North and South Polar regions within the next two years for the inclusion of physicists in the parties to make further cosmic ray measurements.

CONFERRING OF THE CHANCELLOR'S MEDAL OF THE UNIVERSITY OF BUFFALO ON DR. FRANK A. HARTMAN

AT commencement exercises on February 22, the University of Buffalo awarded the chancellor's medal, its highest honorary badge, to Dr. Frank A. Hartman, professor of physiology in the School of Medicine, for his work in extracting the vital hormone of the adrenal cortex. Dr. Hartman is the first member of the faculty to receive the medal, since it is reserved for the few who by some outstanding act or achievement bring greater dignity and honor to Buffalo in the eyes of the outside world. An excerpt from Chancellor Capen's remarks in making the award follows:

The dominant function of the university is now no longer the preservation of the past; it is the creation of the future. How does the university create the future? By research, by experiment, by reducing the area of the unknown, by making new knowledge and reinterpreting old knowledge in the light of the new, and so furnishing society with new instruments to make life safer, more generous and more lovely. The terms "university" and "research" have come to be indissolubly associated.

But the situation contains a paradox. The university, especially in America, now has many obligations. Its historic obligation to transmit the past bulks large and is very costly. It has acquired still other obligations that are contemporary with the moment, that consume much energy and attract perhaps undue attention. In consequence, research, which experience has shown to be the university's most important activity, shares always disadvantageously in the apportionment of funds and facilities. Research is still far too often in the American university a work of supererogation. It is a surplus good work performed at the sacrifice of ease and profit, out of devotion to a wholly idealistic cause. It is performed by a minority of the members of the university. But from these works of supererogation, from this treasury of grace, if one may continue the theological figure, have come not all, to be sure, but a large proportion of those facts and points of view which within the last two generations have ameliorated and enlarged social living.

In the field of medical investigation the university has long had a practical monopoly. To university research in Europe and America the world owes most of the great discoveries that have controlled or vanquished one after another of the seemingly hopeless maladies to which humanity is subject.

Those who see only the occasionally spectacular results of research in the medical sciences have little idea of what lies behind them. In hundreds of laboratories all over the world the process is going forward, quietly, without public notice, almost as a matter of daily routine. It is not attended by sudden revelations. The advance toward the goal which the investigator seeks is inch by inch. Unexpected blockades and dashed hopes are frequent, and retreats to a point whence a fresh start can be made. There enter into the process imagination, bold and hazardous conjecture, the patient distrustful following of leads, the endless repetition of checks and tests to make sure that nothing has been overlooked and that the same procedures will bring every time the same results. For most workers this is all, this and the recognition by fellow workers of foundations solidly laid for the future advance of science.

Once in a while there comes to the rarely resourceful investigator brilliant success, then the applause of his professional associates, perhaps fame. Surely the man whose imagination and learning and technical skill have brought him to an important scientific discovery needs and wants no other reward. His cup is full.

But whether he wants it or not is beside the point. These institutions that are dedicated to research may properly seize the occasion to say: "This is what we mean. This is the business to which we are committed. This servant of the common good is our man, an exemplar of our craft."

For some months the University of Buffalo has been in a position to speak thus of one of its members. The discovery and preparation of cortin were in the best tradition of medical research. Years of baffling and painstaking experiment preceded the modest announcement of our colleague's success. Then, quite unheralded, followed the multiplying demonstrations of the effectiveness of the discovery; then renewed study and experiment, and at length national recognition modestly, almost reluctantly, accepted.

The university to which he has brought honor now delights to honor him. Fortunately it is able to present him with a tangible token of its approval. The medal established by former Chancellor Charles P. Norton was intended to signalize publicly just such distinguished achievement.

Frank Alexander Hartman, teacher, scholar, persevering and dauntless experimenter, discoverer of cortin, the council of the University of Buffalo awards the Chancellor's Medal to you, because through your investigations you have won rank among the leaders in the science of endocrinology and in so doing have "dignified Buffalo in the eyes of the world."

SCIENTIFIC NOTES AND NEWS

AT a recent meeting of the senate of the University of Dublin it was decided to confer the degree of Sc.D. on Dr. Ross G. Harrison, professor of comparative anatomy at Yale University.

ON the occasion of the dedication of the Graduate Education Building of the University of Chicago, the honorary degree of doctor of science was conferred on Dr. Edward Lee Thorndike, professor of educa-

tion and director of the division of psychology of the Institute of Educational Research of Teachers College, Columbia University.

THE honorary doctorate of the mathematical faculty of the University of Göttingen has been conferred on Lord Rutherford, director of the Cavendish Laboratory and professor of experimental physics at the University of Cambridge.

THE colloid division of the Brunswick Chemical Society has awarded to Miss Pockels the Leonard Prize for 1931, and the Brunswick Technical High School has conferred on her the degree of doctor of engineering, *honoris causa*. Professor Wilhelm Ostwald, of Leipzig, presented the medal and the rector of the Technical High School delivered the doctor's diploma.

AT the meeting of the Washington Chemical Society, held on February 11, the Hillebrand award was presented to Dr. G. E. F. Lundell, of the Bureau of Standards, for work in connection with his book on "Applied Inorganic Analysis." This award is given annually for the greatest contribution made by a Washington chemist during the year. The speaker of the evening was Mr. Arnold K. Balls, of the U. S. Department of Agriculture, who discussed the chemistry of enzymes.

DIPLOMAS of honorary membership were conferred upon Dr. Karl T. Compton, president of the Massachusetts Institute of Technology, and on Mr. Charles T. Main, consulting engineer, by the Boston Society of Civil Engineers at its eighty-fourth annual meeting on March 16.

DR. JULES SCHOKALSKY, of Leningrad, U.S.S.R., president of the Russian Geographic Society, was recently elected correspondent of the French Academy of Sciences, for the Section of Geography and Navigation. He is known for his oceanographic work, especially in the Black Sea.

AMONG members elected in the division of science of the Bavarian Maximilian order for science and art are Dr. Walther von Dyck, professor of mathematics, and Dr. Arnold Sommerfeld, professor of theoretical physics, both of the University of Munich.

THE Council of the Royal Society has agreed to recommend for election into the society the following seventeen candidates: Professor Frederick Charles Bartlett, Professor Davidson Black, Dr. Frederick William Carter, Professor William George Fearnsides, Professor Felix Eugen Fritsch, Professor Joseph Alexander Gray, Professor John Burdon Sanderson Haldane, Professor Douglas Rayner Hartree, Dr. Karl Jordan, Professor Frederick Robert Miller, Sir Basil Mott, Bt., Dr. John Boyd Orr, Professor John Lionel Simonsen, Mr. Thomas Smith, Professor Hugh Stott Taylor, Professor Herbert Westren Turnbull, and Professor Warrington Yorke.

THE annual faculty research lecture for 1932 at the University of California was given on March 22, Charter Day, in Wheeler Auditorium, by Dr. William Hammond Wright, astronomer of Lick Observatory. The title of the lecture was "Viewing the Heavenly Bodies through Colored Glasses."

DR. ARTHUR O. LOVEJOY, professor of philosophy at the Johns Hopkins University, has been appointed the second incumbent of the William James lectureship at Harvard University for the first half of next year. Dr. John Dewey, professor of philosophy emeritus at Columbia University, was last year the first William James lecturer under the foundation for psychology provided with nearly $800,000 by the will of Edgar Pierce, formerly instructor in psychology at Harvard.

PROFESSOR JOHN A. JAMES, who for the past thirteen years has been assistant dean of the College of Agriculture of the University of Wisconsin, has been appointed dean and director of the department of agricultural education. The position of assistant dean will be filled by Dr. Ira L. Baldwin, of the department of agricultural bacteriology.

DR. H. ROSSBACHER, formerly superintendent of manufacturing development at the Kearny plant of the Western Electric Company, has been transferred to the Bell Telephone Laboratories as manager of vacuum tube manufacture.

LEAVE of absence from Harvard University has been granted to Professor Hubert L. Clark, for the second half of 1931–32, in order that he may take charge of the expedition of the Museum of Comparative Zoology in Australia.

THE Hepsa Ely Silliman Memorial Lectures will be delivered at the Sterling Chemistry Laboratory, Yale University, by Professor Owen Willans Richardson, of King's College, London, on April 18, 19, 21, 22, 25 and 26, at 4:15 P. M. The subject of these lectures will be "Molecular Hydrogen and its Spectrum."

DR. ANTON J. CARLSON, professor of physiology in the University of Chicago, conducted the tenth annual graduate course, sponsored by the Toledo Academy of Medicine, from March 21 to 25, on recent advances in physiology. Dr. Carlson gave two lectures each day covering, among other subjects, the anemias, control of the heart, control of blood pressure, oxygen therapy, the digestive secretions, motor mechanisms of the alimentary tract, dietary deficiencies, the endocrine glands and renal function.

THE *Journal* of the American Medical Association

reports that Dr. Alphonse R. Dochez, professor of medicine, Columbia University College of Physicians and Surgeons, New York, gave the fifth course of lectures under the William Sydney Thayer and Susan Read Thayer Lectureship in Clinical Medicine at the Johns Hopkins Hospital, on March 22 and 23. Dr. Dochez spoke on "A Limited Consideration of Certain Aspects of Acute Infection of the Respiratory Tract."

DR. WALDEMAR T. SCHALLER, of the U. S. Geological Survey, recently has given three illustrated lectures before the department of geology and mineralogy of Columbia University on the potash deposits of New Mexico and Texas, the borate deposits in the southwest, and the crystal cavities of the New Jersey zeolite region. He also spoke on "The Potash Mine in New Mexico" before the American Institute of Mining and Metallurgical Engineers and on "Some Fascinations of Mineralogy" before the New York Mineralogical Club.

PROFESSOR ERNST WALDSCHMIDT-LEITZ, director of the institute of biochemistry, Deutsche Technische Hochschule, Prague, will give the Dohme Lectures on April 20, 21 and 22, at 4:30 P. M., at the School of Medicine of the Johns Hopkins University. The titles of his three lectures are: "On the Specificity and Mode of Action of Proteolytic Enzymes," "The Structure of Proteins," "On the Biological Significance of Enzymatic Activation."

THREE Cantor Lectures on recent researches on the nature and function of vitamins will be given by Professor J. C. Drummond on April 18 and 25 and May 2, at the Royal Society of Arts, London.

DR. COLEMAN R. GRIFFITH, associate professor of educational psychology at the University of Illinois, addressed the St. Louis University Sigma Xi Club on March 14 on "Some Studies on Exercise and Fatigue."

THE Sydney Ringer Memorial Lecture at University College Hospital Medical School, London, was delivered by Professor C. R. Harington on March 11 under the chairmanship of Sir Edward Sharpey-Schafer. The subject was "The Nature of the Secretion of the Thyroid Gland."

THE Biological Laboratory at Cold Spring Harbor, Long Island, New York, will inaugurate this summer a new course on plant sociology, which will take the place of field botany. As the name suggests, this course will be concerned with the recognition and description of plant associations and the investigation of their floristic compositions. Professor H. S. Conard will be in charge. Dr. A. J. Grout will conduct work in bryology.

PROMPT action on the part of both the House and the Senate has been requested, as Science Service reports, by the State Department and President Hoover, so that an $85,000 appropriation may be authorized to defray the expenses of the sixteenth session of the International Geological Congress to be held in this country in 1933. The House Committee on Foreign Affairs has already reported favorably on such an authorization. The congress was originally planned for 1932, but failure of the legislative branch of the government to authorize the funds last session caused a postponement. The committee report states: "The committee feels these congresses are very vital to the development of the resources of the world and that matters are discussed which eventually develop into action which means much to the financial condition of the country. . . . It is understood that this geological congress will devote considerable time to the discussion of copper, silver and petroleum."

MANSON HOUSE, the new headquarters of the Royal Society of Tropical Medicine and Hygiene in London, was declared open by the Prince of Wales on March 17.

ACCORDING to the *Journal* of the American Medical Association, the Council of the Royal College of Surgeons of England is presenting a hand-wrought and chiseled silver mace to the Royal College of Surgeons of Australasia. The staff is decorated with a pattern of English roses, Australian wattle and New Zealand ferns, and it is inscribed with the names of the twenty-four members of the council for the present year. The total weight of sterling silver is 189½ ounces troy, and the length is 3 feet 10⅜ inches. The mace will be presented to the Australasian body when Lord Moynihan visits Australia this year.

IT is reported that Harvard University will receive an endowment fund of more than $1,000,000 from the estate of the late Nelson Robinson, of New York City. It appears that Mr. Robinson had a life interest in this fund and that the principal will now go to the university.

SCIENCE SERVICE reports that representatives of 21 states have been attending the school for State Sanitary Engineers which the U. S. Public Health Service held at its stream pollution investigations station in Washington. The object of the school, which ended on March 26, was to acquaint these officials with the latest developments in laboratory methods and technique and other problems in their field. During the morning the "men" worked in the laboratories, where expert technicians demonstrated methods and unusual conditions. In the afternoon officers of the U. S. Public Health Service lectured on various problems of interest to sanitary engineers, such as stream pollution, malaria control, milk sanitation, water purification, unusual problems of public water supply

brought about by drought, and similar topics. Arrangements for the school were made jointly by Mr. E. S. Tisdale, sanitary engineer of the West Virginia State Department of Health, and Mr. J. K. Hoskins, sanitary engineer of the U. S. Public Health Service in charge of the station. The states represented at the school were: Arizona, California, Connecticut, Idaho, Illinois, Iowa, Kansas, Kentucky, Massachusetts, Minnesota, Missouri, New Hampshire, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Texas, West Virginia and Wisconsin.

THE Field Museum of Natural History has received a large and important collection of plants gathered in Petén, Guatemala, and in British Honduras, made by Professor H. H. Bartlett, of the University of Michigan. The plants are being identified by Paul C. Standley, associate curator in charge of the museum's herbarium.

ACCORDING to the London *Times* the Oxford University Exploration Club is sending an expedition this year to North Sarawak instead of to Arctic Canada, where they worked last year. Mr. C. S. Elton, chairman of the club, reported recently that a biological survey of plant and animal life is to be made. The club is an undergraduate one, backed by experienced senior explorers and travelers. During the last four years expeditions have been sent to Greenland, British Guiana, Lapland and the Hudson Strait. The Sarawak expedition is backed by the university, which has made a small grant towards the cost, and it goes with the permission and approval of the Rajah of Sarawak, who is providing special facilities. Eight or ten members of the expedition are going from England about the end of July, and the leader in the field will be Mr. I. Banks, curator of the Rajah of Sarawak's Museum at Kuching. They expect to return before the end of the year. The district where most of the work will be done is around the Baram River. Camps will be made in the forest and in the mountains, and a special collection of plants will be made and brought back for further study at Oxford.

PLANS are being prepared for a building for the Polar Research Institute at Cambridge, which is part of the Captain Scott memorial. Dr. Seward, master of Downing College, who has himself done scientific work in the Arctic, stated recently that building would probably start about midsummer and should be ready early next year. Money raised as a memorial to Captain Scott was handed over to the University of Cambridge on condition that a Polar Research Institute was founded and that a suitable building was erected within ten years. The institute itself was established seven years ago and has been doing useful work in inadequate surroundings. Now, however, thanks largely to a gift of £4,000 from the Pilgrim Trust, there is enough money to carry out the original condition and erect a suitable building.

Two new primitive areas in the national forests of California have been set aside by Mr. R. Y. Stuart, chief of the Forest Service. These areas are known as the Devil Canyon-Bear Canyon area, 56 square miles in extent and embracing the entire drainage basins of Devil, Bear and Chileno Canyons in the Los Angeles National Forest, and the San Rafael area, 117 square miles in extent and located on the main crest of the San Rafael range in the Santa Barbara National Forest. Both these areas are accessible by trail only, and will be preserved as far as possible in their present wild state. No roads will be constructed and no permanent structures will be allowed except such as are necessary for protection and administration of the forests.

AT the Hôpital St. Louis, Paris, according to the regular correspondent of the *Journal* of the American Medical Association, a large radiologic service has been created that embodies all modern improvements. The minister of public health attended in person the opening of the new service. The institute was erected through the initiative of Dr. Belot, director of the service, who supervised himself all the details of the construction. A thick wall sheathed with sheets of lead insulates completely the roentgen apparatus from the booth occupied by the patients and the operators. The operators control the apparatus from a distance. The floor is entirely insulated by a thick layer of rubber. In addition to numerous dressing rooms for the patients, there are three rooms for radiologic diagnosis. The physician dictates his observations to secretaries, seated in an adjoining room, by means of a microphone and loud-speaker. The roentgenologist is enclosed in a special booth that assures him absolute protection. A powerful generator enables the operator to make roentgenograms of the lung at the rate of one every 2/100 second. Dummy lifts are used to transfer the plates at once to the laboratories on the ground floor, where they are immediately developed and then placed in an electric drier. The radiotherapeutic service comprises ten rooms. The patients are enclosed in a booth and the nurses control the apparatus from without, while they supervise the patient through a small window in the wall. There are two sets of equipment for superficial roentgenotherapy, an apparatus for moderately penetrative roentgenotherapy, and three sets of equipment for high voltage roentgenotherapy with 250 kilowatts. The generators are coils with a constant tension of 30 milliamperes. The Coolidge tubes, standard type,

are enclosed in opaque containers. In other rooms are the various types of apparatus for physical therapy: mercury lamps, diathermic devices, arc lamps, and the like; the filing cabinets; in addition, there are assembly and recreation rooms. Foreign physicians who visited the institute at the time of holding of the International Radiologic Congress stated that nowhere else is there an institute so complete and so modern. From the standpoint of capacity, 10,000 patients a year can be given diagnostic examinations and 30,000 patients can receive widely divergent forms of treatment each year.

WE learn from the London *Times* that the Royal Horticultural Society marked its one hundred and twenty-eighth birthday on March 7 by the unveiling of a plaque commemorating the foundation of the society. The plaque was placed on the face of Messrs. Hatchard's building in Piccadilly, and within the shop will be hung an illuminated record. The Horticultural Society of London was founded on March 7, 1804, at a meeting summoned by Mr. John Wedgwood and held in a room of Messrs. Hatchard's. The society received a Royal Charter on April 7, 1809, and in 1861, under the presidency of the Prince Consort, a new Charter was granted and the style and title altered to the Royal Horticultural Society. In 1899 a supplementary Charter was granted to meet the altered conditions, and this in turn was displaced by a new Charter in 1928. The society's first meetings were at Hatchard's. In 1818 it acquired offices in Regent Street, in 1859 in St. Martin's Place, Trafalgar Square, and in 1861 in South Kensington, after the society had taken over the gardens at the site where the Natural History Museum now stands. In 1888 the offices were removed to Victoria Street and the shows held in the Drill Hall of the London Scottish Volunteers. In the centenary year, 1904, the society built its present offices and hall in Vincent Square. In 1928 the growth of the society demanded a new hall, and this has been built in Greycoat Street, close to the old hall, where the office accommodation and library have been brought up to modern requirements. The society has always maintained a garden for the practical side of its work: in its early days at Kensington, then at Ealing, and later at Chiswick. In 1903 Sir Thomas Hanbury gave in trust the gardens at Wisley. The fellowship of the society is now about 27,000.

ACCORDING to regulations approved at a meeting of the faculty of the division on February 18, reported in the *Journal* of the American Medical Association, graduation in medicine eight years after entering college, instead of the present nine years, will be possible at the School of Medicine of the Division of Biological Sciences at the University of Chicago, with the beginning of the spring quarter. The intern year will be included in the eight years. Abolishment of the bachelor of science degree as an admission requirement was also approved. For admission to the medical school, adequate training in physics, chemistry, biology and mathematics is recommended, in addition to a reading knowledge of German or French. After 1933, a reading knowledge of German will be required. It is expected that this preparation will ordinarily be completed in the first year in the division. Selection by the committee on admissions will be based on character, aptitude and scholarship. Evidence of interest and ability in research will commend applicants to this committee. Requirements for the granting of the degree of doctor of medicine, as approved at this meeting, provide that group examinations be abandoned and general departmental examinations be substituted for them. The student will be required to pass a general departmental examination in each department during the quarter in which he completes his work in that department. The requirement of a thesis for graduation is abolished. The degree of doctor of medicine with honors in one department will be given when, in addition to meeting with distinction the requirements for the degree of doctor of medicine, the student has also completed a satisfactory thesis constituting a contribution to knowledge. This degree will be awarded on recommendation of the department and approval of the faculty of the division. The official name of the medical school will be the School of Medicine of the Division of the Biological Sciences.

DISCUSSION

POSSIBILITIES OF NATURAL RADIATIONS FROM THE GREAT BEAR LAKE PITCHBLENDE DEPOSITS ON GENE MUTATIONS

THE possibility of radiations from the earth in producing gene mutations was indicated by the recent work of Babcock and Collins[1] in California and by Hanson and Heys[2] in Missouri. This prompted the

[1] E. B. Babcock and J. L. Collins, "Natural Ionizing Radiation and the Rate of Mutations," *Nature*, 124: 227–228, 1929.

[2] F. B. Hanson and Florence Heys, "A Possible Relation between Natural (Earth) Radiations and Gene Mutations," SCIENCE, n.s. 71, 1828, 43–44, 1930.