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The Rockefeller University

THE ROCKEFELLER UNIVERSITY

news and notes

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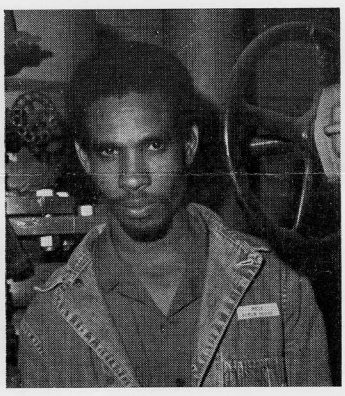
Receive ARCS Award

The University was honored on November 7 when President Seitz accepted the first annual award from the newly formed New York Chapter of the Achievement Rewards for College Scientists Foundation, Inc. (ARCS). The award was a $2,500 grant, made possible by funds from The Fish Foundation, to be used to establish the ARCS Scholars Fund. It will be applied to the operating costs of the Biomedical Science Program, a joint study program of Rockefeller and Cornell University Medical College leading to a combined M.D.-Ph.D. degree. ARCS is a nation-wide group founded in 1958 to provide assistance to outstanding students in the scientific and technological fields.

DOUGLAS WHITAKER DIES

Douglas M. Whitaker, 69, who was a vice president of Rockefeller from 1955 until his retirement in 1964, died on October 5 in San Antonio, Texas. An experimental zoologist who specialized in the study of marine life, Dr. Whitaker spent 25 years on the faculty of Stanford University, serving as professor of biology, dean of the School of Biological Sciences, dean of the Faculty of Humanities and Sciences, and provost. In 1950 he served as chairman of the National Research Council.

DIPLOMAS FOR TWO



Aida Martinez, a receptionist with the Center for Prevention of Premature Arteriosclerosis (left), and John Meda, a utility man in the Power House, have successfully completed the New York State high school equivalency examination and received their diplomas, after participation in the University's Employee Education Program. Mr. Meda has been with the University since 1971. Mrs. Martinez interrupted her honeymoon, in July, in order to take the two-day examination.

HOLIDAY PARTIES

It's holiday party time again. The annual Christmas party for all members of the campus community, hosted by President and Mrs. Seitz, will be held on Friday, December 14, from 3:00 to 5:00 P.M. on the 17th floor of the Tower, with the usual accompaniment of carols and holiday delectables.

The party for children of all University employees, faculty, and students will take place Wednesday, December 12, at 6:00 P.M. in the lounge of the Graduate Students Residence, with entertainment and gifts from Santa Claus.

The Christmas Ball is scheduled for Saturday, December 15, from 9:00 P.M. to 1:00 A.M. on the 17th floor of the Tower. Everyone is welcome. Ticket information may be obtained from the Student Representative Committee, Box 171.

FACULTY APPOINTMENTS

Wesley C. Lynch, Psychology, has been promoted to assistant professor. Karl E. Anderson has been appointed assistant professor and associate physician, Clinical Investigation in Lipid Metabolism. Both appointments were made effective in October.

BRIEFS

Professor **William H. Stein,** Biochemistry, will be awarded an honorary Doctor of Science degree from the Albert Einstein College of Medicine, Yeshiva University, on December 9.

President Seitz has been elected a trustee of the John Simon Guggenheim Memorial Foundation in New York.

Stanley W. Sajdera, '69, assistant professor and director of the graduate program in physical and organic chemistry at the Downstate Medical Center, State University of New York, has been named assistant dean of the Center's School of Graduate Studies.

PERSONAL MENTION

Born, October 2, to Postdoctoral Fellow and Assistant Physician **Virginia Utermohlen,** and her husband, Dr. Richard Lovelace, physicist with the Princeton Plasma Physics Laboratory, a daughter, Jennifer Binns, their first child.

Palmira Cardinale, a helper in the laboratory of Dr. Christian de Duve, was married on October 21 to Mario Barreca, a printer.

Christmas Lectures

On December 27 and 28, between 1:30 and 5:00 P.M., several hundred young people, selected for their interest in science, will hear Neurobiologist Bruce S. McEwen talk about Hormones and the Brain, at the 1973 Christmas Lectures for high school students.

The brain is a hormone producer as well as a target for the action of hormones. The basic cellular elements of the brain are the neurons. Neurons produce neurohormones which transmit electrical activity to other neurons, and neurohormones which stimulate the secretory activity of the pituitary gland. Neurons also respond to hormones produced by endocrine glands such as the gonads and adrenals, and it is through such interactions that the endocrine system regulates its own function and influences behavior. With this as his overall frame of reference, Professor McEwen will explore his subject under the four general headings: Neurons; Neurotransmitters and Neurohormones; How Hormones Act on Cells; and Hormones, the Brain, and Behavior. Time will be allowed for general discussion and question-and-answer periods.

Bruce McEwen came to Rockefeller in 1959, a summa cum laude graduate in chemistry from Oberlin College, to pursue doctoral studies in the cell biology laboratory of Professor Alfred E. Mirsky. After receiving his Ph.D. in 1964, he spent two years as a United States Public Health Service Postdoctoral Fellow at the Institute of Neurobiology in Göteborg, Sweden, and a semester as assistant professor in the Department of Zoology at the University of Minnesota. He returned to Rockefeller in 1966 and is currently associated with the physiological psychology laboratory of Professor Neal E. Miller.

The Christmas Lectures were started in 1959 by Professor Alfred E. Mirsky, who has continued in charge of arrangements each year.

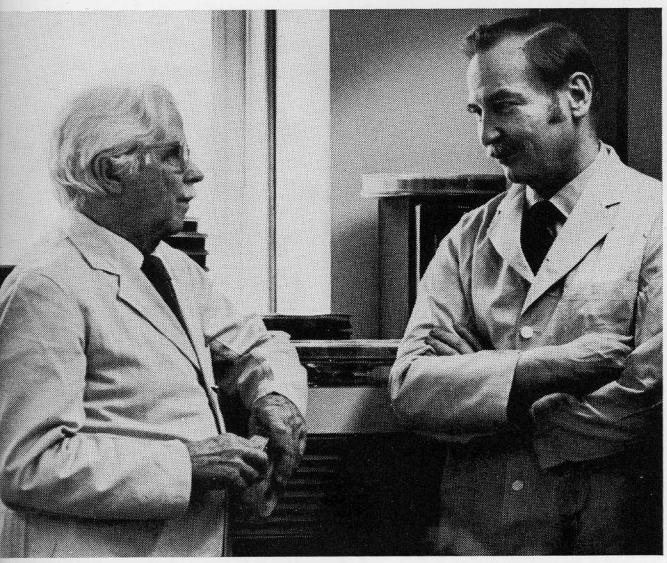
NEW LIBRARY EXHIBIT

Archivist Ruth Sternfeld reports that the Library's exhibit for December contains pictures, documents, and memorabilia relating to the life and work of Biochemist Phoebus Aaron Theodor Levene, who was associated with this institution from 1905 until his death in 1940. Levene was described by Simon Flexner as "one of the makers of The Rockefeller Institute. . . ."

"... an extremely fertile chaos."

In 1923, Haldan Keffer Hartline, just graduated from Lafayette College, went for the summer to the Woods Hole Marine Biological Laboratory. He had prepared his first research paper, "The Influence of Light of Very Low Intensity on Phototropic Reactions of Animals," which he timorously showed to Jacques Loeb, the great Rockefeller Institute physiologist who was also summering at Woods Hole. Loeb introduced the fledgling scientist to Selig Hecht, a major figure in visual research. "Hecht helped me translate my student prose into English," Hartline recalls, "and both men impressed upon me the importance of the rigorous quantitative approach to physiology." The paper was published that fall in *The Journal of General Physiology*.

On December 22, 1973—almost exactly half a century later—on the occasion of his 70th birthday, a 668-page volume of the collected papers of H. Keffer Hartline, Nobel laureate and holder of the Detlev W. Bronk Professorship (the first named chair in the history of this institution), will be published by The Rockefeller University Press and by Chapman & Hall Ltd. of England. The book, *Studies on Excitation and Inhibition in the Retina,* begins with a paper published in 1932 when Dr. Hartline and Clarence H. Graham first recorded the electrical activity of single optic nerve fibers and, thereby, initiated the quantitative unitary analysis of the roles played by excitation and inhibition in the integrative action of the retina. It ends with his Nobel lecture. (Dr. Hartline shared the Nobel Prize in medicine or physiology with George Wald and Ragnar Granit in 1967.) In discussing the significance of the book, Professor Floyd Ratliff, Dr. Hartline's laboratory colleague, comments, "It is a notable occurrence in science when the work generated by one man encompasses, in effect, an entire era; in this case, the whole of modern retinal electrophysiology."



Dr. Hartline (left) and Dr. Ratliff

This year also rounds out two decades for Dr. Hartline at Rockefeller University, where he came with his old friend Detlev W. Bronk. The two men had worked together at the Johnson Research Foundation for Medical Physics at the University of Pennsylvania and at Johns Hopkins University (from which Dr. Hartline had received his M.D. in 1927). It was the work on single nerve fibers by the research team of Adrian and Bronk that inspired Dr. Hartline to apply comparable methods to his research on the optic nerve.

Because Dr. Hartline and his coworkers rely greatly on quantitative mathematical methodology, their laboratory, on the third floor of Gasser Hall, is one of the most heavily instrumented on campus. For a long time their laboratory was the home of the University's first computer, still in use but "nearly senile." Today, complex electronic devices record the activity of nerve fibers and retinal receptors. Dr. Hartline points out, however, that "despite the heavy use of instrumentation in our lab, the essential technical element is still the manual skill involved in preparing each experiment." Vertebrate and invertebrate animals are used—frogs, cats, "mud puppies," scallops, and the arthropod *Limulus,* popularly called the horseshoe crab. It is this latter animal, not really a crab at all, that has been exceptionally useful in the work of the laboratory. *Limulus* is ideally suited to visual research because its compound eye has large photoreceptors, a long optic nerve, and a relatively simple retinal organization.

Dr. Hartline has gathered around him a dedicated group of colleagues whose differing backgrounds, training, and personal styles nourish the laboratory's "slightly disorganized but extremely fertile chaos," as it has been described. His own style combines the vigor of a man who has been an ardent sailor, mountaineer, and pilot with the meticulousness of a scientist who writes his own computer programs while still practicing those exacting techniques of dissection by hand that he has been refining for over 40 years.

Professor Floyd Ratliff has been Dr. Hartline's close co-worker for more than two decades. A physiological psychologist, he came to Rockefeller from Harvard with plans to collaborate with Dr. Hartline on his studies of the visual system of frogs. Dr. Ratliff, however, "fell under the spell of *Limulus*," and has only recently begun his long-planned studies of the vertebrate visual system. Side-by-side with these researches, he pursues a related interest in the exploration of the scientific basis of subjective visual phenomena —things the eye perceives but that do not exist objectively in nature—which have been empirically observed and exploited by artists for centuries.

The walls of Dr. Ratliff's office display his love of art, particularly Oriental art, where the visual effects he studies are frequently in evidence. By contrast, Associate Professor Bruce W. Knight's office appears as almost wall-to-wall blackboard covered with formulae. A physicist who has worked at Los Alamos, he came to Rockefeller to teach calculus and wound up deep in the mathematics of neural networks. Robert M. Shapley came to the University a few years ago as a graduate fellow and is now an assistant professor initiating another line of research on the visual cortex.

Adjunct Associate Professor Frederick A. Dodge, Jr., is a researcher for IBM who manages also to put in nearly full time at the University, in the lab and as editor of *Biophysical Journal*. Other members of the group include Adjunct Professor Lawrence Sirovich of Brown University, Adjunct Associate Professor Israel Abramov of Brooklyn College, Adjunct Assistant Professors James Gordon of Hunter College and Norma Graham of Columbia University, Guest Investigator Ehud Kaplan, Postdoctoral Fellows Shaul Hochstein and A. David Nawrocki, and Graduate Fellows John R. Tuttle and Fulton F. Wong. Electronics Affiliate Norman Milkman divides his time between the Electronic Shop and the Hartline-Ratliff lab.

In research centers all over the world there are colleagues and former students of Keffer Hartline. His research has influenced an entire generation of biophysical scientists. Among the members of a newly emerging generation are three who have special reason to celebrate his 70th birthday, his sons, Daniel, Peter, and Frederick Hartline, all of whom have chosen to follow scientific careers. All three are biophysicists, and two are currently pursuing research with former students of their father.

Kathmandu to Everest: Dole "Earns" View

On September 1, Professor Vincent P. Dole bade a temporary farewell to the problems of addictive diseases and methadone therapy and boarded a plane for Nepal. For about a week he limbered up his legs around Pokhara at the foot of Annapurna (where the livestock must be cleared from the airstrip before planes can land). After loading up with supplies and local lore, he set out to make the "classic walk" from Kathmandu to Mount Everest, a 150 mile trek that encompasses nearly 50,000 feet of climbing and descents.

"In Nepal," says Dr. Dole, "there are peaks considered too small to be named that are higher than peaks found anywhere else. It is a country where 99 percent of the transportation is by foot with everything carried on human backs. The main highway would be rated class two or class three rock climbing by the Appalachian Club. So isolating is the terrain that dozens of ethnic groups and hundreds of languages exist in this relatively small area."

Purposely selecting monsoon season, which is off-season for tourists, Dr. Dole was alone except for his Sherpa guide and porters for nearly a month, pitching his tent near the roof of the world, waiting out bad weather in a remote lamasery, wading through swamps of leeches, and stopping with hospitable Sherpa families, whom he towered over by a foot or more. (The only injuries he sustained on the trip were head bruises inflicted when he forgot to stoop for Sherpa doorways.)

Although he has always loved mountains, Vincent Dole didn't begin climbing until he was 50. For a number of years he made regular trips to the Alps with his two sons. Nepal was the fulfillment of a lifetime dream. Near the foot of Everest, he relates, the Japanese have built a luxury hotel to which nonathletic tourists may fly by airplane, poke their noses out of the window, and take in the view. Dr. Dole doesn't conceal his disdain for those who "didn't earn it by walking."

IN PRINT

An article titled "Cognitive Consequences of Formal and Informal Education," by Senior Research Associate **Sylvia Scribner** and Professor **Michael Cole,** appeared in the November 9 issue of *Science*. In it, the authors describe some key research findings on the different experiences provided by school-based learning and "every day" learning, and some directions they think this research should take in order to more fully illuminate how society affects the ways in which individuals organize learning and thinking skills.

Communication, Language, and Meaning: Psychological Perspectives, edited by Professor **George A. Miller,** Psychology, was published on November 23 by Basic Books, Inc. The volume contains 25 essays by leaders in the fields of linguistics, psychology, sociology, education, biology, neurology, animal behavior, and philosophy, and includes a preface and two chapters by Dr. Miller, "Psychology and Communication" and "Nonverbal Communication," and a chapter by Professor **Peter R. Marler,** Animal Behavior, "Speech Development and Bird Song: Are There Any Parallels?" The book is an Alternate Selection of the Behavioral Science Book Club.

The December issue of *Intellectual Digest* contains excerpts from an interview by Edward Claflin of the magazine with Professor **James G. Hirsch,** Cellular Physiology and Immunology and Senior Physician, who is dean of graduate studies at the University, and Vice President **Rodney W. Nichols.** In the article, "The Climate of Research," the two men give thoughtful answers to questions about the workings of the University, such as the particular approach to research and graduate education that distinguishes Rockefeller, the problems of "outside pressures," including those that can affect research funds, and the question of applied-vs.-basic research.

Ruth Mandlebaum Retires

On October 31, friends and colleagues throughout the University honored Chief Artist Ruth J. Mandlebaum who is retiring after 36 years with Graphic Services. Among the many expressions of affection tendered her was a large portfolio of letters of appreciation from members and former members of the staff and faculty whom she has long and faithfully served.

Miss Mandlebaum has asked *news and notes* to express her "deepest thanks and gratitude" to those who made her "party a memorable occasion," for the letters of good will, for the gifts, including a color etching, and to all those who "took time out of busy schedules to honor me by their presence and to repeat such flattering things that I almost came to believe them."

At the party: Ruth Mandlebaum (right) with Helen Vogel, her sister and her predecessor 36 years ago at Rockefeller.

news and notes is published monthly from October to July. This is Volume 5, Number 3. Contributions are welcome and may be sent to *news and notes,* Box 194 or phone ext. 1166 or ext. 1217. Photographs: pages 1 and 3 Ingbet; page 2 and page 4 (lower right) Henrik Boudakian. Printed in the United States of America.