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The Rockefeller University

THE ROCKEFELLER UNIVERSITY

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news and notes

David Rockefeller presents gift to Andrew F. Hooks. In the foreground, left to right, Grace W. Cox, Matthew J. Lynch, and Ellen B. Archer.

Honor 26 Members of Campus Family at Retirement and Anniversary Dinner

Twenty-six members of the University family were honored at the annual retirement and special anniversary dinner held April 1 in Welch Hall. Gifts and certificates of recognition were presented by David Rockefeller, chairman of the board.

Those honored, at retirement, after 15 years or more of service are:

Ellen B. Archer, *chambermaid-cleaner, Graduate Students Residence, 15 years*
Carmen M. Bea, *laboratory helper, 21 years*
Thomas Cawley, *assistant head porter, Hospital, 45 years*
Grace W. Cox, *laundress, 21 years*
Mary L. Hayes, *day supervisor, Nursing Care, 32 years*
John P. Hervey, *senior electronic engineer, 17 years*
Andrew F. Hooks, *night watchman, Hospital, 20 years*
Margaret Keegan, *laboratory helper, 20 years*
Mary C. Kropp, *night supervisor, Hospital, 17 years*
Edna G. Leonard, *skilled helper, Media, 39 years*
Doris J. Lewis, *clinic nurse, Hospital, 18 years*
Matthew J. Lynch, *porter, Hospital, 26 years*
Theodore Nadeje, *assistant for research, 47 years*
August C. Roeckl, *cabinetmaker, 23 years*
William F. Ryan, *assistant supervisor, Janitorial Services, 24 years*
Kathleen R. Seery, *laboratory helper, 22 years*
Gertrude C. Smith, *senior production editor, Journals, 43 years*
Aristea Stergiou, *cook-baker, Welch Hall, 30 years*

Marking special anniversaries are:

Edward H. Ahrens, Jr., *professor and senior physician, Metabolism of Lipids, 25 years*
William D. Duthie, *foreman, Machine Shop, 40 years*
George E. Palade, *professor, Cell Biology, 25 years*
Gertrude E. Perlmann, *associate professor, Biochemistry, 25 years*
Henry Tarkowski, *senior watch engineer, Power House, 25 years*

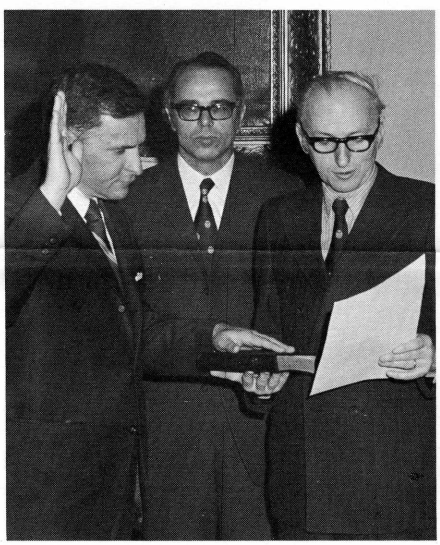
Those becoming professors emeriti are:

René J. Dubos, *Environmental Biomedicine*
Alfred E. Mirsky, *Cell Biology*
George E. Uhlenbeck, *Theoretical Physics*

Dr. Craig Receives Kolthoff Medal Award

Professor Lyman C. Craig, Biochemistry, received the Kolthoff Gold Medal Award in Analytical Chemistry of the APhA Academy of Pharmaceutical Sciences at the 118th annual meeting of the American Pharmaceutical Association, held March 27—April 2 in San Francisco. The presentation was made at the academy luncheon on March 31. The award, which carries with it a $1,000 honorarium, is given biennially in recognition of a significant contribution to the advancement of pharmaceutical analysis. After the luncheon, Dr. Craig spoke on The Use of Membranes for Analysis and Biochemical Investigation of Drugs.

Dr. Craig has been associated with Rockefeller since 1933. In 1963 he won the Albert Lasker Basic Science Award and in 1966 the American Chemical Society Fisher Award in Analytical Chemistry.



Professor Jules Hirsch (left), senior physician, who has been appointed to the Advisory Board of the New York City Department of Mental Health and Mental Retardation Services, being sworn in on April 6 by Deputy Mayor Timothy Costello. The board serves in an advisory capacity to Dr. J. Herbert Fill (center), commissioner of Mental Health and Mental Retardation Services.

A Musical Surprise for Dr. Shedlovsky

For 11 years, Professor Emeritus Theodore Shedlovsky has been bringing music to Rockefeller. On Wednesday evening, April 7, the tables were turned and a surprise concert was given as a tribute to him.

Dr. Shedlovsky thought he was to spend the evening at an informal dinner at the President's House, where background music was performed by the New York Chamber Soloists and the Festival Winds. After dinner he was lured to Caspary Auditorium, where he was greeted by an audience of well-wishers from the University and the world of music. Then the dinnertime

Dr. Vincent P. Dole and his wife, Dr. Marie Nyswander, congratulate Dr. and Mrs. Shedlovsky, at conclusion of concert in Caspary Auditorium.

performers joined in concert with the Guarneri Quartet, violists Walter Trampler and Karen Phillips, harpsichordist Albert Fuller, pianists Harriet Wingreen and Samuel Sanders, tenor Robert White, and flutist Samuel Baron. Between numbers, to further delight Dr. Shedlovsky who is a chess enthusiast, Dr. Edward Lasker and Samuel Baron posed chess problems for the audience. For a finale, all the performers joined in a spirited performance of a movement from Bach's Brandenburg Concerto no. 1. At the conclusion of the evening, Melvin Kaplan, a musician and concert manager who has worked closely with Dr. Shedlovsky, announced that a small group of friends have established a fund for an annual Theodore Shedlovsky concert. Bravissimo, Dr. Shedlovsky!

BRIEFS

Professor **Rollin D. Hotchkiss,** Genetics, participated in a symposium on the function of genetic material in a joint meeting of the British Genetical Society and the Virus Group at Cambridge University, March 31–April 2. While in Britain, Dr. Hotchkiss took the occasion to continue some collaborative research begun at the Medical Research Council laboratory at Cambridge during his stay there last fall.

Associate Professor **Donald A. Martin,** Mathematical Logic and Philosophy, has received an Alfred P. Sloan Foundation Research Fellowship. He was among 77 physical scientists representing 44 universities and colleges who were selected by their colleagues for outstanding work. They will receive financial support averaging $8,750 a year for two years.

President Emeritus **Detlev W. Bronk** has accepted the presidency of the World Academy of Art and Science. Stuart Mudd, a vice president of the academy, made the announcement in March.

The Rockefeller University Press received two awards for outstanding examples of printing from Printing Industries of Metropolitan New York, Inc. at its 29th exhibition, held recently. Highest honor, a Certificate of Achievement, went to *news and notes.* The 1970-1971 University *Catalogue* earned a Certificate of Special Merit.

Professor **Philip Siekevitz,** Cell Biology, will be awarded an honorary doctorate May 24 by his alma mater, Philadelphia College of Pharmacy and Science.

PERSONAL MENTION

Mrs. Mary B. Coyne, a waitress in Welch Hall, retired on April 1 after 14 years with the University.

Miss Theresa B. Hemingway, cashier in the cafeteria, retired on April 1. She was with the University for 14 years.

Samuel Margolin, cabinetmaker, retired on April 1 after 14 years with the University.

Miss Lucille Chin, an assistant for research in the laboratory of Dr. James G. Hirsch, was married March 20 to Victor K. Len, an industrial engineer for Underwriter's Laboratories, Melville, L. I.

RU and Cornell Open Courses to Each Other

Under a new arrangement approved by Rockefeller and by neighboring Cornell University Medical College, qualified students and postdoctoral fellows at one institution will now be able to participate in courses and seminars offered by the other. On this campus, information about offerings at Cornell is obtainable from Professor Frank Brink, dean of graduate studies. After his approval, applicants must then obtain permission from Dean Thomas H. Meikle of Cornell and from the professor of the desired course. In a letter announcing the program, President Seitz expressed appreciation to the Student Representative Committee for germinating the idea which led to its adoption.

Ruth Mandlebaum Makes Art for Science

Sooner or later, just about every member of the University's scientific community calls upon Ruth Mandlebaum. Into her care each delivers the raw material for line drawings, diagrams, charts, maps, graphs, and photographs that will accompany doctoral theses and other scholarly publications, or serve as demonstrations or slides. She and her colleagues then transform them into crisp, clear, publishable illustrations. The work requires a sharp eye and steady hand, a good working knowledge of typography, layout, and production requirements, absolute accuracy, and infinite patience.

Miss Mandlebaum first sat down at her drawing board 34 years ago. In those days Graphic Services consisted of the late Louis Schmidt—who tripled as department head, photographer, and artist—another photographer, and Miss Mandlebaum.

"I learned by watching and doing," she says. "In between, I answered the phones and read mysteries. It was nice and quiet." Nowadays, as chief artist she supervises the work of three other artists, Miss Elsa Rivera, Mrs. Sirapy Torrosian, and Mrs. Vartanoush Kassabian, and occasionally calls on freelance helpers. Graphic Services has grown from a cozy family of 3 to the present 18. The manager is Lewis W. Koster. Besides Miss Mandlebaum's group, he supervises six photographers, a projectionist, two secretaries, and four people who handle duplicating and addressing.

Dr. Armin C. Braun in greenhouse

Study Plants for Clues to Cancer Mechanisms

Life's anomalies are nowhere more poignantly dramatized than in the Plant Biology greenhouses on the third floor of Flexner Hall. Outside the windows, on a clear day, the river sparkles with jewel-like reflections. "It's the best view on campus," boasts Associate Professor Henry N. Wood. Inside, the sunlight pours over feathery ferns, Madagascar periwinkles with deep pink blooms, tall tobacco plants, and glistening succulents. They grow lush and green in dark brown soil, perfuming the scientifically de-polluted air. (A specially designed triple filtration system changes the air 20 times an hour and clears it of impurities.) But that colorful growth on the kalanchoe is a deadly tumor, a tool in the cancer researches of Professor Armin C. Braun and Dr. Wood.

Dr. Braun began his studies in 1938 when Rockefeller's greenhouses were still in Princeton. Although he works with plants, his findings are relevant to animal pathology since, on the cell level, the cancer mechanisms appear to be the same. He has pioneered in the development of what is called the epigenetic theory. (For a detailed account, see his article in *American Scientist,* May–June, 1970 or *news and notes,* May, 1970.) It is a radical departure from the idea of cancer as an irreversible, mutational process. Unlike most traditional students of the disease, he believes that cancer is not caused by changes in the integrity of the DNA in cells, but rather in the way DNA expresses genetic potentialities.

In the report of the National Panel of Consultants on the Conquest of Cancer, which was prepared for the Senate in advance of President Nixon's announcement of a new, all-out war on cancer, the problem of genetic versus epigenetic is clearly stated:

> This question of whether the cancerous change is due to an alteration of the hereditary material—*a genetic change*—or whether it is due to an alteration of a non-genetic biochemical process which somehow affects the hereditary material—*an epigenetic change*—is of paramount importance. . . .
>
> Despite the fact that the genetic material is implicated in the expression of malignancy, there is no evidence of the existence of a "cancer mutation," and it can be argued convincingly that genetic mutation, in the strict sense, has not been shown to be required for cancer causation.
>
> Important evidence in support of this hypothesis comes from experiments with plant tumor cells.

The report of the panel continues:

> Much more is known about how to "derepress" certain genes in plant cells (i.e., how to endow the latter with metabolic and growth autonomy) and also "repress" them (as during tumor reversal). For these reasons, studies of plant tumor cells seem admirably suited for a first characterization, at the molecular level, of those mechanisms that may underlie not only their own, but all cancerous states.

Dr. Braun and others following his lead have succeeded experimentally in reversing tumor growth. Among numerous researchers now working with animals, for example, is Dr. Selma Silagi, an assistant professor at The New York Hospital-Cornell Medical Center (formerly at Rockefeller in Dr. Edward L. Tatum's lab), who has reversed malignancy in mouse melanoma cells with the chemical BUdR, a substance too dangerous for human application.

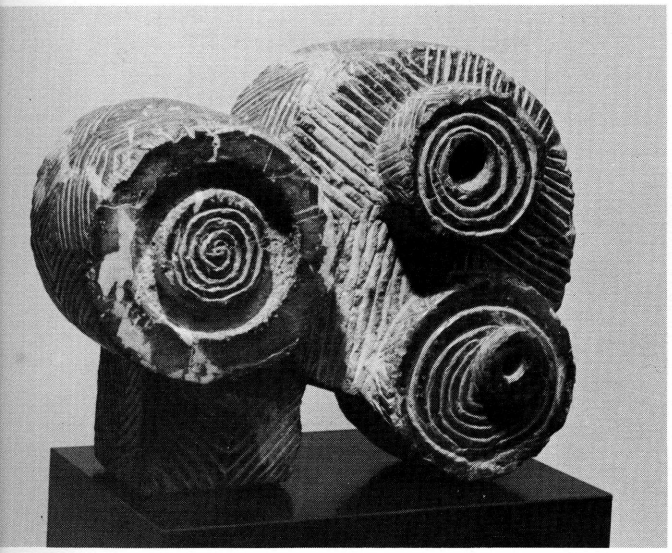
Dr. Wood concentrates his efforts on studying the chemical action that promotes the nonstop cell division in the autonomous tumors, which he describes as "free-lance capitalists who can make their own goodies." For most of his 16 years at the University he has been looking for, isolating, and trying to analyze the chemicals involved. Dr. Wood also wants to know more about cell membranes which are essential in the regulation of metabolic activity. The membrane of a tumor cell is far more permeable than a normal cell. In examining this phenomenon and its implications, Dr. Wood works closely with Dr. Frank H. Field, professor of mass spectrometry and the chemistry of gaseous ions, in an interdisciplinary pooling of talent.

Working in the lab with Drs. Braun and Wood on related tumor problems are two graduate fellows, Samuel D. Balk, Doctor of Medicine from New York University, and Carl V. Lundeen, a botany major from the University of North Carolina. Guest Investigator Dr. K. K. Reddi is using the lab's facilities while studying biosynthesis of plant viruses.

Disease must be understood in the context of what constitutes health. Associate Professor Bruce R. Voeller, who has been with Dr. Braun for 15 years, studies the evolution and developmental physiology of normal plants. Specifically, he is interested in the function of hormones in fern reproduction. His studies are closely related to current research in DNA and RNA.

There is an irresistible urge to ask plant biologists whether they garden. "Avidly and everything," says Dr. Voeller, who commutes from his home in Englewood, N.J.

"I haven't the time," demurs Dr. Braun, who then confesses to azaleas and rhododendrons and some "little greenhouses" for orchids on the 12 acres surrounding his 18th-century home in Princeton, which commands a 30 mile view of the Hopewell Valley. A few of the orchids have found their way into a corner of the Flexner greenhouses. There they grow, in radiant health, uncancerous, unpolluted, and gorgeous.



One of the 11 large marble sculptures by Minoru Niizuma now on view in Caspary Gallery where they will remain through graduation.

IN PRINT

Professor Emeritus **Fritz Lipmann** recalls "the growing pains and pleasures" of his scientific odyssey in *Wanderings of a Biochemist,* just published by Wiley-Interscience.

The first section of the book describes Dr. Lipmann's early years as medical student in Koenigsberg, Berlin, and Munich in the 1920s through his then rather unconventional decision, after gaining his medical degree, to study chemistry. He tells of his start in biochemistry with Otto Meyerhof at the Kaiser Wilhelm Institutes in Berlin and Heidelberg, and his experience in tissue culturing with Albert Fischer in Berlin and later in Copenhagen. After leaving Europe in 1939, his first two years were spent at the Cornell University Medical College. He then became connected with the Massachusetts General Hospital and Harvard Medical School, where he spent the next 15 years.

Dr. Lipmann's first association with Rockefeller University (then The Rockefeller Institute for Medical Research) was as a Rockefeller Foundation Fellow with P. A. Levene in 1931–32. In 1957 he returned to the University where he has remained since.

The second half of the book is a selection of essays "chosen to show how conceptual innovations are distilled from experimental work." The volume also contains an illustration section, both scientific and personal, including photographs, a number of which were taken at the University, of friends, family, and colleagues.

* *

For several decades ecologists have debated whether two species competing for the same limited resources—such as food, places to live, or places to nest—can stably coexist. Those who argue in the negative postulate that no two species are likely to be exactly identical in their efficiency to exploit any given resource. No matter how small the difference between two competing species, the less efficient species will eventually be eliminated.

Other scientists have contended that this reasoning ignores the complexities of the process of ecological competition. For instance, individuals in a species are not identical copies of the same model. Also the frequencies of genes and genotypes in a population are continually changing through natural selection, which fosters the population's adaptation to its environment. For such reasons, competing species may stably coexist, under certain conditions. Until recently, however, those who held this position have lacked decisive and convincing evidence.

In the February 26 issue of *Science,* **Dr. Francisco J. Ayala** reports on a series of experiments showing that the relative fitness of two species of the fruit fly drosophila under competition in laboratory populations is inversely related to the relative frequencies of those species. Previous experiments had demonstrated that competitive fitness is in some cases frequency dependent. But only some stages of the life cycle were studied. In the experiments he is reporting, Dr. Ayala writes that the competition involved all stages. He concludes: "Frequency-dependence leads, therefore, to a stable coexistence of the two competing species."

* *

Associate Professor **Robert W. Leader,** Comparative Pathology, and his wife, **Isabel Leader,** chief of microbiology and parasitology at Beekman Downtown Hospital, have compiled a *Dictionary of Comparative Pathology and Experimental Biology,* published by W. B. Saunders Company. Intended primarily for use by those with considerable scientific background, it omits many elementary terms found in standard medical dictionaries and concentrates on greater depth and specificity. Included, for example, are some 300 terms used by experimental behaviorists which are not generally available in other dictionaries, the significant vocabulary of genetics studies, and extensive information on the breeds, genetics, and diseases of laboratory animals. In addition to organizing and compiling this lexicon of medical science, the Leaders have enriched it with a word of their own devising—*anoman,* an acronym of "animal other than man."

Employees Elect Representatives

Elections for the Employees' Representative Committee were held March 29–31. Those elected were:

For the Clerical Staff—Linda Borrero, Saul Cornier, Ethel Everly, and Isabel Raska as alternate; for the Hospital—Nina Casciano, Fred Ellis, and Bertha Felder as alternate; for Services—Douglas Townsend and Isaias Coats; for Shops—Anthony Fusco and Fred Bannon; for Technical—John Felder, Yvonne Holland, Christine McNair, and Jane King as alternate.

Posts still waiting confirmation are one representative and one alternate for Services and one alternate for Shops. The newly elected representatives met on April 6 and elected John Felder chairman and Nina Casciano cochairman by unanimous vote. The committee meets every Tuesday. The first Tuesday of each month is an open meeting, notice of which is posted in advance.

Alumnus Wins Award

Rockefeller alumnus Lewis J. Kleinsmith has received the Henry Russel Award of the University of Michigan, where he serves as assistant professor of zoology. The presentation, accompanied by a $1,200 honorarium, was made on March 11. The award is given annually to a younger member of the faculty in recognition of scholarly achievement and promise. In selecting Dr. Kleinsmith, who received his doctoral degree from Rockefeller in 1968, the committee noted that early in his academic career he has established a reputation as "a leading investigator in the role of nuclear proteins in genetic control mechanisms."

news and notes is published monthly from September to June. This is Volume 2, Number 8. Contributions are welcome and may be sent to *news and notes,* Box 194 or phone ext. 1166 or ext. 1217. Photographs: pages 1 (top), 2, and 4 by Henrik Boudakian; page 1 (bottom) by Missak Sarafian; page 3 by Heka Davis. Printed in the United States of America.