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## Kunkel Receives Passano Award

Professor Henry G. Kunkel, Immunology, has been selected to receive the Passano Foundation Award for 1975 "in recognition of his pioneering research on human immunoglobulins." The award, which carries with it a \$10,000 honorarium, will be presented at a special dinner on April 22 in Baltimore, where the foundation's headquarters are located. As part of the ceremonies, Dr. Kunkel has been invited to deliver an address at the Johns Hopkins Medical Center earlier that day. He will speak on Antigenic Markers of Human Lymphocytes.

In the award citation, tribute is paid to Dr. Kunkel for his work in defining the many types of immunoglobulins and identifying their genetic relationship, "thus helping to establish the field of immunogenetics"; for "combining interests in disease mechanisms and immunoglobulin structure," which led to "fundamental discoveries in the immunopathology of human diseases," in particular, multiple myeloma, lupus erythematosus immune deficiency, and rheumatoid arthritis; and for "a remarkable succession of highly talented young colleagues," over two decades, who began their careers in his laboratory.

The Passano Award, which was established in 1945, is dedicated to the encouragement of medical science and research. It is named for the late Edward Boteler Passano, who was chairman of the board of Williams & Wilkins, medical publishers. Former Rockefeller recipients have been Oswald T. Avery, in 1949, René J. Dubos, in 1960, and George E. Palade in 1964, while he was a member of the Rockefeller faculty.

### WE'RE MOVING

As of this month, *news and notes* will have a new home, in the Tower Building, Room 1326. You can still reach us on extension 1420.

## A Helping Hand for Trinidad's Children

Hidden beneath the beauty of the tropical island of Trinidad lies a major health problem—a very high incidence of childhood nephritis. At any given time, the majority of Trinidad's children bear the throat or skin lesions of the streptococcal infection that can lead to glomerulonephritis, an acute inflammation of the kidneys. Several hundred of them do develop the disease every year. Every four years or so, the island undergoes a nephritis epidemic averaging around 1,000 cases. Fortunately, most of the children recover; the mortality rate is under two percent. However, whether or not these strep-infected children will fall prey to increasingly serious kidney disease later in life is an unanswered question.

Rockefeller University's laboratory of bacteriology and immunology has had a longtime interest in streptococcal-related disease. Two years ago, scientists from the lab, under the direction of Vice President Maclyn McCarty, established a clinical and study program in Trinidad, in conjunction with Trinidadian physicians. Every few months, Professors John B. Zabriskie, Vincent A. Fischetti, and Stanley E. Read visit the island to conduct wide-scale examinations of the children, looking for the telltale lesions, and administering treatment. They have been training native health workers to handle examinations and treatment, and they have been trying to foster better public health practices,



*John B. Zabriskie in Trinidad*

since streptococcal bacteria breed most readily in areas of poor hygiene. Of interest has been the discovery that mange-infected dogs carry strep in their lesions. The offending strain of bacteria has been found in both children and dogs. Dr. Fischetti is pursuing the possibility of developing an antistreptococcal vaccine against the nephritis-producing strains.

The University's presence on Trini-

*continued on page 4*

## GATES LOCKED OFF HOURS FOR SECURITY REASONS

For reasons of economy and security, gates soon will be installed at the York Avenue and 64th Street entrance to the University and at the Avery Memorial entrance on York and 68th Street. They will be closed at 9 P.M. every evening, and on weekends and holidays, except during special events

on campus. (Arrangements to keep the gates open on such occasions may be made through the Office of Safety and Security). When the gates are closed, all entry onto the campus—by foot or by car—must be made by way of the 66th Street entrance. A temporary gate has already been placed at 64th Street.



On March 25, a festive throng gathered on the 17th floor of the Tower to bid farewell to Margery Pedersen, who retired as manager of Accounting Services on March 31, after 47 years at the University. The occasion was a double celebration since March 25 is Miss Pedersen's birthday. Having expressed the desire to have a greenhouse as her retirement project, Miss Pedersen was surprised with a miniature greenhouse (left above) crafted by University friends. It was accompanied by a check toward a real greenhouse, a book of farewell wishes, and a stained-glass plaque. Shown above with Miss Pedersen at the party is her mother (far right).

## Alberico Appointed Accounting Manager

Adam J. Alberico has been appointed manager of Accounting Services, succeeding Margery Pedersen who retired on March 31. Mr. Alberico was previously associated with Peat, Marwick, Mitchell & Co., the public accounting firm which has conducted the University's audit for the past two years.

Mr. Alberico joined Peat, Marwick, Mitchell in 1968, after receiving his bachelor of business administration degree from St. John's University, where he held a four-year baseball scholarship. The same year, he was tapped by the Detroit Tigers baseball team. His career dilemma had to remain unresolved, however, during 20 months of military service, which included a tour in Vietnam. He went into spring training with the Tigers in 1971, but by that time he and his wife were expecting the first of their two daughters, now aged three and one, and he decided in favor of an accounting career.

## University Lectures and Colloquia for May

Following is the schedule of Rockefeller University Lectures and Research Colloquia for the rest of the academic year.

Rockefeller University Lecturers will be: Professor Bruce S. McEwen, Neurobiology, Interaction of Steroid Hormones with the Brain (May 2); Martin J. Klein, Eugene Higgins Professor of the History of Physics, Yale University, and visiting professor at Rockefeller University, Albert Ein-

## Student Grants Offered for Orphan Drug Studies

A new program offering stipends to undergraduate, graduate, and medical students in the New York City area interested in the study of the so-called orphan drugs has been established at the University, under the direction of Professors Anthony Cerami and Charles M. Peterson, Medical Biochemistry. Orphan drugs are those which are intended to help treat relatively rare diseases or diseases afflicting economically depressed groups. Among these are several which are presently under study at the University, including sickle-cell disease, thalassemia, and parasitic diseases.

A grant of \$10,000 has been made to the University by the Lincoln Fund in support of the new program. Interested students may apply for stipends of \$1,000 each to support a study period of at least 10 weeks at the University. Doctors Cerami and Peterson are in charge of screening applicants.

stein: A Portrait of the Scientist as a Young Man (May 13).

Research Colloquia will be presented by: Professor Alfred Maclicke, Chemical Biology, The Acetylcholine Receptor: Response to Drug Binding (April 25); Professor Donald R. Griffin, Animal Behavior, title to be announced (May 9); Professor Dennis M. Dwyer, Parasitology, The Cell Surface of a Bloodstream Flagellate (May 16).

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.

## IN PRINT

An article titled "Cyanate and Sickle-Cell Disease," by Professors **Anthony Cerami** and **Charles M. Peterson**, Medical Biochemistry, appears in this month's issue of *Scientific American*.

*The Conduction of the Cardiac Impulse: The Slow Response and Cardiac Arrhythmias*, a new book by Professor Paul F. Cranefield, Cardiac Physiology and the History of Medicine and Science, has been published by Futura Publishing Company, Inc. The 416-page volume reviews recent findings which tend to prove that cardiac cells can produce two completely different forms of electrical activity, and that disorders of the rhythm of the heart arise only in cells that produce the recently discovered slow response. Dr. Cranefield will deliver the Louis Nahum Memorial Lecture at the Yale University School of Medicine on April 7. He will speak on New Insights into the Cause of Cardiac Arrhythmias.

## LOMOV VISITS HERE

Professor Boris F. Lomov, director of the Institute of Psychology of the Academy of Science of the U.S.S.R., spent three weeks in March at Rockefeller. He is currently touring other campuses across the country before returning for a final two weeks here at the end of May.

Dr. Lomov's visit to the United States is being sponsored by the International Research and Exchanges Board, which is interested in fostering interactions between American and Soviet scholars. His own interests are primarily in psychophysiology, problems in "human engineering," and mathematical psychology, and he has been particularly interested in the work of Professor William K. Estes in the use of computers and in memory research.

## PERSONALS

Professor **Walther F. Goebel**, Biochemistry, was married on March 8 to Elizabeth Palen.

**Regina Weinberg**, University travel representative and Caspary Hall receptionist, was married on March 31 to Allen T. Titus, Pennsylvania realtor.



## It's $\pi$ in the Sky on the Fifteenth Floor

Professor Mark Kac, recently featured in a photographic essay in *New York* magazine, in which he described the virtues of his cat (named Walter Hickel), was himself once described as the man who "comes closer than any other American mathematician now alive to being the public spokesman for mathematics." It is a reputation that derives from Dr. Kac's particular gift for combining and articulating — *con brio* — the roles of scholar, teacher, and world citizen.

Dr. Kac is an authority in the field of probability theory, which he explains to mathematical illiterates in simple analogies. For example, if you stuff 10 letters to 10 different people in 10 preaddressed envelopes without looking at the addresses, how many, on

cal activity. The following year he came to the United States as a fellow at The Johns Hopkins University. In 1939, he joined the mathematics faculty of Cornell University where he remained until 1961, when he came to Rockefeller with his friend and colleague, physicist George E. Uhlenbeck. Together, they helped to lay the foundation for the University's distinguished physics and mathematics faculties. In 1965, Cornell named Dr. Kac as Andrew D. White Professor at Large.

Like Dr. Kac, Professor James Glimm, the most recent tenant of the Tower Building's 15th floor, inhabits what Dr. Kac calls "the grey region between mathematics and physics. I mostly interact with the 14th floor (statistical physics) and Dr. Glimm with the 13th floor (high energy physics). But the interactions form a naturally overlapping chain, A with B with C." Dr. Glimm came to the University last August from New York University's Courant Institute of Mathematics. His work for many years has been aimed toward trying to find mathematical structures for physical theories, especially in the field of quantum theory. "Physicists are adventurous," says Dr. Glimm. "If the mathematics they need hasn't been developed yet, they often make it up as they go along, which leaves open many basic questions to be looked at from the mathematical view. Physicists don't mind making approximations, but after making three or four in succession, they're often happy to see some of the mathematical foundations cleaned up."

Unlike Doctors Kac and Glimm, Professor Morris Schreiber describes himself as a "pure" mathematician, although he will confess to an occasional foray into statistical physics and cell biology. Presently his work is mainly in algebra, and in group theory, which he defines as "the study of the symmetry of geometrical figures"—a departure from his previous interest in "calculus and its elaborations." For most of his 13 years on the Rockefeller campus, Dr. Schreiber has lectured extensively and conducted a large number of tutorials at the University.

A mathematician who employs combinatorial analysis in ways very different from Dr. Kac is Senior Research Associate Peter H. Sellers, who has been investigating the theory of algorithms, which is the mathematical core of computer science. Some of his algorithms are being applied to the enumeration of biochemical networks

and to the reconstruction of evolutionary trees.

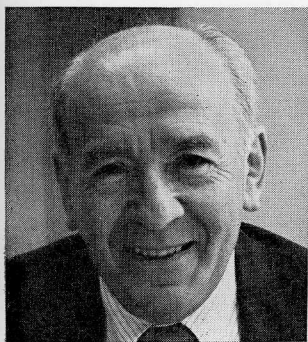
Looking over most of the activities in combinatorial theory is John Rioridan, whom Dr. Kac calls the "elder statesman" of the field. He joined the University as an affiliate in 1968, following his retirement from the Bell Telephone laboratories.

When The Rockefeller Institute became The Rockefeller University, a general broadening of the institution's intellectual base was the rationale for its expansion beyond strictly biomedical pursuits. Although the ever growing importance of mathematics and physics in biological research was implicit, the role of its practitioners on this campus was never defined as merely supplementary, which undoubtedly helps to explain why the University can attract scholars of the quality of Mark Kac and his colleagues. Later, a logic group was added to the faculty, under the direction of Professor Hao Wang. The interests of this group will be covered in a subsequent issue of *news and notes*.

Dr. Kac affirms: "As other universities become more and more involved in problems of society, they tend to live on a shorter time scale. A place like Rockefeller is more important now than ever before just because it offers the possibility for one to be protected from societal jitters and the demand for immediate 'relevance.' Here people can be left alone to think about problems on a scale of 50 years, rather than 5 years. That kind of thinking may well guarantee future progress."

So saying, Dr. Kac reveals a present project of his which certainly can be accused of "relevance." He is participating with the Society of Industrial and Applied Mathematics in the designing of an undergraduate, interdisciplinary course—involving math, computer science, and economics—the aim of which is to help foster a greater ability to understand and analyze the factors that go into political decision-making.

In the introduction to the book *Mathematics and Logic* (which has been translated into five foreign languages and is now in two paperback editions), coauthors Mark Kac and Stanislaw M. Ulam wrote: "Mathematics is a self-contained microcosm, but it also has the potentiality of mirroring and modeling all the processes of thought and perhaps all of science. . . . To survive in mathematics requires a kind of vitality that cannot be described in purely logical terms."



MARK KAC



JAMES GLIMM

the average, would you stuff right? Or, what is the probability of a poker player drawing a flush in a single deal of five cards? The mathematical method through which probability is arrived at in such problems is called combinatorial analysis, which can be described as the art and science of counting or, more generally, as an analysis of discrete structures. In an article on probability in *Scientific American* some years ago, Dr. Kac led his readers from the poker hand to the role of probability theory in relation to the kinetic view of matter versus the gloomy prediction of the "heat death" implied by the second law of thermodynamics. "The development of the theory of probability in the 20th century," he wrote, "has changed our attitudes to such an extent that we no longer expect the laws of nature to be construed rigidly or dogmatically."

Mark Kac's career began in his native Poland where he earned his doctorate at the John Casimir University in Lwow, in 1937, at a time when it was an important center of mathemati-

*continued from page 1*

dad, while serving immediate medical needs, has broader research implications. The study of coccal bacteria—which include the pneumococci, streptococci, meningococci, and gonococci—has been a major area of University interest since the earliest days of this institution. It was in the course of studying pneumococci that the team of Avery, McCarty, and MacLeod first demonstrated, in 1944, that DNA is the substance that transmits hereditary information. The study of streptococcal disease was made possible by the pioneering work of Professor Rebecca C. Lancefield, co-head of the bacteriology and immunology lab, in the classification of the 60-odd types of Group A streptococci, which are responsible not only for nephritis but also for rheumatic fever, another major health problem in underdeveloped areas. (It is reported that in India, for example, 70 percent of the children admitted to hospitals are suffering from rheumatic fever, a disease which can cause serious damage to the heart.) In Trinidad, research on rheumatic fever is proceeding concurrently with the nephritis studies.

Most researchers now believe that rheumatic fever results from an abnormal response to streptococcal bacteria by the immune system of certain individuals. The percentage of people in any given population who succumb appears to remain constant, suggesting that there are only a limited number who are uniquely susceptible. However, Dr. Zabriskie explains, "the nature of the streptococcal antigens involved and the host factors that might produce a susceptible individual remain at present unknown. Among the many hypotheses entertained over the years to explain this unusual relationship, the concept that Group A streptococci contain antigens that are similar to mammalian tissue antigens and thereby evoke a streptococcal-induced 'autoimmune' disease has become increasingly attractive." The details of the process await clarification, including such questions as the location of the antigen and how it interacts with antibodies and other cell components.

Trinidad, with its unfortunately large pool of patients, is uniquely equipped to provide the University with material for basic laboratory studies. The island also presents a major challenge to investigators concerned with the control of this serious health problem.

## Where Phoebes Nest

The season is in full swing again at MacInnes Cottage, rounding out a decade of pleasant escapes from the city's clamor for University vacationers. Presumably, Rocky Raccoon and family have resumed their nightly visits and have found the welcoming offers of Rice Krispies and beer they have come to expect. (It was discovered some years ago that Rocky speaks fluent Mandarin.) Unquestionably, Sammy the Snake is back; the phoebes are nesting; and lucky visitors will also



*MacInnes Cottage*

be glimpsing deer, gathering wild onions and blueberries, and hearing "thrush music" as the season ripens.

The cottage, which is located in Fort Montgomery, New York, not far from the Bear Mountain Bridge, was left to the University for the enjoyment of its staff, faculty, and students by Duncan MacInnes, a distinguished physical chemist who was associated with Rockefeller from 1926 until his death in 1965. The cottage is open from April through November.

## Trees to Be Replaced

For those readers who recently expressed concern over the removal of some trees on campus, Head Gardener James F. Beckley reports that a new cherry tree will replace the dead one taken from the south side of Flexner Hall and a new flowering ornamental will go in on the north side of Welch Hall where an apple tree came out. All the trees on the grounds, Mr. Beckley notes, are regularly inspected by the University's gardeners and by the tree surgeons who perform the annual pruning. Every effort is made to save ailing trees, but once they have died they become safety hazards and must be removed to prevent their falling and possibly injuring someone.

## BRIEFS

Professor **David C. Mauzerall** and Postdoctoral Fellow **Samuel Beale**, Biochemistry, presented papers at a meeting on Biosynthesis of Porphyrins, Chlorophyll, and Vitamin B12, held at the Royal Society in London on February 19 and 20. Dr. Mauzerall also gave invited lectures at the Molekularbiologische Forschungen in Braunschweig, Germany, on the Photochemistry of Porphyrins.

Professor **William Insull, Jr.**, associate medical director of the University's Center for Prevention of Premature Arteriosclerosis, has been named chairman of the Clinical Applications and Prevention Advisory Committee of the National Heart and Lung Institute. The committee advises on and appraises epidemiological and biometric research programs and clinical trials for the institute's Division of Heart and Vascular Diseases.

Vice President **Carl Pfaffmann**, Physiological Psychology, served as chairman of a day-long discussion of artificial sweeteners and the effects of their consumption, which was part of a public forum, Sweeteners: Issues and Uncertainties, sponsored by the National Academy of Sciences in Washington, D.C., March 25-26.

## PROMOTION

**Elena Buetti**, Virology, to research associate, effective April 1.

## APPOINTMENTS

**Shoji Ohkuma**, Biochemical Cytology, to research associate, effective March 26.

**Maurice H. L. Pirenne**, lecturer in physiology and fellow of Wolfson College, Oxford, has been appointed a visiting professor in the biophysics laboratory of Professors H. Keffer Hartline and Floyd Ratliff, effective April 1.

*news and notes* is published from October through July. This is Volume 6, Number 7. Suggestions for articles are welcome and may be sent to *news and notes*, Box 194. Phone extension 1420. Photographs: page 1, Vincent A. Fischetti; page 2, Henrik Boudakian; page 3, Ingbert Grüttner (left), Henrik Boudakian (right). © 1975 The Rockefeller University Press, New York 10021. Printed in the United States of America.