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Braun to Give Christmas Lectures, Dec. 30-31

The University's annual series of lectures for high school students, which will be held on December 30 and 31, have been renamed the Alfred E. Mirsky Christmas Lectures on Science, in honor of the series' founder who died last June. This year's lectures, *An Introduction to the Biology of Cancer*, will be given by Professor Armin C. Braun, head of the laboratory of plant

biology. They will be presented in four sections, two on each afternoon between 1:30 and 5, with time provided for a break between sessions and for question periods. The talks are titled: *The Nature of Cancer and Its Causes*, *The Reasons Why Cancer Cells Grow in an Unrestrained Manner in Their Hosts*, *The Nature of the Heritable Cellular Change that Underlies the Cancerous State (Genetic or Epigenetic)*, and *The Control of Cancer*.

Dr. Braun's scientific studies have been directed toward gaining an understanding of two fundamental aspects of the tumor problem. He has attempted to characterize the specific substances and cellular mechanisms that are involved in causing a tumor cell to grow in an unrestrained manner in its host; and he has provided guidance to show that the tumorous state may arise as a result of a change in the

expression of the genetic information present in the nucleus of a cell rather than, as was commonly believed, as a result of a change in the integrity of that information. These and other studies have led to the development of the epigenetic theory of the origin of cancer. Dr. Braun's new book, *The Biology of Cancer*, has just been published (see *In Print*, page 2).

The Christmas lectures, which are attended each year by several hundred high school students selected for their interest in science, were begun by Dr. Mirsky in 1959, and he took responsibility for their arrangements each year. They were modeled on the Christmas lectures that have been given at the Royal Institution in London for over 100 years. Dr. Mirsky's widow, Associate Librarian Sonia Wohl Mirsky, is supervising this year's arrangements. A special fund for their perpetuation as the Alfred E. Mirsky Christmas Lectures on Science has been set up by the University.

CHRISTMAS PARTY

President and Mrs. Seitz will serve as hosts for the annual Christmas party, to be held on Thursday, December 12, from 3 to 5 P.M., on the 17th floor of the Tower. All members of the campus community are cordially invited.

RU Council Members Hear Student Panel

Talks by President Seitz, Vice President Maclyn McCarty, and Professors Richard M. Krause and Jules Hirsch, and a panel discussion by graduate fellows, chaired by Mrs. Vincent Astor, University trustee, were the highlights of the year's second meeting of the Rockefeller University Council, held on November 11. The program, designed to further acquaint council members with the activities and goals of the University, was followed by a business meeting.

During the morning session, the council gathered in Caspary Auditorium where, after welcoming remarks by James A. Linen, council president and University trustee, the members heard Dr. McCarty talk on DNA: Its Revolutionary Impact on Biomedical Research; Dr. Krause, on Infectious Diseases: A Central Concern from the Beginning; and Dr. Hirsch, on Metabolic and Behavioral Factors in Obesity. President Seitz spoke at luncheon on the State of the University. The afternoon program began with a lively panel discussion in which Mrs. Astor queried four graduate fellows—Lily Anne Conrad, Elizabeth Dickson, Carol C. Halpern, and Eileen M. Mahoney—concerning their experiences as young Rockefeller scientists, and broad issues such as ethics in science and the future of women in science. Professor James G. Hirsch, dean of graduate studies, also participated.

During the business meeting, the membership voted to help sponsor the University's 75th anniversary celebration in 1976. It approved a statement of council purposes and operating plans, terms of service to ensure orderly membership rotation, and the scheduling of regional meetings in Houston, Pittsburgh, and Chicago. Another important proposal still under consideration concerns the formation of task forces on public policy issues, which would examine in conjunction with faculty members such matters as the funding of basic research, the education of scientists, and health care systems. The members also approved formation of a committee on community relations and a committee to relate to the Hospital.

There are currently 64 members of the University Council. Two new members since the last meeting, in March, are Joseph H. Davenport, Jr., chairman, Volunteer State Life Insurance Company, Chattanooga, Tennessee, and Oscar Dystel, president, Bantam Books, Inc., New York.

IN PRINT

In an article, "Science Advice in the White House," in the October 11 issue of *Science*, **Dr. Detlev W. Bronk** outlines the events in the early 1950s that led to the establishment of the Science Adviser to the President and Science Advisory Committee, and of the National Science Foundation, "two closely related institutions that have had profound influence on national policies and on the development of science in this country during the past 25 years."

As president of Johns Hopkins University—the post he held before becoming president of Rockefeller—and as president of the National Academy of Sciences and chairman of the executive committee of the National Science Board, Dr. Bronk was frequently called upon to consult with President Truman and his aides, and later President Eisenhower, concerning the role of science in government and of government in the support of science. The article includes detailed reminiscences of a critical period during which science was slowly detaching itself from its primary involvement with defense, originally fostered by the demands of World War II, and was working toward a more liberalized and influential position in national affairs.

In a new book, *The Biology of Cancer* (Addison-Wesley Publishing Company), Professor **Armin C. Braun**, Plant Biology, addresses himself to the basic biological concepts that underlie the tumorous state (in which cells divide persistently and in an unrestrained manner in their hosts as opposed to normal cells in which growth is precisely regulated), and he critically evaluates the premises upon which prevailing thought in the field of experimental oncology is based. It is the purpose of this book to provide a conceptual framework for possible future investigations in this important area of the scientific endeavor.

Professor **René J. Dubos**, Environmental Biomedicine, takes a long look back into man's biological and cultural history and a confident look ahead in considering the human condition and our potential for survival through the exercise of free will and choice, in his latest volume, *Beast or Angel?*, published in November by Charles Scribner's Sons.

Two books by Professor **Paul A. Weiss** have been published, *The Science of Life: The Living System—a System*

Announce Schedule of Lectures, Colloquia

Those scheduled to deliver Rockefeller University Lectures in December and January are:

Professor Bruce Merrifield, The Study of Proteins through Chemical Synthesis (December 13); Professor Richard M. Krause, title to be announced (January 17); and Dr. Ian Gibbons, professor of biophysics, University of Hawaii, The Structural Basis of Motility in Sperm Flagella (January 21).

Research Colloquia are scheduled to be presented by:

Professor Saimon Gordon, Enzyme Secretion by the Macrophage (December 6); Dr. Michael Bratman, Stanford University, Practical Reasoning and Weakness of the Will (December 17); Research Associate Joachim-Volker Holtje, Regulatory Role of a Surface Polysaccharide in the Catalytic Activity of a Cell Envelope Glycopeptide-Amidase Enzyme (January 10); Professor Ralph Steinman, A Novel Cell Type in Lymphoid Organs (January 24); and Professor Peter Wernet, Naturally Occurring Anti-Lymphocyte Antibodies as a Tool for Characterizing Surface Components (January 31).

University Lectures and Research Colloquia are held at 3:30 P.M. in Caspary Auditorium and are open to all members of the University community. Subsequent speakers will be announced in a later issue.

ARCS Grant Received

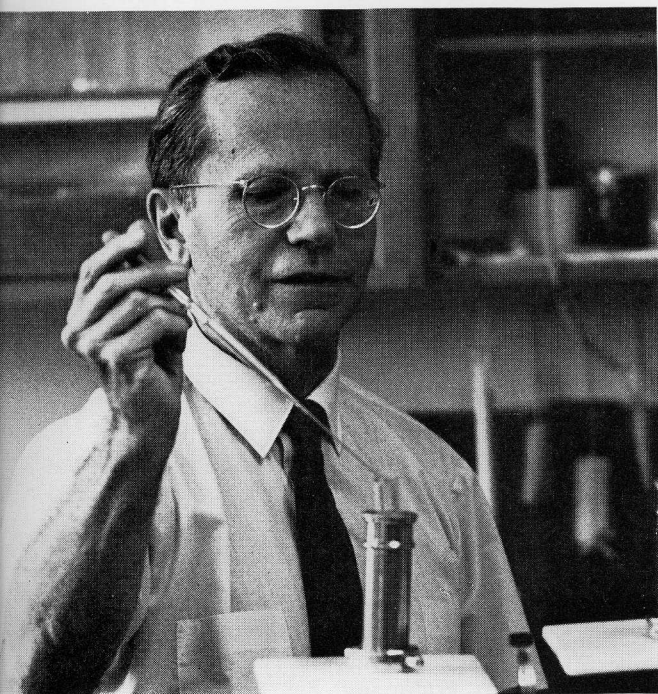
The University has received a grant of \$7,500 from the New York Chapter of Achievement Rewards for College Scientists (ARCS) Foundation, Inc. It was presented to President Seitz at a reception given by Mayor and Mrs. Beame at Gracie Mansion on November 13.

The ARCS Foundation was begun in 1958 in Los Angeles to provide assistance to outstanding students preparing for science careers. The New York Chapter, formed in 1972, established the ARCS Scholars Fund at Rockefeller last year to help support the University's predoctoral program.

for Living (Futura Publishing Company), and a French translation, *L'Archipel scientifique* (Maloine éditeur, Paris), of a number of articles originally published in English in the volume, *Within the Gates of Science and Beyond* (Hafner Publishing Company, 1971).

Trager and Colleagues Seek Understanding of Cell Processes in Parasitic Diseases

Last June, Professor William Trager returned home to the Rockefeller campus following six months of work at the Nigerian Institute for Trypanosomiasis Research where he had gone at the invitation of the institute, with the support of a Guggenheim Fellowship. Dr. Trager is a protozoologist with a special interest in parasitic diseases transmitted by insect carriers. Trypanosomiasis is the name for a group



of diseases caused by parasitic protozoa called trypanosomes. In sub-Saharan Africa, where they are carried by the tsetse fly, they cause sleeping sickness in humans and infect cattle—a serious economic problem in an area which suffers from an acute shortage of animal protein. During his stay, Dr. Trager developed a new method for obtaining cultures of *Trypanosoma vivax*, the principal parasite of cattle in West Africa.

The conquest of parasitic disease depends upon an exact understanding of the vastly complex relationship between parasite and host. William Trager has been searching for that understanding during more than 40 years of association with Rockefeller. During the years preceding World War II, his research, conducted at Rockefeller's animal and plant pathology laboratories then located in Princeton, New Jersey, led to a number of important findings. His studies of the larvae of the yellow fever vector, *Aedes aegypti*, helped to establish the general principle that insects

require the same growth factors of the vitamin B complex as vertebrates do. He demonstrated the mechanism of acquired immunity to ticks. He made significant progress in the difficult task of cultivating, in vitro, the mosquito-borne parasite that causes malaria, and established the first direct evidence of the significance of nutritional factors in the host's susceptibility to that disease. From 1943 to 1945, he served as a captain in the army's Sanitary Corps in New Guinea and Australia studying the action of Atebrin and quinine in the treatment of servicemen infected with malaria and working out optimum drug dosages and modes of administration.

As Dr. Trager explains, parasitology has changed over the years from a primarily descriptive science to a more highly experimental one. With the aid of new techniques and new equipment like electron microscopes, parasitologists more and more employ the approaches of biochemistry and cell biology in studies of the structures and functions of parasite and host cells. The relationship between the parasite and the whole host organism touches on the larger area of immunology.

In an article titled "Some Aspects of Intracellular Parasitism" (*Science*, January 1974), Dr. Trager presented a summary of recent studies of how parasites enter host cells, the action of phagocytes in helping or hindering the process, the function of both parasite and host membranes, and the feeding mechanisms and nutritional requirements of parasites. He writes:

"In intracellular parasitism the host cell is a true and hospitable host. The parasite does not have to break in the door. It has subtle ways of inducing the host to open the door and welcome it in. One of the exciting fields in the future of parasitology is to find out what these ways are and why they are sometimes so highly specific that the cell that invites one parasite in will not open the door to another closely related species. Once inside, the parasite not only exploits nutrients already available in the cell, and the cell's energy-yielding system, but it further induces the cell to assist actively in its nutrition. Like a bandit who has cajoled his way in, the parasite now forces his host to prepare a banquet for him."

Working with Dr. Trager in researches aimed at elucidating these processes is a large group of colleagues. Professor Philip A. D'Alesandro, who

came to The Rockefeller University as a postdoctoral fellow 15 years ago, concerns himself primarily with studies of the immunological processes in trypanosome infections. Also involved in this area and with the related *Leishmania* protozoa—which are transmitted by sand flies and cause a variety of ulcerating diseases in animals and humans—is Professor Dennis M. Dwyer. Research Associate Mary R. Rifkin is working on the killing effect of human serum on certain animal trypanosomes. Professor Araxie Kilejian collaborates with Dr. Trager on studies of the biochemistry of malarial parasites, and Professor Susan Langreth on the fine structures and cytochemistry of intracellular erythrocytic (red blood cell) parasites.

Professor Maria A. Rudzinska was a protozoologist in her native Poland and has been at the University for 22 years. Eighteen years ago, she joined Dr. Trager's laboratory where she introduced the use of electron microscopy in research on malaria parasites. One of her most significant findings was that malaria parasites feed on their host cell by endocytosis, engulfing large portions of the erythrocyte cytoplasm into food vacuoles. (It was previously believed that the parasite liquifies the cytoplasm of the erythrocyte preparing it for diffusion through the membrane surrounding the parasite.) Dr. Rudzinska has also done extensive work on *Tokophrya infusionum*, a protozoan with an identifiable life span that goes through stages of youth, maturity, and old age, features unique among protozoa. At present she is pursuing studies on enzymes in *Tokophrya* and *Babesia*—an intraerythrocytic parasite—by cytochemical methods at the level of electron microscopy.

Working with Dr. Rudzinska is Postdoctoral Fellow Norbert Lanners. Another "postdoc," Fred Brohn, works with Dr. Trager on the biosynthesis of coenzyme A in malarially infected erythrocytes. Research Associate Kwang Poo Chang is studying the bacteria associated with protozoa.

A happy consequence of Dr. Trager's recent trip to Nigeria, on which he was accompanied by Mrs. Trager, was a chance for a visit with one of the Trager daughters, a University of Washington graduate student in anthropology currently studying in Africa. Other members of the family include a lawyer son serving with the New York State Commission to Investigate Criminal Justice, and a daughter who works with her biologist husband, 1966 Rockefeller alumnus, Arthur H. Burr.

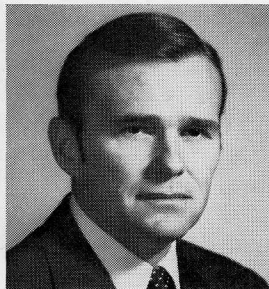
New Trustees Elected

Ralph E. Ablon, chairman of the board of the Ogden Corporation, and Nicholas F. Brady, chairman of Dillon, Read and Company, Inc., have been elected to the University's board of trustees.

Mr. Ablon, a native of Tupelo, Mississippi, attended Ohio State University. He joined the firm of Luria



RALPH E. ABLON



NICHOLAS F. BRADY

Brothers and Company in 1939 and served as president from 1955 until 1962, when he became president and chairman of the Ogden Corporation. He was a founding member of the Rockefeller University Council, formed last year to help expand public understanding of the University and its programs.

Mr. Brady received his B.A. from Yale University in 1952 and his M.B.A. from the Harvard Business School in 1954. He joined the investment banking firm of Dillon, Read in 1954, becoming president in 1971 and chairman of the board in February of this year. He is chairman of Purolator, Inc., a member of the governing council of the Securities Industry Association, and a trustee of The American Museum of Natural History and the Presbyterian Hospital of the City of New York. He is a trustee associate of the Boy's Club of Newark and a member of the Cardinal's Committee for Education.

PERSONAL

Marie Murphy, personnel secretary, was married on November 16 to Edward E. Duess, an insurance underwriter.

POSTER EXHIBIT

A retrospective exhibition of posters of Christmas lectures will be on display in the University Library beginning December 3.

BRIEFS

Vice President and Professor **Carl Pfaffmann** and Professors **Neal E. Miller**, **Donald W. Pfaff**, and **Sarah F. Leibowitz**, Physiological Psychology, participated in a number of symposia held in connection with the 26th International Congress of Physiological Sciences, during October. Doctors Pfaffmann, Miller, and Pfaff spoke at meetings in New Delhi, India, Dr. Miller in Baku, USSR, and Dr. Leibowitz in Jerusalem. Dr. Pfaffmann also chaired meetings and spoke at the International Symposium on Olfaction and Taste V, held in Melbourne, Australia, in which Research Associate **Marion E. Frank** also participated. Dr. Pfaff was an invited speaker at the Second International Brain-Endocrine Symposium in Tokyo, and at the International Symposium on Neuroendocrine Regulation of Fertility of the World Health Organization, in Simla, India.

Professor **James G. Hirsch**, Cellular Physiology and Immunology, has been elected a member of the Institute of Medicine of the National Academy of Sciences.

Professor **Frank H. Field**, Physical Chemistry, was a lecturer in the Frontiers of Chemistry series at Case Western Reserve University on October 31. He spoke on High Pressure Mass Spectrometry: Chemical Ionization, Ionic Equilibria, and Ionic Kinetics.

Professor **Gerald M. Edelman**, Biochemistry, was awarded the degree of M.D. (*honoris causa*) from the University of Siena, Italy, on November 10.

Professor **John D. Gregory**, Biochemistry, has been chosen president-elect of The Society for Complex Carbohydrates. He will serve as program chairman for 1975 and assume the presidency in 1976.

Professor **Henry G. Kunkel**, Immunology, was a corecipient of the City of Hope National Medical Center Research Award, presented each year to two outstanding contributors in the field of biological or medical research. The award was made on October 20, in Los Angeles, to Dr. Kunkel and to Dr. Elvin Kabat of Columbia University.

Professor **René J. Dubos**, Environmental Biomedicine, spoke on The Biology

Children's Party

The Christmas party for children—to which children of all members of the campus community are cordially invited—will be held on December 17, from 6 to 8 P.M., on the ground floor of the Graduate Students Residence. There will be carol singing, refreshments, and Santa Claus. This year the party is being arranged by the Association of the Children's School and the Socony Hall Babysitting Co-op. There will be an admission charge of one dollar per family, and each child is requested to bring a wrapped gift (costing no more than 50 cents). Anyone who would like to help with the party is asked to call Wendy Wood on extension 1163.

Teachers Honor Mirsky

October 14 was designated Alfred E. Mirsky Memorial Day by the National Association of Biology Teachers, during their national convention held in New York. Professor Vincent G. Alfrey presented the Alfred E. Mirsky Memorial Lecture. He spoke on Genetic Control Mechanism. In attendance was Sonia Wohl Mirsky, widow of the Rockefeller biochemist and physiologist who died on June 19.

NEW POST FOR LEONARD

Christiana M. Leonard, formerly an assistant professor in the physiological psychology laboratory of Professor Carl Pfaffmann, has been appointed assistant professor in the Department of Anatomy at Mount Sinai School of Medicine, where she will be pursuing studies of behavioral development in neural substrata with the support of a National Institutes of Health grant. Dr. Leonard will continue her association with Rockefeller as an adjunct assistant professor.

ELLIOT THANK YOU

Roger C. Elliot and his wife, Pamela Lee, who retired from the University this past summer, have written from their home in Vermont to ask *news and notes* to convey "our thanks to everyone for such a memorable surprise party. After 31 cumulative years at R.U. it meant a great deal to us both to see so many of our friends and colleagues gathered together."

of Social Problems at the 75th National Meeting of Sigma Xi, The Scientific Research Society of North America, held in Fredericksburg, Virginia, November 1-4.