

dence, so that the earlier-formed reefs, which began to grow when the subsidence was slowly initiated, were drowned when it was later accelerated; and new reefs, thereupon begun on the shore line of that time would after a second period of slow subsidence stand near the present shore line, though the shore line is strongly embayed because the total subsidence has been large. The absence of reefs around the island of Ambrym is due to its abundant eruptions in recent time, the latest one being in December, 1913; scattered corals were seen growing on one of its sea-cliffed lava-streams, thus illustrating the initial stage of a fringing reef.

The Great Barrier reef of Australia, the largest reef in the world, with a length of some 1,200 miles and a lagoon from 15 to 70 or more miles wide, has grown upward during the recent subsidence by which the Queensland coast has, after a long period of still-stand, been elaborately embayed, as was pointed out by Andrews in 1902. A very recent uplift of ten feet has occurred, as was long ago noted by Jukes. There is reason for believing that a broadened reef-plain, with extensive land-fed deltas along the continental margin, had been formed before the recent subsidence took place; and it is this broadened reef, now submerged, that is thought to form the "platform" on which the Great Barrier reef has grown up. Guppy's suggestion that the platform or "submarine ledge" is due to marine abrasion before coral reefs were established here and that no subsidence has taken place can not be accepted. It is highly probable that the well-attested recent subsidence was due to a gentle flexure, by which the off-shore sea-bottom was bent down; and if so, the coastal submergence will give much too small a measure of the thickness of the distant barrier reef. In this respect the Great Barrier reef along the shore of a continent differs significantly from smaller barrier reefs around oceanic islands, in which the subsidence of the island and its reef are essentially uniform.

A few hours on shore at Raretona, the southernmost member of the Cook group, sufficed to show that extensive embayments

formerly entering its elaborately carved mass are now occupied by delta plains and perhaps in part by slightly elevated reef- and lagoon-limestone.

Five islands of the Society group exhibit signs of recent subsidence in their intricately embayed shore lines, as has lately been announced by Marshall. A sixth, the cliff-rimmed island of Tahiti, the largest and youngest of the group, has suffered moderate subsidence after its cliffs were cut, but the resulting bays are now nearly all filled with delta plains which often advance into the narrow lagoon; hence a pause or still-stand has followed the latest subsidence. All the barrier reefs of this group appear to have been formed during the recent subsidence that embayed their central islands.

W. M. DAVIS

HARVARD UNIVERSITY

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#### SCIENTIFIC NOTES AND NEWS

DR. RICHARD P. STRONG, professor of tropical diseases at the Harvard Medical School, has been appointed leader of the American Red Cross Sanitary Commission, which will assemble in Salonica about the middle of next month and proceed to the districts of Servia and Austro-Hungary which are stricken with epidemics of typhus, cholera and other contagious diseases. The commission will be supported by the Red Cross and the Rockefeller Foundation. Dr. Strong has already sailed for Greece, and the rest of the expedition will sail by the end of this month. It includes Dr. Thomas W. Jackson, of Philadelphia; Dr. Hans Zinsser, professor of bacteriology, Columbia University; Dr. Andrew W. Sellards, Dr. George C. Shattuck and Dr. Francis B. Grinnell, of the Harvard Medical School. Dr. Nicolle, the French expert on typhus, has been invited to cooperate with the commission. Mr. Charles S. Eby, of Washington, lately connected with the United States Immigration service, is disbursing officer and secretary for the commission.

THE Rockefeller Foundation has made comprehensive plans for improving medical and hospital conditions in China. These are based

on the report of the special commission sent by the foundation to China. To carry out this work the foundation has established a special organization to be called the China Medical Board of the Rockefeller Foundation, constituted as follows: John D. Rockefeller, Jr., chairman; Wallace Buttrick, director; Harry Pratt Judson, Frank J. Goodnow, Dr. Simon Flexner, Jerome D. Greene, John R. Mott, Dr. William H. Welch, Wickliffe Rose, Starr J. Murphy, Dr. Francis W. Peabody and Frederick T. Gates. E. C. Sage is secretary of the board, and Roger S. Greene is to be the resident director in Pekin. The plan outlined by the commission looks to the development of medical education in China as the first step. With a view to building up a body of Chinese medical men able to teach medical science, the foundation has decided to establish six fellowships, each of \$1,000 gold a year and traveling expenses, to enable Chinese graduates to study abroad. Six fellows have been appointed, one of whom is already in this country.

THE fifth annual award of the Willard Gibbs Medal, founded by William A. Converse, of Chicago, has been made to Arthur A. Noyes, director of the research laboratory of physical chemistry, Massachusetts Institute of Technology. Dr. Noyes in receiving the medal will address the Chicago Section of the American Chemical Society upon the evening of April 16, his medal address being "A System of Qualitative Analysis including nearly all the Metallic Elements." The recipient of this medal is determined by a jury of twelve, six of whom only can be members of the Chicago section, those outside the section being Alexander Smith, W. A. Noyes, W. H. Walker, T. W. Richards, Leo Baekeland and W. F. Hillebrand. Previous awards of this medal have been to Arrhenius, T. W. Richards, Baekeland and Remsen.

PROFESSOR ROBERT HALLOWELL RICHARDS was given a complimentary dinner on March 18 by the Mining and Metallurgical Society of America, the feature of which was the presentation of the gold medal of the society by the president, William R. Ingalls, former student under Professor Richards at the Massachusetts

Institute of Technology. The banquet was in the Chemists' Club, New York, with a distinguished gathering of representative metallurgists from various parts of the country. The speakers besides Mr. Ingalls and Professor Richards were: W. L. Saunders, president of the American Institute of Mining Engineers; Charles W. Goodale, general manager of the Boston and Montana Department of the Anaconda Copper Mine; F. A. Liddbury, president of the American Electro-Chemical Society, and David H. Browne, metallurgical expert of the International Nickel Company.

DR. J. WILLIAM WHITE, professor emeritus of surgery and one of the trustees of the University of Pennsylvania, expects to enter the American Ambulance Service in Paris during the coming summer, taking with him a number of surgeons, physicians and nurses from the University of Pennsylvania staff.

THE following have been selected by the council of the Royal Society to be recommended for election into the society: Professor Frederick William Andrewes, Professor Arthur William Conway, Mr. Leonard Doncaster, Mr. John Evershed, Dr. Walter Morley Fletcher, Professor Arthur George Green, Mr. Henry Hubert Hayden, Dr. James Mackenzie, Professor John Cunningham McLennan, Dr. Arthur Thomas Masterman, Professor Gilbert Thomas Morgan, Dr. Charles Samuel Myers, Mr. George Clarke Simpson, Mr. Alan A. Campbell Swinton, and Mr. Arthur George Tansley.

To Surgeon-General William C. Gorgas has been awarded the Louis Livingston Seaman medal for progress and achievement in the promotion of hygiene and the mitigation of occupational disease.

At the thirty-third annual dinner of the faculty of medicine of McGill University held in Montreal on February 13, Dr. Lewellys Franklin Barker, of the Johns Hopkins University, was the guest of honor.

PROFESSOR GEORGE PEGRAM, of the department of physics of Columbia University, has been elected president of the Columbia chapter of the Sigma Xi.

DR. CHARLES H. T. TOWNSEND has been elected the first honorary member in the New York chapter of the Alpha Mu Pi Omega Medical Fraternity.

PROFESSOR A. LOOSS, formerly connected with the school of medicine, Cairo, Egypt, has retired from that position. His present address is Stephanstrasse 18, Leipzig, Germany.

DR. J. C. BOSE, who has been lecturing in the United States on physiological botany, sailed from San Francisco for the Orient on March 20.

DR. W. J. HUSSEY, professor of astronomy at the University of Michigan and director of the observatory, has returned to Ann Arbor, after having spent the past six months at La Plata University in South America.

NEWS has been received from the University of Pennsylvania's Amazon expedition through its director, Dr. W. C. Farrabee. It is the first news that has come through in four months. Dr. Farrabee reports that he has spent three months at work in the interior, where he has been successful in getting much information and many specimens. He further states that he has just started for the highlands on the borders of Bolivia, Peru and Brazil, from which he had to turn back last August.

PROFESSOR WILLIAM TRELEASE, of the department of botany of the University of Illinois, has been granted leave of absence from the university until May 1, for a botanical expedition to Guatemala, Central America.

DR. JULIUS STIEGLITZ, professor of chemistry and director of analytical chemistry in the University of Chicago, has accepted an invitation to give courses in chemistry at the University of California during the summer term that begins June 21 and closes on August 1. Professor Stieglitz will give a seminar on special topics in organic chemistry and also a college course in organic chemistry.

ON March 3, Professor E. E. Barnard, director of the Yerkes Observatory, lectured before the California chapter of the Sigma Xi upon the subject: "Some of the Visible Results of Astronomical Photography." The

lecture was illustrated by a remarkable series of astronomical photographs.

DR. LELAND O. HOWARD delivered a lecture on "Insects and Disease" before the biological club and students of the medical department of Georgetown University, Washington, D. C., on March 11.

DR. L. A. BAUER gave an illustrated lecture, on March 15, at Smith College, Northampton, under the auspices of the Physics Club, entitled "Following the Compass."

PROFESSOR DAYTON C. MILLER, of the Case School of Applied Science, lectured, on March 4 and 5, at the State University of Iowa. His subjects were (1) "The Science of Musical Sounds" and (2) "The Physical Characteristics of Vowels." Professor Miller also addressed the seminar of the department of physics on some of the more technical parts of his investigations. Professor C. G. Derick, of the University of Illinois, delivered two lectures at the university on March 13. The first was on the subject "The Teacher in Research." The second was upon the study of valence through ionization and dealt largely with Professor Derick's own work.

DR. OTIS W. CALDWELL, professor in the University of Chicago, recently spent several days at the Kansas State Agricultural College, where he delivered several lectures to the students and scientific organizations of the college.

DR. FREDERICK WINSLOW TAYLOR, of Philadelphia, past president of the Society of Mechanical Engineers, known for his inauguration of methods of "scientific management," died on March 21 at the age of sixty-nine years.

It is announced that Dr. Philip Beck, head of the Austrian Army Medical staff, recently died of typhus fever.

DR. F. A. BATHER, of the British Museum, writing in the *Museum Journal* of February, 1915, states that some international scientific activities continue between the countries now at war. Thus the German collaborators of the International Catalogue of Scientific Literature continue to send their manuscript to the

central office in London, while the members of the International Commission on Zoological Nomenclature still record their votes without distinction of country. The British government also permits a limited import of scientific books from Germany and Austria.

A CABLEGRAM to the daily papers was quoted in the issue of SCIENCE of December 25, to the effect that the trained horses of Elberfeld had been requisitioned for an artillery battery and that they had been killed on the battlefield in Flanders. Fortunately this report has proved to be untrue. According to the *Frankfurter Zeitung* of January 22, Herr Krall, the owner of the horses, has written to that paper to the effect that they are safe and well in the hands of a competent horseman, although the experiments upon them are in abeyance during the war.

SIR CHARLES A. PARSONS, the distinguished engineer, has given £5,000 to the Royal Institution, London, for the general purposes of the institution.

THE thirty-seventh annual meeting of the American Library Association will be held at Berkeley, Calif., on June 30.

THE eighth annual meeting of the American School Hygiene Association will take place in the city of San Francisco, June 25-26, 1915. Arrangements for this meeting are being made through the organization committee of which Professor Lewis M. Terman, Stanford University, Stanford, Calif., is chairman. Professor Terman is also chairman of the program committee. The influence of the American School Hygiene Association was very largely responsible for the great success of the Fourth International Congress on School Hygiene which was held in the city of Buffalo in the summer of 1913. It is hoped that the general interest stimulated by this International Congress may be productive of a large and an effective meeting in San Francisco.

#### UNIVERSITY AND EDUCATIONAL NEWS

WE have received the following telegram signed by five professors of the University of Utah:

"Fourteen members of the University of Utah faculty have resigned—Cummings, dean of art and science; Holman, dean of law school; six department heads—Roylance, history; Ebaugh, chemistry; Vorhies, biology; Mattill, physiology and physiological chemistry; Peterson, psychology, and six others—Butler and Blood, English; Sharp, histology; Hedger, registrar; Stephens, law; Thiel, German. Of the eleven members of the American Association for the Advancement of Science in the University of Utah, but three remain. The immediate cause is the recent dismissal of Knowlton, in physics, Wise, in German, and Bing and Snow, in English, and the demotion of Professor Marshall, for twenty-three years head of the English department and Reynolds, professor of English. For specious and fluctuating reason, without heed to petition from students, faculty, alumni and others, the president refuses an investigation and has been upheld by the board of regents. This is the culmination of a policy of repression that has been growing steadily in the past two or three years, resulting in an entire lack of mutual confidence. We believe this should be known at once for the safeguarding of our successors in the profession. They should come only with their eyes open."

THE dedication of the new Julius Rosenwald Hall in connection with the ninety-fourth convocation of the University of Chicago was held on the morning of March 16. The program included addresses by President Harry Pratt Judson, Professor Rollin D. Salisbury, head of the department of geography and dean of the Ogden Graduate School of Science; Professor Thomas Chrowder Chamberlin, head of the department of geology, and seven alumni of the university who took their degrees in the departments which will use the new building: Eliot Blackwelder, A.B., '01, Ph.D., '14, professor of geology, the University of Wisconsin; Frank Walbridge De Wolf, S.B., '03, director of the State Geological Survey of Illinois; William Harvey Emmons, Ph.D., 1904, professor of mineralogy and geology, the University of Minnesota, director of