Dear Mr. Heines,

Many thanks for your sunspot report for August 1945.

This is the last time I am acknowledging you the receipt of your observations as I shall retire from my duties at the Zurich Observatory and as professor of astronomy at the Federal Institute of Technology and at the university the end of this month. I wish to thank you again for your welcome and useful cooperation at our spot-statistics.

Please address all further correspondence in future directly to the Federal Observatory.

With kind regards and best wishes

Very sincerely yours,

W. RUNNER

Dr. Alfred C. Redfield, of the Woods Hole Oceanographic Institution, has received a poster which was removed from the doors of the University of Tokyo Oceanographic Institute at Moroisi Ko on Sagami Wan by Captain L. S. Parks, Commander Submarine Squadron TWO, on September 2, 1945, while units of that command were engaged in demilitarizing numerous midget submarines located in that area.

This is a marine biological station with her history of over sixty years; If you are from the Eastern Coast, some of you might know Woods Hole or Mt. Desert or Tortugas; If you are from the West Coast, you may know Pacific Grove or Puget Sound Biological Station; This place is a place like one of these; Take care of this place and protect the possibility for the continuation of our peaceful research; You can destroy the weapons and the war instruments; But save the civil equipments for Japanese students; When you are through with your job here, notify to the University and let us come back to our scientific home;

THE LAST ONE TO GO

Captain Parks suggests that it might be of interest to the institutions named to realize that their fame had spread even to enemy territory.

Scientists in general will appreciate this testimony to faith in the international bonds of science and will be grateful to Captain Parks for preserving it.

A letter has been received from Edith Ju-Hwa Chu, D.Sc., professor of chemistry at the National University of Peking, China, who is now in Austin, Texas. She writes:

A letter from Professor Léon Bertin, of *Muséum National d'Histoire Naturelle,* Paris, France, has just been received and it reads as follows: "Answering your letter of November 27th, I am very sorry to inform you, Mr. P. W. Fang passed away in Paris, on the twenty-fifth of August, during a German bombardment. We keep here the remembrance of a very great worker and of the most sympathetic friend."

Mr. Ping-Wen Fang, a research biologist in the Research Institute of Zoology and Botany, the *Academie Sinica, China,* carried on his research in the *Muséum National d'Histoire Naturelle,* Paris, since 1934. He was a specialist in ichthyology and discovered a number of new species of several genera, such as Pheretima, Gobiobotia, Homalopterin loaches, etc., of China. His accidental and untimely death is a great loss to all his friends and to the biological science as well.

News of museums in Munich is contained in a letter from Lieutenant E. T. Boardman, of the Cranbrook Institute of Science:

Maximilineum (housed several science and other cultural societies and their collections). Façade almost intact but gutted. All or most of mineral and fossil collections reported destroyed since the Nazis refused removal of crates of specimens intended for removal.

Alpines Museum (formerly housing material pertaining to natural history and ethnology of the Alpine highlands) now a gutted shell.

Deutsches Kunst Museum (municipal museum of arts and crafts) survived with minor damage. Now converted from a hospital into an American Army mess hall and officer's Post Exchange.

Deutsches Museum (industrial history) has survived structurally and part is in good enough condition to be used for displaced persons. Halls are bare down to masonry in many instances.

The condition of the Museo Civico di Storia Naturale is reported by Professor Oscar de Beaux, director, in a letter to Dr. Robert T. Hatt, Cranbrook Institute of Science:

Our Museum has severely suffered by the war. We had the half of our library burnt away, all the North American and South American papers, the German, Italian, Indian and Australian papers and the entomological works are destroyed. Also a few of the entomological collections and a few of mounted mammal specimens were burnt away or at least strongly damaged by fire. The building was also strongly damaged by fire and explosions. I had to do a hard effort in order to protect what could be protected, and now all is to be begun again.

SCIENTIFIC NOTES AND NEWS

DR. WENDELL M. STANLEY, biochemist of the Rockefeller Institute for Medical Research in Princeton, N. J., has been awarded the 1946 William H. Nichols Medal of the New York Section of the American Chemical Society, in recognition of his work on the chemistry of viruses.

AT the annual dinner in New York City of the American Chemical Society, the Chemical Industry Medal for 1945 was presented to Dr. Sidney D. Kirkpatrick, editor of *Chemical and Metallurgical Engineering,* in recognition of his contributions to the advancement of chemical engineering and research.

DR. HARVEY A. NEVILLE, head of the department of chemistry and chemical engineering of Lehigh University, has been named director of the recently established Lehigh Institute of Research. The institute will continue to conduct cooperative programs of research sponsored by the government, industrial organizations or technical associations. In addition, it is planned to support research programs within the university, which will be supported by funds appropriated for that purpose. Dr. Neville will be assisted by a special advisory committee.

IN continuance of the policy of rotating chairmanships of the University of Oklahoma on September 1, Dr. J. Teague Self replaced Dr. A. I. Ortenburger as chairman; Dr. Francis Hunter, assistant professor of animal biology, on leave of absence while serving in the Armed Forces, will return to his work in January. Dr. Melvin E. Griffith, state entomologist working on control of malaria in war areas for the past three years, has been appointed to an associate professorship in the department. He will develop courses and research in medical entomology when he assumes his new work next September.

DR. J. E. WALTERS, formerly director of personnel, School of Engineering, Purdue University, was inaugurated as the eighth president of Alfred University on November 16. After leaving Purdue University, Dr. Walters was for a time with the Revere Copper Company at Rome, N. Y., eventually as vice-president in charge of personnel. Recently he has been a member of the industrial relations firm of McKinsey and Company, New York City.

DR. E. D. GOLDSMITH has been appointed assistant professor in the department of anatomy of the College of Dentistry of New York University.

DR. MORTON A. SEIDENFELD, who was separated from the United States Army as of November 15, 1945, has been appointed director of psychological services of the National Foundation for Infantile Paralysis, New York, N. Y.

DR. BEVERLY L. CLARKE, formerly director of the analytical department of Bell Telephone Laboratories, Inc., has been appointed director of chemical control at Merck & Co., Inc., manufacturing chemists, Rahway, N. J.

THE University of Minnesota announces that the laboratory of physiological hygiene is undertaking a research program on visual functions and visual fatigue in man as affected by different illuminants. The Verd-A-Ray Corporation of Toledo, Ohio, is sponsoring the project. The work will be conducted by Drs. Ancel Keys, Ernst Simonson and Josef Brozek.

DR. WILLIS L. TRESSLER, of the department of zoology of the University of Maryland and the Chesapeake Biological Laboratory, who has been on leave of absence for the past two years with the Office of Strategic Services, has returned after spending the past several months in China.

PROFESSOR MARTIN MEYER, chairman of the department of chemistry of Brooklyn College, has a leave of absence to serve with the Educational Division of the United States Army as a civilian educational specialist in the European area.

DR. RALPH F. PHILLIPS, assistant professor of organic chemistry at the University of Utah, has been appointed assistant scientific director of the Sugar Research Foundation. Dr. Robert C. Hockett is the scientific director, whom he will assist in the study of the role of sugar in the diet and as a chemical raw material. More than $415,875 in grants have been awarded by the Sugar Research Foundation to leading universities and technological institutes in this country and Canada for research.

FOLLOWING the spring initiation and banquet of the University of Oregon Chapter of Sigma Xi, Dr. Olof Larsell, dean of the Graduate Division and professor of anatomy at the Medical School of the university, gave an illustrated lecture on "The Development of the Cerebellum." The lecture summarized the research work by Dr. Larsell and his coworkers, Dr. Robert S. Dow and Dr. Robert Anderson, on the development of the brain in animals. The following officers were elected for 1945–46: *President,* Dr. T. S. Peterson, associate professor of mathematics; *Vice-president,* Dr. Robert S. Dow, associate professor of anatomy; *Treasurer,* Dr. A. L. Soderwall, assistant professor of biology; *Secretary,* F. P. Sipe, associate professor of biology. A joint banquet and initiation was held with the Oregon Chapter of Phi Beta Kappa on May 19, following which Dr. Herman F. Frankel, professor of classics at Stanford University, gave a lecture on "The Power of Early Greek Thought."

A MEETING held on November 14 of the American Academy of Arts and Science was devoted to the discussion of "A National Policy for Scientific Research." Dr. Lee A. DuBridge, of the Radiation Laboratory of the Massachusetts Institute of Technology; Bradley Dewey, of the Dewey and Almy Chemical Company, and Pendleton Herring, of the Graduate School of Public Administration of Harvard University, led the discussion in which fellows and their guests joined. The various bills now before the Congress were examined and their implications for science and scholarship weighed.

As part of the celebration of the fiftieth anniver-

sary of the discovery of x-rays Sir Lawrence Bragg gave on November 9 a lecture at the Phoenix Theatre, London, on "The Scientific Consequences of Roentgen's Discovery of X-rays."

THE twenty-ninth annual meeting of the Mathematical Association of America will be held at Chicago on Saturday and Sunday, November 24 and 25, in conjunction with the meetings of the American Mathematical Society. The sessions will be held at the Museum of Science and Industry. The sessions of the American Mathematical Society will begin on Friday at 9:30 A.M. and continue through Saturday afternoon. The twenty-seventh colloquium of the society will consist of four lectures on "Length and Area" by Professor Tibor Radó. These lectures are scheduled on Friday at 9:30 A.M. and 2:00 P.M. and on Saturday at 10:00 A.M. and 2:00 P.M. On Sunday morning at 11:00 A.M., by invitation of the Committee to Select Hour Speakers for Western Sectional Meetings, Professor S. M. Ulam will deliver an address entitled "On the Stability of Solutions of Functional Equations." The Josiah Willard Gibbs Lecture will be given on Friday at 7:30 P.M. by Professor J. C. Slater. The title of this lecture is "Physics and the Wave Equation."

THE two hundred and sixty-eighth meeting of the American Physical Society will be held at St. Louis, Mo., in Wayman Crow Hall of Washington University, on Friday, November 30, and Saturday, December 1. There will be a symposium of invited papers on x-rays, arranged in celebration of the fiftieth anniversary of the discovery of x-rays, which coincides within the month.

ANNOUNCEMENT is made of the formation of the "Society for Applied Spectroscopy." The society has been organized by a group of practising spectroscopists working in the New York Metropolitan area who feel the need for an organization which will offer an opportunity for general discussions of the common problems arising in spectroscopic analysis. So far two organization meetings and two program meetings have been held. Meetings will be held on the first Tuesday evening of each month and will consist either of a lecture by some prominent speaker or a symposium on some general topic. At its first two meetings lectures were given by Dr. O. S. Duffendack, of the North American Phillips Co., and Dr. G. H. Dieke, of the Johns Hopkins University. Among the topics to be covered in symposia at the coming meetings are: types of excitation, types of equipment, measurement of radiant energy, absorption spectra and spectroscopic nomenclature. Membership in the society is open to any one having an interest in applied spectroscopy. Those interested can obtain more information from the secretary, Charles L. Guettel, Driver-Harris Co., Harrison, N. J.

DR. TREAT B. JOHNSON, professor emeritus of the department of chemistry at Yale University, has provided by gift two fellowships of $1,000 each for graduate research work in organic chemistry.

TEMPLE UNIVERSITY, Philadelphia, has received a gift of $450,000 from Dr. Theodore L. Chase, a retired Philadelphia surgeon, for the establishment and endowment of a surgical research foundation, with special emphasis on cancer. The gift was presented by Dr. Chase, of Reno, Nev., in memory of his wife, the late Dr. Agnes Barr Chase.

THE Alumni Foundation of the Georgia School of Technology has received a gift of the sum of $100,000 from the Georgia Power Company. It is recommended that the fund be used for the purchase and installation of an a.c. network calculator.

THE Graduate School of the University of Illinois has established four research fellowships to be awarded for one year in the fields of medicine, dentistry and pharmacy in Chicago at a stipend of $1,200 per year (calendar year with one month's vacation). Fellows are eligible for reappointment in competition with the new applicants. Candidates for these fellowships must have completed a training of not less than eight years beyond high-school graduation. This training may have been acquired in any one of the following ways, or the equivalent thereof. Candidates should indicate the field of research in which they are interested and submit complete transcripts of their scholastic credits, together with the names of three former science teachers as references. Appointments will be announced on January 1 or soon thereafter each year. The fellowship year begins on September 1. Formal application blanks may be secured from the Secretary of the Committee on Graduate Work in Medicine, Dentistry and Pharmacy, 1853 West Polk Street, Chicago 12, Ill.

THE Elisabeth Severance Prentiss Foundation of Cleveland has made a grant, which will probably amount to $500,000, to finance a greatly expanded department of biochemistry in the School of Medicine of Western Reserve University. The money will be paid to the university in quarterly payments over a period of ten years, "subject to certain conditions." The chair of biochemistry was left vacant recently by the appointment of Dr. Victor C. Myers as head of a new department of clinical biochemistry. Operating the two new departments, the School of Medicine will follow the British pattern of having one department of biochemistry to carry on research and give instruction in chemistry as it affects all forms

of life, and another to perform a similar function as it affects more direct clinical observation and diagnosis of human illness.

THE Eaton Laboratories of Norwich, N. Y., have given a grant of two thousand dollars to Dr. John C. Krantz, Jr., professor of pharamacology of the School of Medicine of the University of Maryland in support of the general research program of this department.

SPECIAL ARTICLES

THE VITAMIN CONTENT OF CASEIN[1]

As the techniques of nutritional investigations become more refined, it is increasingly important to know the vitamin content of the experimental diets with considerable accuracy. The fat, inorganic salt mixture and sucrose present in a typical purified diet carry at most only traces of vitamins as determined by micro-analytical methods. However, the casein, which is the usual protein source, must be carefully purified, and even after purification it may carry detectable amounts of vitamins. In order to obtain a quantitative measure of the amount which casein may carry, assays for seven of the B-vitamins were made on several representative samples of casein.

The casein samples were: (1) crude commercial casein,[2] (2) alcohol extracted casein, (3) acid washed casein, (4) Labco casein,[2] and (5) Smaco casein.[3] The alcohol extracted and acid-washed casein are routinely prepared in this laboratory from crude commercial casein according to the following methods.

Acid-washed casein: Four and a half kg of crude casein are placed in a 20-gallon crock and 65 liters of water are added slowly with continual stirring to avoid formation of lumps. Fifty ml of 1 N HCl is stirred into the mixture and allowed to stand at least 30 minutes. The aqueous layer is syphoned off and the crock refilled with fresh water. Again 50 ml of 1 N HCl is stirred in and the casein allowed to settle for 30 minutes. This procedure is repeated for a total of 8 extractions. The crock is refilled with 65 liters of fresh water and 1 liter of 1.2 N NH_4OH is stirred in. The mixture has the consistency of a thin paste at this point. One N HCl is added slowly with continual stirring from top to bottom until the casein coagulates (pH 4.6). When the casein has settled out, the liquid is syphoned off and the precipitated casein is placed in a cheese-cloth bag. Hot water is run through the mass until it reaches a temperature of 50–60° C. The water is expressed from the casein with a hand press. After final drying on trays at a temperature not exceeding 60° C. the casein is ground in a suitable mill.

TABLE I

THE VITAMIN CONTENT OF CASEIN SAMPLES
(The values are expressed as mgm per 100 gm of casein)

	Thiamine	Riboflavin	Niacin	Pyridoxine	Panto-thenic acid	Biotin*	Folic acid	
							S. faecalis	*L. casei*
Crude	0.120	0.360	0.340	0.070	0.450	6.00	0.019	0.013
Alcohol extracted	0.013	0.160	0.085	0.027	0.080	1.79	0.006	0.006
Acid washed	0.023	0.026	0.038	0.012	0.057	1.35	0.003	0.003
Labco	....	0.120	0.074	0.008	0.037	...	0.004	0.008
Smaco	0.016	0.100	0.036	0.026	0.053	0.93	0.008	0.009

* Expressed as micrograms per 100 grams of casein.

Alcohol extracted casein: A glass-lined pressure cooker with a built-in filter and mechanical stirrer is used. The cooker is charged with 60 liters of 95 per cent. ethanol to which is added with stirring 20 kg of crude casein. The stirring is continued for 2 hours while the temperature is maintained at 75 to 85° C. under pressure. The alcohol is filtered off while hot and a fresh charge of 95 per cent. ethanol is added. The extraction is repeated three times. The casein is thoroughly dried at about 50° C.

Thiamine was determined by the thiochrome method of Hennessy,[4] riboflavin by the fluorometric method of Connor and Straub[5] as modified by Andrews,[6] niacin by the microbiological method of Snell and Wright[7] as modified by Krehl, Strong and Elvehjem,[8] pyridoxine by the yeast growth method of Atkin *et al.*,[9] pantothenic acid by the method of Neal and

[1] Published with the approval of the Director of the Wisconsin Agricultural Experiment Station.

[2] Obtained from the Borden Company, 350 Madison Avenue, New York 17, New York.

[3] Obtained from the SMA Corporation, Chagrin Falls, Ohio. We are indebted to the following individuals who cooperated in this study: G. W. Newell, B. S. Schweigert, W. A. Krehl, L. Glasinovic, Margaret Ives, Anne E. Pollard and Lillian Alberty.

[4] D. J. Hennessy, *Cereal Chemists' Bulletin*, 2: 1, 1942.

[5] R. T. Connor and G. J. Straub, *Ind. Eng. Chem., Anal. Ed.*, 13: 385, 1941.

[6] R. S. Andrews, *Cereal Chem.*, 20: 3, 1943.

[7] E. E. Snell and L. D. Wright, *Jour. Biol. Chem.*, 139: 675, 1941.

[8] W. A. Krehl, F. M. Strong and C. A. Elvehjem, *Ind. Eng. Chem., Anal. Ed.*, 15: 471, 1943.