and the introduction of specific and characteristic magnitudes in the physico-chemical applications of the theory of Josiah Willard Gibbs.

He has developed new methods for measuring the physical properties of fluids; as a practical result of his work, enormous savings of fuel in improved steam-turbines have been made; while similar benefits to refrigeration practise have come from his work in ammonia. It is clear, therefore, that he is not a Laodicaean.

His mastery of the methods of theoretical analysis is equalled by his skill in devising and carrying out experimental procedures of the highest precision.

President Angell:

Nature has joined in you fruitful and unusual powers of theoretical analysis to high fertility in ingenious practical experimentation, the union issuing in a plethora of discoveries invaluable to man. In recognition of your honorable achievement and because she sees in you a worthy descendant in the direct scientific line from her own great Willard Gibbs, she confers upon you the degree of Doctor of Science, admitting you to all its rights and privileges.

ADOLF MEYER, SC.D.

Professor Phelps:

Psychiatrist and neurologist. He is a man, who, although he was born in the nineteenth century, belongs emphatically to the twentieth.

He was born near Zurich, in Switzerland, and studied there until he took the degree of doctor of medicine in 1892. Then he pursued his studies—often overtaking them—in Paris, Edinburgh, London, Vienna and Berlin. Later he was on the teaching staff of various American universities, going from his professorship in the Medical School of Cornell, to Johns Hopkins in 1910. This came about through the presentation by Doctor Welch of Clifford Beers's book, "A Mind that Found Itself," to Mr. Henry Phipps, who then founded the Phipps Psychiatric Clinic in Baltimore. Psychiatry had not been an unknown plant in that educational Eden, but it seemed exotic, delicate and unattractive. Several years elapsed before Meyer's clinic was ready, but his activities in the field of the study of the central nervous system and his technique, seemed to his contemporaries not only superior but miraculous.

When the institute came, it was abreast of every other clinical field in its facilities for research.

Dr. Meyer's broad viewpoint, involving the biological, the psychological, and the social approaches to behavior, his keen understanding of the importance of the analysis of average or normal behavior, and of the importance of preventive measures in psychiatry, have made him a leader.

Absorbed in his work, he failed to realize his own importance. When the Queen of Belgium visited his clinic in Baltimore and found he was busy, she waited awhile; then seeing him at a distance, walked over and introduced herself as the Queen of Belgium. He replied, "Yes. How long have you thought you were the Queen? Many of my patients have similar ideas."

President Angell:

Beloved physician to the ailing mind of man, armed with all the weapons of science and twice armed by a gentle, kind and sympathetic spirit, you have brought hundreds from the edge of the precipice back to happy, normal lives. In no small measure through your influence, psychiatry and mental hygiene have won their way into the high places of American medicine, whence so long and so unwisely they had been excluded. Yale University counts it a pleasure to confer upon you the degree of Doctor of Science, admitting you to all its rights and privileges.

SCIENTIFIC NOTES AND NEWS

PROFESSOR BAILEY WILLIS, emeritus professor of geology at Stanford University, was elected at the Berkeley meeting president of the Pacific Division of the American Association for the Advancement of Science. He succeeds Dr. Joel H. Hildebrand, professor of chemistry at the University of California.

THE honorary degrees conferred by Harvard University at its two hundred and ninety-eighth commencement included the degree of doctor of science conferred on Dr. Thomas Hunt Morgan, director of the William G. Kerckhoff Laboratories of the California Institute of Technology, and the degree of doctor of laws conferred on Dr. Edward Lee Thorndike, professor of psychology and director of the division of psychology of the Institute of Educational Research at Teachers College, Columbia University. The citations made by President Conant were: "Thomas Hunt Morgan—a renowned zoologist whose experimental skill and penetrating insight have laid bare the mechanism of heredity." "Edward Lee Thorndike—educational psychologist, the foremost American pioneer in developing those new types of measurement which supplement our oldest forms of examination."

PRINCETON UNIVERSITY has conferred the degree of doctor of laws on Dr. James Bryant Conant, president of Harvard University, and the doctorate of science on Dr. Arthur Holly Compton, Swift professor of physics at the University of Chicago.

WILLIAMS COLLEGE conferred at commencement the degree of doctor of science on Dr. Winterton C. Curtis, professor of zoology at the University of Missouri.

DARTMOUTH COLLEGE on June 11 conferred the degree of doctor of science on John Adam Fleming, acting director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington.

AT the sixtieth commencement of Carleton College on June 11 the degree of doctor of science was conferred on Dr. Edward C. Rosenow, and the degree of doctor of laws on Dr. Donald Church Balfour. Dr. Rosenow is head of the Division of Experimental Bacteriology at the Mayo Clinic and Dr. Balfour is head of the Division of Surgery and president of the Board of Governors.

DR. LAWRENCE J. HENDERSON, professor of biological chemistry at Harvard University, received on May 12 the degree of doctor *honoris causa* from the University of Grenoble.

THE University of Oxford conferred on June 24 the doctorate of science on Dr. Archibald Vivian Hill, Foulerton research professor of the Royal Society.

DR. WALTHER NERNST, professor of physical chemistry and director of the Institute of Physics at the University of Berlin, celebrated his seventieth birthday on June 25.

THE council of the Royal Society of Arts, London, has awarded the Albert Medal for 1934 to Sir Frederick Gowland Hopkins, president of the Royal Society and Sir William Dunn, professor of biochemistry at the University of Cambridge, for his researches in biochemistry and the constituents of foods.

THE first award of the British Gold Medal for aeronautics has been made to Captain G. de Havilland for his services tending towards advancement in the science of aeronautics.

KING GEORGE has approved the grant of the Polar Medal in bronze, with clasp inscribed "Antarctic 1929–31," to Dr. William W. Ingram, who was a member of the British, Australian and New Zealand Antarctic Research Expedition, 1929–31.

PROFESSOR PIETRO RONDONI, of the department of pathology at the University of Milan, was recently named "academician of Italy." Professor Rondoni is known for his researches in morphology and serology.

DR. B. E. LIVINGSTON, of the Johns Hopkins University, has been elected president, and Dr. J. P. Bennett, of the University of California, vice-president of the American Society of Plant Physiologists for 1934–35. Dr. A. E. Murneek, of the University of Missouri, will serve another year as secretary-treasurer.

AT the tenth annual meeting of the American Association of the History of Medicine, held at Cleveland, on June 11, the following officers were elected: *President,* Dr. E. B. Krumbhaar; *Vice-presidents,* Drs. C. N. B. Camac and W. S. Middleton; *Secretary-Treasurer,* Dr. E. J. G. Beardsley, Philadelphia, and Dr. C. V. Weller, incoming member of the council.

DR. J. C. MEAKINS, professor of medicine at McGill University, was chosen president-elect of the Canadian Medical Association at the recent meeting held at Calgary, Alberta.

DR. FRANK A. HARTMAN, professor of physiology at the University of Buffalo, has been appointed professor of physiology at the Ohio State University.

DR. RAYMOND B. ALLEN, associate director of the New York Post-Graduate Medical School, becomes associate dean of the Columbia School of Medicine on July 1.

DR. WILLIAM WELCH FLEXNER, of Bryn Mawr College, son of Dr. Simon Flexner, of the Rockefeller Institute for Medical Research, has been appointed assistant professor of mathematics at Cornell University.

CAPTAIN G. T. R. HILL has been appointed to the Kennedy chair of engineering in the University of London.

DR. HENRY COHEN, lecturer in medicine in the University of Liverpool and honorary physician to the Liverpool Royal Infirmary, has become professor of medicine in the university in succession to Professor John Hay.

DR. CURTIS FLETCHER MARBUT, chief of the Soil Survey of the U. S. Department of Agriculture, although past the usual retirement age, will be among the scientific men who are retained in the service of the government during the fiscal year of 1935 because of the need for continuing exceptionally important contributions to their respective fields of scientific research. The appointment of Dr. Marbut as honorary professor of soils at the University of Missouri will not be affected by his continuance as chief of the Soil Survey of the Bureau of Chemistry and Soils.

DR. WILLIS R. WHITNEY, vice-president of the General Electric Company, has been appointed chairman of the education committee of the Board of Trustees of Union College.

DR. LEROY P. ABRAMS, who, following the retirement of Professor George J. Peirce, was appointed head of the department of botany at Stanford University, has become director of the Natural History Museum, which has been reorganized as an administrative unit.

DR. E. L. COREY, assistant professor of physiology at the University of Virginia, will work during the summer at the Morris Biological Farm of the Wistar Institute.

PROFESSOR A. A. ALLEN, of Cornell University, left on May 28, for Churchill, Manitoba, on Hudson Bay, for six weeks' intensive study of the northern grouse

or ptarmigan. He is making the trip in the interests of the American Game Association as well as of the laboratory of ornithology at Cornell, and has the active cooperation of the New York State Conservation Department and the game officials of the Dominion of Canada.

DR. SAMUEL N. DICKEN, of the department of geography of the University of Minnesota, will make a study this summer of typical village life in the Sierra Madre Oriental of northeastern Mexico, and Dr. Ralph H. Brown, assistant professor of geography, will continue his work on the types of farming and community life in the foothills of the Big Horn mountains near Buffalo, Wyoming. The work has been made possible by funds provided by the Rockefeller Foundation through the Graduate School.

DR. A. RICHARD BLISS, JR., director of the Reelfoot Lake Biological Station, Tennessee, delivered the commencement address on June 1, at the eighty-fourth annual commencement of the Cincinnati College of Pharmacy.

PROFESSOR JULIUS TANDLER, of the National College of Medicine, Shanghai, and of the University of Vienna, lectured at the University and Bellevue Hospital Medical College on "The Principles of Abdominal and Pelvic Anatomy" on June 18 and 19.

Nature reports that the thirty-ninth annual congress of the South-Eastern Union of Scientific Societies will be held at the University of Reading from July 11 to 14, under the presidency of Professor H. L. Hawkins, professor of geology in the university. On July 11, Professor Hawkins will deliver his presidential address entitled "Fossils and Men." The presidents of sections will deliver the following addresses during the congress: T. D. Kendrick (Archeology), "The Art and Archeology of the Early Anglo-Saxons"; Dr. Macgregor Skene (Botany), "Some Problems of Germination"; Dr. C. B. Williams (Zoology), "Insect Immigration in Great Britain"; T. H. Edmunds (Geology), "The Water Supply and Geology of the South-East of England"; C. H. Grinling (Regional Survey), "Surrey for Action." On July 13, Professor E. B. Poulton will deliver a public lecture entitled "The Power of Changing Color as a Form of Protective Resemblance."

BY the will of Mrs. Abbey K. Babcock, her estate is left in trust to her husband, Frederick K. Babcock. On his death the Field Museum, Chicago, will receive $100,000, and the residue of the estate is bequeathed to regents of the University of Michigan to promote "urological medical research work and the study and dissemination of urological diseases."

A GRANT of $3,000 has been made by the National Research Council to the School of Physiology in the department of medicine in the University of Virginia to carry forward a research in the relations of the adrenal glands and sex, by Dr. Sydney W. Britton, professor of physiology.

AT the recent commencement exercises of Cornell University, Dr. Livingston Farrand announced that during the year the university had received two bequests, one of $500,000, representing the maturity of a trust fund which Mr. Westinghouse established in 1925 and from which he received the income until he died. The second bequest, amounting to $250,000, left by C. Sidney Shepard, a Yale graduate and a trustee of Cornell for thirty-two years, will be added to the permanent endowment of the university as the Sidney and Elizabeth D. Shepard Fund, in honor of Mr. Shepard's parents. A gift of $100,000, from the General Education Board, was also announced. It will be used for the operating expenses of the New York Hospital-Cornell Medical College in New York City.

ANNOUNCEMENT is made of grants amounting to $8,500 annually for two years to the School of Medicine, Western Reserve University, for the extension of work in experimental pathology. Of this amount, $3,000 annually has been contributed by Nathan G. Richman and Charles L. Richman, of Cleveland, and $500 annually by Richard H. Kohn; while the remaining $5,000 comes through Nathan L. Dauby and Morton J. May, trustees of a Charity Trust created by Commodore Louis D. Beaumont, now residing abroad. These sums will be employed for the prosecution of further work by Dr. Harry Goldblatt, now associate professor of pathology, and his assistants, especially on the study of high blood pressure and of peritonitis. These and other investigations of the same general nature will be carried on at the Institute of Pathology.

THE twenty-third annual report of the Brooklyn Botanic Garden, recently published, records a total attendance for 1933 of 1,315,847, as against 1,307,964 in 1932. Reports on research in progress occupy twenty-one pages. Four research students were registered at the garden during the year. The number of lectures, addresses and class exercises was 1,684. Twenty-one exhibits were installed, not including those at the garden. For the exhibit at the 1933 International Flower Show in New York, the garden received the Gold Medal of the Garden Club of America. During the year, forty-two garden clubs and similar groups held meetings at the garden. Twenty-seven talks on botanical and horticultural topics were broadcast over several different stations. More than 6,000 teacher-

requests for study material for colleges, high schools and elementary schools were met with material for the instruction of nearly 260,000 pupils. The Local Flora Section, of about three acres, was opened on May 9. This area is planted on an ecological basis. The total budget of $165,690 represented a decrease of income of $22,782 as compared with 1932, a loss of approximately 12 per cent. The loss of available income as compared with 1930 was $46,873. During the year the sum of $10,232 was added to the endowment fund. The year was closed without a deficit and without vacating any positions.

DISCUSSION

A RARE SPECIMEN OF ZEA MAYS VAR. SACCHARATA[1]

A SPECIMEN of maize, collected by Earl H. Morris, archeologist, and identified by the writer as *Zea Mays var. saccharata,* is of special interest because of the fact that it is the only specimen of sweet corn so far identified from the numerous historic collections of corn recovered in the United States. This specimen is found in the American Museum of Natural History. Through the courtesy of the curator in chief, Dr. Clark Wissler, the writer secured the loan of this specimen for determination and study and it is described as follows:

Zea Mays var. saccharata
Aztec sweet corn
Specimen No. 29–0–9397

Length of ear 3.75 inches, diameter 1 inch at butt, tapering. Eight-rowed, regular. Kernels broad and shallow, measuring 5/8 of an inch broad, 2/8 of an inch long, cuneate to truncate, central area distinctly depressed, forming a marginal ridge, pericarp coarsely wrinkled, color pale amber, endosperm translucent, hard and brittle. Embryo completely disintegrated, color dark brown. Starch grains small, many poorly formed and tending to aggregate. Cob buff color. Ear enclosed in a husk 7¼ inches long, shank 2½ inches long bearing 5 nodes. The kernels are homozygous throughout and possess the severe wrinkling and translucent horny endosperm typical of sweet corn. The size, color and 8-rowed character are highly suggestive of Golden Bantam, a popular present-day variety.

The question has been raised as to the possibility of this being an immature specimen of field corn. The condition of the kernels in the upper half of the ear give evidence that the ear was plucked while still immature. The kernels towards the base of the ear are fully developed and show the wrinkled pericarp and translucent endosperm typical of sweet corn.

The specimen was collected by Mr. Earl H. Morris, who furnished the writer the following statement regarding its history.[2]

The ear of sweet corn from Room 139 of the Aztec Ruin, New Mexico, came from a refuse deposit laid down during the Mesa Verde phase of Pueblo III. The Aztec Ruin was built between 1110 and 1121 by a group of Chaco people, occupied for a time, then abandoned, and finally reoccupied by groups representative of the Mesa Verde strain of Pueblo culture. In accordance with Dr. Douglass' findings, the entire San Juan country was abandoned not long before or after 1300 A. D. In view of these facts it would be safe to estimate that the ear of corn in question was grown between the years 1200 and 1300.

The fact that sweet corn existed in pre-Columbian times is proved by this specimen. Since it is the only historic specimen so far identified in the numerous archeological collections of maize, doubt is expressed as to sweet corn being either a wide-spread or an important Indian food plant in the United States in the pre-Columbian period. The theory of its origin as a mutant of field corn is in harmony with the genetics of the corn plant.

The fact may also be noted that, among the numerous collections of historic corn from Peru, apparently but one specimen of sweet corn has so far been identified. This specimen was collected by M. Uhle under the direction of Dr. A. L. Kroeber, of the University of California, to whom we are indebted for the loan of this ear. This specimen, termed Huamachuco corn of the Inca period from northern Peru, was identified by Hendry[3] as sweet corn, a determination with which we do not wholly agree. This specimen we think belongs to the starchy sweet corn *Zea amylsaccharata* of Sturtevant. The starchy character of the endosperm is much more pronounced than in the pseudo starchy sweet corn of Jones. At any rate, it is interesting to note that sweet corn material is apparently rare in the maize collections from Peru, which seems to run parallel to the situation in the United States.

A. T. ERWIN
IOWA STATE COLLEGE

A CONCEPT OF COLLOIDAL SYSTEMS BASED ON PROBABILITY

THE two most important features upon which the nature of the colloidal state is generally predicated

[1] Journal Paper No. J 146 of the Iowa Agricultural Experiment Station, Ames, Iowa.
[2] Earl H. Morris, letter to author under date of November 20, 1933.
[3] Huamachuco corn by Hendry. *Jour. Amer. Soc. of Agron.*, vol. 22, 1930.