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The Rockefeller University

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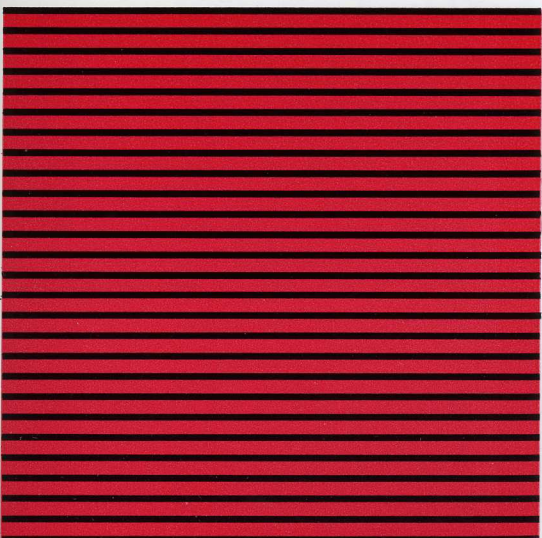
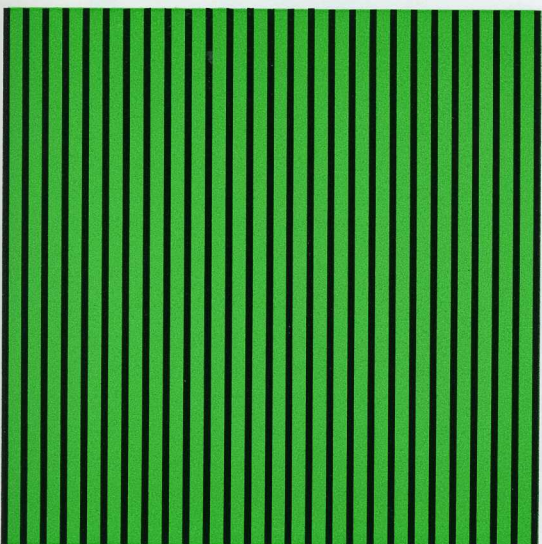
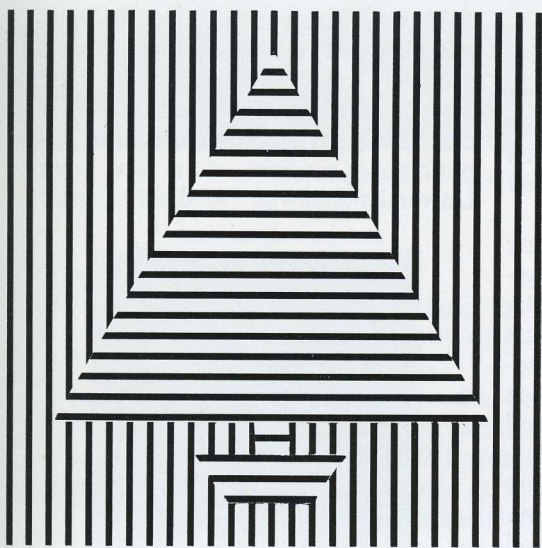
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### Lasker Award to Kunkel

Professor Henry G. Kunkel received a 1975 Albert Lasker Medical Research Award, announced on November 13 by the Albert and Mary Lasker Foundation.

A special Lasker Award Symposium was held on November 14 in Caspary Auditorium at which four of the Lasker winners cited for their work in basic research presented talks. Dr. Kunkel spoke on Human Antibodies and Immune Complex Disease. Also participating were C. L. Guillemin, Andrew V. Schally, and Frank G. Dixon. President Seitz served as symposium chairman.

On October 11, Dr. Kunkel received the Avery-Landsteiner International Award, presented by the Society for Immunology at its annual meeting held in Mainz, Germany.

### WE DID IT AGAIN

The invincible Rockefeller University Chess Club, which trounced the previously unbeaten Harvard Club last spring on Harvard's own ground, did it again in a thrilling return match held here on November 17. The score was 6-5. Carrying the colors for "Rock Tech" were: George Barany, Emmanuel Dumaguing, Harry Frankfurt, Lawrence Fritz, Ivan Lieberburg, Robert Lummis, Donald Martin, Carl Rettenmier, Yuen So, Mark Wieder, and Steven Wolff.

### An Eye for Color

The hand may be quicker than the eye, but the eye has a few tricks of its own, according to Professor Floyd Ratliff, this year's Christmas lecturer (see story page 2). Here's one to try which he calls Color a Christmas Tree Without Paint or Brush. Direct a strong reading light (preferably not fluorescent) or full sunlight on the figures in column one on this page, and set a timer for five minutes. Fix your gaze first on the red box with the horizontal lines. Count five. Switch to the green box. Count five. Look back at the red. Count five. The green again. Count five. Keep repeating this process until

### Spotless and Spacious

### New Animal Center Opens

The construction crews and sidewalk superintendents are gone, and one and a half years after the ground was broken, the new Animal Research Center is in operation. For the past several weeks, the members of the animal facility's staff have been moving the University's current population of more than 10,000 animals of 13 species into their new quarters.

Behind the building's rather austere facade, the bright and spacious interior reveals a design carefully planned for long-term efficiency and flexibility. Two doors—one facing the 64th Street driveway and the other connecting with the first floor of the Tower Building—open into a windowed walkway leading to the building's only entrance just inside of which is Secretary Martha Schiffner's desk. To the left are the offices of Supervisor H. Osborn Bagg and Assistant Supervisor Frank Parszuto and a staff lounge. The entire building is divided in half by a barrier system. The "clean" areas, on the south side, are colorcoded with blue floors and blue stripes painted on the walls and doors and on the stairways and elevators leading to the animal floors. On the north side, the areas through which soiled and contaminated materials and wastes are removed and treated are coded in gold.

*continued on page 3*

the timer rings. Look at the Christmas tree. If you have followed directions (and have normal vision), the tree will now appear a delicate shade of green against a pinkish-red background. If you succeed in achieving the effect, wait a day and then look at the tree again without going through the preliminary steps. You should still see the colors. The aftereffect can last three to four weeks. This phenomenon, called the McCollough Effect (after Celeste McCollough who discovered it in 1965), depends on both the background color and orientation of the lines. If you rotate the page 90 degrees, you will see a pink tree against a green background.



## 1975 Christmas Lectures

Professor Floyd Ratliff will present the 1975 Alfred E. Mirsky Christmas Lectures on Science on December 29 and 30 in Caspary Auditorium. He will speak on Vision and the Retina: An Introduction to the Psychophysiology of the Visual System. This is the University's 16th annual series of lectures offered to high school students in the New York City area.

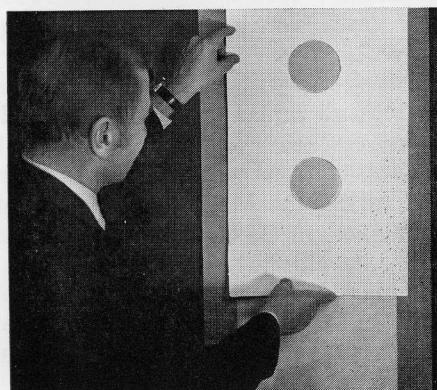
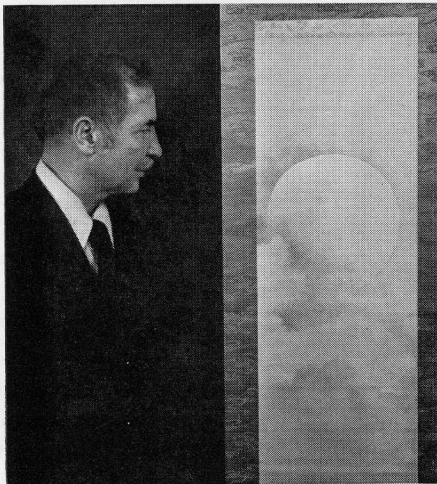
Dr. Ratliff will divide his remarks into four topics: The Neural Code: How the Retina Transforms Radiant Energy into Neural Activity; The Logic of the Retina: Basic Operations Performed by the Interplay of Excitatory and Inhibitory Influences; Form and Function: How the Spatial and Temporal Dimensions of Neural Networks Shape Visual Perception; and Appearance and Reality: On the Distinction Between the Objective and the Subjective. Two talks will be given on each afternoon between 1:30 and 5, with time provided for question periods and a break between sessions.

Floyd Ratliff is a physiological psychologist and biophysicist whose major research interest lies in the neural mechanisms of vision, particularly in the interplay of excitation and inhibition in the retina. His investigations range from studies of single cells in the retina of the compound eye of the

horseshoe crab, *Limulus*, to explorations of the scientific basis of subjective visual phenomena—especially those “optical illusions” such as brightness contrast and color contrast which artists have exploited for centuries. These latter studies were inspired by his interest in the history and philosophy of science, particularly, the contributions of the 19th century physicist-philosopher-psychologist, Ernst Mach, who first expressed in an exact mathematical form the psychophysiological bases of some of these contrast effects. In 1965, Dr. Ratliff published *Mach Bands: Quantitative Studies on Neural Networks in the Retina*.

According to Dr. Ratliff, many areas of scientific research, from physics to psychology, contribute to the analysis of the psychophysiological bases of vision. With increasing specialization in each field, it has become difficult to obtain a comprehensive and unified view of the subject. In his lectures, he will integrate a wide variety of experimental and theoretical contributions from different fields. Beyond the purely scientific, he will talk about the relationship between the visual arts and the visual sciences, drawing on examples from his own favorite art of the Neoimpressionist period and of the Chinese Sung dynasty. The central theme of the lectures will be the organic or holistic nature of the retina.

The Alfred E. Mirsky Christmas Lectures are named in honor of the series' founder, who died in 1974.

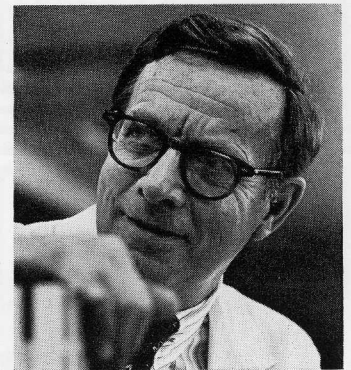


Professor Ratliff (left) points out the effect of contour on contrast. In this Japanese ink painting, the moon gives the appearance of being brighter than the sky, although the actual luminance differs very little. The apparent brightness is due almost entirely to the contour which outlines the moon. The hard edge and adjacent dark gradient were created by a single deft stroke of a very wide brush heavily loaded with ink on one side and gradually thinned out to no ink on the other side. When the picture is masked so that only small, equal portions of the moon and of the sky are left exposed against a uniform background, the apparent contrast disappears. Although this particular effect was “discovered” by scientists only about 25 years ago, Oriental artists have known about it and have used it for at least 1,000 years. This painting, called *Autumn Moon*, was done by the artist Keinen around 1900. It is from the collection of the late Akira Shimazu.

## New Trustee

Lewis Thomas, president and chief executive officer of Memorial Sloan-Kettering Cancer Center, has been elected to the University's board of trustees.

Before becoming Memorial Sloan-Kettering's third president, in 1973, Dr. Thomas served as dean of the Yale University School of Medicine (1972–73), as chairman of the department of pathology of the Yale-New Haven Medical Center (1969–73), dean of the New York University School of Medicine (1966–69), chairman of the department of medicine of the New York University-Bellevue Medical Center



(1958–66) and chairman of its department of pathology (1954–58). He also has held appointments at the University of Minnesota Medical School, the Tulane University School of Medicine, and The Johns Hopkins University Medical School.

A native New Yorker, Dr. Thomas is a 1933 graduate of Princeton University and received his M.D. from the Harvard University Medical School in 1937. His first association with this institution was during World War II when he served as a visiting investigator with the Naval Medical Research Unit set up at Rockefeller, working under the direction of Dr. T. M. Rivers. Dr. Thomas's primary interest in the underlying mechanisms of disease has led him into research in neurology, pathology, pediatrics, internal medicine, and education. His book, *Lives of a Cell, Notes of a Biology Watcher* (Viking Press), which received a National Book Award in 1975, presents a vivid insight for lay readers into the complexities, interrelations, and mysteries of the physical and biological world.

## DEATH

**Michael T. Brown**, 66, on September 17. Mr. Brown, who was head porter at the Hospital until his retirement last year, had been with the University for 46 years.



*Osborn Bagg in new animal center*

NEW ANIMAL CENTER  
continued from page 1

Installed directly into the barrier wall on the first floor, which is the service and storage area, are a processor for disinfecting feed sacks, glass and metal washers and sterilizers, and an autoclave in which bedding straw, clothing, and linen are sterilized by superheated pressurized steam. Also on the first floor are the dressing rooms where the animal handlers shower and change into scrub suits and "barrier" shoes before following the blue trail to the floors above.

There are 123 animal modules, 10 by 20 feet, distributed on the second through fifth floors. Each is equipped with an opening on the blue side and another on the gold side. There are 42 quarantine cubicles on the second floor, a colony-breeding area on the fourth floor, and a containment area, for handling infectious materials, on the fifth floor. On the east side of the animal floors are diagnostic and treatment rooms, small surgeries, and X-ray rooms. The sixth floor penthouse contains the building's mechanical equipment.

## University Joins Discount Buying Service

As a help for the inflation-weary shopper, the Purchase and Supply Service has announced that the University is now a member organization of the Rollins United Buying Service. All members of the University community may avail themselves of this service for the purchase of appliances, automobiles, photo and stereo equipment, carpeting, furniture, furs, jewelry, television sets, eyeglasses and hearing aids, and a variety of other items at discounts ranging from 10 to 60 percent, depending on the item and the dealer. To arrange for a purchase, you call the service's office in your area—there are numbers in New York, New Jersey,

The new center can accommodate 50 percent more animals than were housed in the old facility. Another major attribute of the new facility, according to Mr. Bagg, is the degree of environmental control that can be exercised. A central air-handling system changes the air completely 12–15 times an hour. Illumination can be regulated to simulate the full spectrum of daylight, important for animals living indoors. In the diagnostic and service areas, large windows provide good natural light and a bonus view of the campus. The many feet of floor are covered in seamless latex, a substance that requires no waxing, thus eliminating a possible source of contamination, since wax can harbor organisms.

The completed structure represents a coordinated effort by many people. Architect Raymond F. Stainback, Jr. worked closely with the University's scientific advisory committee, and suggestions from Mr. Bagg and his group were of major importance in the final plan. Mr. Bagg came to the University after many years as manager of the animal facilities at Sloan-Kettering Institute's laboratory in Rye, New York. Active in training programs run by the American Association of Laboratory Animal Science, he received the association's 1969 National Animal Technician Award.

On his staff, in addition to Mrs. Schiffner and Mr. Parszuto, are Assistant Researcher Clarence Hundley, Skilled Helper Wilbert Carter, Group Leaders James Fulton, Eusebio Mercado, and Robert Vranek, and Animal Attendants Manuel Anglero, Issac Del Rio, Angel Ferrer, Placido Garcia, Guillermo Bonilla, Domenico Ianniti, Ramon Irizarry, Pedro Lluveras, Ernesto Lopez, Sr., Ernesto Lopez, Jr., Herbert Roberts, and Angel Robles.

Long Island, Westchester, and Connecticut—and you will be sent a discount certificate for use at a participating dealer.

Literature describing the service may be picked up at the Purchase and Supply Office in Flexner Hall. According to James J. Stewart, superintendent of purchases, who made a careful check of available services, Rollins is the largest in the country and claims to have investigated all the suppliers with whom it does business. He cautions, however, that your dealings are between you and Rollins; the University cannot be involved in any complaints or negotiations.

## Volunteers Needed to Help with Gift Fund

Each year at this time, the members of the University's professional community contribute to a gift fund through which they express their collective thanks to the many employees whose back-up services make possible the work of this institution.

Two of the people who have helped to organize the gift fund for the last several Christmases are not certain that they will be able to continue their efforts after this year. They are seeking volunteers to whom they can turn over the management of the fund in the future. The work is not onerous, and the appreciation of those who have previously taken on the responsibility for the perpetuation of this time-honored tradition would be considerable. Those willing to lend a hand are asked to call Bruce Knight on extension 1534.

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## BRIEFS

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Professor **Hiroshi Asanuma**, Neurophysiology, was an invited lecturer at the Seventh International Meeting of Neurobiologists, held in Göttingen, Germany, September 15–19. He spoke on Neuronal Connections in the Motor Cortex.

Professor **Donald Davidson**, Philosophy, spoke at the Oxford International Symposium on Contemporary Aspects of Philosophy, September 29–October 4. His subject was Knowing One's Own Mind. He also was chairman and commentator at sessions of the Conference on Origins and Evolution of Language and Speech, held in New York City, September 22–25.

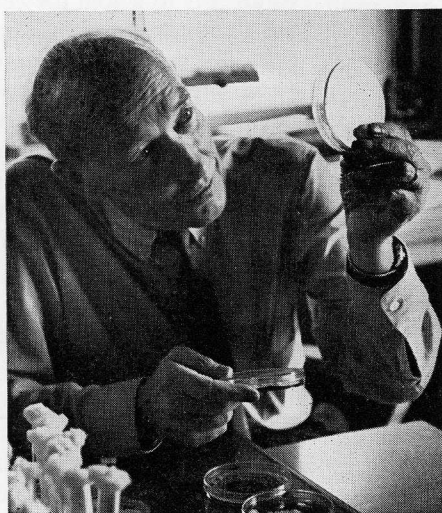
Professor **Neal E. Miller**, Physiological Psychology, was an invited lecturer during October at the Hungarian Academy of Sciences and at the department of physiology of Eötvös Loránd University in Budapest. In London he gave invited lectures at the Annual Conference of the Society for Psychosomatic Research and at the Ciba Foundation.

Professor **William Trager**, Parasitology, presented the 1975 Nieuwland Lecture Series in Biology at the University of Notre Dame, October 13–15. The three-day program was titled Parasitism and Symbiosis.



## Edward L. Tatum 1909-1975

Professor Edward Lawrie Tatum, world renowned biochemical geneticist, Nobel Prize winner, and a member of the Rockefeller faculty for 18 years, died on November 5 at the age of 65 after a long illness. Through his studies of the metabolism and genetics of microorganisms, he helped to prove that individual genes are coded messages regulating specific proteins. In the words of his Rockefeller colleague, Professor Rollin D. Hotchkiss, "By bringing together the previously sep-



arate subjects of microbial nutrition and microbial genetics, Edward Tatum laid one of the important foundations of molecular biology. Throughout the burst of advances coming from this great step, he remained a warm person and an always helpful and generous scientist."

Dr. Tatum was born in Boulder, Colorado, on December 14, 1909. He earned his B.S. in chemistry in 1931, his M.S. in microbiology in 1932, and his Ph.D. in 1934 from the University of Wisconsin where his father, who had early introduced him to science, was a professor of pharmacology. There, under the sponsorship of the Wisconsin Alumni Research Foundation, Dr. Tatum conducted studies which resulted in the identification of thiamine as a growth factor for propionic acid bacteria. Following a year as a Rockefeller Foundation fellow in Utrecht, The Netherlands, he went to Stanford University in 1937 where he began his now historic collaborations with George W. Beadle. They first studied eye pigmentation mechanisms in the fruit fly *Drosophila*, isolating and identifying kynurenine as the hormone responsible for its eye color. They next turned their attention to the simple bread mold, *Neurospora crassa*. They

created a technique involving X-ray-induced mutations by which they were able to zero in on a specific gene as responsible for the synthesis of a specific enzyme.

In recalling the impact of this work, which was to win Doctors Tatum and Beadle a Nobel Prize in 1958, Professor Norton Zinder states: "The first question that my major professor asked me was what I thought of the one gene-one enzyme hypothesis. Trained in classical biology, with an almost reverential respect for the word 'gene,' I answered Josh Lederberg, one of Ed's students, 'It can't be that simple, but if it is, there is lots we can do with microbes.' A firm branch of modern molecular biology would grow out from this idea (of Tatum and Beadle)."

Dr. Tatum left Stanford and joined the faculty of Yale University in 1945, becoming professor of microbiology in 1947. He worked with Joshua Lederberg using mutant strains of the intestinal bacteria *Escherichia coli*, developed by Dr. Tatum. (Dr. Lederberg shared the Nobel Prize with Tatum and Beadle.) Dr. Tatum returned to Stanford in 1948 as professor of biochemistry and served as chairman of the biochemistry department before coming to Rockefeller in 1957.

Until the onset of illness, Dr. Tatum continued his influential and innovative work, both as scientist and teacher. Again quoting Dr. Zinder: "Ed Tatum was my scientific grandfather, and like most grandfathers, played a doting, affectionate, and sorely-to-be missed role in my scientific career as he did for many others."

Dr. Tatum is survived by his wife, two daughters, Barbara Tatum and Mrs. Margaret Easter, three grandchildren, a sister, Mrs. Besse Rasmussen, and a brother, Dr. Howard Tatum, associate director of the Biomedical Division of the Population Council. A memorial service was held at the University on December 11.

### TATUM FUND

At the time of his death, the family of Professor Edward L. Tatum requested that contributions be made to help establish the Edward L. Tatum Postdoctoral Fellowship Fund in support of investigations within the field of biochemical genetics. University friends and colleagues wishing to participate may send their gifts to Dr. Seitz's attention.

## Lectures and Colloquia

The Rockefeller University Lecture by David Baltimore, originally scheduled for December 12, will be given on January 9. Dr. Baltimore, American Cancer Society Professor at MIT who is currently a visiting professor at the University, will speak on What Cells Have Terminal Transferase?

Following is a list of other Rockefeller University Lectures and Research Colloquia scheduled to date. (Since this is subject to change, please check the Calendar of Events closer to lecture time.) The talks are presented at 3:45 P.M. in Caspary Auditorium and are open to all members of the Rockefeller community.

University Lecturers will be: Hans A. Bethe, Cornell University, 1967 Nobel Laureate in physics, on The Energy Problem (January 23); Professor Günther Blobel, Cell Biology, on the Transfer of Secretory Proteins Across the Microsomal Membrane by the Ribosome-Membrane Junction (January 30); S. Chandrasekhar, University of Chicago, on Astrophysics and Cosmology (February 20); L. Hartwell, University of Washington, on Cell Cycle in Yeast (April 9); George Palade, Yale University, title to be announced (May 7); and Professor René J. Dubos, Environmental Biomedicine, title to be announced (May 21).

Research Colloquia will be given by: Research Associate Kenneth H. Johnston, Immunochemistry, on Serological Classification of Neisseria Gonorrhea Based on Antigenic Specificity of the Major Outer Membrane Proteins (December 19); Professor Edward Reich, Chemical Biology, title to be announced (March 5); Professor William H. Beers, Cell Biology, on Mechanism of Ovulation (March 12); and Postdoctoral Fellow Sidney Strickland, Chemical Biology, on Mechanism of Ovulation (March 19).

## Antibody Symposium

The University served as host for an international symposium on The Future of Antibodies in Human Diagnosis and Therapy, held October 20-22 under the cosponsorship of the Royal Society of Medicine, London, and the Royal Society of Medicine Foundation, New York.

Professor Richard M. Krause served as symposium cochairman. Professor Bruce Merrifield was chairman of a session on Prospects for the Chemical Synthesis of Antibodies, and Professor Henry G. Kunkel chaired a session on Present and Future Applications of Humoral Antibodies in Human Therapy. Other Rockefeller participants included Thomas J. Kindt, Bruce W. Erickson, Emil C. Gotschlich, and alumnus Allen B. Edmundson, Argonne National Laboratory.