On Tuesday, April 22, section meetings will be held both morning and afternoon. A luncheon symposium considering "Desert Life" will be arranged by Dr. H. L. Shantz, president of the University of Arizona. The program for the evening meeting has not yet been announced.

On Wednesday, April 23, section meetings will be held in the morning and afternoon. Dr. Byron Cummings, director of the Arizona State Museum, University of Arizona, will have charge of a luncheon symposium for a discussion of the economic welfare of scientific men. The annual banquet will be held in the evening, at which time Dr. Francis Ramaley, head of the department of biology of the University of Colorado, will deliver the retiring president's address.

The installation of Dr. H. L. Shantz as the president of the University of Arizona will take place on Thursday, April 24. In the morning there will be a symposium on "Opportunities and Responsibilities of the University of Arizona," when addresses will be given on "The University and Natural Resources," by Dr. George Otis Smith, of the U. S. Geological Survey; "Beauty in American Life," by Lorado Taft, and "The Unity of Nature as Illustrated by the Grand Canyon," by Dr. John C. Merriam, president of the Carnegie Institution. The installation ceremonies will take place in the afternoon, when Dr. Shantz will deliver his inaugural address.

On April 25, field trips will be arranged to points of scientific interest in the vicinity of Tucson, and on Saturday, April 26, there will be held a conference on "Forest, Wild Life and Range Problems."

Interesting and instructive exhibits of technical apparatus will be made by scientific instrument companies. In addition, special preparations are being made for exhibits illustrative of the art of the desert and its archeological resources, as well as some noteworthy features of its plant and animal life.

The Ecological Society of America will have a special program at the Tucson meeting, and several ecological field trips are being planned.

One fare and a half will be in effect under the certificate plan, providing that one hundred and fifty tickets are purchased for the meeting. It is expected that there will be at least this many in attendance. The Santa Rita Hotel has been designated as headquarters. Hotel reservations should be made as early as possible.

SCIENTIFIC NOTES AND NEWS

DR. KARL T. COMPTON, professor of physics in Princeton University, will be installed as eleventh president of the Massachusetts Institute of Technology on the afternoon of June 6. Following the inauguration ceremony, Dr. Samuel W. Stratton, for the past eight years president of the institute, now to be chairman of the executive committee of the corporation, will hold a reception with members of the corporation for Dr. Compton at the president's house. Dr. Stratton and Dr. Compton will speak at the reunion banquet of more than 2,000 alumni on the evening of June 7. Sir William H. Bragg, of the Royal Institution of Great Britain, will be the commencement orator at the graduation exercises on June 10.

A LUNCHEON was given in Washington on March 27 by Mrs. James C. Pilling in honor of the eighty-sixth birthday of Major-General A. W. Greely. The other "ranking guest" was Brigadier-General David L. Brainard, who was one of the twenty-five men accompanying the Greely Arctic Expedition in 1881.

DEAN MORTIMER E. COOLEY, past president of the American Engineering Council, was presented with the Washington Award for 1930 in Chicago on February 24, "for vision and constructive leadership in the education of the engineer." The principal address was by Dr. Howard McClenahan, secretary of the Franklin Institute, and greetings were extended from the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers and the American Institute of Electrical Engineers. The presentation of the award was made by Mr. William S. Monroe, president of the Western Society of Engineers.

DR. HUGO ECKENER received the gold medal of the National Geographic Society on March 27. The inscription on the medal reads: "This special medal of the National Geographic Society is awarded to Hugo Eckener for his work in furthering the progress of airships and to commemorate the first around-the-world flight of the *Graf Zeppelin* in 1929 under his command."

ACCORDING to the *Christian Science Monitor* a wood named in honor of Albert Einstein has been inaugurated in the Jewish Colony of Dilb near Jerusalem. The Jewish National Fund is planting a forest beginning with 10,000 trees. Eight trees ceremoniously planted include one on behalf of the National Fund, the Jewish Agency, the German Reich, the Hebrew University, the Jewish Community in Palestine and the Agricultural Group, which will look after the planting.

DR. ALEXANDER WETMORE, assistant secretary of

the Smithsonian Institution, has been elected an honorary member of the Deutsche ornithologische Gesellschaft, and a foreign member of the British Ornithologists' Union.

DR. FRANK C. BAKER, of the University of Illinois, was recently elected a corresponding member of the Zoological Society of London.

DR. JEAN CHARCOT has been elected a member of the Paris Academy of Sciences in the section of *membres libres* for those who have rendered service to the art of medicine.

AT the annual general meeting of the British Institute of Chemistry, Dr. G. C. Clayton was elected president in succession to Professor Arthur Smithells. The Meldola Medal was awarded to Dr. R. A. Morton, of Liverpool, and the Sir Edward Frankland Medal and Prize to Mr. B. W. Bradford.

ROYAL MEDALS of the Royal Geographical Society have been awarded as follows: Founder's Medal to Mr. F. Kingdon Ward, for his geographical explorations and work on botanical distribution in southwest China and southeast Tibet. Patron's Medal to Mr. C. E. Borchgrevink, for his pioneer Antarctic Expedition of 1898 to 1900, which was the first to winter in the Antarctic, to travel on the Ross Barrier and to obtain proof of its recession. The council has made the following awards: Victoria Medal to M. Emmanuel de Margerie, for his distinguished contributions to the science of land forms; Murchison Grant to Colonel H. Wood, R.E., for his surveys with the Tibet Mission and the De Filippi Expedition to Central Asia; Back Grant to Mrs. Gordon-Gallien, for her expedition to the Kalambo Falls; Cuthbert Peek Grant to Mr. Owen Lattimore, for his travels in Mongolia and Chinese Turkestan, and the Gill Memorial to Lieutenant-Colonel Reginald Schomberg, D.S.O., for his explorations in the Tarim Basin and the Tien-Shan.

DR. EDGAR ALLEN, who has been professor of anatomy in the University of Missouri since 1923, has been appointed dean of the faculty of medicine and director of the university hospitals at the University of Missouri. Dr. Allen succeeds Dean Guy L. Noyes, who died on February 4. Dr. Noyes had been a member of the faculty of medicine since 1902 and dean since 1917.

DR. J. J. WEIGLE, associate professor of physics at the University of Pittsburgh, has been appointed, effective October, 1930, professor of physics and director of the laboratory at the University of Geneva, Switzerland.

W. B. BOLLEN, after five years' service as assistant chemist at the Idaho Agricultural Experiment Station, has been appointed assistant professor of bacteriology and associate bacteriologist at the Oregon State College and Experiment Station, Corvallis, where he has charge of teaching and research work in soil bacteriology.

DR. FREDERICK J. CULLEN, medical officer in the U. S. Department of Agriculture, has been selected to head the drug control work of the department's food, drug and insecticide administration. This appointment fills the vacancy caused by the resignation of Dr. James J. Durrett to become state health officer of Alabama.

DR. J. W. WHITAKER, senior lecturer in applied science in the department of mining, University College, Nottingham, has been appointed principal of the college. He is the author of a number of publications on mining, chemistry and physics.

PROFESSOR J. ARTHUR THOMSON will resign the chair of natural history (zoology) in the University of Aberdeen as from September 30.

ALOIS PAIKERT DE SEPROS, formerly Royal Hungarian Agricultural Commissioner, accredited to the governments at Washington and Ottawa, has been appointed the first director general of the newly organized Museum of Agriculture at Cairo, through which the palace of the late Princess Fatima has been bought for the nation.

DR. ROBERT DEC. WARD, professor of climatology at Harvard University, has been appointed a member of the International Climatological Commission.

AT the request of Dr. Waldemar Kaempffert, director of the Museum of Science and Industry, Chicago, the American Engineering Council has appointed Professor Mortimer E. Cooley, dean emeritus of the School of Engineering of the University of Michigan; Edward L. Ryerson, Chicago, Illinois, and Joseph Roe, New York City, to be its representatives on the advisory board of the museum now being planned in Chicago.

AT the invitation of the League of Nations, Dr. Remington Kellogg, chairman of the technical committee of the Council for the Conservation of Whales, under the auspices of the American Society of Mammalogists, and a member of the staff of the Smithsonian Institution, sailed for Rotterdam on March 24. The league held a session on April 3 on the subject of whaling and on practical methods of conserving the supply, and Dr. Kellogg attended in the capacity of advisory expert, representing the council. After this session Dr. Kellogg plans to visit European museums, chiefly for the purpose of studying their cetacean material.

DR. C. JUDSON HERRICK, of the University of Chicago, will spend the spring and early summer at the Effingham B. Morris Biological Farm of the Wistar Institute of Anatomy.

DR. H. H. DONALDSON, of the Wistar Institute of Anatomy, will leave early in June for Europe, where he will remain until September. He plans to be present at the Anatomical Congress in Amsterdam.

MRS. AGNES CHASE, associate botanist in the grass herbarium of the U. S. National Museum, is now collecting in Matto Grosso, Brazil. After visiting Diamantina (Minas Geraes), a historic botanical collecting ground, she went south into São Paulo and then west on the railroad across Matto Grosso to Puerto Esperanca.

PROFESSOR DOUGLAS JOHNSON, of Columbia University, recently returned from a journey of nine months largely devoted to geologic and geographic studies in the southern hemisphere and the Orient. In January and February he spent several weeks examining elevated shore platforms on portions of the Japanese, Hawaiian and California coasts. In Honolulu he addressed the Hawaiian Academy of Sciences on "Interpretations of Shore Scenery," and at Stanford University lectured before the students of the geological department on "The Origin of Certain Supposed Eustatic Shore Benches." On his way east, Professor Johnson spoke on coastal problems before the geological students of the University of Arizona, addressed a general assembly of students at the University of New Mexico and delivered two lectures at Denison University, Ohio.

PROFESSOR W. H. TWENHOFEL, of the department of geology at the University of Wisconsin, will make a lecture tour of the southwest early in April to discuss the origin and constitution of limestone in related rocks and the influence of climate and topography on sedimentation. He will speak at Wichita, April 7; Oklahoma City, April 8; Tulsa, April 9; Fort Worth, April 10, and St. Angelo, April 12, under the auspices of the geological societies of these cities.

THE annual address complimentary to the Michigan Academy of Sciences on behalf of the University of Michigan, delivered by Professor Charles P. Berkey, was entitled "With a Geologist in the Gobi Desert." This address was delivered on March 21 at the University of Michigan, where the academy was in session. On the same day Dr. Berkey gave an address on the general subject "Geological Engineering Projects." Both lectures were illustrated.

ROYAL CANADIAN INSTITUTE lectures during the past month include: Mr. Walter Granger, chief paleontologist and second-in-command, Central Asiatic Expeditions of the American Museum of Natural History, "Gobi Trails"; Professor J. Stanley Gardiner, professor of zoology and comparative anatomy, University of Cambridge, England, "Coral Reefs," and Professor Bradley Stoughton, head of the department of metallurgical engineering, Lehigh University, "Materials for Aircraft Construction."

SCIENCE SERVICE has arranged a series of radio talks to be given on Friday afternoons over the Columbia Broadcasting System. The talks will be given from 3:45 to 4:00 P. M., eastern standard time. Following is the program for April: April 4; Dr. Paul R. Heyl, physicist, U. S. Bureau of Standards, "Measuring the Earth's Attraction." April 11; Dean Edward W. Berry, professor of paleontology, Johns Hopkins University, "The Ancestry of our Trees." April 18; Dr. C. G. Abbot, secretary of the Smithsonian Institution, "The Sun and Ourselves." April 25; Dr. Arthur H. Compton, professor of physics, the University of Chicago, "What is Light?"

DR. CHARLES SINGER, lecturer in the history of medicine of the University of London, will give two courses in the department of zoology in the summer session of the University of California, from June 30 to August 9. The courses will be a historical introduction to biology and a seminar in the history of science.

THE C. J. SYMONS Memorial Lecture of the Royal Meteorological Society was delivered on March 19, by Dr. Herbert Lapworth, who spoke on "Meteorology and Water Supply."

THE sixtieth annual meeting of the Wisconsin Academy of Sciences, Arts and Letters will be held at the University of Wisconsin on April 11 and 12. Many of the discussions, which will be illustrated, will be of popular and public interest. Meeting jointly with the academy will be the Wisconsin Archeological Society and the Midwest Museums Conference. Several hundred museums in five states will be represented at the conference.

THE forty-fourth annual meeting of the Iowa Academy of Science will be held at Iowa State College on May 2 and 3, under the presidency of L. B. Spinney, head of the department of physics at Iowa State College.

THE twenty-fifth annual meeting of the American Association of Museums will be held at Buffalo from June 4 to 7. The first three days will be devoted to business, and the fourth day to visiting places of interest in the vicinity of Buffalo.

AN Associated Press dispatch from Berlin on March 27 reads as follows: "Professor Albert Einstein has presented to the Prussian Academy of Sciences a new paper which he has written with Dr. W. Mayer on two strictly static solutions of the field equations of his uniform field theory, which connects gravitation and electricity. These solutions were described as follows: These field equations can be rigorously solved in two cases. The first case is that of a spherically symmetrical field in space, for example, the external field of an electrically charged sphere of fixed mass. The other case is that of the static field of any number of uncharged mass particles at rest with respect to one another."

THE $6,900,000 appropriation for combating the Mediterranean fruit fly in Florida, which has passed the Senate and is now in conference, may be subjected to another drastic cut at the hands of the House members. The Senate passed the reduced amount recommended by the President only with the understanding that the House members who held hearings in Florida on the fruit fly situation should pass upon the item and reduce it still further if they thought it too large. In the meantime, the federal field inspection force in Florida has had to be reduced by 600, with the prospect of still further dismissals.

A BILL introduced in Congress by Representative Griffin, of New York, would provide a medal of honor for government workers who do distinguished work along scientific lines. The bill provides that recommendations of not more than five persons each year would be made to the President by a commission representing the National Academy of Sciences, the American Association for the Advancement of Science and the American Engineering Council. This medal, to be known as the Jefferson Medal of Honor for Distinguished Work in Science, would carry with it a payment of one hundred dollars, and a further annual payment of between one and five hundred dollars.

ALPHA ETA CHAPTER OF PHI SIGMA, national biological research society, was installed at the Oklahoma Agricultural and Mechanical College at Stillwater on March 13.

A CHAPTER of the Beta Beta Beta, biological fraternity, was installed at Carthage College, Illinois, on February 27. Dr. Arthur C. Walton, professor of biology at Knox College, was the installing officer.

THE Paul Herbst collection of Chilian Hymenoptera, which was purchased by a friend for the Museum of Comparative Zoology of Harvard University, has arrived in excellent condition. It is particularly rich in bees and contains a number of types.

A TOTAL sum of $5,000,000 in gifts by Julius Rosenwald, philanthropist, removes the last obstacle to the Museum of Science and Industry of Chicago. The museum will be in the reconstructed Fine Arts Building in Jackson Park. A brief was filed in answer to a suit seeking an injunction to stop the project on the ground that the South Park Commissioners violated the law in issuing $5,000,000 in bonds for the reconstruction of the building which later will be used by a private corporation. Mr. Rosenwald's original contribution of $3,000,000 was to equip the museum, the brief stated. An additional donation of between $1,500,000 and $2,000,000 is to be given by Mr. Rosenwald for construction.

THE creation of the Lois Grunow Memorial Foundation, for the furtherance of medical science, has been made possible by a gift of $1,000,000 from Mr. William C. Grunow, of Chicago, in memory of his daughter. It is planned to establish a clinical laboratories at Phoenix, Arizona, where Mr. Grunow spends the summers.

THE late Mrs. Elizabeth R. Stevens, of Swansea, Massachusetts, who died on February 4, bequeathed $100,000 to Harvard College.

THE La Follette bill to appropriate $900,000 for the construction by the government of a forest products laboratory on land to be donated by the University of Wisconsin at Madison was passed by the Senate on March 25.

PROVISION for the modernization of the U. S. Naval Observatory in Washington, D. C., is made in a bill which was ordered favorably reported by the House Committee on Naval Affairs on March 25. The bill authorizes appropriations as follows: Purchase and installation of equipment, utilities and appurtenances for astrographic and research work and modernization of the astronomical plant, $160,000; construction of astrographic laboratory, $65,000; construction of a service building, $40,000; total, $265,000.

THE last state legislature appropriated $335,000 to be used for the construction and equipment of a chemistry annex at the University of Illinois, and the first contracts have been awarded. The annex has been designed to house laboratories, class and storerooms for the elementary chemistry courses, as well as offices for the administrative staff of the division and members of the instructional staff. It will stand between the present chemistry building and the old agricultural building, and will be connected directly with the old agricultural building to permit remodeling of the north wing for use as a chemistry laboratory. The new building will be 200 feet long and 50 feet wide, with three floors in addition to the basement.

THE New York State Legislature has appropriated $285,000 for the erection of a laboratory building at the New York State Agricultural Experiment Station at Geneva. This building will house the divisions of horticulture and botany and will make possible the expansion of the other research divisions which will remain in the old laboratory buildings. It is expected that additional funds for equipment will be made available later.

Nature states that at the ninth annual dinner of the London section of the British Association of Chemists, held on March 1, Sir Arnold Wilson outlined a scheme which is now under consideration for a building to house the principal societies and institutions in London concerned with chemistry and chemical industry or related to them. The societies interested are the Institution of Mining and Metallurgy, the Institution of Mining Engineers, the Chemical Society, the Society of Chemical Industry, the Institution of Chemical Engineers, the Institution of Rubber Industry, the Institution of Petroleum Technologists, the Institute of Fuel, the Institute of Metals, the Iron and Steel Institution of Petroleum Technologists, the Institute ciety. It is proposed that all these societies should be housed under one roof and their libraries pooled for the common use of their members. As Sir Arnold pointed out, the scheme has the advantage that each society would retain its own individuality while giving its members facilities for informal meeting with members of related societies. It would thus be an important step towards the cooperation and coordination so necessary to-day in allied branches of science and technology. It was stated that £100,000 has already been promised in furtherance of the scheme.

DISCUSSION

OUR CONTEMPORARY RESEARCH "ACES"

CLINICAL medicine is justly proud of the four typical biologists mentioned in Dr. E. E. Free's recently published list[1] of the ten living scientists, whose removal at the present time would be "an irreparable loss" to future clinical science. Without questioning the limitations and bias that led this retired agricultural chemist to select these particular four experimenters from the scores of equally skilled contemporary scientists, whose published results are in many cases too technical for a non-clinical agriculturist to understand, one can still raise the question if his selected four, or any dozen scientists similarly selected, are in reality "irreplaceable." What effect would it have on medical progress if Dr. Free's hand-picked research "aces" were to-morrow "sunk without trace" in our historical archives?

It is, of course, a picturesque hypothesis of the lay mind that medical progress is due solely to the half dozen specially gifted individuals of each generation whose initiative and exceptional mentality make them the pace-makers of clinical evolution. Conventional history is rich in such alleged research giants, varying from the mythical therapeutic demigods of ancient Greece to the almost equally apochryphal Listers, Pasteurs, Oslers and Ehrlichs of recent decades. To the lay mind, the premature removal of any one of these semi-deified medical "wizards" would have retarded clinical evolution for untold centuries.

This picturesque hypothesis of the sporadic personal factor in medical evolution is, of course, not endorsed by competent sociologists who have made a real effort to determine the underlying factor in clinical progress. One of the most convincing studies of this evolutionary mechanism is Professor Stern's recent volume,[2] "Social Factors in Medical Progress," published under the auspices of the faculty of political science, Columbia University. Professor Stern cites historical evidence that so-called gifted individuals were not important factors in our historic medical development, and frankly contends that the same progress would have been made on the removal of any or all of the ancient popularly recognized research heroes.

Professor Stern's most convincing argument that important clinical inventions and discoveries are determined solely by the general rise in cultural level in a dozen collateral fields of non-clinical science is based on the simultaneous, independent, multiple discoveries, and inventions in all fields of practical medicine. He cites hundreds of such research duplicates, ranging from the ten practically simultaneous inventions of the laryngoscope to the five independent discoveries of adrenalin.

Eight simultaneous discoveries of the cellular basis of plant and animal life. At least three independent demonstrations of artificial immunity following inoculation with attenuated cultures of anthrax bacillus. Five officially recorded demonstrations of the clinical value of cowpox vaccinations, before Court Physician Jenner hogged the limelight. Five independent discoveries of the phenomenon of heartblock. Three simultaneous demonstrations of vasco-constrictor nerves. Five independent introductions of ether as a surgical anesthetic.

The ophthalmoscope simultaneously invented in Germany and England. Agglutination of typhoid bacilli independently discovered in England and France. The cause of amebic dysentery indepen-

[1] E. E. Free, "Who Are the Greatest in Science," *North American Review*, January, 1930.

[2] B. J. Stern, "Social Factors in Medical Progress," Columbia University Press, 1927.