hydrogen bonding and solubility behaviors, which forms the basis for one method of electrical refrigeration operating at low pressure, minimizing explosion hazards; the identification of organic compounds; the effect of structure in hexaarylethanes; the synthesis and rearrangement of polyines and polyynes, and the organo-metallic compounds.

The Nichols Medal award was founded by the late Dr. William H. Nichols, a charter member of the American Chemical Society and chairman of the board of the Allied Chemical and Dye Corporation. It is conferred annually to stimulate original research in chemistry. The presentation to Dr. Marvel will be made at a meeting of the New York Section on March 10, 1944.

Recipients of the medal include John M. Nelson, Phoebus A. Levene, Joel H. Hildebrand, Irving Langmuir, James Bryant Conant, Frank C. Whitmore, William M. Clark, Charles A. Kraus, Hugh S. Taylor, Julius A. Nieuwland, Gilbert N. Lewis, Charles L. Parsons, Claude S. Hudson, Marston T. Bogert, Henry C. Sherman, Roger Adams, William A. Noyes, Thomas Midgley, Samuel C. Lind, Leo H. Baekeland, H. C. P. Weber, Edward C. Franklin, M. A. Rosanoff, C. W. Easley, T. B. Johnson, Charles James, M. H. Walker, M. B. Bishop, E. B. Voorhees, William L. Evans, Moses Gomberg, Samuel E. Sheppard, John A. Wilson, Linus Pauling, Duncan A. MacInnes and Arthur B. Lamb.

Members of the 1944 jury are Dr. William H. Winship, Robert Calvert, Vincent du Vigneaud, Charles N. Frey and Ralph H. Muller.

SCIENTIFIC NOTES AND NEWS

DR. TOM DOUGLAS SPIES, associate professor of medicine in the College of Medicine of the University of Cincinnati and director of the nutrition clinic of the Hillman Hospital at Birmingham, Ala., was presented with the occasional research medal of the Southern Medical Association at the opening on November 16 of a three-day wartime meeting. The presentation was made to Dr. Spies by Dr. Harvey F. Garrison, president of the association. The medal was awarded "in recognition of his outstanding contributions to our knowledge of the science of human nutrition, especially in his elucidation of earlier and better methods of diagnosis and treatment of disease."

THE Chemical Industry Medal for 1943 of the Society of Chemical Industry was presented on November 12 to Dr. John J. Grebe, director of the physics research laboratory of the Dow Chemical Company. A joint meeting was held at the Hotel Roosevelt of the American section of the Society of Chemical Industry, the New York section of the American Chemical Society and the New York section of the American Institute of Chemical Engineers. Ray H. Boundy, manager of the plastics division of the Dow Chemical Company, spoke on the personal side of the life of the medalist, and Dr. W. R. Veazey, research coordinator of the company, on his accomplishments. Walter P. Cohoe, president of the society, presented the medal. Dr. Foster D. Snell, chairman of the American section, presided at the meeting. The medal is awarded for valuable applications of chemical research to industry. Dr. Grebe was recognized for "his contribution to the solution of some of the very difficult problems connected with the automatic control of chemical reactions, particularly with reference to the anticipatory control necessary to the reactions."

THE Annie J. Cannon Prize of the American Astronomical Society for women astronomers has been awarded to Miss Antonia C. Maury, of Hastings, N. Y., for her distinguished work on the classification of spectra at the Harvard College Observatory.

DR. ROBERT E. STREET, who has been engaged in aero-dynamic research at Langley Field for the National Advisory Council on Aeronautics, has been appointed a visiting lecturer in physics at Dartmouth College.

DR. WILLIAM DOCK, professor of pathology at the Cornell University Medical School, has been appointed professor of medicine and chairman of the department of the School of Medicine at the University of Southern California.

DONALD P. SHERMAN, director of athletics at the Michigan College of Mining and Technology, Houghton, has been promoted to a professorship of physical education.

DR. FRANK E. NELSON, associate professor of dairy bacteriology at Kansas State College, has been named professor of dairy industry at the Iowa State College and research professor at the Agricultural Experiment Station. He succeeds Professor B. W. Hammer.

MCGILL UNIVERSITY announces the establishment of a department of psychiatry and, in association with the Royal Victoria Hospital, the establishment of an institute for research and teaching. Dr. D. Ewen Cameron has been appointed to the chair of psychiatry and will be director of the institute. Through the generosity of Sir Montagu and Lady Allan, a building and an extensive site have been provided. The institute will contain fifty beds for patients suffering from

early and acute psychiatric conditions. Facilities for intensive treatment are being set up. The development of research and treatment will be major objectives, and with this in view large and well-equipped laboratories will be provided. The project is being supported both by the Rockefeller Foundation and the Government of the Province of Quebec.

THE *Harvard Alumni Bulletin* reports that Dr. Chocheng Chu, for many years a professor in the National Chekiang University and director of the Institute of Meteorology, is now president of the university.

DR. C. W. THORNTHWAITE, climatologist in the U. S. Soil Conservation Service, is in Mexico, on a special assignment with the Mexican Government. He is making climatic studies for the benefit of agriculture and irrigation, and is initiating special microclimatic studies at the National College of Agriculture in Chapingo.

DR. ROBERTO SOUZA COELHO, director of the Pasteur Institute of Rio de Janeiro, is in the United States on a mission for the Brazilian Government to study rabies. He planned to spend a month at the Rockefeller Institute for Medical Research, and later to go to Washington and to Montgomery, Ala., where studies on hydrophobia are being made.

DR. NEWTON J. T. BIGELOW has been appointed New York State assistant commissioner of mental hygiene. He succeeds Dr. H. Beckett Lang, now a lieutenant commander in the Navy, who is on leave of absence for the duration of the war.

THE *Journal* of the American Medical Association reports that Dr. John Moore Campbell, Jr., director of health conservation of Pennsylvania, has been appointed deputy state secretary of health in charge of medical affairs. Dr. Campbell has been a member of the department for many years. In 1911 he became pathologist in the Philadelphia Laboratory and three years later moved to Harrisburg, where he was placed in charge of communicable disease control work.

DR. ROBERT C. HOCKETT, associate professor of organic chemistry at the Massachusetts Institute of Technology, has been appointed scientific director of the Sugar Research Foundation, a non-profit organization. Research into the chemical and nutritional properties of sugar is planned. The aims of the foundation, which was formed last June, include the sponsoring of research and scientific studies at universities and other research institutions on uses or potential uses of sugar, and the dissemination of accurate information. The foundation is supported by cane sugar refiners and beet sugar processors, as well as the raw sugar producers of Hawaii, Louisiana and Puerto Rico.

JOHN R. BANGS, formerly head of the department of administrative engineering at Cornell University, has taken up work as general manager of industrial and personnel relations of the Edward G. Budd Manufacturing Company.

NELSON W. TAYLOR, head of the department of ceramics at Pennsylvania State College, has resigned in order to take charge of ceramic research for the Minnesota Mining and Manufacturing Company, St. Paul.

LIEUTENANT (JG) BURNEY BENNETT, associate professor on leave from the staff of the Michigan College of Mining and Technology, has gone abroad as a member of the Educational Services Section, Training Division, Bureau of Personnel of the United States Navy. Ensign Robert Harper, also on leave, has been promoted to the rank of lieutenant (jg). He is engaged in hydrographic and educational work at a non-continental base.

PROFESSOR WILLIS H. RICH, of the Natural History Museum of Stanford University, has leave of absence to enable him to accept a war service appointment with the Fish and Wildlife Service. For several months he served as administrator of fishery production in the Office of the Coordinator of Fisheries with headquarters in San Francisco where he was concerned with the administration of the Pacific sardine industry. In October he was transferred to the Seattle laboratory of the Fish and Wildlife Service, acting in charge of North Pacific Fishery Investigations. In this capacity he will be primarily engaged in making a general survey of the present salmon research program and will direct such modifications as may seem desirable in order to adapt the program to present needs.

DR. B. A. KEEN, assistant director at Rothamsted Experimental Station, England, has leave of absence for approximately twelve months to act as a scientific adviser to the Middle East Supply Center, Cairo. He will report, according to *Nature*, on the scientific and technical problems and resources (including personnel) in the area, and make recommendations on the establishment of a suitable organization in the Middle East and elsewhere to ensure the fullest practicable service of information and advice, with special reference to the post-war period. Dr. Keen will study agricultural resources and development, and related problems, including education. He will be accompanied by Dr. E. B. Worthington, who will examine various non-agricultural matters. An American representative is expected to join the mission at a later date. The countries to be visited extend from Persia to Libya and from Turkey to the Sudan. It is hoped that the mission will be able to report by November, 1944.

THE Charles Sumner Bacon Lectures of the College of Medicine at Chicago of the University of Illinois for 1943–1944 will be delivered on December 1 and 2 by Dr. Louis E. Phaneuf, professor of gynecology at Tufts College Medical School, Boston.

THE Arthur E. Hill Memorial Lecture of the Alpha Lambda Chapter of Phi Lambda Upsilon was given at New York University on November 13 by Professor J. P. Simmons, director of the Nichols Laboratory. The lecture was entitled "Dr. Hill, the Man." Professor John E. Ricci, an associate editor of the *Journal* of the American Chemical Society, discussed Dr. Hill's work. Professor Hill had been head of the department of chemistry at the university from 1912 until his death in 1930.

THE inaugural lecture of the faculty of medicine of the University of Leeds was given on October 20 by Sir John Graham Kerr, F.R.S., emeritus professor of zoology of the University of Glasgow. He spoke on medicine and education.

THE twenty-seventh annual meeting of the Mathematical Association of America will be held at Chicago on November 27 and 28, in conjunction with the meetings of the American Mathematical Society. The sessions will be held at the Museum of Science and Industry, opening at 9:30 A.M. on Saturday. The sessions of the American Mathematical Society will begin on Friday at 9:30 A.M. and will continue through Saturday afternoon. On Friday at 11:30, by invitation of the program committee, Professor Reinhold Baer will deliver an address on "The Higher Commutator Subgroups." The seventeenth Josiah Willard Gibbs Lecture will be given on Friday at 7:45 P.M., by Professor Harry Bateman. The title of this lecture is "The Control of Elastic Fluids." On Saturday at 2:00 Professor Marston Morse will deliver the address of the retiring president. He will speak on "New Settings for Topology in Analysis."

ARRANGEMENTS are being made for the holding of the annual convention of the Society of the Sigma Xi at Chicago on Saturday, December 4. The headquarters for the meeting will be at the Shoreland Hotel. On Friday evening, December 3, the president of the society, Dr. Harlow Shapley, will present the annual Sigma Xi lecture at the University of Chicago. His subject will be "Star Clusters and the Dimensions of the Galaxies." On the same evening a subscription dinner in honor of Dr. Shapley will be held at the hotel at 6 o'clock. Members of the society in the Chicago area are cordially invited to attend the dinner and the lecture. Reservations should be sent to Professor G. P. DuShane, Department of Zoology, University of Chicago, before December 2. The local committee on arrangements includes representatives of the local chapters as follows: University of Chicago, G. P. DuShane and H. I. Schlesinger; University of Illinois, G. L. Webster and M. K. Hines; Northwestern University, R. H. Seashore and J. M. Dobbie; Illinois Institute of Technology, R. Oldenburger, Paul L. Copeland and H. J. McDonald.

OREGON STATE COLLEGE at Corvallis celebrated its seventy-fifth anniversary on October 27. The observance was limited to a formal convocation, attended by the faculty, the student body, alumni in the vicinity and a few delegates from other institutions. The commemoration address was delivered by President Dale, of the University of Idaho, and greetings were extended by Governor Snell of Oregon and by the presidents of the Alumni Association and of the Associated Students.

THE chemical patents and patent applications vested by the Alien Property Custodian have been abstracted by the Chicago Section of the American Chemical Society and are now being indexed by a committee of the Science and Technology Group of the Special Libraries Association. Beginning in January, 1944, these abstracts will be published in thirty-one classified, indexed pamphlets, to be followed by a master index and a supplement of new abstracts. Many libraries will want a reference copy and a circulating copy. The paper situation necessitates close adjustment of the printing to the known demand; orders should be placed not later than December 10 to make sure of receiving copies. Order blanks (already sent to all members of the American Chemical Society and of the Science-Technology Group of the Special Libraries Association) may be had from the Alien Property Custodian, Field Building, Chicago 3, Illinois.

A GIFT conservatively estimated as about $200,000 has been accepted by the University of Wisconsin Board of Regents from two anonymous donors who signed themselves simply as "Two Friends of the University." The gift, made up largely of cash and securities in American industries, was tendered in recognition of "the outstanding service of the University of Wisconsin to the state and to the nation, and to the young people who come to the campus." The only condition attached to the gift is that it "remain completely and forever anonymous."

THE School of American Research, Santa Fe, N. M., has received from Dr. and Mrs. Edgar L. Hewett a gift of real estate, investments, a library, and art and handicraft collections. The presentation was made at the annual meeting of the boards of the school and of the Museum of New Mexico at Santa Fe on September 2. At the same time the Hewett Foundation was established to augment the work of the school.

The gift, together with the testamentary disposition of assets to be added, will give the new foundation properties and collections valued at $100,000. Dr. Hewett has been director of the school since 1907 and president of its executive board since 1930; he has also been director of the museum.

DISCUSSION

THE STABILITY OF THIAMIN IN DEHYDRATED PORK

THAT thiamin, being heat labile, is partially destroyed during the cooking or processing of foodstuffs has been shown by a number of investigators. When foods are prepared for immediate consumption such losses presumably measure the total decrease in thiamin content. However, foods which must be stored at warehouse or dock temperatures (which may range up to 130° F.) for long periods of time may undergo further reductions in vitamin content. With certain vitamin-rich foods, these storage losses may be quite significant.

Marked decreases in the thiamin content of some dehydrated foodstuffs have been noted in studies of vitamin retentions during storage. Some other foods appeared to be quite stable under the same conditions. This led to an investigation of a possible stabilizing effect on thiamin by these latter foods. Experimentation demonstrated that dehydrated pork, which shows little retention of thiamin after several weeks' storage at 120° F., may be stabilized with respect to thiamin to a great extent by the inclusion of a mixture consisting largely of cereals, milk, tomato paste and bonemeal.[1]

This stabilizing action was first noted during storage studies of a pet food containing meat and meat by-products along with approximately 33 per cent. of the aforementioned mixture. When cooked and dehydrated, such a product retained most of its thiamin for several weeks at 120° F., a temperature known to cause severe destruction of thiamin in dehydrated meats or eggs. That the stabilization was due to the influence of constituents of the cereal-milk-bone mixture has been demonstrated by preparing and storing two samples of dehydrated pork (6 per cent. moisture) from one lot of well-mixed meat, one containing 33 per cent. of the cereal preparation and the other being unsupplemented. The latter retained 15 per cent. of the original amount of thiamin (thiochrome procedure) after one week's storage at 120° F., as compared with a 74 per cent. retention for the supplemented sample. Thus the effect of the added ingredients is quite marked.

While it is doubtful that this particular cereal-milk, bone mixture is specific for decreasing thiamin loss, its effect is positive and gives a starting point for studies of the nature of the loss and of possible ways of minimizing it. If further work shows that there is actually a stabilizing factor present in this mixture and that the effect is not owing merely to physical changes, the way will be opened for the preparation of foods that are nutritionally as well as bacteriologically stable.

E. E. RICE
J. F. BEUK
H. E. ROBINSON

[1] Cracked wheat 34.2 per cent., ground barley 21.7 per cent., soya flour 27.6 per cent., bonemeal 7.2 per cent., dried skim milk 5.5 per cent., salt 2.3 per cent., tomato paste 1.65 per cent., sardine oil 0.25 per cent. and gum guaiac 0.16 per cent.

BIRTH OF A TWO-HEADED MONSTER IN THE RHESUS MONKEY

IN the June 17, 1938, number of SCIENCE I gave my own interpretation of the manner in which a rhesus female (acquired by the Carnegie Laboratory of Embryology as No. 636) had come into possession of three babies, reported in New York newspapers about April 17, 1938, as triplets. The facts are (1) that she was in possession of three babies when the boat arrived in New York harbor and (2) that she gave birth to at least one baby, for the act of parturition was witnessed.

In the cage with the female were five others, all of which were acquired by me and their uteri and breasts palpated. It appeared that one of the five had also just given birth to a baby; hence I concluded that it was kidnapped by No. 636. A third female had probably also become a mother, though the evidence was less clear than in the other case. Since in addition No. 636 was laparotomized and found to possess but a single corpus luteum, it was thought that the charge of double kidnapping was all but proved.

The sequel to this story is this: On December 5 of the same year she conceived again and on April 13, 1939, on the 143d day of gestation, delivered a monster with two partly united heads and a doubling of the spinal column from the mid-thoracic region upward. The rest of the body seems normal.

In view of this abortive attempt at twinning one naturally wonders if the mother should not perhaps be credited at least with twins (though not with triplets) in the preceding April. The data, however, are too uncertain to be used to bolster the much discredited theory of the hereditary tendency to produce duplicate twins.

On January 15, 1940, the animal in question furnished a normal 35-day-old embryo (Carnegie No. 640).

CARL G. HARTMAN
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