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RU landscape designer to lecture



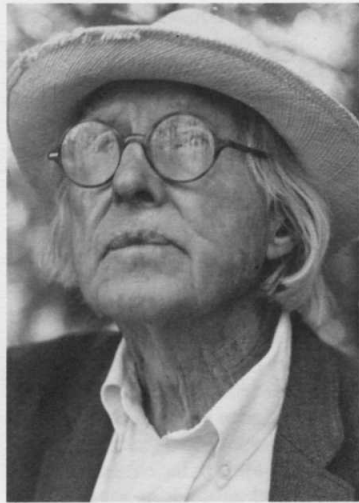
The Rockefeller University Archive

Former RU President Detlev Bronk (left) invited landscape artist Dan Kiley to design the campus as it expanded in the 1950s from a research institute to a graduate university.

Renowned landscape artist Daniel Urban Kiley, who designed the university's landscape in 1956, will lecture Thurs., Feb. 8 in Caspary Auditorium. The talk, sponsored by the Architectural League of New York, coincides with an exhibition on his work at the Urban Center (457 Madison Avenue) on view Fri., Jan. 26 until Fri., Mar. 8.

"Dan Kiley shaped every corner of our grounds," said Lulu Leibel, consultant to the Grounds Department. "As we begin our restoration of plantings, we are trying to adhere to his original intention and design for the campus."

Born in 1912, Kiley pioneered modernism in landscape design in the 1930s. He has created some 800 landscapes, many of which include classical elements such as allées like the north-south expanse of lawn that runs between RU's old and new buildings. His numerous



Eric Boman

awards include the Brunner Prize in Architecture from the American Academy of Arts and Letters.

The lecture begins at 6:30 P.M. Members of the university community may call the Office of Public Affairs, x8967, to reserve seats. For more information about the lecture or exhibit, contact the Architectural League at 753-1722.

Fifteen minutes became five hours

The day Dan Kiley agreed to landscape Rockefeller

From "Institute Flora," in *The Rockefeller Institute Review*, March/April, 1964

One morning in 1956, Mr. Kiley and President Bronk met on the Institute campus. "If you wish me to participate in the development of the new Institute, I should tell you at once that I cannot assume any further commitments because of large undertakings to which I am obligated," said Mr. Kiley.

But he agreed to listen for 15 minutes. Dr. Bronk described the trustees' plans for 15 acres of natural beauty as the setting for a great university in a frenetic, crowded city. Fifteen minutes lengthened into five and a half hours of discussion. Finally, Mr. Kiley exclaimed: "If I cannot participate in this great undertaking, I shall be one of the most disappointed men in America."

The fulfillment of the dream was made possible by a generous

NIH immunologist, administrator discusses interleukin-4 at Friday lecture

William Paul, director of the Office of AIDS Research at the National Institutes of Health (NIH), discusses "IL-4 Signaling Mechanisms and Regulation of Production" at the Friday lecture today (Feb. 2).

Paul discovered and isolated interleukin-4 (IL-4), an immune-activating molecule that controls the production of antibodies of the IgE class, which are critical in allergic responses. IL-4 also plays a central role in determining the capacity of immune responses to protect against various microbial infections.

"Bill Paul has made fundamental contributions to our understanding of immune cells and how they communicate with each other and generate immune response," said Associate Professor Michel Nussenzweig, who introduces Paul today.

Paul was the first to describe the IL-4 receptor and has been responsible for many of the advances in understanding its function, production, and signaling properties. Paul and his colleagues demonstrated that blocking the action of class II major histocompatibility complex (MHC) molecules inhibited T cell



Courtesy of Bill Paul

William Paul was the first to describe IL-4, which controls the production of antibodies mobilized in immune responses.

recognition of antigen. His studies of the control of immune responses by genes in the MHC formed the basis for the current understanding of the interaction of the T cell receptor with antigen-derived peptides bound to MHC molecules.

In the area of B cell activation, Paul and his colleagues were the first to show that immunoglobulin D is a B cell membrane protein. Work in his laboratory has furthered the understanding of B cell signaling mechanisms.

Paul received his medical degree in 1960, cum laude, from the State University of New York College of Medicine in Brooklyn. After an internship and residency at Massachusetts Memorial Hospitals in Boston, he joined the NIH's National Cancer Institute as a clinical associate in 1962. From 1964 to 1968 he was a research fellow and instructor at New York University School of Medicine. He returned to the NIH in 1968 as a senior investigator and member of the Laboratory of Immunology at the National Institute of Allergy and Infectious Diseases. He became the laboratory's chief in 1970, and in 1994 was named director of the Office of AIDS Research and NIH associate director for AIDS research.

Paul received the Founder's Prize

2 Coming to America

3 Like a miner's canary

4 Teruko Hanafusa (1928 - 1996)

Free passes to modern art museum available to students and postdocs

Rockefeller students and postdocs may now borrow free passes to the Museum of Modern Art (MoMA) from the Dean's Office.

"We are grateful to RU Council Executive Committee member Bernard Palitz for suggesting this idea and providing the leadership gift to move this cultural opportunity forward," said Dean George A.M. Cross.

The university has 20 transferable, reusable passes to MoMA. Each entitles the bearer and three

guests to: free admission to the museum and its special exhibitions, film programs, and lectures; reservation privileges in the members' dining room; and a 10 percent discount in the museum's store. The Dean's Office will soon receive the museum's monthly calendar, its magazine, and invitations to exhibition previews.

On presenting Dean's Office staff with an ID card and a \$20 deposit, students and postdocs may sign the passes out for one week.



Roy DeCarava

Currently at MoMA is a retrospective of Roy DeCarava's photographs, which portray 20th century Harlem, the civil rights protests of the early 1960s, and prominent jazz musicians. This 1962 photograph is entitled "Bill and son."

Profile

Rimma Belenkaya

Job: Applications programmer, Computing Services. "I do database management for PCs and Macs."

Reason for choosing to be a programmer: "I was good in math and an uncle of mine, a professor of metrology, suggested this profession. He thought it had a future. I've never regretted it."

Entrée into computing: "PDP-11 clones at Lvov State University, Lvov, Ukraine. It was the mid-1980s, but that's all we had, those huge boxes that took up whole rooms that had to be air conditioned."

Arrival in New York: "I left Ukraine as a refugee in 1992, as many Russian Jews did. I came alone. My parents were planning to come, but I couldn't wait. I stayed with friends of my parents. It was hard, but fun. My parents came later."

"I thought I knew English, but I didn't. My grammar was not bad because I think of language in

terms of its logical structure, but everything else was just terrible."

What New York has: "Attractive diversity. Also, I know New Yorkers are considered rude, but people on the streets here are more polite than in Ukraine. They smile and say, 'excuse me' and 'thank you'. That almost never happens in Lvov."

What New York lacks: "My old friends. I phone and write letters and send e-mail. I set up Russian for Eudora. I think about them a lot."

Russian connections: "My boyfriend is Russian. And my family, which I'm very close to. I still read Russian books, mostly literature and fiction, and see Russian movies. We brought our family library from Ukraine, and the selection of Russian books at libraries and some book stores is excellent."

Some Rockefeller colleagues know Russian. Sometimes, I get tired speaking English, and it's relax-

Librarian guides hunter-gatherers through the database jungle

Searching the masses of scientific literature once involved a trip to the library and the perusing of volumes of abstracts. Now, with RU's on-line bibliographic databases, you don't have to leave your desk. But you may want to call David Man, educational services librarian, for assistance in the finer points of electronic searching.

Man offers a personalized workshop, either in the Library or in someone's lab, to help people get the most out of searching. "The shortcuts he teaches save a lot of time," said Professor Vince Fischetti, who attended Man's tutorial. "It used to take several searches to find an article, but now I can find what I am looking for in one or two attempts."

"The various databases are presented through a common interface called OVID," said Man. "This requires the user to learn basically one set of commands to search across all databases." Although this increases the ease of use, searching efficiency can suffer if users are not aware of certain commands or techniques unique to one or another of the databases.

"In my experience, many people aren't using OVID to its greatest potential or to their maximum

ing to speak your own language."

Work environment: "I'm happy to be here. People are very knowledgeable and friendly. My first job



When Rimma Belenkaya emigrated from Ukraine, she noticed the "attractive diversity" of Americans.



David Man offers personalized workshops on database searching.

benefit," said Man.

For example, novice searchers may not know the indexing policy of diverse databases. "Medline organizes its abstracts using a specific set of terms called a MeSH (Medical Subject Headings) or controlled vocabulary," said Man. Not being aware of this or of how the databases are structured can result in less than satisfactory searches.

Available for lessons by appointment only, Man can be reached at x8907 or e-mail, mand. "We'll be acquiring more databases, with more subtleties and complexities," said Man. And, undoubtedly, with more skills and know-how to master.

in the U.S. was much more formal. It's more casual here, which improves the quality of your work."

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Where have all the birds gone?

Conservation biologist relates habitat fragmentation to species extinction

John Terborgh, director of the Center for Tropical Conservation at Duke University, spoke on "Forest Fragmentation—The Quiet Crisis" Tues., Jan. 23 in Caspary Auditorium. It was the final lecture in the Wildlife Conservation Society's Centennial Lecture Series, cosponsored by the society, the Conservation Foundation/World Wildlife Fund, and Rockefeller.

Here, News&Notes presents a synopsis of his talk.

Nature cannot stand fences, which is why forest fragmentation is among the greatest challenges conservationists face. Fragmentation is happening all over the world today, as humankind encroaches on the last wild places.

The Smithsonian Museums' long-standing research reserve in the Panama Canal, Barro Colorado Island, or BCI, as it is known, provided the first insights into the devastating effects of fragmentation. BCI is not a natural island but rather was created by the damming of the Chagres River. Frank Chapman, an ornithologist with the American Museum of Natural History, documented the bird fauna of the island in 1920.

Bird species dwindle and disappear

Fifty years later, another ornithologist, Edwin Willis, returned to BCI and ascertained that many species recorded by Chapman had vanished. Altogether, he recorded 18 extinctions of common forest birds, many of which nested or foraged on the ground. This suggested that something was going wrong near the ground, as did the fact that canopy-dwelling species did not seem to be missing.

Willis' data on a set of birds that follow army ants suggested an explanation. He saw several species of ant-following birds dwindle and disappear. From 1960 to 1970, the intermediate sized bicolored antbird declined to half its population, for example, while the last big ocellated antbird died in 1971.

In 1970, population biologists attributed most extinctions to catastrophic events—droughts, floods, fires, or other harsh, unexpected environmental conditions. But that, to me, could not explain Willis' data. There were no abnormalities of weather, and the declines continued slowly but steadily until populations were snuffed out one after another. That suggested something wrong with the environment. On BCI, the environment had somehow become inimical to the continued existence of these species. But how?

In 1970, I had the privilege of going with Willis to BCI. Subsequently, I visited the island several times. It struck me that BCI harbored an incredible density of mammals relative to other tropical forests. Among others, the coati mundi attracted my attention. Relatives of the raccoon, they are opportunistic omnivores—they eat fruit and insects, and when they have the chance, they snatch eggs and young from bird nests. I speculated that perhaps the absence from BCI of top predators—jaguar, puma, and harpy eagle—may have allowed the populations of coati and other prey species to increase. Increased numbers of coatis might then impact other species, such as birds that nest near the ground. BCI's 1,600 hectares are simply inadequate to support an entire interacting ecological system. With crucial pieces missing, the system begins to fall apart.

Learning what the lean and mean eat

To test this conjecture, I collaborated with Louise Emmons of the Smithsonian in a study of the large felid predators at a completely natural site in Amazonian Peru. We captured, marked, and followed jaguars, pumas, and ocelots, and we learned a lot about their ranging, social interactions, and most importantly, their diets.

We were able to document that puma and jaguar eat the full spectrum of medium- and large-sized mammals, including the coati, the paca, a nocturnal animal that subsists on recently germinated seedlings of tropical forest trees, and its relative, the agouti.

At the natural site in the Amazon forest, the density of agoutis is five per square kilometer. On BCI it is 100—20 times more. Paca numbers tell the same story: 4 in Peru to 40 on BCI. In Peru, coatis are so scarce I see one every five years, whereas on BCI, 24 inhabit a square kilometer.

The bottom line was this: Species after species that are prey to puma and jaguar have exploded in abundance on BCI. That convinces me that coatis could provide the explanation for why so many birds have disappeared from BCI.

The principal interactions that stabilize the tropical forest ecosystem can be represented in a simple diagram. Puma and jaguar are at the top of the chain, feeding on coati,



John Terborgh has conducted field studies in the Amazon forest.

paca, agouti, and other animals. Coatis, in turn, impact bird species by preying upon eggs and nestlings. Paca and agouti play roles in the reproduction of the trees that make up the forest by eating tree seedlings and seeds.

Artificial conditions reveal natural balance

My desire to test ideas implicit in this scheme led me to Venezuela, to Lago Guri, site of one of the world's largest hydroelectric projects. The dam, which supplies energy equivalent to that of eight or nine nuclear reactors, created scores of islands. We viewed these islands as surrogate forest fragments.

One medium-sized island, Lomo, attracted our interest. Based on its neighbors and its size, we would have guessed there to be 80 or 90 pairs of birds, yet we found 8. Lomo was unique among the islands in our sample by supporting a group of capuchin monkeys. These monkeys, medium-sized opportunists like coati, raid birds' nests for eggs and young. To test whether the presence of capuchins was associated with high rates of nest predation, we did a simple experiment. We set artificial nests on all the islands and mainland and stocked them with quail eggs. Within days, every nest on Lomo had been raided. Egg survival was zero. But on the other islands and the mainland, 80 percent or more of nests escaped predation. The results reinforced our notions that an opportunistic medium-sized predator like this could eliminate birds from a forest fragment.

Why don't they do so everywhere? On the mainland, a group of capuchins over the course of a year ranges over 100 to 200 hectares. On Lomo, they are confined to 11 hectares, so their ecological impact is multiplied. They find all the bird nests.

An animal that is a normal part of the fauna can become a menace in abnormal circumstances, a force of extinction. We are seeing this in forest fragments here in the United States, with similarly runaway populations of raccoons, opossums, and feral housecats.

My students and I found many cases of species that live in balance in unperturbed nature, but when they are isolated and freed of the restraints posed by predators and other ecological forces, they begin to deviate from that balance.

To return to the agouti. This diurnal animal buries seeds for later recovery. It is crucial to the reproductive success of a great many trees that require dispersal and burial of their seeds. Some Guri islands have agouti populations, some do not. Where they are present, we see abundant regeneration of a legume tree called *hymenaea*, which bears a huge, string-bean-like pod. On neighboring islands with no agoutis, the *hymenaea* does not reproduce. The pods fall off the trees and lie on the ground until they rot. The seeds never germinate.

Top predators preserve ecosystems

The roles played by individual animals are clearly important in forest maintenance. Top predators regulate the abundances of many species, which in turn impact each other and the vegetation. As changes in the animal community interfere with the tree reproduction process, some species of trees will drop out while others increase, resulting in lower diversity. A forest with fewer tree species will offer fewer types of food resources to animals and may not provide an adequate year-round food supply. We see here a downward spiral of decreasing diversity.

The moral is: You cannot put a fence around nature. Artificial confinement blocks key processes. My opinion is that the main players in maintaining diversity are the top predators. We cannot live without them because everything follows from what they do. And they require large areas. The home range of a female jaguar may be 20 to 40 square kilometers. A male may use 100.

Lago Guri islands are caricatures, to be sure, not nearly big enough to contain a whole ecological system. But on them we can look at nature's components and see how they fit together. For nature to survive, we need the whole interlocking system. You cannot remove any of the parts and expect the others to function well, no more than you can take a few gears out of a car and expect to drive.

Potpourri

Henry Grossman



Olga Makarina, soprano, and Yelena Kurina, piano, perform Russian and Italian songs, including works by Mozart, Rachmaninoff, Gluck, Glinka, Rossini, Puccini, Pergolesi, and Scarlatti, at the Tri-Institutional Noon Recital today (Feb. 2). The concert, at noon in Caspary Auditorium, is free. All are welcome.

Health lecture

Michael H. Alderman, professor of medicine and professor and chairman of the Department of Epidemiology and Social Medicine at Albert Einstein School of Medicine/Montefiore Medical Center, discusses "Cardiovascular Risk Reduction...How to Improve the Odds" at the Sound Mind/Sound Body Lecture Tues., Feb. 6 in Caspary Auditorium at noon.

Clinical Research Seminar

Paul F. Schendel, senior scientist and project director at the Genetics Institute in Cambridge, Massachusetts, discusses "Interleukin-11: The Protein and the Product" at the Clinical Research Seminar Wed., Feb. 7 at noon in Nurses Residence 110B.

Visa lottery

A lottery, offered by the U.S. Department of State, will award 55,000 immigrant visas to natives of qualifying countries who win the lottery. The application period is from Mon., Feb. 12 through Tues., Mar. 12. For complete information and instructions about how to enter the lottery, pick up an information packet at the front desk in the Personnel Office, Founder's Hall 103.

RU concert

Dmitri Ratsler, piano, performs works by Liszt, Chopin, and Rachmaninov at the Rockefeller University Concert Wed., Feb. 14 at 8:00 P.M. in Caspary Auditorium. For ticket availability and prices contact Cathy Rogers, x8437.

Hirschl awards

Assistant Professor Robert Darnell, head of the Laboratory of Molecular Neurooncology, and Assistant Professor Markus Stoffel, head of the Laboratory of Metabolic Diseases, have received Irma T. Hirschl Career Scientist Awards.

Arrivals

Postdoctoral Fellows: Lawrence P. Reagan, McEwen lab; Peng Li, Roeder lab; Patricia Fontan, Tuomanen lab.

Guest Investigator: Claudia Piscitelli, Tomasz lab.

Departures

Assistant Professor: Clay Reid, Wiesel lab.

Adjunct Faculty: Lennette Benjamin and Hideshi Yanase, Manning lab; Jesus Angulo and Lewis Krey, McEwen lab.

Postdoctoral Associate: Nurin Veis, Aderem lab.

Postdoctoral Fellows: Sajjad Qureshi, J. Darnell lab; Xiaolu Shi, Roeder lab.

Guest Investigator: Pierluigi Pompei, McEwen lab.

Science citations

The Library now posts a monthly compendium of faculty bibliographies, most of which include abstracts, on the World Wide Web

Teruko Hanafusa, molecular oncologist 1928 - 1996

Teruko Hanafusa, a founding member in the laboratory of her husband, Professor Hidesaburo Hanafusa, died at home Fri., Jan 26 of cancer.

Teruko Hanafusa studied cancer-causing viruses. She contributed to the analysis of the genetic structure of retroviral genomes, particularly of the Rous sarcoma virus, which was first identified as a cancerous agent by Rockefeller scientist Peyton Rous. Her later studies on the Fujinami sarcoma virus advanced understanding of viral oncogenes.

Born in Yonago, Japan in 1928, Hanafusa earned a B.S. in chemistry in 1953 and a Ph.D. in biochemistry in 1960, both from Osaka University. In 1961, she joined the Virus Laboratory at the University of California, Berkeley as a post-doctoral fellow and became assistant research virologist a year later.

Hanafusa held appointments at the College de France, the Public Health Research Institute, and New York University before joining RU as senior

research associate in 1973.

In addition to her husband, she is survived by their daughter, Kei.

The American flag on campus flew at half-mast on Monday (Jan. 29) in her honor, and members of the university community are planning to hold a memorial service and to establish a memorial fund.



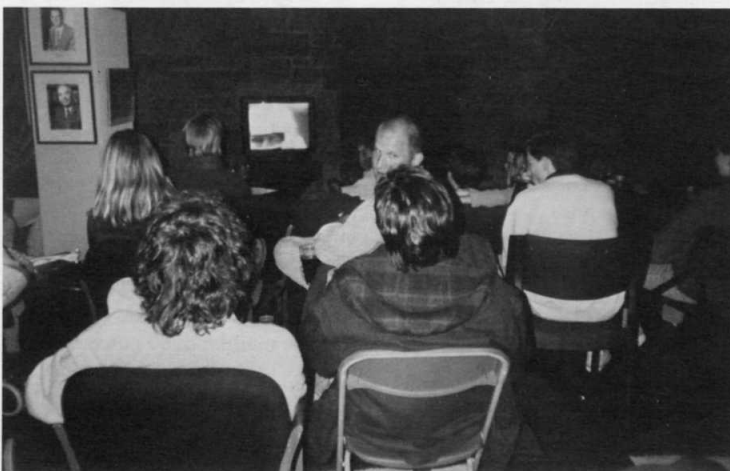
Teruko Hanafusa

at <http://www.rockefeller.edu/library/faculty.html/>.

Call for bakers and cooks

The RU Children's School and Infant/Toddler Center solicits homemade baked goods and foods to be sold at the Valentine's Day Bake Sale, Wed., Feb. 14 in Weiss lobby. Bring contributions, attrac-

tively wrapped, to the lobby between 8:00 A.M. and 3:00 P.M. on sale day. To assist in selling, sign up in the Children's School, GSR ground floor. Proceeds benefit the school and center. For more information, contact Heleen Brody Lang, 517-5294, home, or 559-4294, work.



About 60 members of the university community gathered Sun., Jan. 28 in the Faculty and Students Club to observe that American epic—the Super Bowl.

Paul

(continued from page 1)

of the Texas Instruments Foundation, the 3M Life Sciences Award, and the Tovi Comet-Wallerstein Prize of Bar-Ilan University. He is a member of the U.S. National Academy of Sciences, the Institute of Medicine, and the American Academy of Arts and Sciences. A past president of the American Society for Clinical Investigation and the American Association of Immunologists, Paul was secretary-general of the Ninth International Congress of Immunology.

The lecture will be held at 3:45 P.M. in Caspary Auditorium and preceded by tea at 3:15 P.M. in Abby Aldrich Rockefeller Lounge. All are welcome.