

MPA Aims May Alter under Fay

The seven-man Massachusetts Port Authority this week was under the chairmanship of an MIT engineering professor and public speculation was high that he will give new priorities to environmental concerns in the operation of Boston's airport and seaport facilities.

He is Dr. James Alan Fay, 49, professor of mechanical engineering at MIT and an authority on the location and design of major air facilities and their interaction with the regions they serve.

The MPA position is unpaid and will not impinge on Professor Fay's regular duties as an MIT faculty member.

At a press conference following his swearing in, Professor Fay told reporters, among other things, that he will push for an MPA policy requiring the consolidation of airline schedules as a means of reducing airport noise.

Consolidation—a policy generally opposed by commercial airlines—was one recommendation Professor Fay and others made two years ago to the New York Port Authority as a part of a study on the effects of extending Kennedy International Airport into Jamaica Bay.

New York authorities have not yet applied the recommendation, although the study headed by Professor Fay, carried out under auspices of the National Academy of Sciences and the National Academy of Engineering, did lead the New York authorities to decide against Kennedy extension because of what it would do to the Jamaica Bay region.

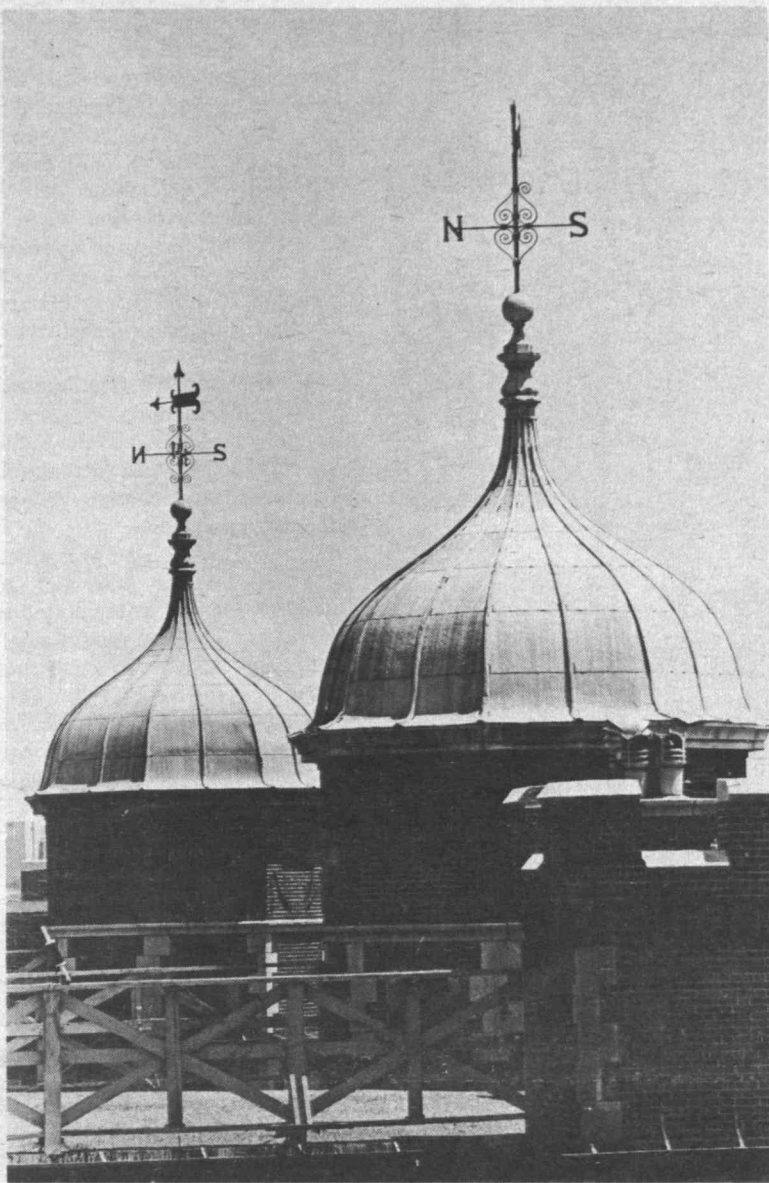
(The *Boston Globe* sought out the Civil Aeronautics Board in Washington, D.C., however, and obtained an opinion from a spokesman that flight consolidation or pooling could be in violation of federal anti-trust laws. The *Globe* quoted the spokesman as saying that the CAB chairman—Secor Browne, himself a former MIT professor—believes airplane noise and smoke problems have been "overplayed.")

The Kennedy study was Professor Fay's second major investigation having to do with airport facilities. Three years ago, also

(Continued on page 2)

Luria at Home

An attack of sciatica has prevented Salvador E. Luria, Institute Professor and Nobel Prize-winning professor of biology at MIT, from attending the Democratic National Convention in Miami Beach this week. Professor Luria had been elected in the Massachusetts primary as a delegate at large to the Convention on the McGovern slate.



Rising isolated against the skyline, the twin cupolas atop Ashdown House seem part of a different world.

—Photo by Margo Foote

Underwood-Prescott Award Goes to Chapman

The scientist who has been primarily responsible for establishing the Canadian government's food and drug regulations in recent years, and who has been prominently identified with the development of international standards for foods and food additives, has been selected to receive the tenth annual Underwood-Prescott Memorial Award at the Institute.

He is Dr. Ross Alexander Chapman, who was Director-General, Food and Drugs, Department of National Health and Welfare in Ottawa until January, 1971, when his title was changed to Assistant Deputy Minister, Food and Drugs. The award and honorarium will be presented on September 28 at a luncheon at the MIT Faculty Club. George C. Seybolt, president of the Wm. Underwood Company, also will participate in the program.

Immediately following the luncheon, Dr. Chapman will lead a panel at an afternoon symposium in the Kresge Little Theatre, with more than 200 food scientists, food industry executives and students in attendance. The symposium subject will be "Wholesome Foods for the 1970s—The Role of Government, Industry and the Consumer." Other panel participants will be Mrs. Esther Peterson, who was special assistant to President

Lyndon B. Johnson for consumer affairs and who now holds the post of consumer advisor to Giant Food, Inc. in Washington; Sherwin Gardner, recently appointed deputy commissioner of food and drugs of the US Food and Drug Administration; and Dr. Richard L. Hall, vice president for research and development of McCormick & Company, Inc. and president of the Institute of Food Technologists.

Dr. Chapman was selected for the award this year by a Department of Nutrition and Food Science faculty committee headed by Dr. Samuel A. Goldblith. (In May of this year, Dr. Goldblith was chosen as the first Underwood-Prescott Professor of Food Science, the first chair in food science to be endowed in perpetuity at any American university.) The committee said the award was granted to Dr. Chapman "in recognition of his contributions to the field of food science and technology in laying a sound foundation for the development and establishment of regulatory procedures for the food and drug industries based on a logical approach, sound judgment, creative thinking and good science. His researches in the field of food chemistry and his administrative

(Continued on page 2)

Nicholson Appointed Acting Library Head

Natalie N. Nicholson, associate director of libraries at MIT since 1958, has been appointed acting director of the MIT Libraries.

Announcement of the appointment was made by Walter A. Rosenblith, MIT provost.

"We are grateful to Miss Nicholson for her willingness to undertake this burdensome responsibility," Professor Rosenblith said. "She is, of course, uniquely qualified to do so. I feel certain that during the period of her acting directorship the libraries will not mark time but continue to move forward."

In accepting her new appointment, Miss Nicholson said: "I would like the Institute community to know that during the interim period while the search for a new director continues, I will to

the best of my ability try to implement some of the recommendations of the 1971 Report of the Ad Hoc Committee on the Library System chaired by Dean Robert A. Alberty.

"I particularly hope that we can start working with the newly constituted Committee on the Library System and the Library Advisory Committees which will be appointed, through them seeking better interaction and understanding between the libraries and their users. The Advisory Committees can be of great assistance in formulating book selection policies, particularly needed in our decentralized system."

Earlier this year, Professor Rosenblith announced the formation of an advisory group to aid the administration in selecting a successor to Professor William N. Locke as Director of Libraries. Professor Locke, who had asked to be relieved of that post at the end of the academic year, retired as Director of Libraries at the end of June. The advisory group, which is chaired by Professor Rosenblith, is continuing in its search for a director for the MIT library system.

Miss Nicholson, who took her Bachelor of Science degree at Simmons College in Boston and later held a Carnegie Fellowship at the Rutgers University School of Library Science, was librarian of the Graduate School of Engineering at Harvard University from 1937 to 1954. She came to MIT in 1954 as the reference librarian. In 1956, she was appointed executive assistant to the director of libraries at MIT and two years later became associate director.

She has undertaken numerous

(Continued on page 7)

Milne Gets New Position

Walter L. Milne, assistant to the chairman of the Corporation, has been appointed in addition Special Assistant to the President for Urban Relations.

In this post he will serve as the president's principal aide for MIT's urban relations and, where appropriate, will provide for these efforts substantial direction.

Mr. Milne will have the responsibility for coordinating the Institute's administrative efforts in urban relations and will work closely with senior officers of the Institute in the formulation of MIT policies in urban and community affairs and in the conduct of uni-

(Continued on page 7)



Miss Nicholson.

—Photo by Marc PoKempner

E(instein) equals *M(ea)* *C(ulpa)*, too

With a speed approaching, but not exceeding, that of light itself, *Tech Talk* was informed after its last issue that we had gotten just backward a remark of Albert Einstein's in an article on the MODE Experiment.

The phone hummed as Professor Irwin Shapiro of Earth and Planetary Sciences kindly hoped he wasn't the 98th person to tell us how human we were. Well-intentioned missives kept being thrust under our doorsill to remind us of our massive mistake.

To conserve energy—and keep the margin of error to a minimum—let us quote a note from Professor Alar Toomre of Mathematics: "The article 'Group to Plumb Forces...' in the *Tech Talk* of June 28 begins with the words: 'Albert Einstein...enjoyed his fellow scientists to bore holes in the plank of nature where it was thinnest.' Hmm, really?! The frontispiece to Ronald W. Clark's recent biography of the said gentleman (which I happen just to have been reading) offers the following direct quotation: 'I have little patience with scientists who take a board of wood, look for its thinnest part, and drill a great number of holes where the drilling is easy.'"

Who's New in the News

Howard W. Johnson, chairman of the MIT Corporation, was elected a trustee of the Woods Hole Oceanographic Institution at the Institution's annual meeting held in June.

Professor Irving Kaplan of the Department of Nuclear Engineering has received the Arthur Holly Compton Award for 1972 from the American Nuclear Society.



Conversion to Centrex at MIT on August 12 will mean learning some new techniques for telephone handling, according to the Institute's Office of Telecommunications.

Extension numbers will be prefixed by 3 at MIT and by an 8 at Draper Laboratory. Dialing within the Centrex system will require a five digit number—for example, 3-XXXX or 8-XXXX. Dialing between MIT and Draper will require the prefix 182.

To transfer an outside call to another MIT extension, depressing the switch hook will summon an operator. When the operator answers, give her the extension number and the name of the party to whom you want the call transferred. Outside calls can

Fay Could Bring Change to MPA

(Continued from page 1)

under NAS NAE auspices, he participated in the study which showed that a new Dade County airport proposed for location at the northern edge of Florida's Everglades would adversely effect water supplies for south Florida cities and towns. Based on that study, state and federal officials decided against the proposed

location.

The New York and Florida studies are what led Boston newspapers to speculate that Professor Fay, as chairman of the MPA, will apply the same kinds of total environmental systems approaches to his role as MPA chairman.

Governor Sargent appointed Professor Fay to a seven-year term on the Authority as its chair-

man. The governor said he acted on the recommendation of his secretary of transportation, Dr. Alan A. Altshuler, an MIT professor of political science who is serving in the governor's cabinet while on leave of absence from MIT. Dr. Altshuler advocates an integrated transportation policy for the Commonwealth.

Professor Fay was appointed to the MPA succeeding Thomas G. Brown, Boston bank executive, whose term expired. At the same time, Professor Fay was appointed MPA chairman succeeding John Larkin Thompson with whom Governor Sargent has been at odds recently over Thompson's refusal to halt certain projects at Logan Airport. Governor Sargent did not drop Thompson from the MPA, however, but instead re-appointed him to the remaining one year of an unexpired term.

Dr. Fay's research interests center around such fundamental areas as plasmadynamics, magnetohydrodynamics, heat transfer, combustion and detonation phenomena, and particle dispersion phenomena.

In recent years, he has applied these engineering interests to studies on air and water pollution and related environmental engineering problems. He served as chairman of the Air Pollution Control Commission for the City of Boston beginning in 1969 and resigned that post upon his

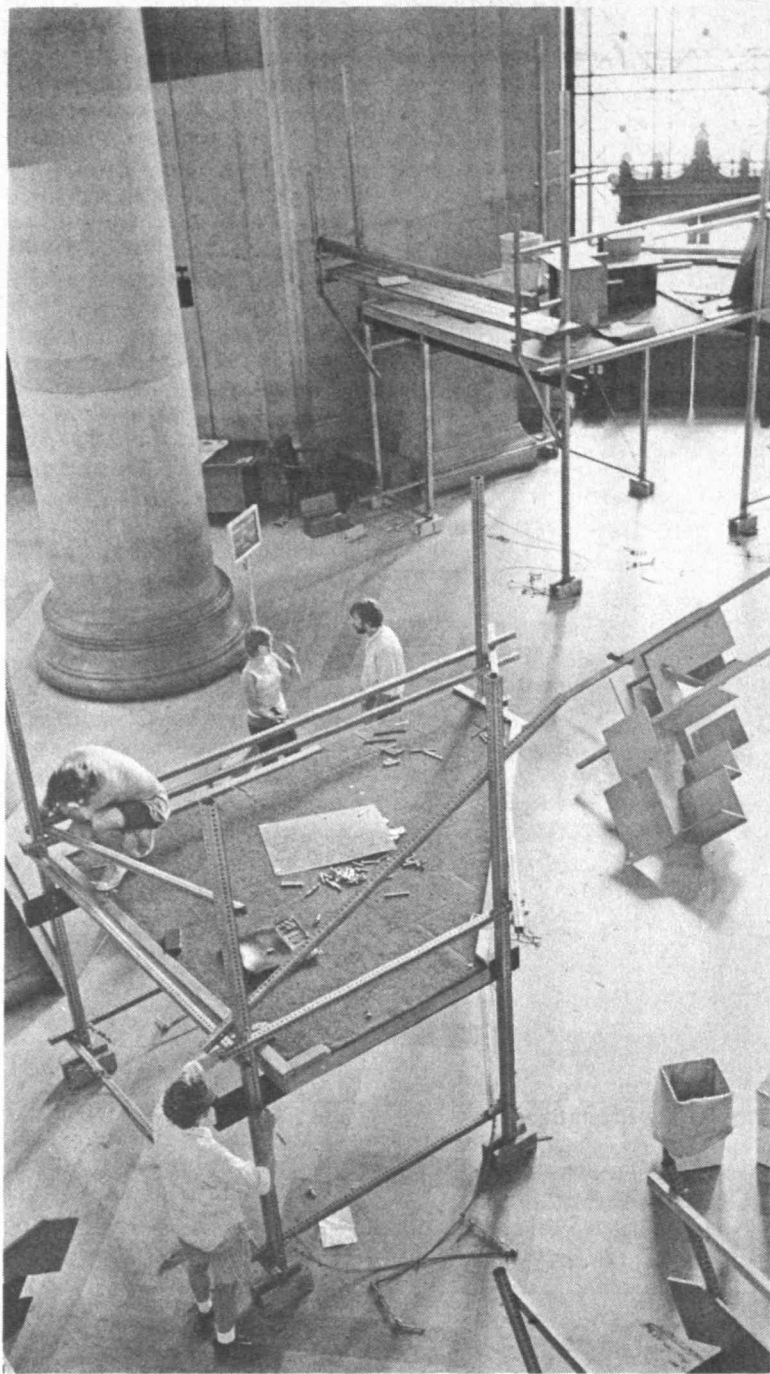
appointment to the MPA. He also is a member of the Committee on Motor Vehicle Emissions of the National Academy of Sciences. He is a Fellow of the American Academy of Arts and Sciences, the American Physical Society and the American Institute of Aeronautics and Astronautics. He is a member of the AIAA's Fluid Dynamics Committee and the Atmospheric Environment Committee and a former member of the Subcommittee on Fluid Dynamics of the National Aeronautics and Space Administration.

Because of his experience in applying systems engineering to environmental problems, the Environmental Studies Board of the NAS NAE asked him to participate in the Dade County airport study in 1969. The results were published in 1970 under the title; *Environmental Problems in South Florida*. Subsequently, the Port Authority of New York asked the NAS NAE Board to undertake similar studies having to do with extensions of Kennedy International Airport and the Board asked Professor Fay to direct it. That study was published in 1971 under the title: *Jamaica Bay and Kennedy Airport: A Multidisciplinary Environmental Study*.

Professor Fay is author or co-author of more than 50 technical articles appearing in professional journals as well as the author of the text book, *Molecular Thermodynamics* (1965; Addison-Wesley; Reading). He was co-editor with MIT Professor David P. Hoult of the book, *Aerophysics of Air Pollution*, published by the AIAA in 1969.

A native of Southold, New York, he received the B.S. degree from Webb Institute of Naval Architecture in 1944, the M.S. degree in marine engineering from MIT in 1947 and the Ph.D. degree in engineering mechanics at Cornell University in 1951. He taught engineering mechanics at Cornell from 1951 to 1955 when he joined the faculty of the Department of Mechanical Engineering at MIT as associate professor. He was promoted to full professor in 1960.

Dr. Fay is married and he and Mrs. Fay, the former Agatha M. Kelly, have six children ranging in age from 25 to 13. The family makes its home at (36 Spruce Hill Road) Weston.



The structures in the main lobby were shuffled around last week in an attempt to make the Information Center more visible to visitors coming into the Institute.

—Photo by Marc PoKempner

Chapman Receives Award

(Continued from page 1)

ability have led to international recognition."

This is the tenth year in which outstanding food scientists from the world over have delivered lectures in Boston on their work. The lectureship honors the memory of William Lyman Underwood, grandson of William Underwood, founder of the Wm. Underwood Company, which this year celebrates its 150th anniversary; and Dr. Samuel Cate Prescott, the first dean of the School of Science at MIT. In one of the very first industry-university research partnerships, they were the first to establish, in 1895, that spoilage in canned foods was due to bacteria, and they developed the temperature and time guides necessary to destroy the spore-forming organisms responsible for the spoilage.

Over 2,000 Attend 1972 Summer Term

A total of 1,992 students—1,709 graduate students and 283 undergraduate students—are enrolled in MIT's regular Summer Session this year.

According to Professor James M. Austin, director of Summer Session, late registration of some students is expected to bring this year's total summer term enrollment to about 2,100, one hundred less than last summer's enrollment.

In addition, more than 1,300 professional men and women are expected to attend one- and two-week special summer courses which are designed to help them keep abreast of developments in their fields. All told, the Institute is offering 42 special courses this summer.

Centrex Conversion Will Bring New Techniques

only be transferred to another extension within the Centrex system.

Long distance or toll calls will have to be placed directly or through a New England Telephone Company operator by dialing 190. Personal charges can also be placed by dialing 190.

Calls placed to certain MIT-related points—for example Lincoln Lab—should go via direct tie lines, which will reduce the number of message units charged to the Institute and keep outside lines free for other business. (You will reach Lincoln people by dialing 181 plus the extension.) Personal phone calls should be kept to a minimum for the same reasons.

Information about telephone locations and numbers will be available by dialing 3-1300 at MIT and "o" at Draper Lab. For emergency calls dial 100.

There are general rules of telephone courtesy which should be followed at all times and many of these will be particularly

important with the upcoming Centrex system, according to telecommunications officers.

Phone calls should be answered promptly, for example, preferably within three rings. Identifying the name of the department will be especially important with the direct inward dialing through Centrex. No operator will have already told the caller this is MIT. Telecommunications officers suggest it is always a good idea to keep a pad of paper and pencil handy and to keep a list of frequently called numbers. Phones should be covered during breaks and lunch hours, if possible.

When answering the phone, it is polite to listen attentively to the caller's statement without interruption. Use the hold button when leaving the line so the caller does not hear office noises or side conversations. Never leave the caller "hanging" on the line without keeping him informed of the progress of the call.

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Editor
Joanne Miller

Staff
Ellen Burbank
Robert M. Byers
Peter M. Close
Bob McLean
Linda Omohundro
Ty Rabe
Michael Seif
Peter Spackman

Business Manager
Paul E. Johnson

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Please address all news and comment to the editorial office, Room 5-111, Ext. 3277.

Marine Research Listed

A new directory of research projects related to marine resources, ocean utilization and coastal zone development at the Institute has been compiled by the MIT Sea Grant Project Office.

The purpose of the directory is to create an awareness of—and a ready reference to—the programs related to marine research at MIT.

Although only about 15 percent of the 169 research projects listed in the directory are funded directly by the Sea Grant Project, the directory was published as part of the Sea Grant Project Office's responsibility to serve as a focal point for marine-related research at the Institute.

The directory will be kept up to date by the Institute's Marine Resources Reference Center and will be reissued annually or semi-annually as changes demand.

An astonishingly broad range of research topics at MIT relate to the sea. Some, such as "Fiber Connections Within the Shark Olfactory System," are investigations of marine organisms. Others are topical, with such names as "Oil and Its Spread at Sea." Many others deal with total systems studies, such as "Future of Atlantic Ports."

The MIT Sea Grant Program was established in 1968, when the Institute received the first grant under the National Sea Grant Program, and its purpose is to coordinate and initiate diverse interdisciplinary research related to marine resources, ocean utilization and coastal zone development. The directory was compiled by Barbara Passero, in charge of the Marine Resources Reference Center, and Dean A. Horn, executive officer of the Sea Grant Office.

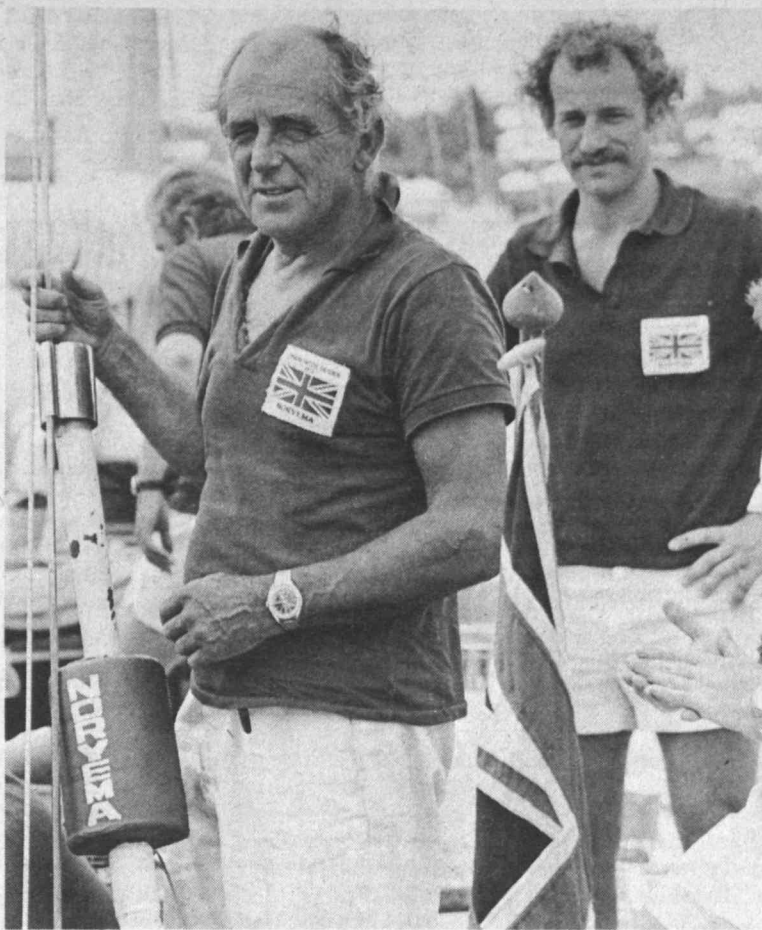
Fellowship to Honor Slain Israeli

MIT's Neurosciences Research Program (NRP) has established a senior fellowship in biophysical chemistry applied to neuroscience in honor of an Israeli professor killed in the terrorist massacre at Tel Aviv's Lod Airport on May 30.

The fellowship honors Professor Aharon Katzir Katchalsky of the Weizmann Institute in Rehobot, Israel. He was an active associate of NRP since its founding 10 years ago.

According to NRP Chairman Francis O. Schmitt, Professor Katchalsky contributed many important ideas in the application of biophysical chemistry to basic neuronal and brain processes, particularly those relating to membranes and macromolecular interaction.

The Katchalsky Fellowship will be administered by MIT. In addition to NRP functions, Katchalsky Fellows may participate in other scholarly activities in the greater Boston area. A stipend appropriate to the professional status of the appointee will be provided. Documented nominations may be sent to: The Katchalsky Fellowship Committee, Neurosciences Research Program, 280 Newton Street, Brookline, Massachusetts, 02146.



Tony Hays, right, stands with tired but happy skipper Ted Hicks on the "Noryema" after their victory in the Bermuda Yacht Race.

MIT Man Aboard Winning British Sloop

An MIT man was among the crew of the 48-foot British sloop, *Noryema*, which battled 25-foot seas, 50-knot winds and the driving rain of the Atlantic to win this year's prestigious Bermuda yacht race.

He is Anthony P. (Tony) Hays, a research staff member in the Department of Aeronautics and Astronautics' Flight Transportation Laboratory. A Britisher himself, he was asked to join the *Noryema* when only six regular crewmen could make it to the US for this year's race. Hays has crewed for *Noryema* owner Ron Amey of Oxford, England, intermittently for nine years and took part of his MIT vacation to help out when Amey called this year.

Key to *Noryema's* success, according to Hays, was the decision by skipper and navigator Ted Hicks to set a course east of the 635-mile Newport, R.I., to Bermuda rhumb line. Hicks gambled that a tropical disturbance southwest of Bermuda would shift prevailing southwest winds to the southeast. His eastern position gave *Noryema* the best chance when the wind switched. Sailing east also gave the *Noryema* a faster wind.

On the third day out—400 miles from Newport and 70 miles east of the rhumb line—the wind shifted to the southeast as Hicks expected.

Simha Takes Part in MCC Graduation

O. Robert Simha, director of planning at MIT, presented the charge to graduates at Massasoit Community College recently during the school's annual commencement.

Mr. Simha is a member of the board of trustees of Regional Community Colleges for the Commonwealth of Massachusetts, to which board he was appointed by Governor Francis Sargent.

Mr. Simha was erroneously identified in the June 28 issue of Tech Talk due to the inadvertent mistransposition and omission of words. Tech Talk deeply regrets the error.

The *Noryema* changed to a port tack, that put her on a direct course to the finish line and first place. Closer to Bermuda, the same tropical disturbance which produced the favorable wind, however, also brought violent, rough weather.

"I've been in rougher seas," Hays said, "but none so hard, so long and with such low visibility. Probably the most hazardous piece of racing I've ever done was finding the finish line."

The job was complicated when a destroyer, scheduled to anchor off shore to mark the finish line, was unable to do so because of the bad weather.

With *Noryema* enroute home, Hays is back at his MIT desk. His vacation spent, he will content himself with weekend sailing out of Marblehead for the rest of the summer.

Interphase Begins Program

Twenty-three members of the freshman class that will enter MIT this fall recently arrived on campus to begin a summer program designed to help them make the transition from high school to college.

The program, known as Project Interphase, began June 25 and continues through August 11. It is an effort to ease the transition for students who are qualified to do MIT work, but whose educational backgrounds, through no fault of their own, are weak.

The 19 men and four women have come to MIT from as far away as El Paso, Texas, and as close as Jamaica Plain. Interphase provides free tuition, room, board, books, medical insurance, travel and a small stipend for personal expenses to all participants.

Interphase students take subjects in physics, calculus and the humanities. A new interphase humanities program is being offered this year—instead of literature, students may select either photography or music workshops. In addition, students planning to concentrate in chemically-related fields may enroll in chemistry classes. On satisfactory completion of the summer program, each student receives 18

Computer Studied for Medical Uses

In the midst of modern medical technology—cryogenic probes that destroy brain tumors, lasers that weld detached retinas, ultrasonic devices that help remove a sliver of glass from an eye—in the midst of such sophistication sits the patient.

Frequently he sits so long he may be tempted to use the word patient in its other sense. As group practice and clinical diversity continue to replace the lone medical practitioner, however, there has arisen the opportunity—in fact a need—for using computer-assisted management techniques to schedule patients more efficiently than in the past.

Professor John F. Rockart of MIT's Sloan School of Management is the principal investigator in an experimental program to use the computer as a medical tool to help provide better, less expensive care for ambulatory patients at Boston's Lahey Clinic, an ideal experimental environment, where every day 600 to 700 patients visit one or more of 100 physicians in some 25 specialties. The Clinic's 30 appointment secretaries are hard put to determine schedules for each patient and to fill out and file the thousands of individual cards necessary to trace the paths of all patients through their various appointments without error.

The Lahey Clinic's medical management program begins in the home of the patient with a 25-page, multiple-choice questionnaire, from which doctor, patient, and clinic all benefit. History taking is time consuming and forces the patient to recall his medical history on the spot. At home, the patient has the opportunity to think. At the clinic, the doctor has much less writing to do. The computer print-out becomes part of the patient's permanent record, and another major advantage, Professor Rockart thinks, is to allow a patient's schedule to be determined before he sets foot in the clinic. As the computer scans a returned questionnaire, it is programmed to assign values to

specific questions the patient answers positively. In effect, it makes a broad diagnosis to determine what specialists the patient should see and thus eliminates delays resulting from re-scheduling.

The computer can also save laboratory time and shorten the patient's visit because of its ability to gather and summarize data from mechanized, extremely rapid diagnostic tests such as blood chemistry and urinalysis. At present, Lahey patients see a physician, go for tests he advises, and then return to the physician with the results. One new plan is to use the physician's report from the previous visit—which is kept in the computer file—to schedule the patient for tests before he returns for his next visit, which then allows him to see the physician with the test results in hand. This not only reduces the total time the patient must spend with the physician, but also spreads the laboratory's workload more evenly over the entire day.

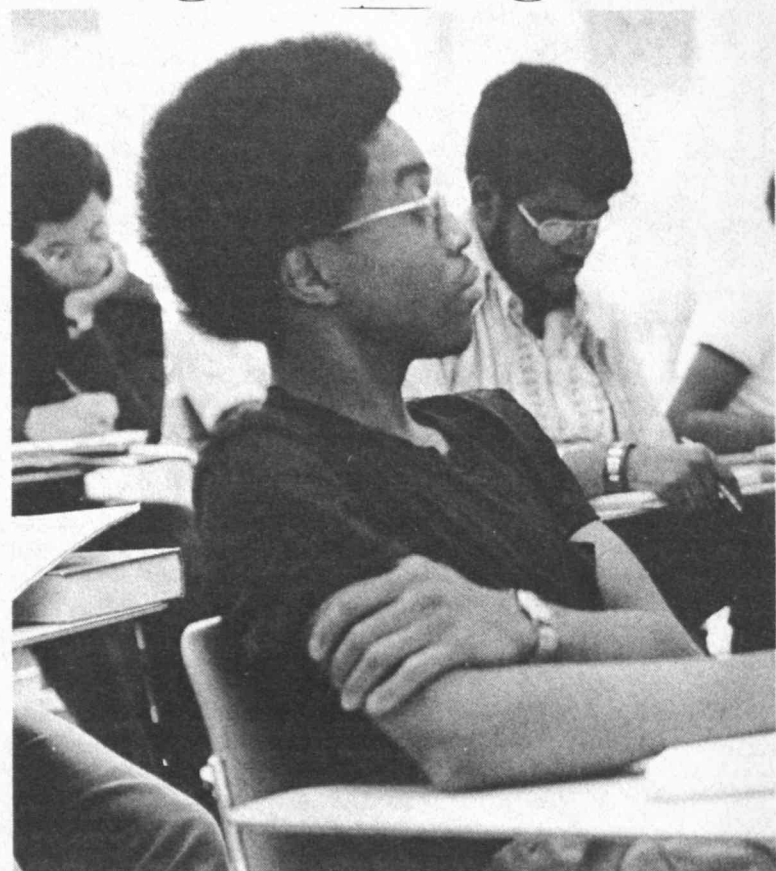
The cost of medical care is just about directly proportional to the physician's time. Any saving in time could be passed on to the patient as lower bills.

Meditation Symposium Scheduled

Maharishi Mahesh Yogi, exponent of transcendental meditation, will lead the Fourth International Symposium on the Science of Creative Intelligence in Kresge Auditorium Friday, July 14 through Wednesday, July 19.

The Symposium, beginning at 8pm Friday, will feature scholars, scientists, educators and representatives of government who will explore transcendental meditation and its applications.

The symposium is open to the public. For information, call the Symposium Office at 492-3169 or 492-3130.



Delroy Taylor, an Interphase student, listens during a physics class.

units of elective credit.

Although Interphase is primarily an academic program, students also enjoy cultural, social and

recreational events—tours, musical activities, lectures, films, outings, parties, swimming, tennis, baseball games, etc.

THE INSTITUTE CALENDAR

July 12
through
July 21

Please notify the Calendar Editor, X3279, Rm 5-111, of any activities which have been suspended for the summer. Thank you.

Events of Special Interest

International Symposium on the Science of Creative Intelligence*

Conducted by Maharishi Mahesh Yogi, exponent of transcendental meditation. Sponsored by Students International Meditation Society. Friday, July 14-Wednesday, July 19. Kresge. For more information and tickets, call 492-3169 or 492-3130.

Seminars and Lectures

Wednesday, July 12

Electric Permittivity of Polar Liquids in Strong Magnetic Field*

Prof. A. H. Piekara, Dept of Chemistry, University of Warsaw. National Magnet Lab Seminar. 4:15pm, Magnet Lab 2nd Floor Conference Rm. Tea and coffee, 4pm.

Women's Forum

Women's Forum**
Every Monday, 12n, Rm 10-105.

MIT Club Notes

Classical Guitar Society**
Concert guitarist Hugh Geoghegan is available for private instruction for intermediate and advanced students. Call Vo Ta Han, 661-0297.

Baker House SPAZ Jogging Club**
Daily, 10:45pm, Baker 2nd Floor West.

Hobby Shop**
Open weekdays, 10am-4:30pm, duPont Gym basement. Fees: students \$6/term, community \$10/term. Call X4343.

Tiddlywinks Association*
Every Monday, 8-11:15pm, Student Center Rm 491.

Soaring Association**
First and third Mondays every month. 7:30pm, Student Center Rm 473.

Classical Guitar Society**
Special summer lessons for beginners, group and private. Mondays and Tuesdays. Call Vo Ta Han, 661-0297.

Judo Club**
Every Monday, Wednesday, Friday, 5pm; every Saturday, 1pm. duPont Gym Exercise Rm. Beginners welcome.

Outing Club*
Every Monday, Thursday, 5pm, Student Center Rm 473.

MIT/DL Duplicate Bridge Club**
Every Tuesday, 6pm, Student Center Rm 491.

Fencing Club**
Every Tuesday, 6-9pm, duPont Fencing Rm.

Beginning Mandarin Classes**
Chinese Students Club. Lectures on Tuesdays, 7:30-9pm; recitations on Thursdays, 7:30-8:30pm; through August 17. Rm 3-442. Admission \$5.

Glee Club**
Every Tuesday, Wednesday, Thursday, 5-6:30pm, Kresge. New members, especially tenors, welcome. Call Cynthia Draffin, 247-8691.

Rugby Club
Summer rugby. Every Tuesday and Thursday, 5pm, Briggs Field.

Urban Vehicle Design Competition
Volunteer meetings. Every Wednesday, 3pm, Rm E40-250.

Nautical Association**
Basic Sailing Shore School, repeated every Wednesday throughout the summer, 5:15pm, Sailing Pavilion. Non-members welcome.

Science Fiction Society*
Every Friday, 5pm, Student Center Rm 421.

Student Homophile League*
Meeting and mixer meets Fridays, 7:30pm, Mission Church, 33 Bowdoin St., Boston. For gay help (anonymous) at MIT, call the student gay tutor, 492-7871 anytime.

Chess Club**
Every Saturday and Sunday, 1:30-5:30pm, Student Center Rm 491.

Social Events

Muddy Charles Pub**
Join your friends at the Muddy Charles Pub, 110 Walkers Lane. Open daily 11:30am-7:30pm. Call X2158.

Physicists Probe Nerve Cell Chemistry

(Editor's Note: Following is an article from the July 1, 1972, issue of Science News magazine reporting nerve cell membrane studies presented recently by two MIT physicists—Dr. H. Eugene Stanley, associate professor of physics, and Kenneth J. Rothschild, a graduate student in the department. Rothschild and Stanley are participants in the interdisciplinary program in biomaterials science under auspices of the Harvard-MIT Program in Health Sciences and Technology. They will be presenting their work at the Fourth International Biophysics Congress to be held in Moscow next month.)

by Joan Arehart-Treichel

Sometimes life's most elegant activities turn out to be simple in concept. And sometimes the freshest insights into these activities come from young scientists. These facts were borne out at a national symposium on cell membranes, viruses and immune mechanisms held by the Bell Museum of Pathology at the University of Minnesota in June. Two biophysicists from the Massachusetts Institute of Technology—H. Eugene Stanley and Kenneth J. Rothschild—presented an attractive explanation for how the membrane of an excited nerve cell lets sodium into the cell. Sodium is the conductor of electric current inside a nerve cell.

The core of their theory is that strategic proteins on the nerve cell membrane selectively allow sodium ions to enter the cell. They did not attempt to explain how sodium entry into a nerve cell, or excitation of an individual cell, might tie in with the transmission of excitation between two nerve

cells. Such transmission also appears to involve chemical reactions that take place on the cell membrane.

The MIT biophysicists' concept was well-received by biologists, pathologists and other medical scientists attending the symposium. A pioneer in membrane work, S. J. Singer of the University of California at San Diego, admitted that the theory, while "conjectural," might have validity. Interestingly, their theory of membrane-sodium action meshes with Singer's fairly new theory of membrane structure that is rapidly becoming accepted.

Singer's attempt to explain cell membrane structure, and the effort of Rothschild and Stanley to explain nerve-cell excitation are extensions of the original membrane model proposed by Hugh Davson of the University College, London, and by James Danielli of the State University of New York at Buffalo some 35 years ago. The Davson and Danielli model holds that lipids are arranged in two layers, with the nonpolar tails of the lipids facing each other, and the polar heads of the lipids facing each side of the cell membrane.

Rothschild's and Stanley's explanation of how sodium enters an excited nerve cell builds on Singer's model, which is an alteration of the Davson-Danielli model. But more than that, the two MIT biophysicists have rallied other experimental evidence to explain sodium passage during cell firing. For example, there is some evidence that nerve membranes have channels through them. Calcium is known to be present in the nerve cell and to keep sodium out when the cell is at rest. But when the nerve fires, sodium rushes into the cell. This calcium-sodium interplay appears

specific to the nerve cells. It differs, say, from how sodium helps calcium out of intestinal cell.

So Rothschild and Stanley conjecture that those proteins that extend all the way through the nerve cell membrane might form channels to allow strategic sodium molecules to pass during nerve firing. In other words, polar residues in the protein would ordinarily be bound to calcium ions. But when calcium binding to the protein ions is replaced by, say, potassium-ion binding there is a shift in molecular conformation or shape. Conceivably this molecular shift could cause a protein to open its channel, like a parting of the Red Sea, to allow sodium ions to slip through it, through the cell membrane and then into the cell.

Stanley and Rothschild have dubbed their channeled proteins "permions." They believe the permion theory can explain not just sodium entry into the excited nerve cell, but perhaps other kinds of ion transport through other kinds of cell membranes. If an energy molecule such as adenosinetriphosphate (ATP) is required to bring a certain ion into the cell against a concentration gradient, for example, ATP could conceivably cause the permion to open and close so that the right ions might ooze into the cell.

The Cambridge biophysicists are now faced with the challenge of experimentally confirming their theory. In the next several months they will try to obtain evidence that permions might indeed be regulating ion transport through the nerve cell membrane. They may use lasers to selectively examine proteins in the membrane, both when the nerve cell fires and is at rest, then to

examine the proteins for their molecular configurations. They are also aware that the work of other scientists in the membrane field may eventually confirm or negate their theory. James Danielli was about their age when he proposed his membrane model, and he had to wait 35 years to have his vision confirmed.

This lipid bilayer is then sandwiched between two sheets of proteins. The Davson-Danielli model is notable because it was suggested long before there was experimental evidence to support it. In fact, the clincher for the lipid bilayer came only last year through experiments conducted by Nobel Prize winner Maurice Wilkins of Cambridge University in England.

However, considerable other evidence has been mounting that tends to rule out the static, thin protein crusts on the bilipid layers in the Davson-Danielli model. The proteins in a cell membrane are now known to be globular, or tightly coiled, like little springs or balls. Different kinds of proteins, such as glycoproteins, have been identified in the cell membrane. Quite recently some proteins in the lymphocyte membrane were found to move and cluster in an immune reaction. Also, proteins tightly bound together in crusts could hardly allow ions to pass through a cell membrane into a cell, and such transport is the staff of life for cells. Most crucially, some proteins have been found to extend partially or all the way through the cell membrane. All this evidence, and more, conspires to mix the proteins of the cell membrane in with the lipids, rather than to have them form a sandwich around the lipids. Singer's lipid-globule protein membrane model includes this crucial alteration.

2nd Knapp Fellowship Awarded

The second Sherman R. Knapp Fellowship in Nuclear Power Engineering at MIT has been awarded to Pascal DeLaquil III, 23, a nuclear engineering graduate student from McKees Rocks, Pennsylvania.

Announcement of the award was made jointly by Mr. Lelan F. Sillin, Jr., chairman and president of Northeast Utilities, Hartford, Connecticut, which sponsors the fellowship, and Professor Edward A. Mason, head of the Department of Nuclear Engineering.

Mr. DeLaquil III, a native of Pennsylvania, attended the US Merchant Marine Academy at Kings Point, New York, where he was graduated third in his class of 182 in 1970 with a degree of bachelor of science in marine engineering.

He came to MIT in February of 1971 to begin graduate studies in nuclear engineering and, while attending the Institute has served as an engineering assistant at the nuclear reactor. He is married and has one child.

The fellowship, established under a \$10,000 grant from Northeast Utilities, is named in honor of Sherman R. Knapp. Mr. Knapp joined the Connecticut Light and Power Company in 1928, following his graduation from Cornell as an electrical engineer. He was elected president and director of CL&P in 1952 and chairman in 1954. He became president and chief executive of Northeast Utilities in 1966, following the affiliation of CL&P with Hartford Electric Light Company and Western Massachusetts Electric Company. He was chairman of Northeast Utilities from April 1968 to July 1970. He remains active in electrical and nuclear power industrial affairs throughout the northeastern region.

Friday Afternoon Club**

Music, conversation and all the cold draft Budweiser you can drink. Every Friday, 5:30pm, Ashdown basement games Rm. Admission: men \$1, women 50 cents. Must be 21.

Movies

Targets**

SC. Saturday, July 15, 7pm and 9:30pm, Rm 10-250. Tickets 50 cents. Must show ID.

Hidden Fortress**

SC Kurosawa Retrospective. Sunday, July 16, 8pm, Rm 6-100. Tickets 50 cents. Must show ID.

Other*

Film Society. Monday, July 17, 8:30pm, Rm 10-250. Tickets \$1.

Music

The Music Library will be open from 9am to 10pm every Monday during the summer.

Festival of Summertime Music*

MIT program of vocal works, including Brahms' Liebeslieder Walzer, Chavez' Three Nocturnes, I. Fine's settings from Alice in Wonderland and Schubert's solo quartets, performed by the Cambridge Vocal Quartet. Tuesday, July 18, 8pm, Hayden Courtyard. Free.

Dance

Folk Dance Club*

International folk dancing. Every Sunday, 7:30-11pm, Sala de Puerto Rico (exceptions to be posted).

Summer Dance Classes*

Dance Workshop. Beginning modern, Tuesday and Thursday, 12n-1:30pm; beginning ballet, Tuesday and Thursday, 3:30-5pm; intermediate/advanced modern, Monday and Wednesday, 7-8:30pm. McCormick Gym. Admission \$1.75/class. Hannah, 547-0398.

Folk Dance Club*

Balkan folk dancing. Every Tuesday, 7:30-11pm, Student Center Rm 407.

Modern Dance**

Tuesdays and Thursdays, 7-8:15pm, McCormick Gym.

Folk Dance Club*

Israeli folk dancing. Every Thursday, 7:30-11pm, Student Center Rm 407.

Friday Afternoon Dance Break*

International folk dancing on the Kresge Oval, every Friday (weather permitting), 12:30-1:30pm.

Exhibitions

Graphics*

Exhibition of graphics by Boston artists. Hayden Corridor Gallery, June 26-July 21.

Autographed Music Scores

Exhibition of autographed musical scores in honor of Klaus Liepmann and the Choral Society. Music Library (Rm 14E-109) through the summer.

Hart Nautical Museum*

Exhibits include "Naval Undersea Research and Development Center," and "The Art of Rigging." Bldg 5, first floor.

Religious Services and Activities

The Chapel is open for private meditation from 7am to 11pm every day.

Roman Catholic Mass*

Every Sunday, 10:30am, Chapel.

Hillel Religious Services*

Monday-Friday, 8am, Rm 7-102; Fridays, 7:30pm, Chapel; Saturdays, 9:30am, Chapel.

Divine Light Mission*

Discourses on the direct experience of Truth given by Guru Maharaj Ji. Every Monday, Wednesday, Friday, 7:30pm, Rm 4-145. Call 369-1603 (Concord).

Ananda Marga Yoga Society*

Group meditations. Every Tuesday, 5pm, Rm 14E-303. For information, call X3664.

Christian Bible Discussion Groups*

Every Thursday, 1pm, Rm 20B-031. Call Prof. Schimmel, X6739, or Ralph Burgess, X2415.

Islamic Society Prayers*

Every Friday, 12n, Student Center Rm 402.

Chinese Christian Fellowship*

Bible study, hymn singing, sharing. Friday, July 14, 8pm, Student Center Rm 473.

Free Draft Counselling*

Hillel, 312 Memorial Drive, X2982. Call or visit 10am-5pm.

*Open to the Public

**Open to the MIT Community Only

***Open to Members Only

†Freshmen encouraged to attend

Send notices for July 19 through July 28 to the Calendar Editor, Room 5-111, Ext. 3279, by noon Friday, July 14.



photographs by Margo Foote



One hundred and sixty children swapped pencils and rulers for baseballs and bats as another MIT Day Camp season opened June 26th.

The camp, open to the MIT community, runs for eight weeks on a two-week quarterly basis. The camp features swimming, arts and crafts, sailing, riflery, archery and outdoor physical activities. Campers range in age from six to 14 with an equal ratio of boys to girls.

As in past years, the counselors include college age students from all over the United States. The Camp is directed by Peter M. Close, now in his 10th season as director, and is assisted by Silvio Vitale.

The opening quarter was highlighted by the annual camp field day. All the campers were active in relay races, frisbie toss and the popular egg throw. After a full afternoon of play, the campers were treated to a watermelon feast.

The new quarter begins this week with a full contingent of campers. The annual camp swim show scheduled for Friday afternoon, July 21, will feature the various swim groups displaying newly acquired skills in the water.

The third quarter will be highlighted by the camp skit show followed by the fourth quarter's annual carnival on the last day of camp.

Contributions to Science and Humanity

(Editor's Note: Following is the summary of contributions by Dr. Victor F. Weisskopf to science and its relation to society published in Paris last month on the occasion of his receipt of the fourth Cino-Del Duca Award for a "message of modern humanism in arts and sciences." Dr. Weisskopf is Institute Professor and Professor and Head of the Department of Physics at MIT. The award, which includes a grant of \$30,000 for research, was established by the widow of the late French publisher of Paris Jour and Modes de Paris. Previous recipients were Austrian zoologist Konrad Lorenz, French playwright Jean Anouilh and Italian author Ignazio Silone. Dr. Weisskopf was the first physicist to be so honored for contributions to humanity and those contributions were set forth in the summary published by the Cino-Del Duca committee.)

Taming Atomic Energy

"In 1944, at the end of World War II, Weisskopf was one of a group of physicists who founded the Federation of Atomic Scientists. The group was working in Los Alamos on the development of an atomic bomb. The aim of the Federation was to acquaint the public with the dangers of atomic war, and with the beneficial potentialities of nuclear energy and nuclear medical applications. The Federation also worked for an international agreement against the use of nuclear weapons and on international exploitation of nuclear energy. Furthermore, it tried to keep the nuclear activities in the USA away from the military and proposed a non-military Atomic Energy Commission. The Federation of Atomic Scientists became a large organization of about 2,000 members. Weisskopf played a leading role in its council and participated actively in the dissemination of information to the public about the dangers and promises of nuclear energy.

"The aim of internationalization of nuclear energy was not reached. But the fight for a non-military Atomic Energy Commission was won.

"In 1949 Weisskopf joined the Emergency Committee of Scientists, a small group of scientists who, under the chairmanship of Albert Einstein, tried to direct the public and the government towards a policy of nuclear arms control and understanding between the Western and Eastern nations.

"In 1950, when the American government decided to go ahead with the construction of a hydrogen bomb, Weisskopf, together with eleven other prominent physicists, issued a public declaration in which they condemned the construction of such weapons, declared not to take part in the development, and asked the American government to make a solemn declaration never to use the bomb first. Part of the declaration reads:

"We believe that no nation has the right to use such a bomb no matter how righteous its cause. This bomb is no longer a weapon of war, but a means of extermination of whole populations. Its use would be a betrayal of all standards of morality and of Christian civilization itself."

Advancing Scientific Exchange

"From 1950 to 1953 Weisskopf was engaged in a campaign to facilitate the exchange of scientists between the USA and the rest of the world. At that time there were serious difficulties for European scientists to obtain visas for travel to the United States. Many prominent Europeans were not able to attend meetings in the USA or to visit American laboratories. The United States was in the grip of a wave of suspicion, which excluded many Europeans because of alleged, and mostly non-existing, leftist leanings. Weisskopf took systematic measures to convince congressmen and members of the government of the folly of these restrictions and the danger they presented to science and to the free exchange of men and ideas and to the reputation of the USA. His actions were to some extent successful. He was able to help many European scientists to obtain visas for scientific exchanges.

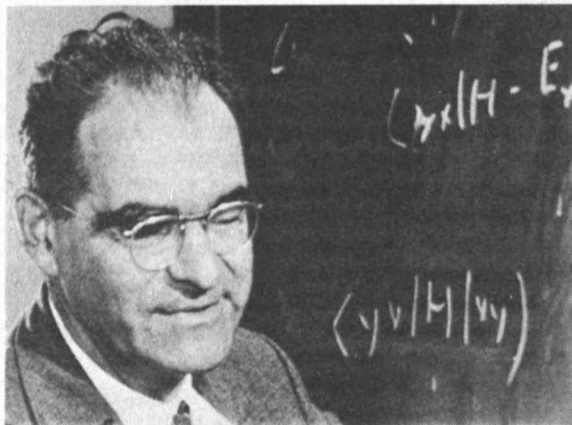
"In 1956 he took part in organizing the first international 'Atoms for Peace' conference in Geneva. It was the first time after the war that scientists from the USSR were able to join an international conference. In the same year he was one of the first western scientists who visited Russian laboratories after the death of Stalin. Since that time he continuously spent much

effort upon improving scientific relations between east and west. He made frequent visits to Russia, in order to establish scientific collaboration, to organize common meetings and discussions. Due to his efforts, many Russian scientists came to the USA and many western scientists visited the USSR.

"In 1957 he helped to organize the first "Pugwash Conference". This was an effort, led by Leo Szillard, to bring American, European and Russian scientists together in order to discuss not scientific questions, but the problems of establishing a durable peace. The idea of these conferences was conceived with the conviction that scientists are well suited for exploring the possibilities of mutual understanding and of building intellectual bridges between opposing political camps. Science is basically international. Scientists are accustomed to communicate common ideas across national and political barriers. Also, scientists have easy access to governmental circles in order to propose or discuss novel approaches. The financial support for these conferences came from the Canadian financier Cyrus Eaton, who invited the scientists to gather at his estate in Pugwash, Canada. These conferences have been held regularly since their inception in the summer of 1957 and have contributed much towards a better understanding of political problems between the east and west. The first initiative towards the stopping of atmospheric bomb tests came from Pugwash conferences, and many ideas of arms limitation and control were conceived and developed together by eastern and western scientists. Today's beginnings of nuclear arms-limitations between the USA and the USSR would not have been possible without the basis of mutual understanding which have been laid at the Pugwash conferences.

Rebuilding Europe

"Since the end of the war, Weisskopf was in close touch with the European efforts to rebuild Western European science after the ravages of World War II. In particular, he was involved in the plans to construct



Professor Weisskopf.

an international laboratory for fundamental physics, with the purpose of giving European physicists an opportunity to work at the frontier of particle physics, the science of the basic structure of matter. This fundamental field of research was initiated in Europe in the first third of the century; later it was mostly pursued vigorously in the USA, mainly because of the very large experimental means needed in that research. In the 1950's the European nations decided to pool their material and intellectual resources in order to be able again to participate on equal terms with the efforts in the USA and the USSR. This decision was most appropriate in two important respects: It opened up new possibilities for European science, and it presented an example of creative collaboration between the European nations.

Founding CERN

"The result was the foundation of an international research center in Geneva—the center for nuclear research, 'CERN'. Construction began in 1954 of two particle accelerators; the larger one being an instrument capable of accelerating protons to 28 billions of volts. It was to be the largest accelerator in the world at that time. Shortly after its completion, a similar facility was constructed in the USA.

"In 1960, the accelerators were completed and ready for scientific research. Unfortunately, the director, C. Bakker, died in 1960 in an airplane accident. Weisskopf was asked to take over as director-general. It was a most critical time for this European venture. The construction of the facilities was successfully achieved, and the laboratory had to change its aims from construction to research. Research had to be organized with international teams, and on a scale larger than ever done in Europe. Weisskopf's American experience in modern research and his acquaintance

with European ways of life—he was born in Austria and spent his first thirty years of life in different European countries—enabled him to tackle the task successfully. Under his leadership, and with the active help of many scientific leaders in Europe, the laboratory developed into a place where research into the deepest riddles of nature was carried out in a spirit of enthusiasm and devotion. CERN became a symbol of successful European cooperation, national differences among scientists and workers subsided, and the laboratory was considered as a model for the 'United States of Europe'.

Weisskopf emphasized that the laboratory had two important aims: On the one hand, the cultural aim of pursuit of knowledge and insight, the result of a human urge to know and to understand the world around him; on the other hand, the setting of an example to the world, that it is possible to do creative work on an international basis. A quote from H. G. B. Casimir's introduction to a volume dedicated to Weisskopf characterizes his activities at CERN:

"It is Weisskopf's unique achievement that he carried over the devoted idealism and the enthusiasm of his early days into a new world of organized research and large scale experimentation. Through the work he did at CERN, through the impact of his mature personality, he has had a profound influence on modern physics in Europe."

Weisskopf tried to expand the significance of CERN beyond the Western-European frame. He encouraged scientists from the world to participate in the work and persuaded the council of the institution to allow a generous use of funds for this purpose. He succeeded in attracting a large number of American physicists, Russian physicists and physicists from the Eastern European countries, and from other parts of the world. Collaborative agreements were made to work together in a systematic way, such that observations made at CERN could be evaluated at different places in the world. In particular, groups of scientists from Poland and from Czechoslovakia regularly made use of CERN facilities. He also initiated a major program between CERN and the new Russian accelerator laboratory in Serpukhov, which enabled CERN to collaborate effectively with the Russians by building special equipment for them which had been invented at CERN, and by sending European physicists to Serpukhov for research which could only be performed with the Russian machine. Such exchanges contribute much to mutual understanding and rapprochement of different cultures, and thus ultimately to a more peaceful world. Here also, as it seemed to be in the Pugwash conferences, the scientific community is particularly able to build the necessary bridges.

Blending Curiosity and Compassion

"All his life, Weisskopf worked for a broader and more philosophical approach to science. He fought the trends toward narrow specialization in modern science, and he insisted upon the necessity to present scientific insights to the public in an understandable way by emphasizing the philosophic and humanistic aspects of scientific insights. Science describes the relations between man and nature and, therefore, deals with human aspects as much as with natural phenomena. Emphasis on the human side of science and clear presentation of scientific results to the public should be one of the prime duties of scientists and not a secondary one as it is today. Weisskopf, himself, has written many essays on these subjects, and a book for the general public, called *Nature, Matiere, Vie* (Hachette, 1967). A collection of his essays will appear shortly. These essays demonstrate Weisskopf's deep awareness of the numerous ties between Science and man, Science as a philosophic insight into the nature of things, Science as the basis of technology and medicine, Science that has helped man to lead a more dignified life, Science that has vastly increased man's ability to destroy his fellow man and his environment.

His attitude towards science and humanity is characterized by a statement in one of his essays:

"Science cannot develop unless it is pursued for the sake of pure knowledge and insight. But it will not survive unless it is used intensely and wisely for the betterment of humanity and not as an instrument of domination by one group over another. Human existence depends upon compassion and curiosity. Curiosity without compassion is inhuman; compassion without curiosity is ineffectual."

Milne to Serve as Urban Liaison

(Continued from page 1)

versity-community activities. He will seek to be also an administrative resource for the academic departments to support and facilitate their urban interfaces and activities. Within the Institute he will be a communications link and a catalyst for action; outside the campus he will continue to serve as a resource for our local communities.

Mr. Milne has been active in a number of civic activities in Cambridge and Boston. A director of the Cambridge Model Cities program and the Cambridge Economic Opportunity Committee, he is also president of the East End Union, has served on the advisory boards of the Margaret Fuller House and of the former Alliance of Cambridge Settlements, and is a member of the Cambridge Civic Unity Committee.

A past officer and director of the Cambridge Chamber of Commerce, Mr. Milne was chairman this year of the Chamber's task force on program and priorities.

He is a director of the Reliance Cooperative Bank and a incorporator of both the Cambridge and Cambridgeport Savings Banks. He is also a member of the Rotary Club and the Cambridge Committee on the Bicentennial.

Mr. Milne has been the MIT liaison officer to the Cambridge Corporation and is on the board of the Northgate Community Corporation, both organizations with interests in providing housing in Cambridge. In addition, in the field of housing, he has provided liaison with a variety of neighborhood groups in the development of MIT's Turnkey housing program for low-income elderly, the largest such program in the country.

Mr. Milne is a member of the Just-A-Start Corporation, a new community development corporation, and he helped establish the Neighborhood Family Care Center, a resident-controlled health and social service center in Cambridge. He has also been active in a number of work-study type of programs in Cambridge. He insti-

tuted the summer jobs program of the Cambridge Chamber of Commerce; he is a member of the Cambridge Occupational Education Advisory Committee; and he served recently as chairman of the Citizens' Task Force on Occupational Education.

The founder and first coordinator of the Skills Bank of the Boston Urban Foundation, he is presently a member of the Technical and Policy boards of the Boston Urban Observatory. Mr. Milne has also been active for many years in the Boy Scouts, and he is presently a member of the executive board of the Minuteman Council and is commissioner for that council, which serves 19 cities and towns in the metropolitan area.

Mr. Milne came to MIT in 1951 from Worcester Polytechnic Institute where he had been a member of the faculty. He has since served the Institute in various capacities in the News Office, the Educational Council, Public Relations, and in the offices of the President and of the Chairman. Over the years he has been, in addition, secretary to a number of committees and councils at MIT, including the Committee on Educational Policy, the Academic Council, and, presently, the Advisory Committee on Shareholder Responsi-

bility. The author of a number of articles, Mr. Milne was also for a time the MIT Science Reporter on WGBH-TV in the early days of that educational station.

MIT Scientists Publish Articles

MIT scientists are authors of two different articles in this month's issue (July) of Scientific American.

"The X-Ray Sky" was written by Herbert W. Schnopper, professor of physics, and John P. Delvaille, a staff member at the Center for Space Research. The second article, "The Tokamak Approach in Fusion Research," was contributed by Bruno Coppi, professor of physics and staff member of the Research Laboratory of Electronics, and Jan Rem of the Netherlands, who until recently was a member of a team of Dutch plasmaphysicists working on Alcator, the Tokamak-type fusion experiment being built by RLE and Francis Bitter National Magnet Laboratory scientists at the Bitter Lab.

Obituaries

Walter Lee

Sergeant Walter Lee, 41, of the Campus Patrol died suddenly of a heart attack at his home in Billerica July 3.

Sergeant Lee came to the Institute in 1963 after serving with the Boston Police Department for several years. Funeral services were held last Friday at St. Margaret's Church, Dorchester.

Captain James Olivieri of the Campus Patrol praised Sergeant Lee as a "fine gentleman and officer" who was well liked.

Alfred Carew

Alfred F. Carew, 53, of Somerville, a guard at Draper Laboratory, died July 5.

Mr. Carew had been with the Institute since June, 1957. He is survived by his wife Margaret and a daughter, Mrs. Mary Anne Dunbar of Groveland. Funeral services were held in Boston on July 7.

Louis DeSario

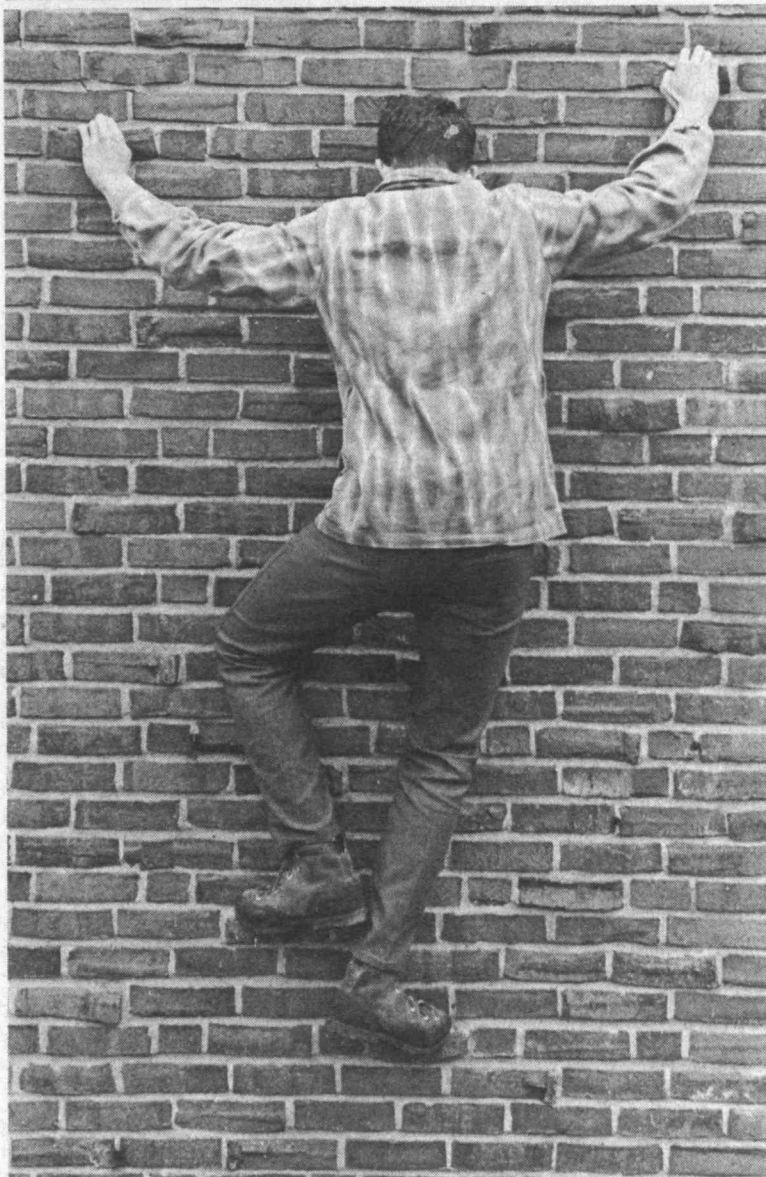
Louis DeSario, 61, of Dorchester, a custodian at Draper Laboratory, died July 1.

Mr. DeSario had been an employee at the Institute since April, 1968. He is survived by his wife Rose and four children, Frank, Joseph, Dolores and Mrs. Marie Spicuzza. Funeral services were held in Hyde Park on July 3.

Patrick Mescall

Patrick C. Mescall, 56, of Cambridge, an employee of Physical Plant since 1963, died July 8.

He is survived by his wife Delia and nine children, Mary T., Patrick T., Raymond F., Kathleen R., Irene L., Shelia E., Thomas J., Susan, and Michael J. Funeral services were held July 12 in Watertown.



Climbing the Walls....

—Photo by Margo Foote

Upward Bound Begins Session at Wellesley

The MIT Wellesley Upward Bound Program began its fourth summer residency session when 60 high school students from Cambridge arrived at Wellesley College July 4 for a six-weeks stay.

The summer at Wellesley is a highlight of the year-round Upward Bound program. Upward Bound provides supplementary help to college-bound students through academic tutoring, personal counseling, cultural enrichment and recreation.

Upward Bound classes are limited to 10 students with a staff-student ratio of one to two. Classes included in the summer session range from astronomy and computer science to sociology, drama and mathematics.

Summer students and program directors live in a Wellesley dormitory and use classroom and

recreational facilities on the campus. Classes are conducted by teachers from the Cambridge public schools. Director is John Terry, an instructor in architecture at MIT.

Nicholson

(Continued from page 1)

professional assignments for the Special Libraries Association and the American Libraries Association and has published extensively in professional journals. Last March she received the Alumni Achievement Award from the Simmons College School of Library Science, and she is currently a member of the Boston Joint Program for Minority recruitment to Librarianship.

Miss Nicholson lives at 37 Wendell Street, Cambridge

Rabin Named Visiting Mathematics Professor

Dr. Michael O. Rabin, professor of mathematics and rector of The Hebrew University in Jerusalem, has been appointed visiting professor of applied mathematics in the MIT Department of Mathematics.

Professor Rabin is a mathematical logician and is internationally recognized as one of the outstanding contributors to computer science.

Professor Rabin's appointment is for each of the fall terms over the next four years, starting in the fall of 1972. This allows Dr. Rabin to spend half of each academic year at MIT and the other half at The Hebrew University. He plans to teach and conduct research on

mathematics and computer science at the Institute.

Professor Rabin was previously a visiting associate professor at MIT in 1962-63. He received his Ph.D. degree from Princeton University in 1956, was an instructor there, and worked at the Institute for Advanced Study for a year. He was visiting associate professor at the University of California at Berkeley in 1961-62. In the US, he has also worked for Bell Telephone Laboratories and IBM.

In 1960, Professor Rabin won the Chaim Weizmann Prize for Exact Sciences. Dr. Weizmann was the first president of Israel, from 1948-52.

3 MIT Artists Attend Architecture Seminar

Three MIT artists were among nine noted architects who participated in a seminar entitled "The Structure and Mythology of Post Modern Architecture" in New York City last week.

They are: Pietro Belluschi, dean emeritus of the School of Architecture and Planning; Friedrich St. Florian, a fellow at the Center for Advanced Visual Studies; and

Guiliano Fiorenzoli, who did graduate work in the Department of Architecture in 1970-71.

The seminar was sponsored by the Society for Arts, Religion and Contemporary Culture. An exhibition of the architects' work was organized in conjunction with the seminar and will remain on display at the Interchurch Center, 475 Riverside Drive, New York City, through July.

Campus Patrolman Explains Picture of Bicycle-less Wheel

Campus Patrolman Robert F. Solakoff has offered an explanation for the picture of the lonely wheel chained to a bicycle rack which appeared in the June 28 issue of *Tech Talk*.

Mr. Solakoff said he witnessed the theft which separated the wheel from its bike. On the afternoon of June 20, Mr. Solakoff said he saw a juvenile on an old bicycle looking over bikes chained to a rack near West Campus. He then saw the youth ride down an alley

behind Bexley Hall.

Two or three minutes later the boy walked back to the bike rack—an extra wheel and wicker basket in hand—and proceeded to install the wicker basket on the bicycle of his choice and remove its front wheel. He apparently planned to replace the wheel with the spare he had brought along. Before the boy could install the new wheel and ride away, however, Mr. Solakoff took him into custody. A disposition of the case is still pending.

CLASSIFIED ADS

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and extension. Only Institute extensions may be listed. Members of the community who have no extensions may submit ads by coming in person to the Tech Talk office, Room 5-111, and presenting Institute identification. Ads may be telephoned to Ext. 3270 or mailed to Room 5-105. The deadline is noon Friday.

For Sale, Etc.

Triplett 850 VTVM, \$30; MacIntosh C-24 preamp, \$130; MAGRA IV-L sync, mono tape recdr; Tektronix 453 scope, \$1600; AR trntbl w/Shure M91-E cart, \$60. Cunningham, X2514.

Roof rack & box, \$10. Jacob, X478 Draper.

Child's bicycle seat, brand new cond, \$4.50 or best. Evelyn, X1942.

Wdn chrs, 2, bl/grn tweed rocking chr, reasonable; Wtd: card tbl. Peggy, X1757.

Guitar w/case, German Hoyer, perf cond, yr old, orig \$150, asking \$90. Caroline, X2054.

Layette, \$9; sm basket crib, \$5; lg baby carriage, \$12; fold feed tbl, \$12; collapsible stroller, \$14; GE elec clothes dryer, \$80. Tony, X5780.

