sity of Chicago; Dr. Arthur A. Noyes, director of the Gates Chemical Laboratory of the California Institute of Technology; Professor Hugh S. Taylor, chairman of the department of chemistry at Princeton University.

Committee members representing industrial research groups were: Dr. Harrison E. Howe, editor of *Industrial and Engineering Chemistry;* Dr. John Johnston, director of research, U. S. Steel Corporation; Dr. Arthur D. Little, of A. D. Little, Inc., Cambridge, Massachusetts; Dr. C. E. K. Mees, director of research, Eastman Kodak Company; Dr. Willis R. Whitney, director of research, the General Electric Company; Dr. Robert E. Wilson, vice-president in charge of development, Standard Oil Company of Indiana.

SCIENTIFIC NOTES AND NEWS

THE thirty-fourth anniversary of the discovery by Sir Ronald Ross of the transmission of malaria by anopheles mosquitoes was celebrated on August 20 at the Ross Institute in Putney, London. Dr. William H. Welch, professor of the history of medicine at the Johns Hopkins University, and Mr. John Masefield, poet laureate of Great Britain, gave the principal addresses.

DR. WILLIAM J. HOLLAND, director emeritus of the Carnegie Museum, Pittsburgh, celebrated his eighty-third birthday on August 16.

DR. LINUS PAULING, professor of chemistry at the California Institute of Technology, will receive the A. C. Langmuir Prize at the Buffalo meeting of the American Chemical Society on September 2. The Langmuir Prize, awarded for the first time this year, is bestowed "in recognition of the accomplishment, in America, of outstanding chemical research by a young man or woman preferably working in a college or university." It emphasizes, according to the announcement, the debt industry owes to pure science. Dr. L. V. Redman, vice-president of the Bakelite Corporation, Bloomfield, New Jersey, and president-elect of the American Chemical Society, was chairman of the jury of award, other members of which were: Professors Roger Adams, University of Illinois; S. C. Lind, University of Minnesota; Farrington Daniels, University of Wisconsin; Charles D. Hurd, Northwestern University; Arthur E. Hill, New York University, and Hobart H. Willard, University of Michigan.

MR. FRANK J. TONE, president of the Carborundum Company, Niagara Falls, has been awarded the Jacob F. Schoellkopf gold medal of the western New York section of the American Chemical Society. The award is made for a major advance in science embodying the spirit of research in industry. The medal will be formally presented at Buffalo, September 2, at the eighty-second meeting of the American Chemical Society by its president, Professor Moses Gomberg, of the University of Michigan, following the annual presidential address. Mr. Tone will deliver an address after the presentation on "The High Temperature Products of Silicon."

MR. HENRY ALLEN MOE, secretary of the John Simon Guggenheim Memorial Foundation, has announced the names of additional members on the advisory board of the foundation. They include Dr. Thomas Barbour, professor of zoology and director of the Museum of Comparative Zoology, Harvard University, and Dr. Florence R. Sabine, member of the Rockefeller Institute for Medical Research.

DR. W. E. TOTTINGHAM, of the University of Wisconsin, was elected president of the American Society of Plant Physiologists and Dr. R. B. Harvey, of the University of Minnesota, was elected vice-president in the recent election. Dr. M. A. Gardner will continue as secretary for another year.

DR. THURLOW C. NELSON, professor of zoology at Rutgers University, has been elected president of the National Shell Fisheries Association at the convention of that organization and the Oyster Growers' and Dealers' Association of North America, Inc. He succeeds Mr. Lewis Radcliffe, of Washington, D. C. Other officers elected were Dr. R. V. Truitt, of the University of Maryland, *vice-president;* Dr. Herbert F. Prytherch, of Washington, D. C., *secretary,* and Howard W. Beach, of New Haven, *treasurer.*

DR. WILLIAM GERRY MORGAN, past-president of the American Medical Association, has accepted the position of dean of the School of Medicine at Georgetown University. He will continue to serve as regent of the university.

DR. THOMAS FREEMAN COPE has been promoted from assistant professor to professor of mathematics at Marietta College.

MR. EARL CHURCH has been promoted from assistant professor of mathematics to associate professor of photogrammetry at Syracuse University.

MR. HERBERT HOOVER, JR., son of the President of the United States, has been appointed assistant professor of business economics and radio engineering at the California Institute of Technology.

MR. F. B. ISELY, dean and professor of biology at the Texas Woman's College, has been appointed professor of biology at Trinity University, Waxahachie, Texas.

DR. ROBERT E. LANDON has resigned from the U. S. Geological Survey and has accepted a teaching position in the department of geology at Colorado College, Colorado Springs.

MR. DAVID KEILIN, F.R.S., of Magdalene College, has been elected Quick professor of biology at the University of Cambridge, succeeding Dr. G. H. F. Nuttall, who has held the chair since it was founded in 1906.

DR. G. L. KELLEY, of Harvard University, has been appointed to supervise the research work in the manufacture of pressed steel coaches of the Pressed Steel Company of Great Britain.

DR. ROBERT A. MILLIKAN, director of the Norman Bridge Laboratory of Physics and chairman of the executive council of the California Institute of Technology, is on his way to Europe. He goes to Germany as exchange fellow of the Oberlaender Trust of the Schurz Memorial Foundation, and in England will represent the National Academy of Sciences, of which he is foreign secretary, at the centenary meeting of the British Association and the Faraday and Maxwell celebrations.

DR. L. O. HOWARD, who recently retired after more than fifty years' service in the U. S. Bureau of Entomology, having been chief of the bureau from 1894 to 1927, is about to leave Honolulu for France, stopping on the way at several places of entomological interest. It is his intention to remain in France for at least a year.

DR. R. S. BASSLER, of the U. S. National Museum, is spending two months in museum and field-work in England, Austria and Hungary. His work primarily will be devoted to obtaining material for the increase of the Frank Springer collection of fossil echinoderms. In connection with this work he intends also to secure collections of Post-Paleozoic fossils from the Vienna basin and the Hungarian plain much needed for the museum.

DR. W. REID BLAIR, director of the New York Zoological Park, has sailed to Europe to spend about seven weeks in connection with the plans made for a cattle group to be established at the park.

PROFESSOR FRANK C. BAKER, curator of the Museum of Natural History, University of Illinois, is spending the summer in a molluscan survey of Illinois, particular attention to be given the land species. Two seasons are planned in the field following which a manual of the land mollusca of the state will be prepared. Mr. Dale Foster, a graduate student of the department of zoology of the University of Illinois, will assist Professor Baker.

A FIVE months' leave of absence has been granted to Dr. L. O. Overholts, of the department of botany at the Pennsylvania State College, to initiate a special research for the federal government. Dr. Overholts will spend several months in the forests of Louisiana studying timber diseases, and later go to Washington to classify and tabulate the findings.

PROFESSOR H. L. BOLLEY, dean of biology of the North Dakota Agricultural College, botanist and plant pathologist at North Dakota Experiment Station, who was granted leave of absence from the institution in July, 1930, for the purpose of making botanical and agronomic studies in Argentina and other of the more temperate regions of South America, has returned to the North Dakota Agricultural College and has brought back with him a number of specially selected seeds, particularly from the flax crop in Argentina and Uruguay. Professor Bolley was particularly interested in the methods of cropping pursued in the Argentine cereal cropping zones and paid special attention to the relationship of their methods of cropping as affecting the presence of diseases of the cereals and small grain crops, particularly of flax.

DR. T. WAYLAND VAUGHAN, of the Scripps Institution of Oceanography of the University of California, in cooperation with Mr. M. L. Maitland, of Long Beach, is aiding in the mapping out of a program of investigations to be undertaken this summer. Mr. Maitland has for several years been making a comparative study of recent and fossil foraminifera. They are planning the dredging of approximately 200 samples of sea bottom from shallow to deep waters between Long Beach and Catalina Island. A special fund has been given by the National Research Council for this work.

THE New England Intercollegiate Geological Excursion will take place this year in Montreal at the invitation of the department of geology of McGill University. The meetings will be held on Saturday, Sunday and Monday, October 10, 11 and 12. On Saturday members of the party will study the geology of Mount Royal and St. Helen's Island. On Sunday there will be two excursions, the first to study the stratigraphy of the neighborhood of Montreal, and the second to the Precambrian of the Laurentians, and on Monday structure and stratigraphy of the Appalachian front in Southern Quebec. Full details will be sent to members later. Others wishing further

information may write to T. H. Clark, department of geology, McGill University, Montreal, Quebec.

THE International Illumination Congress will be held in Great Britain from September 1 to 19. Provision is made for visits to London, Glasgow, Edinburgh, Sheffield, Buxton and Birmingham, following which the sessions of the International Commission on Illumination will be held at Cambridge. Throughout the visits to the cities named, the technical sessions, at which more than a hundred papers will be presented, will alternate with trips and social events.

THE next International Congress of Mathematics will be held at Zurich from September 4 to 12, 1932.

THE sixth Natural Science Congress of the Dutch Indies will be held at Bandung, Java, from September 22 to 26. The congress will meet in six sections.

THE Italian Anatomical Society will hold its third congress at Palermo in October. The topics on the program are: morphogenesis of derivatives from the intestine, with an official paper by Professor Bruni, of the University of Parma, and new data on the histochemistry, morphology and histophysiology of cellular lipoids, with an official paper by Professor Ciaccio, of Messina. Professor Luna, of the University of Palermo, will be secretary of the congress.

THE French-American Committee of the Curie Institute, Paris, according to the Paris correspondent of the *Journal* of the American Medical Association, has been organizing receptions in honor of the nations of the Americas. Twenty-two countries were represented. The first reception was held at the Radium City, which was erected with the aid of subscriptions in which these countries participated. The receptions were attended by diplomats, savants, industrialists, literary men and artists. Professor Regaud, director of the institute, and Madame Curie and daughter were the host and hostesses, respectively, in the department for the technical study of radioactivity and the cancer department. Madame Curie gave a lecture on radium and exhibited to the visitors the tube, preserved in a glass case, that contains the first particles of radium secured by her husband and herself.

MORE than 100 official delegates, representing 30 countries, and more than 400 other participants attended the fifteenth International Congress of Agriculture in Prague, Czechoslovakia, which was held from June 5 to 8. Mr. Asher Hobson, in charge of the Foreign Agricultural Service, U. S. Bureau of Agricultural Economics, was an official delegate to the congress, and has recently returned from abroad. The congress this year was divided into seven sections, dealing with agrarian policy and rural economy, agricultural teaching and extension, agricultural cooperation, plant production, animal production, agricultural industries and rural women. Mr. Hobson was one of the three principal reporters for the section on agrarian policy and rural economy. The discussion at the congress centered on the world wheat crisis, with special reference to preferential treatment to grain from eastern European countries by western European countries. The export quota system also received attention. The congress did not commit itself definitely on either of these subjects.

MESSRS. BAILLIERE, TINDALL and COX are publishing shortly for the Bentham Trustees the "International Address Book of Botanists" which has resulted from the resolution of the fifth International Botanical Congress of 1930. This will be on lines somewhat similar to Dorfler's "Botaniker Adressebuch," and will contain the names of some 13,000 to 14,000 botanists and botanical institutions, etc., in all parts of the world. These will be arranged alphabetically by countries, will be printed in the majority of cases in the language of the country in Roman script and will be provided with an index of personal entries and geographical indices. In the publication of the book the International Committee has received assistance from the Bentham Trustees and from the Carnegie Corporation of New York.

IT is reported in the daily press that the island of St. Kilda which lies off the Hebrides on the northwest coast of Scotland, and which was evacuated by its few remaining inhabitants last year, has now been bought as a bird sanctuary. It has always been the resort of countless seabirds and is well suited for the purpose. The island has belonged to the Highland chieftain Macleod of Macleod for over 300 years.

THE annual reports for 1930 of the British Museum, Bloomsbury, and the Natural History Museum, South Kensington, were issued recently. The summary in the London *Times* states that visitors to the British Museum increased during the year to a total of 1,201,639, as compared with 1,191,758 in 1929, and 1,181,617 in 1928. This increase was entirely due to a rise in the number of Sunday visitors, the week-day numbers having decreased by 412. The total number of students who visited particular departments also rose by 13,186 to the highest total yet recorded, 285,538. This increase was chiefly found in the reading room and manuscript room. The number of art students visiting the sculpture galleries fell from 1,671 to 659, the lowest recorded in recent years. Attendances at the Natural History Museum fell from 541,198 in 1929 to 506,407 in 1930. The scientific staff of the museum was increased by 15 and the subordinate staff

by 24. Economic advice was given by the Department of Zoology on the protection and control of elephants in Africa; the control of the musk-rat; occurrences of parasitic worms in man and animals in Nyasaland, Morocco, Algiers, the Sudan and East Africa; and the ravages of shipworm at Haifa and Rangoon. In the entomological department work was done in relation to insects causing or transmitting disease, pests of stored products, boring insects and farm and garden pests.

THE Illinois State Department of Health at Springfield has issued a statement in which it is noted that the circumstance that fatalities from diarrhea and enteritis jumped from 1,306 in 1929 to 1,531 in 1930, a very significant reversal in the recent trend of mortality from these causes. It is pointed out that fatal intestinal infections, especially in children, nearly always reflect errors in diet. Either the food is not wholesome or the wrong kinds of foods are consumed. Economic distress has doubtless led many families to modify radically their food supplies. Frequently, this has cut out from the diet of children, or reduced beyond the point of safety, such indispensable foods as milk and eggs. No medicinal or specially prepared vitamin products can take the place of milk and eggs in the food supply of children. Over 90 per cent. of the mortality from diarrhea and enteritis occurs among children under 2 years old. A sharp decline in milk and egg sales during 1930, as compared with 1929, indicates that the difficulty is associated closely with the economic situation. From a health standpoint, the statement says, it appears that a serious disturbance of the family food supply should be the last matter affected by a retrenchment program. Wisely expended, a very small *per capita* outlay will provide a well-balanced diet at prevailing food prices.

THE Hungarian correspondent of the *Journal* of the American Medical Association reports that Count Kuno Klebelsberg, Hungarian minister of public instruction, recently announced in the National Assembly that the American Rockefeller Foundation had entered into cooperation with the University of Sciences in Szeged and the Biological Research Institute in Tihany, and had granted 1,018,000 pengö for the two institutes. According to the accepted plan the Szeged University will devote from this sum 678,300 pengö to the equipment of natural history and theoretical medical scientific institutes, and to cover the current expenses of scientific investigations the foundation allows 200,000 pengö, about $40,000. For the erection of a glasshouse at the biological institute in Tihany, on the bank of the Danube, the foundation allowed 70,000 pengö, and for covering the current expenses of the next five years it gave 50,000 pengö. During this period also the Hungarian state will contribute a large sum to the budgets of these institutions. The correspondent of the *Journal* writes: "The Hungarian public received this report with immense enthusiasm; not only is the princely sum which was donated appreciated, but still more so the moral achievement. The foremost and richest scientific institution of the world gave a helping hand to two Hungarian scientific institutions from which they obviously expect results on behalf of the entire human family. With this act the Rockefeller Foundation not only obliged the Hungarian state and community, but it made a great service also to the universal natural sciences and to the search for truth. The minister, when expressing gratitude at the sitting of the National Assembly, spoke, in fact, from the heart of the whole Hungarian nation."

ERRATUM: In the issue of SCIENCE for August 14, on page 171, the bequest of Dr. Richard Alexander Fullerton Penrose, Jr., was incorrectly stated owing to a line having been misplaced after the pages had been made up. The residue of Dr. Penrose's estate, valued at $1,000,000, is divided equally between the American Philosophical Society and the Geological Society of America.

DISCUSSION

WHY THE ANGIOSPERMS ARE OLD

A CONSISTENT course of leaf change from Carboniferous times down, easily leading into trident (Sassafras), bladed (Magnolia), and other angiospermous leaf types through a gradually developed net venation, or especially through invasion of a marginal net, has been outlined with reference to type fossils elsewhere. It is believed this view of a wide-spread and gradual development of the foliar features of modern forest types taken in general is a valid one, though unlikely to at once appeal to those unfamiliar with the manner in which fossil leaf evidence bulks up in the field. No less, there should be some further recourse of proof. Does not such come into view when the classification of vascular plants is enough simplified?

Now in the first instance (as indicated by Jeffrey), all stem structures fall into two great series or lists, the lycopsida and the pteropsida. From the former might be separated the sphenopsida. Be this as it may, what is held here is that neither the sphenopsids nor the lycopsids include true floral antecedents, and that fructification in the lycopods and in selaginella