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Astor Grant of \$2 Million Endows Two Professorships



*At the 1973 Christmas Lectures: High school science students query Dr. Bruce S. McEwen (far right) during the break between sessions. The lectures were held on December 27 and 28 in Caspary Auditorium. Dr. McEwen's subject was *Hormones and the Brain*.*

Seitz Names Edelman to First New Chair

The Vincent Astor Foundation has authorized a grant of \$2 million to The Rockefeller University to endow two Vincent Astor Professorships. President Seitz has named Gerald M. Edelman to the first chair established under the grant. In 1972, Professor Edelman shared the Nobel Prize in physiology or medicine for determining for the first time the complete chemical structure of gamma globulin, the key molecule of immunity.

The grant was announced by Mrs. Brooke Astor, president of the foundation and a trustee of the University. The two Vincent Astor Professorships are to be held by senior scientists whose past work and planned investigations relate to one of the fields basic to achieving a deeper understanding of how to treat and prevent cancer.

In acknowledging the grant, President Seitz noted that the University "is intensifying its efforts to supplement the private resources needed to ensure our financial and intellectual independence. The substantial investment being made by The Vincent Astor Foundation in biomedical science is of crucial importance in enhancing the University's ability to contribute most effectively to mankind's well-being."

UNIVERSITY HOSTS SOLAR ENERGY CONFERENCE

The University played host to a Roundtable on Solar Energy, held on January 21 under the sponsorship of the Scientists' Committee for Public Information, Inc. President Seitz served as a conference cochairman. Professors René J. Dubos and Edward L. Tatum are members of the board of advisors of SCPI.

Moderator of the roundtable, which included participants from several foreign countries, was David Freeman, head of the Ford Foundation Energy Project. "Solar energy," he affirmed, "has finally come of age—it's no longer an esoteric source of energy and is worth commitment similar to that given any other major power source."



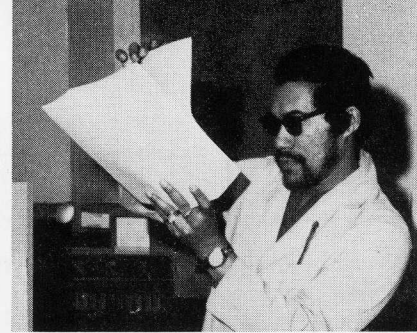
Because of inflationary pressures, and especially the rapid rise in fuel costs, the University is facing a severe budgetary problem. A complete review of the situation and of measures being taken to meet the challenge will appear in the next issue of *news and notes*.

Roundtable press conference: Left to right, former astronaut John Sweikey, now executive director, House of Representatives Committee on Science and Astronautics; Mr. Freeman; Harry Tabor, National Physical Laboratory of Israel; Alfred J. Eggers, assistant director for research applications, National Science Foundation; and C. J. Banwell, technical advisor to the United Nations.

They're at Your Graphic Service

At every hour of the working day (and many off-hours as well) someone at the University needs a notice printed, a photograph taken, a thesis or grant proposal copied, slides or films projected, a lecture tape recorded, a manuscript illustrated, a mailer addressed. The 17 men and women of Graphic Services, who make their headquarters in a warren of offices, studios, and darkrooms on the first floor of South Lab, keep it all moving. Last year, for example, the multilith press turned out over a million flyers, letterheads, pre-prints, and office forms. The photog-

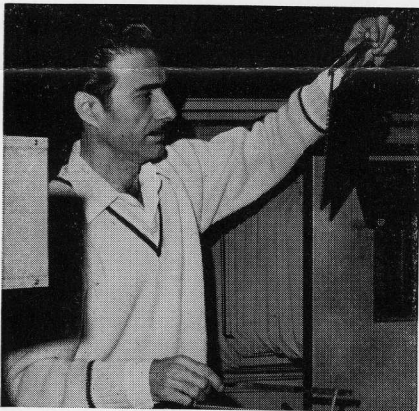
raphers and darkroom technicians took and processed some tens of thousands of photographs of scientific or general subjects, including most of the ones that appear in *news and notes*. The Xerox machines made close to a million copies of varied written and printed matter. An uncounted number of intricate drawings and charts were rendered. This *news and notes*, the *University Calendar*, and many other mailing pieces sent by the University to its faculty and staff were addressed. The photographs on this page show the University's Graphic Services in action.



Multilith operator Efrain Derieux examines press sheet.



Projectionist David Reyes in the Caspary Auditorium projection booth.



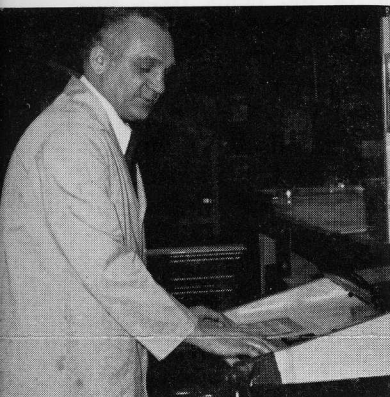
Photographer Missak Sarafian examines large copy negative.



Left to right: artists Muriel Fabrizio, Sirarpy Torossian (seated), and Vartanoush Kassabian (standing).



Duplicating operator Mary Iannazzo in the Xerox room.



Darkroom technician Salvatore Manfre at the print dryer.



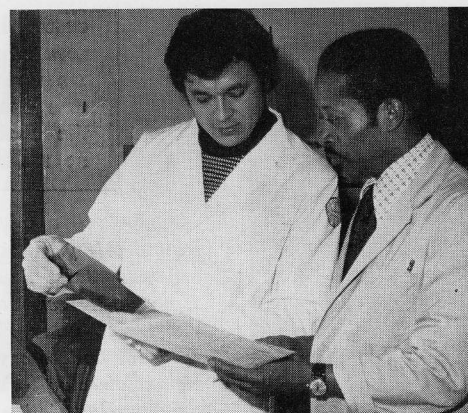
Left to right: Bill Leyrer, manager of Graphic Services, with assistant Linda D. Borrero (at telephone) and secretary Sandra O'Brien.



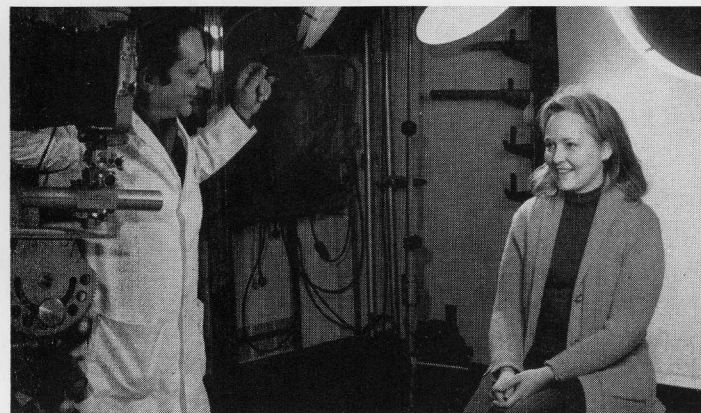
Addressograph operator Charles J. Bauman, Jr. at his station.



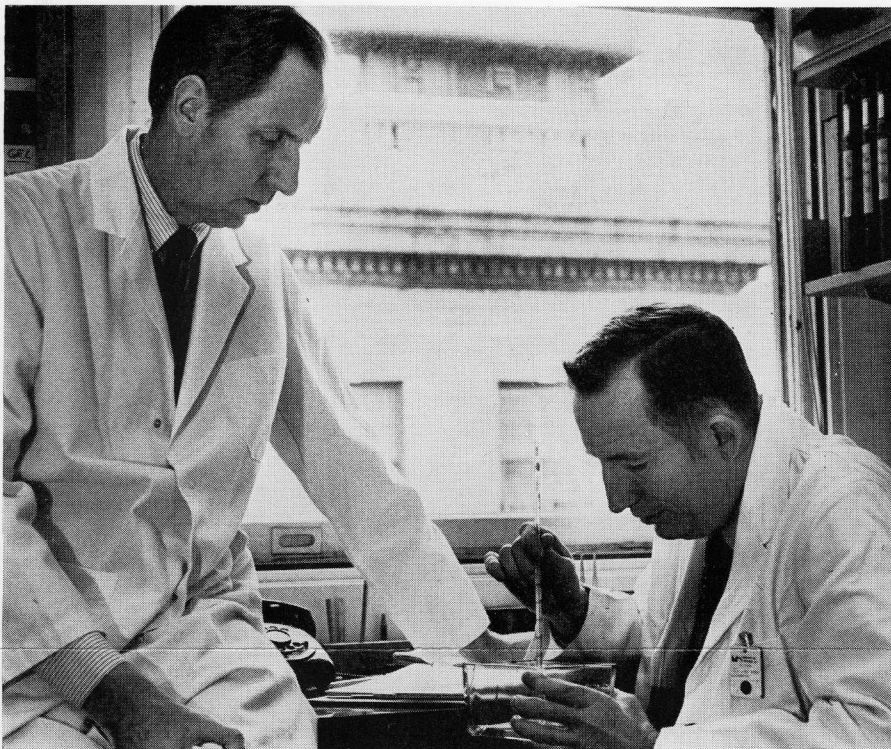
Photographer Eduard Kloesman works movie editing equipment.



Darkroom technicians George Rodriguez (left) and George A. Byron check photo prints.



Chief photographer Henrik Boudakian shoots identification photo of newly arrived chief artist, Nathalie Marshall.



Left to right: Igor Tamm and Purnell W. Choppin

Studying Viruses—The Smallest Invaders

Twenty-five years ago, Igor Tamm, a recent medical graduate from Yale with an interest in studying influenza viruses, was advised to "go to the Rockefeller." A few years later, another young doctor, with similar interests and acting on similar advice, came here from the Washington University School of Medicine in St. Louis. "I arrived in New York simultaneously with the 1957 flu epidemic," Purnell W. Choppin recalls. "One of the viruses I studied that year came from my own throat." What scientists like Professors Tamm and Choppin (now in charge of the University's large virology lab) are learning about viruses and how they function is important not only in relation to disease but also as a means of elucidating some of the most basic aspects of gene and cell function.

Viruses are tiny packets of genes that invade living cells. They cannot produce their own proteins, carbohydrates, or fats, and they depend upon the resources of the host cells in order to survive and multiply. But many of them do direct the synthesis of new enzymes which catalyze the synthesis of nucleic acids (RNA and DNA). These nucleic acids contain information to change the structure and function of host cells, usually detrimentally, interrupting or altering normal cell metabolism.

Scientists have recognized viruses as disease agents since before the turn of the century, and Rockefeller scientists have been studying them ever since.

Peyton Rous, in 1911, pinpointed a cancer in chickens as virus induced. Today, with the aid of the electron microscope, and with new biochemical and genetic techniques, viruses can be seen and studied in minute detail.

A major part of the work of Dr. Tamm and his colleagues has been aimed at a better understanding both of the role of viral enzymes in the transcription and replication of viral genetic material and of the structure and intracellular state of viral DNA and RNA. An important development for Dr. Tamm came with the discovery that the replication of viral genetic material can be blocked by chemical inhibitors, without damage to host cells, a finding that has enticing implications for medical applications as further research develops. Dr. James R. Miller is engaged in research on the replication of the RNA of poliovirus. Dr. Jacques Laporte is working on virus-induced changes in the replication of cellular DNA.

The influenza viruses and the parainfluenza viruses (which cause respiratory diseases, measles, mumps, and encephalitis, among other ailments) represent an important group within the several hundred known strains of viruses. Flu epidemics still affect and kill millions of people. Dr. Choppin, Dr. Richard W. Compans, and Graduate Fellow Sondra G. Lazarowitz have been responsible for significant findings about how these viruses multiply and assemble at the cell surface. The

first accurate enumeration and identification of the proteins of influenza and parainfluenza viruses have been carried out, and now the chemical analysis and determination of the biological activity of each of the viral proteins is being pursued. Dr. Andreas Scheid has been perfecting techniques for isolating these proteins in biologically active form. These will not only be helpful in the study of their chemical, physical, and biological properties but may also, in time, be useful in the preparation of vaccines containing purified viral antigens.

Dr. Walter E. Mountcastle's work also centers on the structure of parainfluenza and measles viruses and on persistent infection with these agents. Recently, he has been collaborating with Doctors Virginia Utermohlen and John B. Zabriskie of the University's bacteriology and immunology lab, in an investigation of the possible implication of measles virus in multiple sclerosis and other chronic diseases.

Doctors Susan J. Abrahams and Abraham Pinter are closely involved in work on the interactions of viruses and cell membranes. Doctors Allan R. Goldberg and Barbara Wolf are studying the mechanisms of initiation and maintenance of malignant transformation in cells, with particular emphasis on changes in the cell membrane. Dr. James S. Murphy is a second-generation Rockefeller scientist whose father, James B. Murphy, was a pioneer in cancer research. Dr. Murphy is interested in aging and the life span of organisms. As his experimental animals, he uses many species of the small crustacean, *Daphnia*.

In discussing the work of the lab, Dr. Tamm expresses a strong commitment to providing an environment in which young researchers can develop. Six graduate fellows are working in the laboratory at present: Harold Burger, Barbara Jasny, Sondra G. Lazarowitz, Paul Lefebvre, David C. Merz, and Pravinkumar B. Sehgal. Obviously, young men and women with a bent for virology are still being advised to "go to the Rockefeller."

ANNOUNCE NEW PROMOTIONS AND APPOINTMENTS

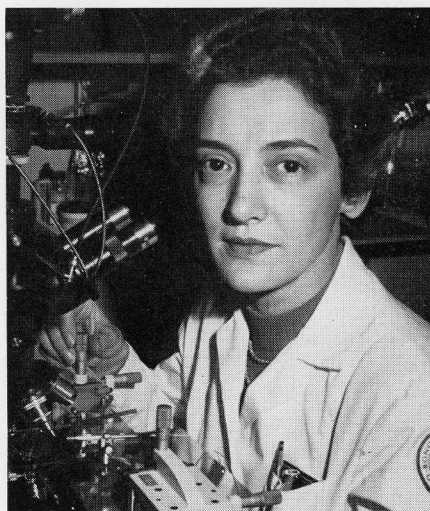
Four promotions to the rank of assistant professor have been announced: Hermann E. Bleich, Organic Chemistry, Minoru Maeda, Neurophysiology, John L. Wang and Ichiro Yahara, Biochemistry. Paul M. Lizardi, a 1972 alumnus, has been appointed assistant professor, Cell Biology.

Dr. Diacumakos Explains Microsurgery on TV

On Sunday, January 27, WNBC-TV devoted its half-hour program, *Research Report*, to the work of Elaine G. Diacumakos, senior research associate with the biochemical genetics laboratory of Professor Edward L. Tatum. Dr. Diacumakos has been developing and refining techniques of microsurgery which she performs on individual human somatic cells in culture. Using a micromanipulator equipped with photographic attachments, she positions extremely fine microneedles to "operate" on her subjects—dissecting and injecting, modifying their genetic information, and transferring it from cell to cell. She has developed the ability to fuse mammalian somatic cells—a tricky matter of careful timing—thereby creating bicellular hybrids.

"On the most basic level," says Dr. Diacumakos, "there is so much we don't know about cells and so much to learn. And the more we learn, the more we find out how remarkable living cells are. With microsurgery we have the advantage of working in circumstances where we can control and define the variables, which is not always possible with other approaches."

One of the areas in which she has been working has been the transfer of normal genetic information to cells taken from individuals with known inherited disease to see if such cells can be made to function normally. The long-range hope would be that cells could be modified in culture and be



transplanted back into living human beings to correct or ameliorate a birth defect. This work is being funded by a grant from the National Foundation-March of Dimes.

Elaine Diacumakos came to Rockefeller University in 1971 from the Sloan-Kettering Institute for Cancer Research. "There I had the opportunity to develop this methodology thanks to the foresight and imagination of Dr. Frank L. Horsfall." (Dr. Horsfall had been vice president and professor at Rockefeller until he left in 1960 to take over the presidency of Sloan-Kettering.) "I'm also grateful to Dr. Tatum, with whom I had worked first as a guest investigator here at Rockefeller from 1962 to 1964, for making it possible for me to continue this work at the University."

BRIEFS

Professor **Bruce W. Knight, Jr.**, Biophysics, was invited to work at the Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette, France, for the period January 9 through February 12.

Adjunct Professor **Lawrence Sirovich**, Biophysics, is serving as an exchange professor at the University of Paris for the months of January and February.

University Treasurer **Sydney A. Woodd-Cahusac** has been elected to the board of trustees of The Interchurch Center, Riverside Drive.

Jules Hirsch, professor and senior physician, toured medical installations in Israel for 10 days in December at the invitation of the Hebrew University.

IN PRINT

Dr. **William O. Baker**, vice chairman of the University's Board of Trustees, President **Seitz**, and Vice President **Rodney W. Nichols** served on a panel that prepared a special report, recently published, on *U.S. Military R & D Management*. The 77-page report contains the results of a three-year study sponsored by The Center for Strategic and International Studies of Georgetown University.

SUNDAY CONCERT

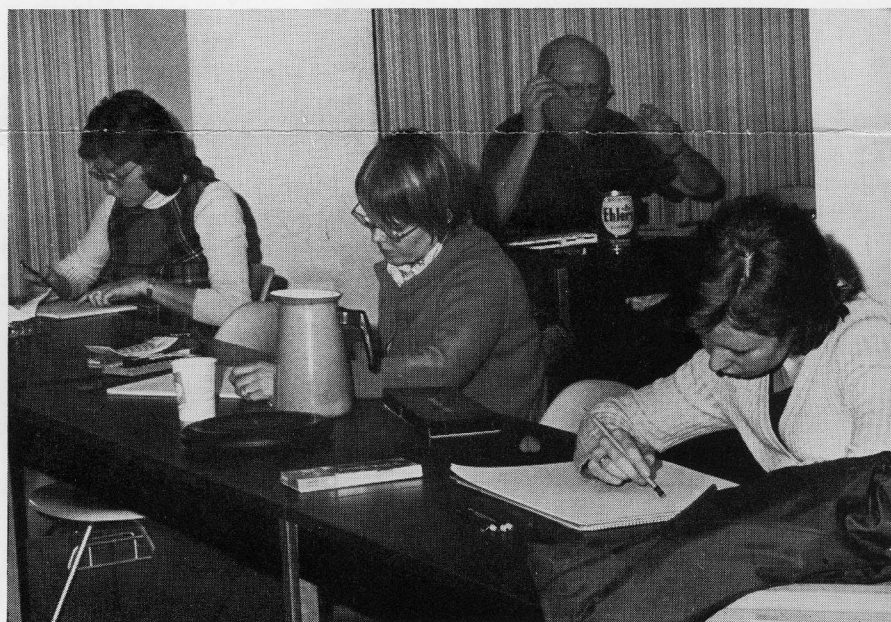
The University's Sunday afternoon concert on February 24 will feature the harpsichordist Lionel Party, whose wife, Esmeralda, is an assistant for research with Professor Rollin D. Hotchkiss. The concert will begin at 2:30 P.M. in Caspary Auditorium. No tickets are required.

PERSONAL MENTION

Anna Marie Di Iorio, an assistant for research in the laboratory of Dr. Jules Hirsch, was married on January 12 to Richard Resnikoff, a bookkeeper.

DEATH

Albert H. Cass, Jr., 33, 1968 Rockefeller University degree recipient. At the time of his death he was an assistant professor of Biological Sciences at Dartmouth College.



The University's art classes, Thursdays from 7 to 9:30 P.M., are open to all on campus. Spring sessions begin February 28. Instruction includes charcoal drawing, watercolor, woodcuts, and pastels. Tuition for the series is \$25 and no previous experience is needed. For information, call Professor Walther F. Goebel (pictured above in the background) on extension 1456, or Katalin Vienne, extension 1250.