and those of numerous other investigators in the field no clear-cut metabolic pattern has yet emerged. Dr. Mattill's interest in the search for clues and his broad perspective are revealed in his last publication on vitamin E, in *Nutrition Reviews* **10**, 225 (1952).

In 1950 he received the third annual Iowa Award of the American Chemical Society, in recognition of his teaching and of his research. In 1952 he was awarded the honorary degree of Doctor of Science by Western Reserve University.

Few men have been as genuinely and unselfishly interested in their associates on the staff and in their students as was Dr. Mattill. He took pride in his relationship with the 2000 or more medical students who had sat in his classes. He strove zealously to "cultivate unprejudiced objective thinking," to stimulate integration and correlation of factual material into functional concepts, and to aid in moulding well-rounded personalities.

In 1912 Dr. Mattill married Helen Isham, Ph.D., Cornell, 1906, then a member of the chemistry staff of the University of Illinois, who took a continuing and helpful interest in his work. He is survived by her and a married son, John I. Mattill of Concord, Massachusetts, director of publications of Massachusetts Institute of Technology. The Mattill home was a delightful one, as countless friends and students can testify. Dr. Mattill was an accomplished pianist and organist. Interest in stamp collecting and miniature photography brought him and John into an exceptionally happy father and son relationship.

Late in May, 1952, Dr. Mattill had submitted to surgery. Having apparently recovered well, he and Mrs. Mattill had gone to Havana, Cuba, to carry out his agreement to serve as an adviser that fall to the Foundation for Medical Investigation. He was forced to return to Iowa City in December for further medical attention. His condition proved to be malignant and steadily worsened, but to the last he kept his courage and his interest. From his sick-bed he had dictated an address on the nutritional requirements of man, to be read in Spanish at the dedication of the Cuban laboratories on January 26, 1953. His message closed with these words:

> It is our hope that the work which is being undertaken in the Laboratories of the Foundation for Medical Investigation in Nutrition may contribute to the improvement of the health and the welfare of the people of Cuba. However, obtaining data is not alone sufficient. For the realization of this goal, there must be men of good will willing to assist the less fortunate in their quest of a better and healthier life.

Such concern as this for his fellow traveler made journeying with him a refreshing experience.[1]

[1] This obituary is similar to one read before the American Society of Biological Chemists at its annual meeting in Chicago, April, 1953.

News and Notes

The First World Conference on Medical Education

THE First World Conference on Medical Education was held in London, Aug. 22–29, 1953, under the auspices of The World Medical Association, in collaboration with The World Health Organization, The Council for International Organizations of the Medical Sciences, and The International Associations of Universities. The general theme of the Conference was "Undergraduate Medical Education."

The official languages of the Conference were English, French, and Spanish. All seats were equipped with earphones and excellent direct translation from the speaker's language to the listener's language was available at all times. Over 600 registrants representing 62 countries participated.

Following the opening plenary session, the Conference divided into four working groups or sections: (A) Requirements for entry into medical schools; (B) Aims and content of the medical curriculum; (C) Technics and methods of medical education; (D) Preventive and social medicine. These sections conducted their programs under the supervision of a vice president and a "rapporteur" for three and a half days. A summary of the Conference was made by the vice presidents and "rapporteurs" of each of the sections during the final days.

The over-all Conference was well attended, papers were stimulating and thought provoking, and discussions thoroughly excellent. It was gratifying to find that regardless of the nation involved, the basic qualities being sought in people seeking to enter the medical profession are much the same the world over. The basic background and preparation of students for admission to the study of medicine had a fairly common denominator while the methods, technics, and actual needs in medical training itself varied greatly, depending upon the objectives being sought in various parts of the world to meet the specific needs of certain areas.

Outstanding addresses were given the first day by Sir Lionel Whitby, Regius Professor of Physic at Cambridge on "The Challenge to Medical Education in the Second Half of the Twentieth Century," and by Sir Richard Livingstone, formerly president, Corpus Christi College, Oxford, on "What is Education?" Both of these excellent addresses are printed in full in the Aug. 29, 1953, issue of the *British Medical Journal*. Sir Lionel levelled the first challenge of the new half-century at education itself rather than specifically at medical education. Regardless of what profession a student strives to enter today, the basic difficulty is essentially the same as in medicine, namely, that the accumulation of knowledge has reached such a state as to involve early specialization and to make it diffi-

cult or impossible for students to be as comprehensive in their approach as might be desired. He indicated that he felt there are three challenges: those directed at the teachers; those directed at those they teach; and those directed at what they teach.

Although the ideal teacher was discussed, the general conclusions as to the challenges to the teacher were that *presentation of material is as important as the material presented, and that courses or subjects presented in a way that repels students may be worse than useless.* Furthermore, it was indicated that the *"selection and appointment of teachers might well be more deliberate . . . that some may be chosen for their teaching capabilities."*

In the challenge to the students, the essential qualities desired in medical students were outlined in a pen-picture of the "ideal medical student." "Cultured, broadly educated in the humanities, intelligent and intellectual, of transparent integrity, humane and sympathetic, and above all, one who will love his profession as well as his fellow men and all their weaknesses, their joys, and their sorrows." Although it is not possible for any school to have all students with such ideal qualities, all students *"should have some of at least part of these qualities* either inherent or capable of development."

It was indicated that it is important in all countries that the medical professor have intellectual and social prestige and unquestioned integrity as well as technical competence. Educational background and personal qualifications of students are of such great overall importance that it is possible to generalize that "there is little point in making fine or even coarse adjustments in the medical curriculum if the soil is not fit to receive the seed."

Many questions centered around the challenge, "What is to be taught?" It was clearly indicated that education in medicine in any area must to some extent be related to the medical needs of the population. Questions were raised as to whether we were preparing students to grasp the basic principles underlying the tremendous scientific advances of recent years. At the same time it was indicated that currently there is a "poverty of mind in the finished medical and science graduates because of lack of general education in the humanities, literature, language, history, philosophy, and the arts." The medical student looking forward to becoming a physician must understand the world in which his patients live, and it is important that he know them as human beings through his own understanding and appreciation of civilized values. Too early a specialization and its inherent dangers in curbing perspective were reemphasized. Human ecology, the study of man in relation to his environment, continues to be one of the great current challenges to medical education if physicians are to have the perspective needed in their work today.

In discussing the "Objective of Undergraduate Medical Education," Sir Lionel pointed out that it should not be directed towards specifically training general practitioners, specialists, public health officials, or administrators, but should provide a student with the basic foundation on which he may build his future regardless of which branch of medicine is eventually selected. It should produce an educated individual well indoctrinated in "principle and method," trained to observe through the use of his senses, able and encouraged to think logically and critically, equipped with a knowledge of the use of instruments of measurement and with the basic information and attitudes on which to build a successful professional life.

"Are we as teachers doing this? Or is teaching just a by-product of our professional life? Do we positively examine ourselves from time to time with a critical eye, or do we complacently content ourselves with no more than getting the student over an examination hurdle?" These and many other questions were raised which every teacher of medicine, every departmental group, and every faculty group might well turn on themselves.

An outstanding address was given by Sir Richard Livingstone on "What is Education?" His basic thesis revolved around the concept that an education which leaves one without a philosophy of life is as incomplete as one that would leave one unable to think or to express ones thoughts. He then followed through with the idea that there is a very simple philosophy that gives standards of value and judgment applicable to all spheres and activities of human life, namely the "Philosophy of the First-Rate." He pointed out that all people, regardless of race or creed admit to what he termed the philosophy of the first-rate . . . and that "an educated man knows, and an uneducated man does not know, what is first-rate and that the best educated man is he who knows the first-rate in the most important human activities." One knows the first-rate only by seeing it, by contacting it . . . and thus as far as medicine is concerned those who teach it have a tremendous obligation to those who are on the receiving end, to be sure they are in a position to fully appreciate the first-rate . . . and to make it available to those subjected to their care in the future.

Doctor S. M. K. Mallick, dean of Dow Medical College, Karachi, Pakistan, raised the interesting question as to whether today's medicine is basically a "Technology or a profession?" Again the hazards of too early specialization and too narrow specialization were indicated as far as the basic training of the physician is concerned. Technical aspects of education in medicine need to be accorded their rightful consideration in terms of today's needs, but this phase of education must be consistent with the nature of the eventual duties and obligations of the physician later on.

Doctor John Fulton gave a resumé of the History of Medical Education which is recorded in full in the *British Medical Journal,* Aug. 29, 1953.

The Section on "Requirements for Entry into Medical Schools" covered such topics as: (1) General education in an age of science, (2) Teaching the history of science, (3) Teaching the scientific method, (4) Sci-

ence is measurement, (5) Biology fundamental to the study of medicine, (6) How much physics?, (7) How much chemistry?, (8) Introduction to the social sciences, (9) Selection of students, (10) Use and value of intelligence and aptitude tests, and (11) Method and value of the interview.

The increasing demands for more chemistry and physics as basic premedical requirements for admission to medicine were severely criticized by such outstanding men as Professor H. C. Burger of the Department of Physics at Utrecht and Professor E. C. Dodds of the Biochemistry Department of the University of London. They, and many others, advised serious rethinking as to the need for perspective in planning work in these areas for those anticipating the study of medicine. It was generally agreed in discussions that the objective of medical education was the training of physicians, not chemists or physicists, and that this is lost sight of by the specialist in these fields altogether too frequently. Serious rethinking and replanning of basic background needs in these areas is of major importance if the total program of training physicians is kept within reasonable bounds as far as time and objectives are concerned. As a matter of fact the final sentence in the summary of the deliberations of this section was to the effect "Let us be reasonable."

The section on "Aims and Content of the Medical Curriculum" considered: (1) Teaching of anatomy for the doctor, (2) Teaching of physiology for the doctor, (3) Integration of physiology and anatomy as a single subject in the curriculum, (4) Pathology, the basic clinical science, (5) Pharmacology and the new therapeutics, (6) Medical statistics and the design of experiment, (7) Aim of the medical curriculum, (8) Introductory clinical courses, (9) Teaching of psychological medicine, (10) Teaching of medicine and surgery as one discipline, (11) Teaching of minor surgery, (12) The doctor, the midwife, and obstetrics, (13) Teaching of pediatrics as a branch of medicine, (14) Place of the specialties in the curriculum, (15) Teaching of tropical medicine, (16) Is an intern year necessary?, (17) The undergraduate and general practice, and (18) The balanced curriculum.

How much anatomy and what kind of anatomy for the medical student are just as pertinent questions as how much and what kind of physics or chemistry are basically essential for the premedical major. Getting rid of traditional departmental barriers where they constitute hurdles to effective integrated or cooperative teaching constitutes a problem of major importance in most medical schools. Seriously raising the question as to complete deletion of a traditional department or combining two or more traditional departments into a single more comprehensive and potentially more effective department almost approaches the realm of heresy. But these are the things people interested in today's medical education all over the world are discussing seriously. It is one of the reasons why a self-evaluation, such as our study by the Committee on Objectives of Medical Education, should be an almost continuous process in all medical schools worthy of the name.

The point at which introductory clinical courses should be introduced into the curriculum varies widely in different countries and in the schools within a given nation. Suffice it to say there is no standard pattern and there is no pattern that was presented that can be more effective than the personnel behind it. It was obvious that early exposure to patients without intelligent program planning or objectives could mean little, whereas, early patient contacts in a well-designed program with clean-cut objectives means the addition of perspective of great value in undergraduate medical education.

Real leadership in curriculum planning is, therefore, one of the great modern challenges faced by a medical school administration and its faculty.

In the section on "Techniques and Methods of Medical Education," the following topics were discussed: (1) The hospital bedside teaching of medicine, (2) Teaching surgery at the bedside and in the theater, (3) Teaching in the O.P.D. or polyclinic, (4) Teaching in the home, (5) The C-P-C, (6) The laboratory in teaching experimental medicine, (7) Visual aids in education, (8) The one way observation screen, (9) Moving pictures in medical education, (10) The still picture, (11) Lecture and group discussion, (12) Medical education and the full-time system, (13) The place of the textbook in teaching, (14) Library and reference services, (15) Undergraduate teaching medical museum, (16) Teaching the teacher to teach, (17) The examination paper, (18) Practical and oral tests, and (19) Why students fail.

Some of the most important points of emphasis in this section centered around the intelligent use of our currently available teaching aids. Beautiful examples of the effective use and the effective abuse of such things as visual aids were demonstrated. A good slide should get over its message clearly and easily. Beautifully colored and complicated slides often fail to carry the message intended because they cover too much. The individual, observing for the first time, may completely lose or fail to gain the concept intended if visual material is too complicated. The same criticism holds for movies and their effective utilization. No visual, auditory, or other aid developed in medical teaching can be as effective as it should be unless there is an intelligent teacher behind it. It was obvious that many different methods and technics were in use in presenting almost every phase of medical education. It was fairly obvious that in those areas where thought, imagination, self-evaluation, and experimentation were being conducted by alert, interested faculties, that excellent programs could be effectively accomplished with different technics. The challenge here, as in other sections, refers back to the teacher, to those who are taught, and to not only what they are taught but how and why it is taught.

The section on Preventive and Social Medicine began with a panoramic discussion of the present status of the teaching of preventive and social medicine with

participants from France, U.S.A., U.K., Netherlands, Uruguay, Italy, and Canada. It was clearly pointed out that this section was dealing with social medicine, or ecology, and in no sense with socialized medicine. The following general topics were considered: (1) Social medicine as an academic discipline, (2) Teaching social medicine in the preclinical periods, (3) Social medicine in the clinical period, (4) The need for reorientation of teaching, (5) The teaching of epidemiology, (6) Demography and vital statistics, (7) The teaching of medical genetics, (8) The teaching of social psychiatry, (9) Social environment and individual illness, (10) The home setting in medical education, (11) Teaching occupational health, (12) Use of student health services in the education of the student, (13) Infant and child care as a medico-social problem, (14) The teaching of nutrition, (15) Housing in relation to health, and (16) Integration of the teaching of social medicine in the medical curriculum.

This section emphasized the tremendous importance of medical ecology today and the great concern that must be given it in undergraduate medical education. Repeatedly, this phase of medical education was indicated to be the area that offered best opportunity for the understanding of many of the factors that create health problems of both organic and functional nature. This is the area of medical education frequently unknown to, or inadequately known by, the individual who has specialized too soon or too narrowly. This is the aspect of medicine too frequently largely unknown to the basic medical scientist and therefore "side stepped" in many schools in the early medical indoctrination period. It is frequently one of the "blind spots" of the pure scientist as far as his knowledge of the needs in medical education are concerned.

It is of passing interest to note that this section of the Conference indicated that malnutrition is still the most widespread human medical problem as well as one of the greatest of social and economic problems. Those of us living in the U.S. and Canada have little or no concept of the magnitude of nutritional problems as they still exist in many other parts of the world.

Early introduction of the teaching of social medicine in the medical curriculum obviously has increasingly widespread acceptance throughout the entire world. Our U.S. schools have demonstrated genuine leadership in this facet of medical education even though continued resistance on a traditional basis has retarded such programs in some of our schools.

Full appreciation of the fact that medical education should not be standardized for all parts of the world was apparent. The needs of a physician in the U.S. as compared to those of the physician in the Sudan or in Japan vary with the type of medical problems encountered and with the socio-economic setting of the region to be served. It was, indeed, a pleasure to participate in a Conference of world-wide scope where there seemed to be so little area for disagreement, in so far as basic fundamentals are concerned. One can only wish that other world-wide problems might eventually be so readily adaptable to international accord, as far as basic fundamentals are involved.

EDWARD L. TURNER

American Medical Association
Chicago, Illinois

Science News

After nearly four years of intensive development, the **anti-malaria operations** of the government of Afghanistan, assisted by the World Health Organization and the UN Children's Fund, have resulted in successful control of the disease among approximately two-thirds of the total malarious population of the country, according to a report just received in the WHO Regional Office for Southeast Asia at New Delhi. The report, submitted jointly by the WHO senior malaria adviser in Afghanistan, S. L. Dhir, and the President of Afghanistan's National Malaria Organization, Abdul Rahim, cites significant economic benefits that have followed in the wake of malaria control operations now affording protection to more than 900,000 people.

Margaret Mead, Associate Curator of Ethnology at the American Museum of Natural History, has returned from a seven-month **expedition to the Admiralty Islands**, a United Nations mandate which is part of the Territory of Papua and New Guinea. The expedition was financed by a grant from the Rockefeller Foundation. Its primary purpose was to make a record of social change by re-examining adult members of a society who had previously been studied as children. The Manus village of Pere on the south coast of the Admiralties, where Dr. Mead made observations in 1928, proved the ideal place to make such a study, for the children she had worked with 25 years ago are now grown and have taken their place in the world.

According to Dr. Mead, the changes that have occurred in Manus society have been as dramatic as changes made in any culture in the world. "These people have moved from the edge of the Stone Age—from a warlike society in which they dressed like savages and were ignorant of the outside world," Dr. Mead said, "—to a point where they are interested in the most complex ideas of the mid-twentieth century." The world of the Manus today differs greatly from the atmosphere pictured by Dr. Mead in her book written about her first visit to these people, *Growing Up in New Guinea*. The greedy, quarrelsome adults she met in 1928 have given way to a younger generation that has been tempered by the best elements of modern civilization. Dr. Mead observed that these people have adopted new laws, new parent-child relationships, new marriage and courtship customs, and have even redesigned their clothes and their houses.

Dr. Mead also commented on the advances made in the field techniques of anthropology since she last visited the Admiralties. During her recent trip the most modern recording instruments and photographic

equipment took the place of the pencil and pad used in 1928. Expedition members used a stenotype machine, a tape recorder, telephoto lenses, electronic flash equipment, and infra-red film. Dr. Mead compared the gains made in anthropological techniques with the changes in Manus society. "The materials collected have increased one hundred-fold since the 1928 study. In place of the spears, shell necklaces, and carved wooden bowls showing man's early techniques and ingenuity, this time we have brought back film, observations, and sound recordings of how early man can become modern man in one generation. The anthropologist, like the natives, has stepped from the Stone Age into modern times."

Success in **grafting frozen male sex glands** in rats has been announced by A. S. Parks and A. U. Smith of the National Institute for Medical Research in a recent issue of the *British Medical Journal*. The report contains a hint, but no more than that, that the special freezing technique may make possible transplants of human gland tissue.

Success with the grafts resulted from a method in which the rat glands were frozen in material containing glycerol. The investigators had previously discovered that glycerol protects the spermatozoa from the otherwise fatal effects of freezing and thawing. Seven out of nine animals had grafts showing androgenic activity when the glands had been stored in a frozen state for as long as 22 weeks. The same method was used successfully for grafts of rat ovarian tissue.

According to reports of the Polish Academy of Sciences, one of its members, Prof. Wojciech Swietoslawski, has developed an improved method of extracting **naphthalene from coal tar.** During recent plant tests, employment of the Swietoslawski process increased the output of naphthalene by 60 percent.

A University of Miami microbiologist, Murray Sanders, has announced the development of a toxoid that has been effective on rhesus monkeys infected with **poliomyelitis.** The toxoid is derived from cobra venom and has worked on the monkeys "in a heretofore unequalled fashion." Dr. Sanders stated that the material had been used on humans and "has shown no untoward effects on them," but added, "We are not prepared to assert anything further."

An **x-ray camera** capable of studying materials at temperatures up to 4000° F has been developed at Oak Ridge National Laboratory. The camera is being used in ceramics research work by staff members of the Metallurgy Division of ORNL. Designed by J. R. Johnson, a technical adviser, the camera has been used successfully to produce diffraction patterns in studies of hafnium oxide, as well as a number of other oxides and metals.

To photograph the diffraction pattern of the material under study, x-rays produced in a standard x-ray tube pass through a tube guide mounted on the film holder, then through a small disk of beryllium and a collimator. The x-rays strike a rotating sample and are diffracted through a beryllium "window" and the pattern image is registered on photographic film.

Scientists in the News

Frank Brown Berry, a New York surgeon and professor of clinical surgery at Columbia University, has been appointed Assistant Secretary of Defense for Health and Medical Affairs. He succeeds **Melvin A. Casberg,** who is returning to private practice in Santa Ynes Valley Medical Center in Solvang, Calif.

At the 136th annual meeting of the New York Academy of Sciences the following awards were made.

The A. Cressy Morrison prizes in natural science of $300 each, which are given annually to the two most meritorious papers covering original research, were presented to **Robert Ginell,** Department of Chemistry, Brooklyn College, for his paper on "A general theory of association," and to **Bernhard Werner,** Helgoland Biological Institute, List a-Sylt Research Institute of the Federation of Fisheries, Helgoland, Germany, for his paper "On the development and reproduction of *Anthomedusa margelopsis haeckeli* Hartlaub."

The $300 George Frederick Kunz Prize in geology and mineralogy was awarded to **Samuel Katz,** Menlo Park, Calif., for his paper entitled "Seismic study of crustal structure in Pennsylvania and New York."

The $500 Boris Pregel Prize for work in the field of natural radioactive substances was awarded to **Philip Morrison** and **Jerome Pine** of Cornell University for their paper entitled "Radiogenic origin of the helium isotopes in rock."

George Edward Holbrook, assistant director of the development department of E. I. du Pont de Nemours & Co., Inc., Wilmington, has received the 1953 professional progress award in chemical engineering for "his remarkable record as a chemical engineer in his successive positions of directing research, development and plant production of organic chemicals and for his energetic public service in advancing the profession of chemical engineering." The award is sponsored by the Celanese Corporation of America and administered by the American Institute of Chemical Engineers.

On behalf of the expedition that conquered Mount Everest last year, **Brigadier Sir John Hunt** and **Sir Edmund Hillary** recently received from President Eisenhower the Hubbard Medal of the National Geographic Society. Bronze replicas of the gold original have been given to Sir John, Sir Edmund, **Tenzing Norkey** (the Sherpa guide), and the two organizations that assisted the enterprise, the Royal Geographical Society of London and the Alpine Club.

Willard Frank Libby, professor of chemistry at the Institute for Nuclear Studies, University of Chicago, is one of two Chandler medalists to be chosen this year by Columbia University. Prof. Libby was selected

for his brilliant achievements in the science of nuclear chemistry. In February he delivered the award lecture on the subject "Radiocarbon and radiohydrogen dating."

Leonard C. Mead, coordinator of research and chairman of the Department of Psychology at Tufts College, has been elected dean of the Tufts Graduate School.

Thomas Brennan Nolan, assistant director of the U.S. Geological Survey, has received Columbia University's K. C. Li Medal and the accompanying $1000 prize for his "enterprising initiative and stimulating leadership in the United States Geological Survey toward a better understanding of the geological occurrence of tungsten."

Woon Ki Paik of the Department of Biochemistry, Ewhe Medical College, Seoul, Korea, has arrived for a two-year stay at Dalhousie University, Halifax, N.S., for training and research in cell physiology under the direction of J. G. Kaplan.

A. R. Penfold, director of the Museum of Applied Arts and Sciences of Sydney, Australia, and an authority on essential oils, will receive the $1000 Fritzsche Award for 1954 at the 125th national meeting of the American Chemical Society.

The American Institute of Electrical Engineers has awarded the Edison Medal, one of engineering's top honors, to **John Findley Peters,** a Westinghouse Electric Corporation consultant, "For his contributions to the fundamentals of transformer design, his invention of the Klydonograph, his contributions to military computers and his sympathetic understanding in the training of young engineers." Mr. Peters, whose education ended with the completion of the eighth grade, worked for Westinghouse from 1905 until his retirement in 1950.

The faculty of the College of Arts and Sciences of the University of Kentucky annually selects a Distinguished Professor of the Year. This year's winner is **Herbert P. Riley,** professor and head of the Department of Botany. His acceptance lecture, on Mar. 25, will be on the subject, "The protective action of certain chemicals against the effects of ionizing radiation."

The Southern Chemist Award of the American Chemical Society's Memphis, Tenn., Section has been given to **Francis Webber Sherwood** of the Agricultural Experiment Station, North Carolina State College of Agriculture and Engineering. Dr. Sherwood was cited for his major contributions to the basic knowledge of agriculture in the South, particularly in effecting more extensive and efficient utilization of cottonseed products and peanuts by livestock, and for his production of new and improved biochemical test methods.

Tiuzi Sindo, for the past eight years distinguished member and associate professor of the Institute for Infectious Diseases of the University of Tokyo, Japan, is on the staff of National Jewish Hospital, Denver, where he is studying the serology of tuberculosis. He is also serving as visiting lecturer in microbiology at the University of Colorado School of Medicine.

Harry Sobotka was recently the guest of honor at a dinner tendered by the medical board of Mount Sinai Hospital of New York on the occasion of the completion of his 25th year as director of the chemistry laboratories at the hospital. Dr. Sobotka is also adjunct professor of organic chemistry at the Polytechnic Institute of Brooklyn.

In December, **Sir Harold Spencer-Jones,** Astronomer Royal of England and director of the Greenwich Observatory, spoke before a meeting of astronomers and members of the World Calendar Association at the American Museum-Hayden Planetarium on the subject "Is there a need for calendar revision?"

Norman Taylor has retired as director of the Cinchona Products Institute in New York, a position he has held for the last 17 years. The Institute, which has sponsored many research projects in medicine and pharmacology, is suspending its activities in the United States. All future correspondence should be addressed to Cinchona Instituut, 142 de Lairessestraat, Amsterdam—Z, Holland. Mr. Taylor's address is 20 W. 10 St., New York 11.

Education

The new **Elias P. Lyon laboratories** building at the **University of Minnesota** was dedicated recently. The structure, named in honor of the dean of the University's medical school from 1913 to 1936, was financed principally by grants from the Minnesota division of the American Cancer Society and the United States Public Health Service. The new four-story building connects two of the buildings of the present University medical center and houses laboratories for histochemistry, cancer biology, and biophysics.

The histochemistry laboratories on the first floor are devoted to the study of the nature and functions of the cell and parts of the cell with David Glick, professor of physiological chemistry, in charge. The second and third floors are devoted to cancer biology laboratories headed by John Bittner, director of cancer biology. Major research problems in this division are concerned with inherited physical traits associated with cancer. The biophysics laboratory occupies the fourth floor; here, Maurice Visscher, head of the physiology department, directs research in circulation, respiration, and metabolism.

A new laboratory, called the **High Tension Research Institute,** has been set up in Cassell, Germany, by one of West Germany's most important producers of electric goods and installations, the Allgemeine Elektrizitaets Gesellschaft. The Institute was created to aid engineers in the design of new equipment capable of handling potential differences of 400 kilovolts. West

Germany's normal 110-kv transmission systems are beginning to yield to power networks operating at 220 kv. Already a long-distance 300-kv line is in operation. Engineers predict power demands will double in 10 more years, making it necessary to resort to transmission at 400 kv.

The **Natural History Museum of Stanford University** announces that the refitting of the main fish and herpetological collection rooms is now complete. The fish collections have been supplied with 9000 sq ft of new steel shelving which will increase the fish research collection space by two-thirds. Addition of modern lighting and installation of a new electric dumb-waiter to connect the double-decked fish collection with other floors in the building, makes the Stanford collection among the best housed in the world. This valuable collection contains about 750,000 specimens and ranks only behind the great national collections in London, Paris, and Washington. It has also been possible to utilize the old shelving to renovate the herpetological collection facilities, increasing their shelf-space by 100 percent.

The entire project has cost the Museum about $30,000, nearly $28,000 of which was raised by a graduate student's Zoology Project Fund Committee headed by Giles W. Mead, John C. Briggs, and Jay M. Savage, in cooperation with George S. Myers, Curator of Zoological Collections, and Miss Margaret H. Storey, Assistant Curator.

A new 13-week **television series on archeology,** "Here is the past," is being presented by **New York University** in cooperation with WCBS-TV. The series, which commenced Feb. 20, is conducted by Casper J. Kraemer, Jr., professor of archeology and classics at the University's Washington Square College of Arts and Science. A grant-in-aid of $6500 to help prepare the series was awarded to NYU by the National Association of Educational Broadcasters through funds made available by the Educational Television and Radio Center, established by the Ford Foundation. A kinescope will be made of each program and distributed by the Center to noncommercial stations in this country and abroad.

The Yale School of Medicine and the Grace-New Haven Community Hospital, affiliated with each other since 1826, have announced an expansion of their cooperative arrangement under a new **Yale-New Haven Medical Center** plan that will be similar in concept to the Columbia-Presbyterian Medical Center in New York. Hiram Sibley has resigned as executive director of the Connecticut Hospital Association to accept the post of director of program development. A nine-member Advisory Committee on Program Development has also been appointed.

As well as the Yale School of Medicine, the new Center will embrace the Yale School of Nursing, the Yale Psychiatric Institute, the Yale Department of Public Health, and the Child Study Center. Although the emphasis of the Yale-New Haven Medical Center is not on the construction of new buildings but on the development of services already in existence, the physical plant is growing. Another hospital building, in addition to the new Grace-New Haven School of Nursing, was opened in 1953; this is the 10-story Memorial Unit, one of the most modern and best-equipped hospital buildings in the country. The Yale School of Medicine is also planning another building. Construction is scheduled to start this spring on the Edward S. Harkness Memorial Hall, a residential unit for medical students to be ready by September, 1955, and made possible by a gift of $2,750,000 from the Commonwealth Fund.

Grants and Fellowships

Establishment of a fellowship designed to produce future leaders for the mineral industries with both engineering and business administration backgrounds has been announced jointly by the **Colorado School of Mines** and the **Harvard Business School.** The two schools are cooperating in the mineral engineering fellowship program, which will enable graduates of the Colorado School of Mines to attend the Harvard Business School. A Mines graduate who is awarded the fellowship will be enrolled annually in a two-year course leading to a master's degree in business administration. He will receive a grant-in-aid of $1500 each year.

Financial support from 11 executives interested in the School of Mines made the fellowship possible. Any Mines graduate may apply for it, providing he has had at least two years' working experience in mineral engineering either before or after graduation. The initial recipient of the fellowship will be announced in September by the Harvard Business School. Others will be announced each fall. Applicants should write to the Harvard Business School, Boston 63.

Applications for grants in aid of chemical research from the **Cyrus M. Warren Fund of the American Academy of Arts and Sciences** should be received by the chairman of the committee, Edwin R. Gilliland, Massachusetts Institute of Technology, Cambridge 39, Mass., *not later than Apr. 22.* Grants are generally made for apparatus and supplies. Application blanks will be sent upon request.

During January the **Damon Runyon Memorial Fund for Cancer Research, Inc.** allocated $98,400. The following twelve grantees share this amount:

New York University Bellevue Medical Center. N. Nelson, Inst. of Industrial Medicine. Investigation of the chemical nature of environmental carcinogens, $25,000.

Sloan-Kettering Institute. C. P. Rhoads, Director. Continuation of a Damon Runyon Fund Research Ward, $10,000.

Sloan-Kettering Institute. H. L. Richardson. Histopathology of hypophysectomized animals fed carcinogens, $5900.

New York Academy of Sciences. Support of the "Fourth Cancer Research Conference of Damon Runyon Fellows," $7500.

Tufts College. F. Homburger, Medical School. Continuation of three projects, $14,000.

University of Texas. T. C. Hsu, Tissue Culture Laboratory. Chromosomes in human tumor cells, $4000.

Columbia University. E. Z. Wallace, College of Physicians and Surgeons. Renewal of grant, $3600.

Sloan-Kettering Institute. O. Miro-Quesada, Jr. Studies under C. P. Rhoads on carcinolysis with natural products of Peruvian molds, $4800.

Tufts College. D. W. Slingerland. Attendance at Medical School under E. B. Astwood, $4200.

Montreal Cancer Hospital. W. Lijinsky. Training under J. H. Quastel, $4200.

University of Minnesota. G. A. Smith. Study under O. H. Wangensteen, $5400.

Western Reserve University. E. J. Mason, Medical School. Training under T. D. Kinney on an attempt to produce destruction of hela and L strain cells in tissue culture by several animal viruses and mutants produced by x-irradiation, $4800.

Duke University has received a grant of $5000 from the National Paraplegia Foundation to establish the **Raymond C. Henyan Fellowship in Paraplegia** in honor of one of the deceased members of the California Paralyzed Veterans Association. This fellowship was made possible by a grant from the Doris Duke Foundation.

A number of graduate and advanced research fellowships are offered by the Massachusetts Institute of Technology for study and research in the field of electronics. Known as **Industrial Fellowships in Electronics,** they are sponsored jointly by a group of industrial organizations concerned with the advancement of electronics and its applications. Recipients of graduate fellowships will be awarded stipends varying between $1500 and $2400, according to their experience and qualifications, and in addition will have the tuition fee paid.

A few advanced research fellowships will be awarded to candidates possessing the Ph.D. degree or its equivalent who, without enrolling as graduate students, wish to pursue advanced studies and research in electronics; stipends range from $3000 upward.

A limited number of positions as research assistant are also available in the Research Laboratory of Electronics. Students so employed work on research projects in the Laboratory and have an opportunity to pursue a graduate program on a part-time basis. Further information can be obtained from the Director, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Mass. *Fellowship applications should be submitted at least four months prior to the intended date of entrance.*

A nationwide competition to select winners of 50 fellowships to a special six-week **Summer Program for Science Teachers** from high and preparatory schools has been opened by the Massachusetts Institute of Technology. The winners will be at M.I.T. from June 28 to Aug. 6 to hear members of the Institute's faculty review the basic sciences of physics and chemistry and present glimpses into many new scientific frontiers. The program is an intensive series of lectures, laboratory inspection trips, and group conferences.

The fellowships in this program, which are made possible by a special grant of the Westinghouse Educational Foundation, will be awarded to experienced science teachers throughout the United States and Canada who hold college degrees or who have had equivalent training and background. *Applications are due before Apr. 1,* on blanks which may be obtained from the M.I.T. Summer Session Office, Room 7-103, Cambridge 39.

Meetings and Elections

The program of the first annual meeting of the **Academy of Psychosomatic Medicine,** to be held in New York City, Oct. 8–9, will be devoted to "Psychosomatic aspects of surgery." There will be contributed and invited papers on such topics as: psychosomatic aspects of anesthesia, general surgery, gynecological surgery, plastic, otolaryngological and oral surgery, mutilating operations, endoscopic surgery, orthopedic surgery, eye surgery, pediatric and geriatric surgery, and neurological surgery. Those who are interested in presenting papers should write to Dr. B. B. Raginsky, 376 Redfern Ave., Montreal, Canada, stating their special interest.

Those who wish to apply for fellowships and associateships in the Academy of Psychosomatic Medicine should address Dr. Ethan Allan Brown, Secretary, 75 Bay State Road, Boston 15, Mass. New fellows will be inducted into the Academy at the October meeting in New York, at which time certificates of membership will be presented.

The 27th annual meeting of the **American Association of the History of Medicine** will be held in New Haven, Conn., May 6–8. The Hotel Taft will serve as headquarters. Lloyd G. Stevenson, head of the Department of Medical History and Literature at the University of Western Ontario, Faculty of Medicine, 346 South St., London, Canada, is chairman of the Program and Arrangements Committee. Besides the usual dinner session, there are plans in the making for symposia on the history of medical statistics, on the interrelations of chemistry and medicine, and on the historical impact of curative medicine on society. In addition, there will be general sessions covering the usual range of subjects dealing with medical history and the humanities.

A joint meeting of the Radio Technical Commission for Aeronautics, The Franklin Institute Laboratories, and the Philadelphia sections of the Institute of Aeronautical Sciences and the Institute of Radio Engineers (Professional Group on Aeronautical and Navigational Electronics) will be held at The Franklin Institute in Philadelphia on Apr. 22–23. **"Aviation and electronics look ahead"** will be the theme.

The number of scientists interested in the investigation of problems concerning the social insects, and the variety of interests among these individuals, has increased sufficiently to create a demand for an international organization to coordinate efforts and facilitate the study of such problems. After a preliminary meeting at the 1951 International Congress of Entomology in Amsterdam, the organization of national branches proceeded in France, Germany, Italy, the United States and other countries. The **International**

Union for the Study of Social Insects, through which these branches are now associated, has its office in Paris, 105 Boulevard Raspail, at the laboratory of Dr. Pierre-P. Grassé, who is president of the international organization.

The principal objective of the International Union is to encourage the study of problems concerning the social insects, including all phases of their biology, ecology, taxonomy, and behavior, and to facilitate the exchange of evidence and ideas in this general field through conferences and appropriate publications. The organization will thus foster communication within a large and heterogeneous international body of scientists interested in the social insects and related forms. Previously, articles published on subjects cognate to the social insects have been scattered through a considerable number of highly diversified journals, and integration has been correspondingly limited among the interested investigators and students themselves.

An introductory *Bulletin* of three numbers was published in France during 1953 and issued to members through the Paris office. Beginning in 1954 an illustrated journal of 320 pages entitled *Insectes Sociaux* will be published by Masson and issued in an annual volume of quarterly numbers. Subscriptions may be arranged through Stechert-Hafner, 31 East 10 Street, New York.

Two international symposia on the social insects have been sponsored by this organization and a third one is to be held in conjunction with the next International Congress of Entomology. The North American branch sponsored symposia at the meetings of the Entomological Society of America in Philadelphia in 1952 and in Los Angeles in 1953, and further ones will be held. Comparable conferences are organized periodically by the other national branches. Those who are seriously interested in the scientific study of problems pertaining to the social insects may apply to the secretary of the North American branch, Dr. Robert E. Gregg, Department of Zoology, University of Colorado, Boulder, Colorado, for membership application blanks. Members of the organization, in consideration of a modest annual dues payment, receive the "Notes and News" section of the journal. The North American branch invites the interest of prospective members in Canada, Central America, Mexico, and the United States.

Science teachers from elementary schools, high schools, and colleges will meet in Chicago, Apr. 1–3, to discuss how to cope with an increasing school population and a growing shortage of qualified science teachers. The discussions will be held during the second national convention of the **National Science Teachers Association,** a department of the National Education Association.

The first annual meeting of the **New England Section of the Association of Geology Teachers** will be held at the University of Vermont, Apr. 2–3. The technical sessions will consist of papers and discussions on the practical side of teaching, laboratory, demonstrations, and field trips. The program will include a field trip to student localities in the immediate vicinity of the University. Nonmembers are invited.

Fifteen hundred analytical chemists from all parts of the United States will convene in Pittsburgh on Mar. 1 for the fifth annual **Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy.** Sponsored jointly by the Analytical Chemistry Group of the American Chemical Society's Pittsburgh Section and the Spectroscopy Society of Pittsburgh, the five-day conference will be held in the Hotel William Penn.

New techniques for assaying uranium, recent methods of controlling lubricating oil additives, and testing procedures for newly developed alloys are some of the contributions of analytical chemistry and spectroscopy to be reported in a total of 122 technical papers by chemists and spectroscopists from university, government, and industrial laboratories throughout the country.

The **Society of Women Engineers** will hold its 1954 annual convention at the Mayflower Hotel in Washing, D.C., on Mar. 6–7.

Miscellaneous

The American Eugenics Society, Inc., has announced that the first issue of its new journal, the ***Eugenics Quarterly,*** will appear in March. This publication is the successor to the organziation's *Eugenical News.*

A unique collection of **medical art** by such masters as Rembrandt, Goya, Daumier, Vesalius, Toulouse-Lautrec, and others is being shown at medical colleges and hospitals across the country during a tour that was launched in February. The collection, entitled "Ars Medica," consists of 85 prints depicting the practice of medicine up through the centuries. It was assembled by the Philadelphia Museum of Art through the support of Smith, Kline & French Laboratories.

Technion, Israel Institute of Technology, in Haifa, Israel, has just announced openings for several professors in various departments. Technion has expanded greatly during recent years, and the existing staff must be enlarged by adding the best available personnel. Candidates must possess not only high professional and academic qualifications but also confidence in the progress of Israel.

The Institute will pay transportation costs for personnel and their families and all reasonable expenses for the shipment of personal effects to Israel. Technion will see to it that they get proper housing and in every other way will assist them in the process of settling in their new surroundings. Assistance will be given in such matters as dealing with government offices, schools, and language. It should be noted that the language of instruction at Technion is Hebrew. Present knowledge of the language is useful though not a requisite. However, a new staff member will be

expected to learn the language and in due course to teach in it.

Applications are invited for full professors in the following departments: structural engineering; hydraulic engineering; mechanical engineering; mathematics; physical chemistry; geology; and mechanics (with special qualifications in general mechanics and oscillations). Applications with full particulars should be sent, *until Mar. 31,* to the Secretary for Academic Staff, Technion, Haifa, Israel. For further details, write to the Technical Director, American Technion Society, 1000 Fifth Ave., New York 28.

Social workers, dietitians, biochemists, x-ray and medical technicians, and therapists of all types are urgently needed to fill immediate **vacancies in Veterans Administration hospitals** throughout the country. Qualified applicants should contact the personnel office at any VA hospital, regional office, center, or domiciliary for information regarding vacancies and qualification requirements; or write directly to the Veterans Administration, Washington 25, D.C.

Necrology

Edwin H. Armstrong, 63, inventor and professor of electrical engineering at Columbia University, New York, N.Y., Jan. 31; **G. Mason Astley,** 71, emeritus professor of surgery at the Temple University School of Medicine, Philadelphia, Pa., Jan. 15; **Charles Berkowitz,** assistant professor of clinical medicine at the Chicago Medical School, Chicago, Ill., Jan. 11; **Leonard E. Dickson,** 79, author and professor emeritus of mathematics at the University of Chicago, Chicago, Ill., Jan. 17; **Ernest Esclangon,** 78, inventor, astronomer, and former director of the Paris Observatory, Paris, France, Jan. 28; **Francis E. Fox,** 44, author, professor of physics, and acting dean of the School of Engineering and Architecture at the Catholic University of America, Washington, D.C., Dec. 29; **Edward M. Freeman,** 78, plant pathologist, author, and dean emeritus of the Minnesota College of Agriculture, St. Paul, Minn., Feb. 5; **Paul H. Geiger,** 57, research physicist for the Engineering Research Institute at the University of Michigan, Ann Arbor, Mich., Jan. 27; **Lex B. Golden,** 38, head of the corrosion unit of the U.S. Bureau of Mines at the University of Maryland, College Park, Md., Jan. 25.

Joseph E. Hirsh, 74, retired chief research chemist for the Sun Chemical Company, Long Island City, N.Y., Jan. 23; **Karl J. Holzinger,** 61, author, editor, and professor of educational statistics at the University of Chicago, Chicago, Ill., Jan. 15; **Edwin A. Johnson,** 61, retired electronic scientist of the Naval Research Laboratory, Washington, D.C., Jan. 14; **Paul B. Johnson,** 75, former professor of anatomy at Georgetown University Medical School, Washington, D.C., Jan. 16; **Roger A. Johnson,** 64, author, and retired chairman of the Department of Mathematics at Brooklyn College, New York, N.Y., Feb. 9; **George H. Kress,** 79, former dean of the University of California School of Medicine at Los Angeles, Calif., Jan. 18; **Gino Loria,** 92, mathematician, Genoa, Italy, Jan. 30; **Harald Lundin,** 60, chemical research engineer and authority on deposition of metals, West New York, N.J., Jan. 19.

Karl B. McEachron, 64, lightning research engineer for the General Electric Co., Pittsfield, Mass., Jan. 24; **James S. McLester,** 77, nutrition expert, author, former president of the American Medical Association, and professor emeritus of medicine at the University of Alabama, Birmingham, Ala., Feb. 7; **Colin M. Mackall,** 69, professor emeritus of chemistry at the George Washington University, Washington, D.C., Jan. 26; **Milton K. Meyers,** 72, neurologist, psychiatrist, and author, Philadelphia, Pa., Jan. 25; **Henry F. Moore,** 66, author and head of cortisone research in Ireland, Dublin, Ireland, Jan. 25; **Samuel B. Moore,** 74, former associate professor of medicine at New York Medical College, New York, N.Y., Jan. 17; **David M. Myers,** 75, consulting engineer, author, and inventor, Larchmont, N.Y., Jan. 20; **Harold H. Nelson,** 75, Egyptologist, author, professor emeritus and former director of the Oriental Institute, University of Chicago, Chicago, Ill., Jan. 24; **John D. Northrop,** 67, chief of the Mineral Classification Branch, Conservation Division, U.S. Geological Survey, Washington, D.C., Jan. 31; **Howard A. Poillon,** 74, president emeritus of the Research Corporation, New York, N.Y., Jan. 19; **Horace H. Raymond,** 56, inventor and research engineer in the Ordnance Department, National Bureau of Standards, Washington, D.C., Jan. 23; **Leo B. Roberts,** 66, explorer, topographer, and civil engineer, Port Washington, N.Y., Jan. 16; **Harold W. Rogers,** 71, retired research engineer of the General Electric Co., Jan. 21.

Robert F. Smith, 87, retired associate professor of mathematics at City College, New York, N.Y., Jan. 31; **John L. Sperry,** 60, lepidopterist, Riverside, Calif., Jan. 21; **Norma C. Styron,** 56, research microbiologist and instructor at the New York University College of Medicine, New York, N.Y., Jan. 23; **Curtis L. Weathers,** 56, professor and chairman of the Department of Biology at Long Island University, Brooklyn, N.Y., Feb. 8; **Alfred C. Weed,** 73, icthyologist and former Curator of Fishes at the Museum of Natural History, Chicago, Ill., Nov. 30; **Francis P. Wells,** 46, retired physician and bacteriologist of the Army Medical Corps, Arlington, Va., Feb. 7; **Frank Wenner,** 81, consulting physicist, seismologist, and retired chief of the Resistance Measurement Section, Electric Division, National Bureau of Standards, Washington, D.C., Feb. 7; **Rollin T. Woodyatt,** 74, diabetes research, author, and former professor of medicine and chemistry at the Rush Medical College, University of Chicago, Chicago, Ill., Dec. 17; **Calvert C. Wright,** 48 professor and chief of the Division of Fuel Technology at the Pennsylvania State University, State College, Pa., Feb. 1; **Lewis E. Young,** 75, former president of the American Institute of Mining and Metallurgical Engineers, Pittsburgh, Pa., Dec. 27.