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THE ROCKEFELLER UNIVERSITY

news and notes

OCTOBER 1976 VOLUME 8 NUMBER 1

Kunkel Named Mauzé Professor

President Seitz has announced the establishment of a new endowed professorship, which has been made possible by an unrestricted bequest of \$1 million from the late Abby Rockefeller Mauzé, who said in her will that she was "greatly impressed by the University's pursuit of excellence and the high quality of the research it conducts." Mrs. Mauzé, who died last May, was the eldest child and only daughter of John D. Rockefeller, Jr. and Abby Aldrich Rockefeller.

Professor Henry G. Kunkel has been appointed the first Abby Rockefeller Mauzé Professor. Dr. Kunkel, who joined the University in 1945 and has spent his entire research career here, is an immunologist best known for his pioneering work in the delineation of the different types of human immunoglobulins and in the identification of genetic determinants of antibody structure. He and his group have made important fundamental discoveries relating to immune reactions in disease, such as in myeloma, systemic lupus erythematosus, rheumatoid arthritis, and leukemia. In addition, their recent



HENRY G. KUNKEL

studies of lymphocytes have aided in the discovery of a new group of human histocompatibility antigens which promises to help markedly in the typing of organ donors and recipients for compatible grafts. In 1975, Dr. Kunkel received the Albert Lasker Medical Research Award.

New Book by Griffin On Animal Awareness

Many scientists and philosophers have held that man is unique in his ability to think consciously and that language is essential to the process. Animals, on the other hand, are not believed to have self-consciousness, awareness of their situation, or intentions as to future actions. But recent discoveries by animal behaviorists—at Rockefeller and elsewhere—have revealed that many animals communicate, and some even use symbolic communication systems, as, for instance, the dances of honeybees and the sign language taught to captive chimpanzees.

In a new book, *The Question of Animal Awareness: Evolutionary Continuity of Mental Experience*, published by The Rockefeller University Press, Professor Donald R. Griffin challenges "the widespread reluctance of behavioral scientists to deal with the possibility that mental experiences occur in animals." He writes: "We have tended to drift into the unwarranted assumption that subjective experiences (in animals) are nonexistent. This constitutes a great change from the viewpoint of Charles Darwin, who took it for granted that animals had mental experiences and emotions." If scientists accept biological evolution, which is implicit in their use of animals as models in biological and medical research, they must seriously consider the evolutionary continuity of mental experiences, he asserts.

In the book, he summarizes current research in ethology which, in species ranging from bees to birds to primates, is revealing unsuspected degrees of behavioral complexity and apparent volition. Experiments have shown, for example, that chimpanzees can express intention and desire by selecting elements of symbolic language in arrangements not previously taught to them. "The future extension and refinement of two-way communication between ethologists and the animals they study," says Dr. Griffin, "offers the prospect of developing . . . a truly experimental science of cognitive ethology."



Highlight on history: the early years of the Hospital. First row, left to right, Alfred E. Cohn, Rufus Cole, Alphonse Dochez, Oswald Avery. Second row, far right, Donald Van Slyke. Photographed in 1915. See story, page 2.

Clinical Research: "A Revolutionary Idea"

"One thing that has most seriously delayed the advancement of medicine," wrote Rufus Cole in 1908 in a statement on Suggestions in Regard to the Organization of the Rockefeller Hospital, "has been the physical and intellectual barrier between the laboratory and the wards in many of our hospitals. Clinical laboratories most often exist merely to aid diagnosis. I would, therefore, urge that the [Rockefeller] Hospital laboratory be developed so far as possible as a true research laboratory. . . ."

Two years later—66 years ago this month—The Rockefeller Institute for Medical Research opened the first hospital in the country devoted solely to clinical research. It was called, at the time, a "revolutionary idea."

Rufus Cole had been recruited from Johns Hopkins to serve as the Hospital's first director and physician-in-chief. Most of his scientific activity was devoted to the study of lobar pneumonia. He and his group provided the classic description of the disease and developed a serum which, until the development of antibiotics, was the only effective treatment for it. In addition to his scientific pursuits, Cole proved to be an extraordinarily able administrator, leader, and discoverer of talent. Addressing his colleagues on the occasion of the Hospital's 20th anniversary, he told the story of how, shortly after the Hospital opened, "I came across a paper by a man of whom I had never heard. This work so impressed me by its evidence of accuracy and care, the conclusions were so logical and straightforward, and it was written in such a clear, lucid manner, that I decided that the writer must be a man of great ability. I found that he was working in a laboratory in Brooklyn, and at once I rushed over to see what manner of man he was. As soon as could be arranged, I offered him an opportunity to work in The Hospital. . . ."

The "man of great ability" discovered in Brooklyn was Oswald T. Avery, who joined the Hospital in 1913. Avery's pneumococcal research illuminated vast areas of bacteriology and immunology culminating, in 1944, in what has been described as "one of the greatest discoveries of biological science in this century"—the experiments which led to the first demonstration that DNA, deoxyribonucleic acid, the primary component of chromosomes, is the substance that transmits hereditary information. The coauthors of that landmark paper were Colin M. MacLeod and Maclyn McCarty.

Dr. McCarty, now a vice president of

the University, began his Rockefeller career in Avery's laboratory, which was once described as "a nursery in which any form of genius could unfold." Professor Rebecca C. Lancefield, coleader with Dr. McCarty of the University's laboratory of bacteriology and immunology, first came to Rockefeller in 1918 to work with Avery and Alphonse Dochez (who also began his work at the Hospital and who later developed an antitoxin for scarlet fever). Dr. Lancefield achieved worldwide acclaim for her system of classification of streptococci, which is considered the most important single contribution to medical understanding of streptococcal infections. In 1927, Avery arranged for the appointment to the Hospital of a young French soil bacteriologist named René J. Dubos, who was to become the developer of the first antibiotic, a pioneer of environmental bio medicine, and a Pulitzer Prizewinning author.

In the early years of the century, the study of heart disease was still in its infancy. Alfred E. Cohn, who initiated cardiac research at the Hospital in 1911, was one of the first scientists in the country skilled in the use of electrocardiographs. Cohn produced an immense body of quantitative studies of cardiac function and malfunction and trained an impressive number of scientists in his field.

Donald D. Van Slyke was the Hospital's first chemist, credited as the man who "brought chemistry into medicine." In addition to major studies of blood and kidney function, Van Slyke developed an instrument for the exact measurement of oxygen and carbon dioxide in solution which became part of standard hospital equipment throughout the world.

In 1918, along with many other wartime activities, Rockefeller scientists headed a commission, established by the Surgeon General, for the study of a then very prevalent type of pneumonia which developed as a complication of measles, a viral disease. Working with them was a young pediatrician, Thomas M. Rivers. The association altered the course of Rivers's life. After the war, instead of entering private practice as he had planned, he sought and received an appointment at the Hospital to study viruses. His investigations led to the establishment of viruses as a distinct group of disease-causing organisms which, unlike bacteria, need live cells as hosts for survival and replication. In 1928, he edited the handbook, *Filterable Viruses*, the first text of its kind in English. In 1931, he grew an attenuated

strain of vaccinia virus, anticipating the method later refined by Max Theiler to produce yellow fever vaccine.

In 1937, Rivers succeeded Cole as Hospital director. (Following his retirement from clinical research and administration, Cole began a new career. In 1959, at the age of 87, he published a 1,200-page work, *Human History: The Seventeenth Century and the Stuart Family*.) During the Second World War, Rivers organized a Naval Medical Research Unit at the Hospital and another on Guam for the study of tropical diseases (see *news and notes*, May 1976). A major postwar achievement was the compilation of the volume *Viral and Rickettsial Infections of Man*, which has appeared in four editions. The third was edited in collaboration with Frank L. Horsfall, Jr., who succeeded Rivers as head of the Hospital until his appointment as president and director of the Sloan-Kettering Institute for Cancer Research. Rivers retired from the Hospital in 1955. Until his death in 1962, he was associated with the National Foundation—March of Dimes.

The pioneering work in bacteriology, immunology, and virology carried on in the Rockefeller Hospital during its first half-century continues today. Research has expanded to include many of the cellular and genetic ailments which now represent the new frontiers of medical investigation. Maclyn McCarty, whose research began with Avery and bacteriology and helped to launch the age of genetics, was the next man to lead the Hospital. The course of the University's clinical investigations in recent years and the Hospital's plans for the future will be the subject of a later article.

Women's Association

The Rockefeller University Women's Association will hold its welcoming tea on Thursday, October 14 at 8 p.m. in the Abby Aldrich dining room. Women who are members or wives of the University's faculty, student body, or administrative staff are cordially invited to attend and to participate in the association's monthly events during the 1976-77 season. These will include a trip to the Rockefeller Archive Center in Pocantico Hills (November 11); a tour of the New York Stock Exchange (February 10); a visit to the Bronx Zoo (April 14); and a Harlem bus tour (May 12). Also planned are a holiday party (December 9), and two teas (January 13, March 10) with speakers to be announced at a later date. For further information, call Nancie Bég at 988-1941 or Marion Miller at 879-7078.

New Duties for Gold, McGinnity, Siddiqi

President Seitz has announced a reassignment of administrative duties occasioned by the retirement of C. Eugene Sunderlin on June 30.

Thomas P. McGinnity, who has been serving as director of engineering, has been named to the newly created post of director of physical facilities, with overall responsibility for construction, maintenance, and operation of the University's physical plant.

Antonia M. Siddiqi, assistant to President Seitz, has been appointed secretary to the board of trustees. She will retain her present duties involving faculty records, grant application assistance, and related areas.

The supporting services and administrative areas formerly reporting to Dr. Sunderlin will now report to Vice President Albert Gold.

LEO DiCARA DIES

Leo V. DiCara, a leading researcher in the field of autonomic learning and a former member of the University's faculty, died on August 23 at the age of 39. Dr. DiCara joined the physiological psychology laboratory of Professor Neal E. Miller in 1966 as a guest investigator. He was appointed assistant professor in 1967 and associate professor in 1969. In 1971, he went to the University of Michigan, where he was senior research scientist in the Mental Health Research Institute at the time of his death.

New Test for Monitoring Diabetes Therapy

A new method of monitoring the effectiveness of insulin therapy in victims of diabetes mellitus and of assessing its relationship to secondary complications of the disease has been developed in the medical biochemistry laboratory of Professor Anthony Cerami.

One of the major controversies existing among diabetologists concerns the relationship between the degree of control of blood sugar in the diabetic and the development of secondary complications. (Diabetes is the third-ranking cause of blindness and a major cause of heart attack, stroke, and kidney disease.) The difficulty in resolving this conflict lies in the existing methods of measuring both the blood sugar levels, which are subject to large daily fluctuations, and the development of complications, which occur over extended

periods of time.

Studies in Dr. Cerami's lab revealed that the concentration of hemoglobin A_{1c}, a normal component of the blood, increases significantly in the diabetic state, and that patients with the highest levels of hemoglobin A_{1c} are those whose diabetes is in the poorest control. It was found that, if therapy is altered to improve the degree of carbohydrate control, a proportionate reduction in hemoglobin A_{1c} occurs. The levels change at a very slow rate so that a single measurement reflects the degree of control a patient has achieved for the previous weeks or even months. Thus, relatively infrequent measurements of the hemoglobin can determine whether a patient is maintaining good control and provide a way to assess individual therapeutic regimens. In addition, the researchers believe that serial measurements of hemoglobin A_{1c} concentration over time "should make it possible to readdress the long-debated question of whether control of glucose metabolism influences the development of sequelae."

The new technique is still too time-consuming to be used on large numbers of patients. Work is underway to refine it into a more rapid and inexpensive test.

The research, which was partially funded by the Juvenile Diabetes Foundation, was reported in the August 19 issue of *The New England Journal of Medicine*. The authors of the paper, in addition to Dr. Cerami, are Biomedical Fellow Ronald J. Koenig, and Doctors Charles M. Peterson, Robert Jones, Christopher D. Saudek, and Mark Lehrman.

New Graduate Fellows

The University has enrolled 19 new graduate fellows in its Ph.D. program and five biomedical fellows. Those entering the Ph.D. program are:

David Albert, *Columbia University*
Stephen Aley, *California Institute of Technology*

Steven Anderson, *Princeton University*
Francis Barany, *University of Illinois*
William Bleisch, *Harvard University*
Andrea Branch, *University of Michigan and University of California, Irvine*
Warren Gallin, *McMaster University*
Michael Greenberg, *Wesleyan University*
Susan Haynes, *University of Cincinnati*
Harriet Hill, *University of Colorado*
Roger Karess, *Yale University*
Richard Mortensen, *Pennsylvania State University*

Julie Olson, *Massachusetts Institute of Technology*

Valerie Reyna, *Clark University*
Karen Smith, *McGill University*
Gregory Snow, *Princeton University*
Saul Stokar, *Queens College, CUNY*
Daniel Tranchina, *State University of New York at Binghamton*

Wesley Van Voorhis, *Massachusetts Institute of Technology*

Those entering the Rockefeller-Cornell M.D.-Ph.D. program are:

Bruce Aronow, *Stanford University*
Roslyn Feder, *Brooklyn College*
Joseph McCune, *Harvard University*
Carol Rouzer, *Western Maryland College*
Thomas Toomey, *Harvard University*

APPOINTMENTS

As visiting professors, effective September 1: **Jeremy Bernstein**, professor of physics, Stevens Institute of Technology; **Gordon M. Burghardt**, professor of physiological psychology, University of Tennessee; and **Geoffrey Watson**, professor of mathematical statistics, Princeton University.

Jay C. Unkeless, Cellular Physiology and Immunology, as assistant professor, effective September 1.

Joseph Y. Tai, Bacteriology and Immunology, as research associate, effective August 1.

Ronald F. Bonner, Physical Chemistry as research associate, effective August 16.

Elizabeth Dickson, Genetics, and **Loi Hood**, Comparative Human Cognition as research associates, effective September 1.

PROMOTIONS

Zlatimir Dimcovski, Experimental Physics, to senior research associate effective July 1.



Anthony Cerami receives grant from Carol Lurie, president of the Juvenile Diabetes Foundation. Looking on, Ellen Furman, foundation fund-raiser, William Talbert, tennis champion and foundation board member, and Rodney Nichols.

Concert Schedule

The University's regular series of subscription concerts, on Wednesday evenings at 8, begins October 6. The Sunday afternoon series begins November 21.

The Wednesday series features: James Tocco, pianist (October 6); Yoyo Ma, cellist, and Patricia Zander, pianist, in a concert of sonatas (October 20); Marc Durand, pianist (November 3); The Chamber Ensemble, Ezra Laderman, conductor (November 17); Theodore Lettvin, pianist (December 1); Christmas Concert of Vaughn Williams, Britten, and Händel's *Messiah*, Part I (December 15); Benjamin Pasternak, pianist, and Stewart Newbold, clarinetist (January 5); New York Chamber Soloists (January 19); The Aulos Ensemble (February 2); Ricercare, A Renaissance wind ensemble (February 16); Festival Winds (March 2); Bruce Hungerford, pianist (March 16); Trio Elvetico (March 30); Carnegie-Mellon Baroque Ensemble (April 13); and Guarneri String Quartet (April 27).

Performing on Sunday afternoons, at 2:30 P.M. will be: Cremona Quartet (November 21); Lionel Party, harpsichordist (January 30); The New York Chamber Trio (March 27); Bruce Murray, pianist (April 10); and Idil Biret, pianist (April 24).

Stark Appointed

Dennis M. Stark, formerly director of the General Laboratory Animal Facilities at the New York University Medical Center, has been appointed associate professor and director of the Rockefeller University Laboratory Animal Facility.

Dr. Stark received a degree as doctor of veterinary medicine from the Univer-



sity of Georgia in 1966, and a Ph.D. in immunochemistry, virology, and biochemistry from Cornell University in 1969. He was assistant professor and later associate professor at the C. W. Post Center of Long Island University from 1969 to 1973 and retains the post of adjunct associate professor.

Since September, Dr. Stark has been meeting with faculty members to help determine their needs in regard to the University's animal facilities. He will assume full-time duties on December 1.

BRIEFS

President Seitz has been appointed to a six-year term on the National Cancer Advisory Board of the National Cancer Institute.

Professor **Jay M. Weiss**, Physiological Psychology, was an invited speaker at a symposium on Medical Aspects of Stress, conducted by Blue Cross of Western New York, held in Buffalo, July 15-16.

Professor **Larissa A. Pohorecky**, Physiological Psychology, spoke on Brain Catecholamines and Ethanol: Involvement in Physical Dependence and Withdrawal, at the Third International Interdisciplinary Symposium on the Effects of Alcohol, held in Lausanne, Switzerland, June 7-12.

Senior Research Associate **Mary Jeanne Kreek** spoke on the Effects of Drugs and Alcohol on Opiate Actions, at an international symposium on Factors Affecting the Action of Narcotics, held by the Istituto di Ricerche Farmacologiche Mario Negri, in Milan, Italy, July 13-16. She also presented an invited lecture at the Royal Free Hospital of the University of London, on Basic and Clinical Research Related to Methadone Maintenance Treatment of Addiction.

During the month of July, Professor **Bruce S. McEwen**, Physiological Psychology, was an invited speaker at the International Congress of Psychoneuroendocrinology, in Strasbourg; at the Fifth International Congress of Endocrinology, in Hamburg, and a satellite symposium of that congress, on Hormones in Fetal Development, in Paris; and at the Tenth International Congress of Biochemistry, in Hamburg.

William O. Baker, vice chairman of the University's board of trustees, was awarded an honorary doctor of science degree from Northwestern University, on June 12, and an honorary doctor of laws degree from Kean College of New Jersey, on June 10. On August 2, he was named 1976 winner of the American Chemical Society's Charles Lathrop Parsons Award.

NEW POSTS FOR TWO

Professors Donald Davidson and Harry Frankfurt, Philosophy, have left the University to accept new posts, Dr. Davidson at the University of Chicago and Dr. Frankfurt at Yale University. Dr. Davidson retains an appointment as an adjunct professor at Rockefeller.

PERSONALS

Graduate Fellow **Alan K. Engel**, Physical Biochemistry, was married on June 12 to Nancy Carolyn Sharts, a nurse at New York Hospital.

Born, August 13, to Vice President **Rodney W. Nichols** and his wife, Carolyn, a son, Christopher McKnight, their first child.

The following people have retired: Nurses' Aid **Mary Lee Boykin**, with the Hospital since 1963, on August 1; **Ulric Childs**, electronics engineer and shop supervisor, who began as a consultant to the electronics shop in 1964, on September 1; **Frances Mosca**, storekeeper and housekeeper with the Hospital since 1957, on October 1; Hospital Porter **Franklin Phillips**, an employee since 1955, on October 1; and **Viola Quinn**, clinic nurse since 1949, on October 1.

IN PRINT

In an article, "Interactions between Hormones and Nerve Tissue," in the July issue of *Scientific American*, Professor **Bruce S. McEwen**, Physiological Psychology, describes recent research in his laboratory on steroid hormones. Specific cells in the brain have been pinpointed as the target cells for the hormones secreted by the gonads and the adrenal cortex. Dr. McEwen discusses new findings concerning how these cells fit into the neural pathways that govern behavior and regulate the hormone producing glands, and he describes how steroid products participate in the sexual differentiation of the developing brain.

ERNEST SMILLIE DIES

Ernest W. Smillie, who was associated with the University from 1916 to 1958 died July 13 at the age of 85. Dr. Smillie served as superintendent of the Rockefeller Institute's Animal and Plant Pathology Laboratories in Princeton, New Jersey, until 1950 when he was appointed assistant to the business manager of the Institute.

OKTOBERFEST

Mark the date, Friday, October 22, for the annual Oktoberfest in the Faculty and Students Club. Everyone is welcome for dancing, beer, food, and entertainment from 8:30 P.M. on. Tickets are five dollars each.