reached the retirement age in 1935 and continued as curator until August 1946. Hubert Lyman Clark's entire background and character fitted him for the teaching profession, but when deafness interfered with this calling he loved so well, he became an excellent museum curator with one of the best-arranged and richest collections of echinoderms in the world to his credit. After his retirement as curator in 1946 he accepted an offer to work on the large collections at the Allan Hancock Foundation in Los Angeles and spent the winter and spring bringing his report on this material to completion. He enjoyed his usual good health during most of this period, and not until just before his departure for Cambridge and a well-earned rest at his summer home in New Hampshire was there any indication of his final illness.

His well-developed wanderlust and his belief in supplementing the study of preserved material with observations on living animals made him ever ready to journey to any region that promised good collecting. A lover of all sports, he considered collecting the greatest of them all. In addition to collecting extensively on both coasts of the United States, he visited Jamaica five times, Bermuda twice, Tobago, the west coasts of Central and South America, and the Galapagos Islands, Australia three times, and China and Japan. His trips to Australia in 1913, 1929, and 1932, during which he collected along most sections of the coast of that continent, furnished him with the material for his important studies on the echinoderm fauna of Australia.

His publications, in addition to the earliest ones on butterflies alluded to above, included more than 20 on the distribution, variation, anatomy, and pterylography of birds. Even as late as 1945 he published a paper on the feather tracts of certain Australian birds and renewed his plea for greater recognition of this branch of ornithology. While he was at Olivet College he became interested in the reptiles and amphibians of Michigan and published six papers on these studies. More than 100 publications on echinoderms, many of them of a monographic nature, serve as his monument to individual research in an era when an able scientist, unhampered by extensive administrative duties, could let his conscience be his guide. These volumes cover material from most of the outstanding museums and expeditions of the world and reach a fitting climax in his monographs on the Australian fauna. In addition to these technical publications, several of a general biological nature and several more covering his sociological and philosophical outlook have appeared.

In 1927 he was awarded an honorary degree of doctor of science from Olivet College and in the spring of 1947, a few weeks before his death, he received the Clarke Memorial Medal for his service to Australian science.

ELISABETH DEICHMANN
Museum of Comparative Zoölogy, Cambridge, Massachusetts

FENNER A. CHACE, JR.
U. S. National Museum, Washington, D. C.

NEWS *and Notes*

This year, for the first time in its history, the Association has been able to print and mail its General Program to those who registered well in advance of its annual meeting. More than 1,500 copies of the Program of the Chicago Meeting a book of 340 pages listing more than 2,000 papers, were mailed from the Washington office during the first week in December. All applications accompanied by registration fees received after December 15 are being held and placed on file at the Information Booth in the Stevens Hotel, where they may be obtained for registering during the meeting.

A major problem in the preparing the General Program is to obtain complete copies of all the individual programs of the 67 sections and societies in time to permit editorial revision and printing at least three weeks in advance of the meeting. It is desirable that the programs be mailed early in December to avoid delays in handling mail that result from the heavy Christmas volume.

Advance distribution of the Program makes it possible for the registrant to plan the most economical use of his time during the convention. It is also a help to those who, until they have some knowledge of the papers to be presented, are uncertain whether they will attend the meeting. Moreover, early publication frees administrative personnel so that they may turn their attention to the many other local arrangements which must be completed during the two weeks immediately preceding the meeting. For example, the final weeks are critical in completing public-feature arrangements, particularly radio broadcasts based largely on selections from the General Program by specialty directors of national networks and local radio stations. Times for network programs are scheduled several months in advance, but the panels of speakers are often drawn up two weeks, or less, in advance of the meeting.

In order to ensure that the General Program shall be off the press according to schedule, it is necessary to set the deadline for the receipt of program copy 4–6 weeks in advance of the publication date. If the secretaries are to meet the Association's deadline, they must undertake to organize their own programs several weeks earlier. Although the secretaries of most societies are able to meet the deadline, actual printing of the General Program is delayed until the last minute to obtain programs of late-reporting secretaries. Then commences a headlong rush to meet the publication date.

Early this year a general announcement was sent to the secretaries of the sections and societies, giving the schedule of deadlines to be followed in preparing

for the Chicago Meeting. The deadline for the receipt of copy for the General Program was set at October 21. On September 26 follow-up form letters were mailed, including examples of how the copy should be typed to conform with the standard format adopted for the Program.

The first manuscript copy for the General Program arrived a few days before the deadline, and the last program material accepted for publication was received on November 24. Every consideration was given to secretaries harassed by unavoidable delays. Only when it became apparent that the Program had to be completed in a matter of hours in order to have bound copies available for mail distribution on December 1 did the staff set aside last-minute requests for the inclusion of supplementary material. Corrections were made until the moment the presses began rolling. From October 21 through November 24, there was a constant exchange of manuscripts, galleys, corrected and recorrected proof.

Signatures of 16 or 32 pages are made up as soon as the galleys of type have been arranged into page form and numbered. It is, of course, impossible to assign page numbers to the various programs of the sections and societies until they have all been received and set in galleys. The last manuscript of the Chicago Program to be received belonged in the middle of the book and delayed the paging of all the remainder until after it was set in type.

The combination of printing separate signatures and making last-minute corrections sometimes leads to obvious inconsistencies. For example, last-minute corrections in the spelling of names on the programs may be caught in the Index, but cannot be change in the earlier printed signatures.

Publication of the General Program is an important part of the meeting arrangements, but it is by no means the most difficult. The problems of scheduling meeting rooms for 67 sections and societies, contracting for equipment and operators of projection apparatus, arranging and directing registration, entertainment, and publicity are equally formidable. The costs for providing these services run into many thousands of dollars. Those who attend the meetings of the Association are therefore urged to register, not only to obtain copies of the General Program, but to help meet the heavy expenses incurred to provide facilities for their benefit.

Members who do not attend the AAAS Meeting in Chicago may tune in on several radio programs scheduled during the convention period. On Friday evening, December 26, Harlow Shapley, president of the AAAS, will be interviewed on the well-known radio broadcast, "Meet the Press." The program is scheduled at 10:00 P.M. (E.S.T.) and may be heard over the network of the Mutual Broadcasting System.

A number of programs have been scheduled on Sunday, December 28. At 11:30 A.M., the Northwestern Reviewing Stand, carried by the Mutual Broadcasting System, will feature "Atomic Energy and Peace." K. Lark-Horovitz, general secretary of the AAAS, Philip Powers, adviser on scientific personnel, U. S. Atomic Energy Commission, and Walter Zinn, director of the Argonne National Laboratories, Chicago, will constitute the panel of speakers.

At 1:30 P.M. on Sunday, December 28, the National Broadcasting System will carry the Chicago Round Table of the Air. James B. Conant, president of Harvard University, George Stoddard, president of the University of Illinois, and Robert Redfield, Department of Anthropology, University of Chicago, will discuss "Prospects for the Scientific Study of Human Relations."

The Columbia Broadcasting System is preparing special AAAS coverage this year, not only of significant and interesting research reports but also of programs designed to place the social implications of science before the public. The following programs will be devoted to the meeting (E.S.T.): "Adventures in Science," Saturday, December 27, 4:30 through 4:45 P.M.—a news interview program conducted by Watson Davis of Science Service. "In My Opinion," Monday, December 29, 6:15 through 6:30 P.M.—a special CBS discussion series under the direction of George Crothers, of the Division of Education, Columbia Broadcasting System. "Frontiers of Science," Tuesday, December 30, 11:30 through 11:45 P.M.—general news, reports, and comments about the meeting. If circumstances permit, other 15-minute programs will be assigned daily at either 6:15 through 6:30 P.M. or 11:15 through 11:30 P.M.

One of the most interesting features of the broadcasts arranged by CBS will be a general coverage of society meetings and interviews with prominent scientists obtained by means of magnetic tape recordings, which will be edited and rebroadcast during the 15-minute intervals allotted by the network.

Other radio programs not mentioned here have been tentatively arranged. Undoubtedly, impromptu broadcasts, featuring special fields of science, will be made during the meeting under the auspices of the local broadcasting stations.

Organization of a new Society for the Social Study of Invention will be considered at the Chicago Meeting of the AAAS. As part of the program of Section K, a meeting will be held for this purpose in Room 105 of the Sherman Hotel on Tuesday morning, December 30. The proposed field for such a society would encompass the social effects of invention, the social causes and controls of invention, including the patent system fundamentally viewed, the psychology of invention, and the history of invention. Economists, sociologists, physical scientists, engineers, inventors, patent attorneys and officials, psychologists, and historians will all be interested in the formation of such a group. The Organizing Committee includes W. F. Ogburn, Department of Sociology, The University of Chicago, as chairman pro tem; Waldemar Kaempffert, science editor of the *New York Times*; Joseph Rossman, Washington, D. C.; Robert K. Merton, Columbia University; J. W. Oliver, University of Pittsburgh; and J. B. Gittler, Iowa State College. Watson Davis, of Science Service, Casper W. Ooms, recent Commissioner of Patents, and W. A. Hamor, of the Mellon Institute, will act as special advisers.

About People

Harlow Shapley, director, Harvard College Observatory, and president of the AAAS, has been elected an honorary foreign member of the Italian Academy of Lynxes. Since its founding in 1603 the Academy has been Italy's leading general scientific organization. **Ross G. Harrison,** Yale University, and **Arthur H. Compton,** Washington University, are the two other American members.

Theodore E. Boyd, Loyola University School of Medicine, Chicago, has been appointed to the newly created posi-

tion of associate director of research, National Foundation for Infantile Paralysis, New York. Dr. Boyd will collaborate with **Harry M. Weaver,** director of research, in coordinating the Foundation's program of study into the cause, control, and treatment of poliomyelitis and allied virus diseases. The Foundation has authorized $6,953,256.66 for such research since 1938.

Henry Augustus Pilsbry, curator of mollusks and other invertebrates, Academy of Natural Sciences, Philadelphia, was honored on his 85th birthday, December 8, at a meeting of the Academy. Dr. Pilsbry, who joined the Academy staff 60 years ago, is now completing an exhaustive monograph on "The Land Mollusca of North America."

Charles H. Brown, associate director, Iowa State College Library, and **Verner W. Clapp,** assistant Librarian of Congress, have left for Tokyo, at the invitation of Gen. MacArthur, to aid in setting up a National Diet Library similar to the Library of Congress. Dr. Brown will also visit China as a representative of the American Library Commission and chairman of the Association's Committee on the Orient and Southwest Pacific, which he has headed since 1942, to arrange for a series of library institutes in China during 1948.

Cecil J. Watson, professor of medicine, University of Minnesota, served as physician-in-chief pro tempore at the Peter Bent Brigham Hospital, Boston, from October 26 to November 1. While there, he delivered the E. Stanley Emery, Jr., Memorial Lecture on "Porphyria and Porphyrinuria: An Enlarging Concept of the Porphyrins in Clinical Medicine."

Titus C. Evans, Department of Radiology, College of Physicians and Surgeons, Columbia University, has been appointed research professor in radiology and radiobiology, and head, Laboratory of Experimental Radiations, College of Medicine, State University of Iowa. Dr. Evans will go to Iowa City on or about January 1.

Oscar F. Weber, a member of the College of Education faculty, University of Illinois, for more than 25 years, will soon retire because of ill health.

Lt. Col. Henry B. Webb of the Medical Administrative Corps, and former chief, Department of Bacteriology, Army Area Laboratory, Brooke Army Medical Center, Fort Sam Houston, Texas, is joining the faculty of the Department of Biological Sciences, San Antonio Junior College, in January, beginning with the second semester.

Ford M. Milam, former research assistant in soils and crops at North Carolina State College, was recently appointed coordinator of agricultural education and research under the American Military Government in South Korea, transferring from his previous position as adviser, Agricultural Experiment Stations, in that country. As coordinator, Mr. Milam, who was separated from the AAF in June 1946 as a major, will supervise and determine policy for all activities of the newly established agricultural extension system, the 13 central and branch agricultural experiment stations, and all agricultural schools and colleges in South Korea. The new extension service was originally proposed and outlined by Mr. Milam, who also acted as chairman for the drafting committee which prepared the plan for final approval and legal establishment by the South Korea Interim Legislature.

Visitors to U. S.

Paul L. Dengler, director, Austro-American Institute of Vienna, a director of the Austrian League for the United Nations, and a member of the Austrian Commission for UNESCO, lectured on "Educating World Citizens" at Ohio State University, December 10, under the auspices of the Ohio State Graduate School and the College of Education. Dr. Dengler is touring American colleges and universities under the sponsorship of the Institute for International Education in New York.

Sydney Goldstein, professor of mathematics, University of Manchester, England, and chairman, Aeronautical Research Council of Great Britain, who is currently (December 18–20) giving a series of four lectures at the University of Texas on "The Mathematics of Transonic and Supersonic Airflow," will give a series of eight lectures at the California Institute of Technology, in late December and early January. The series will be of a theoretical nature at an advanced level and will be concerned with recent developments in transonic and supersonic flow with some attention to compressible laminar boundary layers. Dr. Goldstein also delivered the Wright Brothers Lecture at the Institute of Aeronautical Sciences in Washington, D. C., December 17.

Subohd K. Mukherjee, Calcutta University, India, with a recent Ph.D. from Massachusetts Institute of Technology, is a member of the Seagram International Fellowship Program. He is currently engaged in research in Seagram's Louisville, Kentucky, laboratories.

Grants and Awards

The 1947 Nobel Prize awards were formally presented December 10 by King Gustav, at the Stockholm Concert House. Present at the ceremonies were **Carl F.** and **Gerty T. Cori,** St. Louis, Missouri, and **Bernardo Houssay,** Argentina, who shared the award in medicine; **Sir Edward Appleton,** England, winner of the physics award; and **Sir Robert Robinson,** England, chemistry prizeman. Three former prizewinners were also present: **Harold Urey,** 1934 winner in chemistry, and **Joseph Erlanger,** 1944 winner in medicine, both of the United States; and **Gerhard Domack,** German winner of the 1939 medicine award who, because of Nazi disapproval, was unable to accept it. Drs. Urey and Erlanger delivered their postponed Nobel lectures. King Gustav gave a dinner for the winners at the Royal Palace December 11.

Two annual awards for outstanding contributions to aviation medicine have been established by the Aero Medical Association of the United States. They are in memory of Raymond F. Longacre and Theodore C. Lyster, two of the first Flight Surgeons of the AAF, who contributed greatly to the early development of aviation medicine. The Longacre Award for 1947 has been presented to **Ross A. McFarland,** Harvard University, who was also made an Honorary Fellow of the Association, and this year's Lyster Award went to **Louis H. Bauer,** of Hempstead, Long Island.

Donald F. Jones, head, Genetics Department, Connecticut Agricultural Experiment Station, was honored by the Hybrid Seed Corn Division of the American Seed Trade Association at the Division's annual meeting in Chicago on

December 2. Dr. Jones received an award for his "outstanding contribution in suggesting the double cross method in seed production." It was in 1917 that Dr. Jones made the first "double cross" (recrossing two hybrids) at the Connecticut Station, a method which eliminated small, poorly matured hybrid seed, and seed which was too expensive for general use.

Norman W. McLeod, consultant to the Department of Transport in Canada, received this year's Highway Research Board award for an outstanding technical paper. The paper, "Airport Runway Evaluation in Canada," which was given at the Board's 1946 annual meeting, presents formulas to be used in designing airports and highways of the future to withstand extremely heavy loads.

The Sugar Research Foundation of New York has made a grant of $3,000 to the University of Texas Medical Branch, Galveston, for the support of research studies on protection of the liver bicarbohydrate from action of carcinogenic compounds, to be under the direction of W. A. Selle, director, Biophysics Laboratory.

The Fisher Award in Analytical Chemistry has recently been established by Chester G. Fisher, president, Fisher Scientific Company, Pittsburgh. This award of $1,000 and a medallion for outstanding achievement in analytical chemistry, which will be administered by the American Chemical Society, was founded to recognize and encourage important contributions to the science of pure or applied analytical chemistry made in the United States or Canada. Special consideration will be given to independence of thought and originality shown in a candidate's research, or to the significance of the work when applied to public welfare, economics, or the needs and desires of humanity. Nominees may be proposed by any member of the American Chemical Society. Nominations of candidates must be submitted by January 1 to Alden H. Emery, Executive Secretary, American Chemical Society, 1155 16th Street, N.W., Washington 6, D. C.

Mary E. Weeks, head of the translation service of the Kresge-Hooker Scientific Library, Wayne University, has recently been awarded an alumni citation from Ripon College for "outstanding ability and distinguished accomplishment in the field of chemistry." Dr. Weeks, who reads six languages besides English, is the author of *Discovery of the elements*, an associate editor of *Record of Chemical Progress*, official publication of the Library, and consulting editor of the new *Chymia*.

Fellowships

Radcliffe College has available for the year 1948–49 about 50 fellowships, with stipends ranging from $400 to $1,500, open to women candidates for the M. A. and Ph. D. degrees for advanced study under members of the Harvard faculty in the field of the candidate's choice. The larger awards are granted to those who have completed two or more years of graduate work, and preference in granting smaller awards is given to those who have completed one year of graduate work. Several tuition fellowships of $400 are, however, available to students who have done no graduate work, but who present evidence of high scholarship. Applications and a transcript of record should be submitted by March 1.

Colleges and Universities

The Chicago Professional Colleges, University of Illinois, have established a Department of Clinical Science to emphasize the interdependence of the basic sciences and the practice and progress of clinical medicine. The Department, to be headed by **A. C. Ivy**, vice-president of the University, will conduct research in normal and pathological gastrointestinal physiology, involving studies of enterogastrone in the treatment of peptic ulcer, cholecystokinin in the diagnosis of gall bladder disease, and the chemical structure of secretion; the biology of cancer, including studies of diagnostic tests for cancer, and growth-promoting and growth-inhibiting substances; the vital function of the kidneys; involving studies of prolongation of life after bilateral removal of the kidneys; and the mechanisms and most effective means of producing analgesia, involving a search for analgesic drugs and a study of where they act. Assistant professors assigned to the Department include **Morton I. Grossman, William H. Backrach, Louis R. Krasno**, and **L. L. Gershbein**; 5 research fellows and 30 graduate students are also conducting research in the Department. Three courses for graduate students are being offered this semester: Advanced Physiology of the Digestive System, Seminar in Clinical Science, and Research in Clinical Science. For undergraduate medical students there is a course on Physiology of Symptoms.

Applications for graduate assistantships at Oklahoma Baptist University for 1948–49 are now being received. The assistantships, paying between $900 and $1,000 for 9 months of part-time teaching, are open in geology, biology, chemistry, physics, mathematics, and engineering subjects. Students who qualify will be expected to carry graduate work at the University of Oklahoma, Norman. The stipend includes $900, paid to the student in 9 installments, plus out-of-state fees, if any, up to a maximum of $1,000. Other fees at Norman will be paid by the student. Regular transportation is available between the two campuses, 35 miles apart. Applications should be addressed to John W. Raley, president of OBU, Shawnee, and should be postmarked before March 1, 1948.

Elections

Camp Detrick, Frederick, Maryland, has organized a Sigma Xi Club, believed to be the first Sigma Xi Club organized at a governmental research installation. George B. Pegram, dean, Graduate School, Columbia University, and treasurer of the National Society of the Sigma Xi, was the installing officer and the principal speaker. Charter membership of the club consists of 54 members who are alumni of 38 local chapters in 21 states. It is expected that the club will sponsor lectures by outstanding speakers on subjects of broad scientific interest. Officers installed for the coming year are: L. A. Chambers, president; Berch Henry, president-elect; Emily Kelly, secretary; Archie Gorelick, treasurer; R. D. Housewright, Carl Brewer, and Charles Phillips, trustees.

Recent Deaths

Joseph Peter Connolly, 56, president, South Dakota School of Mines and Technology since 1935 and associated with that institution since 1919, died October 7 at his home in Rapid City, South Dakota, after a long illness.

George W. Pucher, 49, biochemist at the Connecticut Agricultural Experiment

Station, New Haven, died suddenly November 20 following a heart attack. During his 19-year association with the Station he had become known for his development of methods for determining various constituents in plants.

Claude Fountain, 68, physicist, Naval Research Laboratory, and former president, Tennessee Academy of Science, died November 28 after a short illness.

George E. Shambaugh, 78, chairman, Department of Otolaryngology, Rush Medical School, and head, Otolaryngology Department, Presbyterian Hospital, died November 30.

Edgar J. Witzemann, 63, professor of physiological chemistry, University of Wisconsin Medical School, died November 30 after a short illness.

Godfrey Harold Hardy, 70, emeritsu professor of pure mathematics, Cambridge University, died December 1 at Cambridge.

Raymond Harman-Ashley, 67, chairman, Department of Chemistry, St. Lawrence University, until his retirement in June, and inventor of the chemist's slide rule, died at his home December 1 after a short illness.

William Pepper, 73, dean emeritus, School of Medicine, University of Pennsylvania, died in University Hospital December 3, of a coronary thrombosis.

David L. Taylor, 31, assistant professor of botany, Department of Botany, University of Illinois, died December 6. Dr. Taylor joined the Illinois staff in September.

Make Plans for—

Northwest Scientific Association, December 26–27, Davenport Hotel, Spokane, Washington.

American Society for Professional Geographers, December 27–30, Charlottesville, Virginia.

Association of American Geographers, December 29–31, Charlottesville, Virginia.

Mineralogical Society of America, December 29–31, Ottawa, Canada.

COMMENTS *by Readers*

We consider it our duty to offer the following information without delay, instead of waiting until we have accumulated enough data to write a detailed scientific report on our findings.

Surface tension measurements of solutions of sodium penicillin were carried out with the du Noüy tensiometer and the pendant drop technique. The results proved that solutions of sodium penicillin in distilled water are highly capillary active. The surface tension of a solution containing 10,000 units of penicillin sodium salt (Abbott)/cc. gave a surface tension of 31.7 dynes/cm.

Since the preparation, at least from a colloid-chemical point of view, must be considered to be composed of a hydrophilic cation and a hydrophobic complex anion comparable to soaps, it seemed only logical to assume that we are not dealing with true solutions, but hydrosols.

We therefore studied this preparation with a slit ultramicroscope. A highly colloidal system with particles ranging between approximately 100 and 500 mμ could be readily detected. The particles are anisometric, which is clearly evidenced by a very pronounced twinkling phenomenon. To make absolutely sure that this observation was not due to impurities contained in the commercial product used, we obtained, through the courtesy of Henry Welch, of the Federal Food and Drug Administration, a highly purified sodium salt of penicillin (F.D.A. Penicillin/Working Standard/Sodium Penicillin G/Potency 1,667 u/mg.), and dissolved it in triple-distilled water which, by itself, showed not the slightest indication of a Faraday-Tyndall cone. The solution, however, exhibited a very pronounced one, which clearly indicates that we are not dealing with a true solution, but with a colloidal sol.

Surface tension measurements of solutions of highly purified streptomycin calcium chloride complex of varying concentrations gave figures slightly above those obtained with distilled water at the same temperature. The preparation, if studied ultramicroscopically, however, shows very pronouncedly that it is a colloidal sol and not a true solution. The particle size of the dispersed phase averaged 65 mμ. That this sol is not capillary active might be due to the divalent calcium ion and its low degree of hydration. (ERNST A. HAUSER and RUTH G. PHILLIPS, *Massachusetts Institute of Technology,* and LT. (j.g.) JOHN W. PHILLIPS, MC USNR, *Naval Medical Research Institute, Bethesda, Maryland.*)

Lest some scientist needing a passport be discouraged by Dr. Bok's recent account of his unfortunate failure to obtain a passport within a limited time (*Science,* October 10, p. 341), may I describe a case in which the State Department acted with gratifying speed. One member of my recent Eclipse Expedition to Brazil mailed an application for a passport to Washington on March 25, and the passport was received by mail on April 3. No special telegrams were sent; no pressure was exerted by any government official. It seems to me that 9 days for a routine which normally requires three weeks represents excellent service. (CHARLES H. SMILEY, *Director, Ladd Observatory, Brown University.*)

The recent report of a study made by Davis and Briggs concerning the growth-promoting action of cellulose (*J. Nutrition,* 1947, 34, 295) reveals a not uncommon type of error in the design of diets which makes the results of their use questionable. In this study, glucose in the basal diet was replaced by cellulose. If the cellulose served as a source of carbohydrate in the diet, such a substitution would be justified. However, even if the data on "crude fiber" were acceptable as an index of digestibility, they indicate that the cellulose served mainly as an inert material, especially