will be held at the Drake Hotel, Chicago.

DR. JURGEN RUESCH, of Zurich and Basle, has been appointed lecturer in psychiatry at the Medical School of the University of California, San Francisco. Since the outbreak of the war he has held a Rockefeller Foundation fellowship and has been working in Boston hospitals and at the Harvard Medical School.

DR. DAVID L. COFFIN, instructor in veterinary pathology at the University of Pennsylvania, has been appointed to the Herbert Fox Memorial Fellowship in comparative pathology at the Zoological Society of Philadelphia. Dr. Coffin, who is the first incumbent of the fellowship, will serve as assistant to Dr. Herbert L. Ratcliffe, recently appointed director of the Penrose Research Laboratory of the Zoological Society and assistant professor of comparative pathology at the University of Pennsylvania.

DR. EDGAR C. BAIN, a member of the research staff of the U. S. Steel Corporation since 1928, has been appointed vice-president of the Carnegie-Illinois Steel Corporation, principal subsidiary of the U. S. Steel Corporation, in charge of research and technology. Dr. Bain is an authority on alloy steels.

COLONEL JAMES STEVENS SIMMONS, director of the Division of Preventive Medicine, Office of the Surgeon General, U. S. Army, has been made a brigadier general with rank from March 14.

MALCOLM E. CAMPBELL, senior cotton technologist in charge of the technical research program of the cotton and fiber branch of the Department of Agriculture, has joined the staff of the Textile Research Institute, Inc., where he will supervise applied and cooperative research activities.

DR. GAYLORD W. ANDERSON, on leave from his post as head of the division of preventive medicine and public health of the Medical School of the University of Minnesota to serve in the Office of the Surgeon General of the Army, has been made head of the division of medical intelligence. The division compiles health, climatic and sanitation evidence with respect to every area to which United States troops may be sent and stands ready at a moment's notice to supply such information to the medical officers of detachments sent anywhere in the world. Such matters as the types of insects, snakes and other possibly dangerous creatures, diseases peculiar to the area, degrees of heat and humidity, poisonous plants, necessary dietary precautions, probable purity of the water supply and the like are included in comprehensive surveys.

It is reported in the daily press that Professor Ray G. Johnson, head of the department of animal husbandry of Oregon State College, has arrived in Chungking at the invitation of the Chinese Ministry of Education. He will give a series of lectures on animal

husbandry in various universities and colleges in Free China and will make an extensive tour of the Northwest, where he will study the development of animal husbandry.

THE nineteenth Lewis Linn McArthur Lecture of the Frank Billings Foundation of the Institute of Medicine of Chicago will be delivered at the Palmer House on Friday evening, April 23, by Dr. Chester M. Jones, of the Massachusetts General Hospital, Boston. He will speak on "The Relationship between the Nervous System and Pain Perception with Particular Reference to the Gastro-intestinal Tract."

THE commencement address at the Hahnemann Medical College and Hospital was given on March 25 by Dr. Haven Emerson, professor of public health, Columbia University.

DR. WILLIAM E. LADD, professor of child surgery, Harvard Medical School, Boston, delivered the first Béla Schick Lecture at Mount Sinai Hospital on April 13. His subject was "Time and Choice of Operation in Early Life." The lecture is one of a series planned in honor of Dr. Béla Schick, now consultant and formerly pediatrician in chief at the Mount Sinai Hospital and is made possible by a fund contributed in 1942 by his friends and associates.

THE annual Hughlings Jackson Memorial Lecture of the Montreal Neurological Institute will be given on April 28 by Professor Philip Bard, of the department of physiology of the Johns Hopkins Medical School. The title of the lecture will be "Re-representation as a Principle of Central Nervous Organization."

THE Association of Southeastern Biologists will not hold its annual meeting this spring. Dr. Mary S. MacDougall is president and Dr. Martin D. Young, of the U. S. Public Health Service, Columbia, S. C., has been elected secretary-treasurer.

THE March number of *The American Journal of Physical Anthropology*, which has just appeared, marks the beginning of a new series under a new editor. Dr. Aleš Hrdlička, who founded the journal in 1918 and carried it through the first twenty-nine volumes, has resigned in favor of an editorial board representing the American Association of Physical Anthropologists. This board consists of Dr. T. D. Stewart, of the U. S. National Museum, *Managing Editor*; Dr. Mildred Trotter, of Washington University; Dr. Wilton M. Krogman, of the University of Chicago; Dr. William W. Greulich, of Western Reserve University, and Dr. Carl C. Seltzer, of Harvard University, *Associate Editors*.

YALE UNIVERSITY has established eight research fellowships amounting to \$20,000 for the year beginning July 1. The fellowships, which are in the field

of the humanities and sciences, are under the auspices of the Committee on Liberal Studies under the chairmanship of Professor Chauncey B. Tinker. They will be open to young scholars of the United States or Canada for a year's research at Yale and will pay the recipient \$2,500 a year. Although the normal appointment for these fellowships is a full academic year (ending in July, 1944), applications are nevertheless accepted from qualified men and women who may be able to spend only a part of the year upon the fellowship. Applicants should possess the Ph.D. degree, and preference will be shown to those who have demonstrated a capacity for independent research. Applications should be addressed to the Dean of the Graduate School at Yale and must be received on or before May 10. Announcements of awards will be made on May 20.

A GIFT is announced of about \$50,000 to the Medical School of Tufts College from Dr. and Mrs. George G. Averill, of Waterville, Me. Dr. Averill, who is a graduate of the school, had previously made a similar contribution.

GIFTS amounting to nearly \$80,000 were made to New York University during February and March. The largest single item was \$17,625, which was contributed by alumni and friends of the College of Medicine through Dean Currier McEwen towards an emergency fund made necessary by the accelerated program of training physicians for the war effort. Other alumni contributed \$5,000, through the Alumni Fund, toward general university expenses. The sum of \$48,844 was contributed to the College of Medicine, much of it for research in such fields as metabolism, nutrition, neurology, psychiatry, anesthesia and surgery, the need for which has been stimulated by the war. Gifts were reported from the Williams and Waterman Fund of the Research Corporation, the Lucius N. Littauer Foundation, Inc., the Carnegie Corporation, Josiah Macy, Jr., Foundation, the National Committee for Mental Hygiene and many others.

THE Johns Hopkins University has established a special course to train technicians in the use of industrial instruments and controls. The Brown Instrument division of the Minneapolis-Honeywell Regulator Company is cooperating in the program by assigning as guest lecturers members of its Philadelphia technical staff. They will explain the working of such instruments as the recently developed electronic potentiometer, the Radiamatic pyrometer and air-operated process controls. Sixty picked men from war plants in this area are attending the classes, which include both lectures and laboratory instruction in the principles of temperature measurement and use

and maintenance of control instruments. They are under the direction of Dr. R. B. Anderson.

THE first completed section of the Hall of New World Archeology was opened to the public at Field Museum of Natural History early this year. According to Dr. Paul S. Martin, chief curator of the department of anthropology, under whose supervision the new exhibits were designed and prepared, the hall marks the beginning of an era of improved techniques in the exhibition of anthropological material. The material used is largely from expeditions conducted by Dr. Martin and associated archeologists. The section now being opened bears the title "Indian America," and presents "streamlined" exhibits of the New World civilizations as the white men found them when they invaded the western hemisphere. Later, other sections of the hall will be completed. Besides Dr. Martin members of the museum staff who played an important part in the planning of the hall are Donald Collier, assistant curator of North American archeology; Mrs. Alexander Spoehr, artist, and Alfred Lee Rowell, dioramist. Dr. Alexander Spoehr,

assistant curator of North American ethnology and archeology, also had a great deal to do with the conception and preparation of the hall, but he is now on leave of absence from the museum as an ensign in the U. S. Navy. Another staff member, Dr. John Rinaldo, research associate, who made contributions to the new exhibits, is serving in the Army as a staff sergeant.

THE British Secretary for the Colonies, according to *The Times*, London, has approved a recommendation of the Colonial Advisory Council of Agriculture and Animal Health that its functions should be extended to include forestry. The council will accordingly in future be known as the Colonial Advisory Council of Agriculture, Animal Health and Forestry. Additional members will be appointed to the council to advise on forestry matters, and a Forestry Committee will shortly be set up. The Duke of Devonshire, as successor to Harold Macmillan, Parliamentary under-secretary for the Colonies, has assumed chairmanship of this council; the vice-chairman is G. L. M. Clauson, assistant under-secretary.

## DISCUSSION

### THE COMPLEX VITAMIN B COMPLEX

THE existence of thirteen vitamins is now commonly accepted. Of these, eight are members of the so-called vitamin B complex. Of the latter group thiamine ( $B_1$ ), riboflavin ( $B_2$ ), pyridoxine ( $B_6$ ), nicotinic acid, pantothenic acid and biotin are recognized as vitamins by all workers, but there is not complete agreement as to whether inositol and choline (or a choline-like factor) should be so classified. The status of para-amino-benzoic acid as a vitamin still is indefinite.

During comparatively recent years, discoveries of more than twenty additional B vitamins have been announced from competent laboratories. Some of these, however, have been eliminated by the isolation of the eight members referred to above. That seems to have been the case with vitamins  $B_3$ ,  $B_4$  and  $B_5$ . This elimination process no doubt will be applied to other B vitamin designations.

The isolation of a new vitamin is important for several reasons: (1) it adds to our knowledge of nutrition, (2) it offers hope of chemical identification and synthesis of the compound, (3) it makes possible further advances through incorporation of the pure vitamin into synthetic diets and (4) it simplifies the list of vitamins by eliminating some of those previously announced.

Early in 1940 it was reported from the laboratory of one of us<sup>1</sup> that under certain dietary conditions chicks grow slowly, and develop a severe anemia which

can be cured with liver extracts. The responsible factor was recognized as an unidentified member of the B complex and for convenience it was designated as vitamin  $B_c$ .

Although other factors required for the growth of the chick have been announced (factors U, R, S and the norit eluate factor) the anemic condition in relation to vitamin B deficiency has not been observed by others prior to 1942. Recently, however, Mills, Briggs, Elvehjem and Hart<sup>2</sup> have verified this claim. They state that "the occurrence of anemia on our basal ration and its prevention by the norite eluate factor is suggestive of the identity of the norite eluate fraction with Hogan's antianemic factor." They also point out that the factors listed above, together with "folic acid," possess certain similarities.

Since the 1940 reports, research workers in our laboratories have consistently verified the claims made in respect to vitamin  $B_c$  and have extended the work. The first of their joint progress reports appears in this number of *SCIENCE* and as a result of that, and of future publications, it is reasonable to expect a simplification of the vitamin B problem.

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PARKE, DAVIS AND COMPANY,  
DETROIT, MICH.

<sup>1</sup> A. G. Hogan and E. M. Parrott, *Jour. Biol. Chem.*, 132: 507, 1940.

<sup>2</sup> R. C. Mills, G. M. Briggs, Jr., C. A. Elvehjem and E. B. Hart, *Proc. Soc. Exper. Biol. and Med.*, 49: 186, 1942.