Massachusetts Institute of Technology

# TECH TALK TECH TALK TECH TALK TECH TALK

June 2, 1971 Volume 15 Number 33

## Nearly 1,300 to Receive Degrees on Friday at 105th Commencement

MIT will confer degrees on nearly 1,300 seniors and graduate students at the school's 105th graduation exercises Friday, June 4.

Some 750 will receive bachelor degrees, including 45 young women-the largest number of coeds in a graduating class in MIT history. In addition, 26 young women will receive graduate degrees, also a record.

The exercises will begin at 10 am Friday in MIT's Rockwell Cage. President Howard W. Johnson, in keeping with MIT tradition, will give the main address and award the degrees.

On Thursday, June 3, Julian Bond, young black Georgia legislator and nationally-known lecturer, will present the commencement, convocation address to members of of the Class of 1971 starting at 3 p m in MIT's Kresge Auditorium. Mr. Bond led the Georgia delegation to the 1968 Democratic convention where his name was proposed for nomination for president.

Also on Thursday, June 3, Vice Admiral Edwin B. Hooper, official U.S. Navy historian, will address ROTC commissioning exercises for 14 Army, 11 Navy and 11 Air Force cadets starting at 11 a m in Kresge Auditorium.

Friday's graduation will be preceded Thursday evening by the annual graduation eve party at the MIT Student Center attended by seniors and their guests, including faculty and staff.

The graduation exercises Friday morning will mark the last commencement for Mr. Johnson as president. He will become chairman of the MIT Corporation July 1 and Dr. Jerome B. Wiesner, now provost, will become MIT's 13th president.

Also in keeping with tradition, presiding officer at the Friday morning exercises will be the present chairman of the Corporation, Dr. James R. Killian, Jr., who retires July 1 after 43 years of service to MIT. Dr. Killian is a former president of MIT and was science advisor to the late President Dwight D. Eisenhower.

The exercises will begin with the academic procession of faculty, officials and students led by the chief marshall, Paul V. Keyser, New York City, president of the MIT Alumni Assn. A 1929 MIT graduate, Mr. Keyser is the retired executive vice president of Mobil Oil Co.

The procession will include some 100 members of the Class of 1921, the largest representation of graduates from 50 years ago to ever participate in an MIT commencement. Leading the class will be its vice president, Irving D. Jakobson, Glen Cove, N.Y. while its president, Raymond A. St. Laurent, Manchester, Conn., also will be in the audience.

An unusual aspect of graduation will be the use of electronic music. There will be, as usual, a brass and percussion ensemble conducted by John D. Corley, Jr.

of the MIT music department. The ensemble will present several selections as preludes and recessionals.

In addition, three pieces of electronic music will be presented through an eight-channel speaker system installed for this purpose.

One of the selections, Processional Music (1971), was composed specifically for this year's commencement processional by Paul Earls, music professor at Duke University who has spent this year as a Fellow at the MIT Center for Advanced Visual Studies. Using primarily a Moog Synthesizer at the Center, he has composed a selection—which includes parts for the brass and percussion ensemble to play, also—of variable length, making it particularly suited for a processional.

The other two pieces are by the New York composer, Bulent Arel, who will supervise the performance.

Graduation will be followed by the commencement luncheon in the MIT Great Court. Selected by his classmates to speak there for the 50-year Class of 1921 will be Augustus Kinzel, LaJolla, Calif., retired president of Union Carbide and Carbon Corp., and a former president of the Salk Institute at LaJolla

Selected to speak for the Class of 1971 at the luncheon is Diane Feldman of Newton Centre, Mass., a member of the class executive committee and one of the graduating coeds.

Other 1971 Class officers are: Howard J. Siegel, New York City, president; George P. Novosielski, Rochester, N. Y., vice president; Paul S. Snover, Winnetka, Ill., secretary-treasurer; and Bruce W. Rummel, Cambridge, Mass., Leah H. Jamieson, Deal Park, N.J., Stuart A. Marson, New York City, Stephen C. Ehrmann, Allison Park, Pa., and Michael S. Gilmore, Pocatello, Ida., executive committee members.

As their gift to the university, members of this year's class are establishing a special fund to support an annual Kent State Memorial Lecture. Interest from the fund will be used to bring prominent speakers to MIT to lecture or debate crucial issues of public policy.

This year marks the 100th anniversary of the admission of women students to MIT. There have never been bars to women at MIT, but the first to enter was Ellen Swallow Richards who was admitted in 1871 and who later became an instructor in chemistry and the first woman member of the MIT teaching staff. MIT's enrollment now includes some 530 women students, 285 of them undergraduates, and the number is growing annually. There are 69 women on the teaching staff, including 17 of professorial rank.

Over the weekend and on Monday, June 7, the focus of attention will shift to alumni. All told, more than 3,000 alumni will be participating on one or more events.

Ten alumni classes spaced at five-year intervals will hold week-end reunions—five of them on campus (1921, 1941, 1946, 1961, and 1966) and five others at New England resorts.

On Monday, June 7, alumni of all classes will gather on campus for MIT's annual Homecoming Day. Panel programs will deal with science and public policy and a principal participant will be Dr. Edward E. David, science advisor to President Nixon.



Left to right, Tony Gedraitis, Steve Rosolik and Horace Hayden adjust the drapes in the cage. See story, page 2.

-Photo by Margo Foote.

#### Killian Reception

All members of the community are invited to attend a reception honoring Dr. and Mrs. Killian on Friday afternoon. Sponsored by the Silver and Quarter Century Clubs, the reception will be held from  $\overline{3}$  to 5 p.m. in McDermott Court or in Walker if the weather is inclement.

### Keil Appointed Dean of Engineering

Dr. Alfred H. Keil, professor and head of the Department of Naval Architecture and Marine Engineering and a proponent of multidisciplinary education for engineering generalists, has been appointed Dean of the School of Engineering effective July 1, replacing the present Dean, Dr. Paul E. Gray, who becomes Chancellor and principal deputy to the President on that day.

Announcement of the appointment was made by Dr. Jerome B. Wiesner, Provost, who will become President of the Institute on July 1.

Dr. Keil becomes dean of the engineering school--the Institute's largest school in terms of enrollment--at a time of growing concern with the relationships between technology and society.

In recent comments presented before the Commission on MIT Education, Dr. Keil said the key questions the world faces are "how mankind can live with advancing science and technology, how it can be applied for the benefit of mankind, and in which areas are advances in science and technology particularly needed for the next decades?"

One contribution MIT can make during the rest of this century, he said, is "to substantially strengthen the opportunity for the education of multidisciplinary generalists who not only understand science and engineering, but also the interaction between advancing science and technology and the development of society, and who are motivated toward-solving real world problems."

Dr. Keil has urged the development of predictions of the impact of engineering on the environment and society and the concurrent development of the engineering solutions that will minimize adverse effects.

Dr. Keil has been head of the Department of Naval Architecture and Marine Engineering, the oldest academic department of its kind in the US, since 1966 and during that time the interests and activities of the faculty and students in the department have expanded to encompass the whole of ocean engineering and utilization. The engineering science base of the department strengthened. New subjects have been added in a variety of ocean engineering areas--commodity shipping systems, marine economy, public policy and use of the seas, etc.--in efforts to give the students the opportunity to develop total systems perspectives.



Professor Keil will become Dean of the School of Engineering in July.

-MIT Photo

A graduate degree program in ocean engineering was installed by the department in 1967 and supplemented by a joint degree program with Woods Hole Oceanographic Institution in 1969.

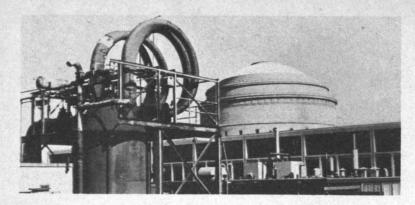
At the same time, the department has maintained a preeminent program of education in naval architecture, marine engineering, shipping and ship building management. The department was started in the early 1890s when professors in mechanical engineering became interested in the then-burgeoning technology of steam power for marine propulsion. Some of the world's leading ship designers are graduates of the department.

Dr. Keil, a native of Germany, received the Doctor of Natural Science degree from Friederich Wilhelm University in 1939 and worked as a research associate for the German Navy during World War II. After the war, he worked for the US Naval Technical Mission in Germany from 1945 to 1946 and came to the US in 1947 to work in the Navy's Bureau of Ships. He was chief scientist of the Navy's Underwater Explosion Research Division, Portsmouth, Va., for 12 years and became recognized as an authority on ship protection.

In 1959, Dr. Keil became Technical Director of the Structural Mechanics Laboratory at the Navy's David Taylor Model Basin in Washington, D.C. and became Technical Director for the entire organization there in 1963. He left that post to come to MIT in 1966.

Among several honors, Dr. Keil includes election to the National Academy of Engineering in 1966, the Gibbs Brothers Medal of the National Academy of Sciences in 1967, the Navy's Distinguished Civilian Service Award and the Gold Medal of the American Society of Naval Engineering. He is a member of the American Physical Society, the Society of Naval Architects and Marine Engineers and the Marine Technology Society. He is the author or coauthor of more than one hundred technical reports and papers in the professional literature.

Dr. Keil and his wife, the former Ursula Leppelt, have two grown sons. The family lives on Hillside Terrace, Belmont.



This object, which might be mistaken for a piece of modern sculpture, is actually an air preheater used for the simulation of high altitude ramjet combustion conditions. It is located on the roof of the Fuels Research Laboratory.

-Photo by Margo Foote

#### **Environment Subjects for Undergraduates**

Educational programs in Environmental studies will be available for undergraduates under an information and advising project undertaken by the Interdisciplinary Environmental Council (See Tech Talk, May 19,). A subcommittee of the IEC Chaired by Professor Peter Eagleson, has been in touch with academic departments concerning sample programs of study an undergraduate might take in the environment within his undergraduate concentration.

The subcommittee has asked departments to identify faculty who will serve as environmental advisors for undergrads interested in an environmental concentration. They will also serve as liaison between the department and the emerging environmental activities within the Institute.

These various educational activities complement the efforts already underway by a number of faculty. The Interdisciplinary Environmental Projects Laboratories which started in September of 1970 and the Environmental Measurements Projects Laboratory each under the auspices of faculty from several departments will also continue in 1971-72. Some of the Undergraduate Policy Seminars and the regular Undergraduate Seminars have environmental concerns and undergraduate students are urged to investigate these.

These sample courses of study and the lists of departmental advisors will be made available to undergraduates through the registration materials sent to all students during the summer. Arrangements have also been made for an environmental presentation to be made during orientation activities in September. The graduate students who have worked on this with Professor Eagleson and the Office of the Provost are David E. Burmaster Steven Ehrmann, and Bruce Hamilton, all students members of the IEC. Faculty and students interested in pursuing aspects of environmental education should get in touch with the Office of the Provost.

#### News Office Wins Information Award

The News Office has been selected as one of five top winners in the 1971 National Honors Competition of the American College Public Relations Association.

The winning entry was a report on the publicity program used to promote last summer's Clean Air Car Race. It included an extensive documentation of the objectives, execution and special problems related to the publicity program, as well as press releases, hundreds of clippings, newsletters and promotional aids

The News Office will receive a of Exceptional Certificate Achievement and a \$500 incentive grant as recognition for the "most outstanding information project entered in the entire competition."

Entries in the competition were classified according to categoryprogram management, financial support or information. MIT was the only institution awarded an incentive grant for an information project.

The awards will be presented in July at the ACPRA national conference in Washington.

#### Months of Planning Precede Graduation

The pomp and circumstance that mark Commencement have been a long time in the planning.

The responsibility for coordinating and overseeing the entire affair rests with a 24-man committee. Each fall, the committee starts planning for the next Commencement, in cooperation with the graduating class.

One of the biggest jobs is Physical Plant's. Since April men have been busy carrying out 183 separate operations in preparation for graduation, the Commencement Convocation, the President's luncheon and Alumni Homecoming.

In Rockwell Cage, for example, Physical Plant men have been building, painting, decorating and carpeting the stage where the 330 guests of honor and faculty will sit. They have set up some 4,300 folding chairs for the audience. Various decorations, such as class banners from previous years, diploma racks and a special large MIT seal have been taken out of storage and refurbished for the occasion. The entire Cage has been decorated with a special set of drapes. After the one big day the whole assembly, including the elaborate steel and wood stage, will be broken down and returned to moth-

Outfitting the Marshals and degree recipients is another big job. The Chief Marshal's robe and hats for all the marshals have been brought out and steamed or pressed. Meanwhile, the Coop has been handling hundreds of orders for caps, gowns and hoods that the graduates will wear.

Countless other tasks have been taken care of. Campus Patrol and the Cambridge police will assign extra men to the Cage and the Great Court during times of activity. The 1,300 degrees that President Howard W. Johnson will award have been carefully sorted by the Registrar to be sure each diploma reaches the right recipient. So that the speakers will not be drowned out, Audio-Visual has made arrangements for air traffic to be diverted from flying over MIT during the ceremonies.

#### Johnson Testifies on **Environment Before** Senate Group

In testimony before a Senate subcommittee recently, President Howard W. Johnson spoke on contributions universities toward a national research effort in environmental quality control. He also expressed his views on the establishment of a National Environmental Laboratory System proposed in a bill before the Subcommittee on

Mr. Johnson told the subcommittee of the Committee on Public Works that the problems of environmental quality control require approaches different from those used by institutional laboratories in other fields. "Our



Bill McDonald touches up the paint on the stairway railing in the cage.

-Photo by Margo Foote

#### approach which has served us so effectively when dealing with such problems as a complex weapons system or even a limited environmental problem as the Apollo capsule, seems scarely adequate in relation to problems that differ so profoundly in both scale and complexity," he said. "Whatever structure or, more likely system of institutional structures emerges will have to satisfy many purposes - both basic and applied research, development, demonstration,

classic research and development

In speaking of such institutional laboratories as Los Alamos, the Jet Propulsion Laboratory and Lincoln Laboratory, Mr. Johnson emphasized that one reason for their success was that they have had "well-defined problems." He noted that traditional R & D techniques might not prove adequate for the broad problems of environmental quality control, which are less well defined.

early warning, evaluation and

feedback."

Mr. Johnson recommended two activities he would like to see expanded -- research and educational activity in universities and a national system of environment laboratories. Besides having the manpower and facilities to cope with environmental problems, schools could provide curricula oriented toward environmental problems as a major part of their contribution.

The system of national labs proposed in S.1113, the bill the subcommittee was holding hearings on, also had Mr. Johnson's approval. He stressed, however, that other aspects of an environmental research program planning, monitoring, communicating and long range research - were needed in a systematic effort to deal with the nation's environmental problem.

#### Symposium on Art

A tribute to Lawrence B. Anderson, retiring Dean of M.I.T.'s School of Architecture by artists, architects, city planners and other colleagues took place at Krege Auditorium on May 19. Addressing the hundreds who gathered for this tribute, John E. Burchard, told the audience that "No honor could have been more appropriately designed."

The theme of this tribute-a daylong symposium titled Art in Civic Scale-was an investigation of the role architects, city planners, artists, and others can and are playing in revitalizing man's urban environment.

#### TECH TALK

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#### Signer Mobbed by Newsmen After Return



Left to right: Dr. Galston, Premier Chou En-lai, and Dr. Signer. Picture was made during a two-hour interview the scientists had with the Chinese

Dr. Ethan Signer, associate professor of biology who returned from a two-week visit to Communist China last week, has become the Institute's newest celebrity. Newspapermen and radio and television commentators are eager to hear about his adventures.

Professor Signer and his associate, Dr. Arthur W. Galston of Yale University, are believed to be the first American scientists to visit mainland China in more than 20 years. After completing a 17-day lecture tour in North Vietnam, the two biologists were invited to visit China. They were given a warm

welcome and toured a number of research laboratories, conferring with Chinese scientists. The two biologists also had interviews with Premier Chou En-lai of China. Premier Pham Van Dong of North Vietnam and exiled former Cambodian Premier Prince Norodom Sihanouk.

Since he arrived home, Professor Signer has appeared on the Dick Cavett Show, Channel 5's The Week Ends Here, and last night he spoke with Louis Lyons on Channel 2. Sometime this week he will also be heard on NBC Radio's Monitor.

Air and Water Pollution.



#### June 3 through June 11, 1971

Send notices for the week of June 10 through 18 to Mrs. Alice Tripp, Calendar Editor, Room 5-122, Ext. 1766, by noon on Friday, June 4.



Mrs. Barbara Eachus handles an inquiry in the Department of Urban Studies and Planning.

-Photo by Margo Foote.

#### Barbara Eachus to Become MBE

Mrs. Barbara Eachus, secretary in the Department of Urban Studies and Planning, will receive the Member of the Order of the British Empire medal June. 8 in Wash-

Mrs. Eachus, whose award is the same one the Beatles received six years ago, will be cited for "service to Anglo-American relations."

Before she came to MIT Mrs. Eachus worked in the Foreign Office in London, analogous to our State Department. From there she moved to the British Embassy in Washington, D.C. When she married an American, regulations required that she leave the Embassy, so she came to the Consulate General here in Boston.

She calls her years working for the Consul General "rather dull. Newspapermen always asked questions like 'Will Britain get into the Common Market?' and American tourists wanted to know 'What's half a crown in real money?' " Often she had to help sailors who had missed their ships because they had overstayed their leave. She did, however, get to meet all the British VIPs who came to America, such as Prime Minister Edward Heath, former Prime Minister Sir Anthony Eden for whom she worked after the 1956 Suez crisis, and actor Nicol Williamson.

Mrs. Eachus also worked on the Marshall Scholarships, a group of 26 government-sponsored grants to Americans for study at British universities of their choice. Professor Roy Lamson, one of the few Americans who have been named Officer of the Order of the British Empire, was chairman of the Marshall Scholarship Committee. As a result, he and Mrs. Eachus are old friends.

Now Mrs. Eachus is Professor Lloyd Rodwin's secretary and handles departmental matters in Urban Studies and Planning. She has had a colorful career in foreign service, soon to culminate in her receipt of the MBE.

#### Events of Special Interest

Commencement Exercises++ for graduates and their guests. Friday, June 4, 10:30 am. Rockwell

MIT Alumni Homecoming Sunday, June 6 International Buffet Student Center, 5 pm. Tech Night at the Pops - \$6.50, \$4.50, \$3, \$1, Symphony Hall, 8:30

For information and reservations contact the Alumni Office E19-437,

MIT Alumni Homecoming

Monday, June 7. Debate on Science & Public Policy. President Howard Johnson and Professor Eugene Skolnikoff, Head of MIT Political Science Department, will moderate two panels. The panelists, including Clarence Linder, President of the National Academy of Engineering; Edward David, Science Advisor to President Nixon; and Paul Gray, MIT Chancellor-elect, will explore ways that technology can be made more responsive to the broadest needs of our society.

Kresge Auditorium, 9:30 am and 2:20 pm.

Reception for Dr. James R. Killian, Kresge Mall area, 5:30 pm, \$3.

For information and reservations contact the Alumni Office E19-437,

Senior Class Convocation++ Julian Bond, Georgia State Senator, will speak. Thursday, June 3, 3 pm. Kresge

Graduation Eve Celebration++ Faculty, graduates and their guests are cordially invited. Thursday, June 3, 8:30 pm. Student Center, Sala de Puerto Rico

#### Seminars and Lectures

Tuesday, June 8

Auditorium

Investigation of the High-Temperature Reaction of O2 with Graphite by Molecular Beam and Mass Spectrometric Techniques Professor Donald R. Olander, University of California, Berkeley. 10 am. Room 3-370

Wednesday, June 9

Present State of Spectrum Calculations in Solids+ Dr. Gideon Gilat, IBM, San Jose

4:15 pm. Second Floor Conference Room, Bitter National Magnet Lab. Tea and coffee, 4 pm.

#### Student Meetings

International Students Council+

Thursday, June 3, 4:30 pm Walker Memorial, Room 201

THURSDAY++

Meeting Thursday, June 3, 8 pm. Walker Memorial, Room 201

TECH ENGINEERING NEWS++ Weekly Staff Meeting Sunday, June 6, 5 pm. Student Center, Room 453.

ERGO++ Meeting Sunday, June 6, 6 pm. Student Center, Room 443.

Student Information Processing Board++

Meeting Monday, June 7, 7 pm. Room 39-585.

For more information call x7788

International Students Council+ Meeting

Thursday, June 10, 4:30 pm. Walker Memorial, Room 201

THURSDAY++

Meeting

Thursday, June 10, 8 pm. Walker Memorial, Room 201

#### MIT Club Notes

Baker House SPAZ Jogging Club++ Jogging around BU and Harvard

Daily, 10:45 pm. Baker House, Second Floor West.

Outing Club+

Thursday, June 3; Monday, June Thursday, June 10; 5 pm. Student Center, Room 473.

Nautical Association++ Basic Sailing Shore School Repeated every Thursday and Monday through the spring, 5:15 pm. MIT Sailing Pavilion.

Pistol and Rifle Club++ Basic Pistol Marksmanship

Course. Offered for five consecutive Thursday evenings from 6:30 to 8:30 pm, beginning June 3.

duPont Gym, Pistol Range. Limited to the first 20 adults who apply. There is a fee of \$10. For more information call Herald Sulahian, x3989.

Judo Club++

Friday, June 4; Monday, June 7; Wednesday, June 9; 5 pm. Saturday, June 5, 1 pm. duPont Gym Exercise Room.

Science Fiction Society+ Friday, June 4, 5 pm. Spofford Room, 1-236.

Friday Afternoon Club

Friday, June 4, 5:30 pm. Ashdown House, Games Room. Men \$1, women free.

Pot Luck Coffee House+

Friday, June 4; Saturday, June 5, Student Center, 8:30 pm. Mezzanine Lounge.

Bridge Club+++ Saturday, June 5, 1 pm. Student Center, Room 491

Tech Model Railroad Club++ Saturday, June 5, 4 pm. Room 20E-

SANGAM+

Film: "Mahal," with Dev Anand and Asha Parekh. Saturday, June 6, 3:30 pm. Room

26-100. Members \$1.25; non-members \$1.75. For more information call 491-0080.

Baha'i Discussion Group+

Meeting Monday, June 7, 8 pm. McCormick

Classical Guitar Society++ Classical Guitar Classes Tuesday, June 8, 5 pm. Room 1-132.

MIT-DL Duplicate Bridge Club++ Tuesday, June 8, 6 pm. Walker Memorial, Blue Room.

Fencing Club+ Tuesday, June 8, 7 pm. duPont Fencing Room

Math Club+ Wednesday, June 9, 7 pm. Room 2Judo Club++ Friday, June 11, 5 pm. duPont Gym

Exercise Room.

Science Fiction Society+ Friday, June 11, 5 pm. Spofford

Room, 1-236

Friday Afternoon Club

Friday, June 11, 5:30 pm. Ashdown House, Games Room. Men \$1, women free

Pot Luck Coffee House+ Friday, June 11, 8:30 pm. Student Center, Mezzanine Lounge.

#### Dance

Modern Dance Classes++ Intermediate-Advanced Thursday, June 3, 5:30 pm. McCormick Gym.

Balkan Dancing+

MIT Folk Dance Club Basic, Intermediate, Advanced. There will be a party the first Tuesday of every month, classes held on all other Tuesdays. 7:30 pm. Student Center, Room 407. For more information call Jane Wieman, 876-5609.

Dance Development Class++ Friday, June 4; Monday, June 7; Wednesday, June 9; Friday, June 11; 5:15 pm. McCormick Gym.

International Folk Dancing+ MIT Folk Dance Club Sunday, June 6, 7:30 pm. Student Center, Sala de Puerto Rico.

Israeli Folk Dancing+

MIT Folk Dance Club Every Thursday; party last week of each month. 7:30 pm, Student Center, Room 407. For information call Robert Donaghey, 868-8810.

Square Dance Club+ For information call x6213 Tuesday, June 8, 8 pm. Student Center, Room 491.

Modern Dance Classes++ Intermediate-Advanced Thursday, June 10, 5:30 pm. McCormick Gym.

#### Exhibitions

Seymour Lipton: Recent Sculpture+

20 sculptures from the past five years, of nickel, silver or bronze on Monel metal. Sponsored by the MIT Committee on the Visual Arts, courtesy of Marlborough Gallery, NY. Drawings by Seymour Lipton

are on exhibit in the Hayden

Lobby. June 2 - September 19.

10 am - 5 pm daily through June 4; 1-5 pm daily from June 5 through the summer.

Hayden Gallery and Courtyard.

Original Photographs by Ralph Eugene Meatyard+

Weekdays, 10 am - 6 pm, weekends,

Creative Photography Gallery, duPont Gym, Third Floor, through June 5.

Steamboat Design+

Details of Robert Fulton's steamboat "North River" and other early American steamboats. Hart Nautical Museum, Building 5, First Floor, through June.

Deep-Ocean Mining+ Material from Sea Grant Project Office.

Hart Nautical Museum, Building 5, First Floor, through June.

Main Corridor Exhibitions+ Presented by students and departments Buildings 7, 3, 4, 8.

#### Religious Services and Activities

Christian Bible Discussion Group+

For details contact Professor Schimmel, x6739. Thursday, June 3, 12:15 pm. Room 20B-031.

**Vedanta Services** Friday, June 4, 5:15 pm. MIT Chapel

Vedanta Discussion Hour Friday, June 4, 6 pm. Ashdown

MIT Hillel Religious Service Friday, June 4, 7:30 pm. MIT Chapel.

Saturday, June 5, 9 am. MIT

Chapel Christian Worship Service

Sunday, June 6, 11 am. MIT Chapel Roman Catholic Mass Sunday, June 6, 11 am. MIT Chapel

Christians Meet for Dinner Tuesday, June 8, 6 pm. Ashdown Cafeteria

Society of the Latter Day Saints Wednesday, June 9, 8 am. Student Center, Room 473.

Christian Bible Discussion Group+

For details contact Professor Schimmel, x6739. Thursday, June 10, 12:15 pm. Room 20B-031.

**Vedanta Services** Friday, June 11, 5:15 pm. MIT Chapel

**Vedanta Discussion Hour** Friday, June 11, 6 pm. Ashdown House

MIT Hillel Religious Service Friday, June 11, 7:30 pm. MIT Chapel

The Chapel is open for private meditation from 7:30 am to 11 pm every day.

#### Athletics

Rugby Club Practice+

Thursday, June 3; Tuesday, June 8; Thursday, June 10; 5 pm. Briggs

#### Don't Forget

Membership certificates for those initiated this year have now been received from the Society of the Sigma XI headquarters. Please collect your certificate from the Office of Professor Garg, Room 3-453, x 6234.

The Technology Nursery School is now accepting applications for next fall. Please contact Jesse Davies 491-3634 for information. The Nursery School will also provide a kindergarten five afternoons per week. For information, call Allison Huey 547-

Additions and corrections received too late to be included in this edition are listed in the INSTITUTE CALENDAR section of the bulletin board in the lobby of building 7.

+Open to the Public ++Open to the MIT Community Only

+++Open to Members Only ++++Freshmen interested in

departmental program couraged to attend.

## CLASSIFIED ADS

Ads may be telephoned to Ext. 2707 or mailed to Room 5-122. Ads must include full name and extension or room number. Ads are limited to one per person per issue and may not be repeated in successive issues. The ad deadline is 5pm, Wednesday.

#### New Books Out

Associate Professor H. Eugene Stanley of physics has come out with a new book, Introduction to Phase Transitions and Critical Phenomena. It was published recently by the Oxford University Press as part of the International Series of Monographs.

Gaugin's Paradise Lost, a new survey of the French painter's career by Professor Wayne V. Andersen of architecture, has been reviewed favorably by The New York Times. Professor Andersen's account of the stockbroker who went to Tahiti to paint dispels Gaugin's legend and provides "an extremely useful key to viewing Gaugin's art," according to the Times reviewer. The book was published by the Viking Press.

The MIT Press soon will publish History and Class Consciousness: Studies in Marxist Dialectics by Georg Lukacs, translated by Rodney Livingstone. This is the first time one of Lukacs' most important early (1923) works has been made available in English. The author is considered the greatest living Marxist philosopher and literary critic. The book, which will be published June 22, contains a new introduction by Lukacs.

#### Foreign Fellows Complete Year at MIT

Architects, city planners, administrators, researchers, engineers and professors from Guatemala, Thailand and many other countries have recently finished a year of study at MIT. The Special Program for Urban and Regional Studies (SPURS) held its annual graduation dinner at the Faculty Club two weeks ago.

SPURS is a four year old program of the Department of Urban Studies and Planning. The main purpose of the program is to improve the technical skills and decision-making capacity of persons in responsible positions in government and private organizations in the field of urban, regional and national development.

Fellows of the program are encouraged by their advisors to tailor their studies to suit the needs of their respective countries. For example, Amior Kamir of Israel, a Fellow in this year's program, is a member of the Prime Minister's Committee on Welfare Planning. He spent much of his time studying welfare programs in the U.S. and other countries with a view to improving Israel's welfare program. Enrique Buguna, a senior civil engineer with the Venezuelan government, spent the year developing a plan for a new city to be built in his country.

Professor Lloyd Rodwin, director of SPURS and Head of the Department of Urban Studies and Planning, also announced recently that next year a full year seminar (11.451 and 11.452) will be offered on present approaches and problems in national and regional planning. The seminars are intended to increase the interaction between SPURS Fellows and Institute students interested in development and planning.

#### For Sale, Etc.

Pwr lawn mower, 22", exc cond, \$25; ductless range hood, best offer; misc baby equip; 25 alum screens, various sizes, 50 cents ea. Call 667-7070, x5326 Linc. or Billerica.

Free, nice healthy dog, yr old, crossing betw Rhodesian ridgeback & beagle, passed training course, x7078.

Snows, 7.75x14; & bicycle rack for car, exc cond, cheap. Call 924-1906.

Sngl bed \$35; dresser \$15; rocking chr \$10; all 1 yr old. Alan, x5607 or 387-9641 after 7 pm.

Lrg desks (3) \$10 ea; chest of drawers \$15; air cooler \$10; 2 spkrs \$15; mirror \$10; bkcases; foam rubber dbl bed mattress \$40; lrg handmade dbl bed w lots of storage space \$70; etc. Marshall, x6066 or 623-8322 evgs.

Canon FT-QL fl. 4 & Canon FL 200 mm f3.5, exc cond, total \$260; Auto Miranda 28 mm f2.8, \$75; Auto Miranda 135 mm f3.5, \$50. Kai Ming Chan, x2926 or x2972.

Lots of free kittens. Mike, x1979 or 296-3112.

Used Wilson staff wds, 1-2-3-4, \$50. Dick, x3862.

Emerson port 19" b&w TV, w stand, gd cond, \$40; red hassock, 13" high, 31" wide, \$10; CBS harmony stereo rerd player, some rerds, \$50. Ralph, x2518.

Hardwick heating gas 4 burner stove, best offer, Judy, x5380.

Sngl bed \$25; dresser \$15; rocking chr \$10. Call 492-2690.

Free wringer wash mach, agitator & wringers wrk, nds pump. x4580 or 354-1049.

Factory wrkshop manual for BMW 1600 & 2002,

Balda 35 mm camera, f2.8, 45 mm lens & Prontor - SVS shutter (1-500) \$39; Sekonic micro L-136 Cd.S. light meter \$12, both for \$49.

Furn: upright piano; dbl bed; lrg dsk; couch; LR chr; K set; rug; wall pictures, etc. Dave, 494-2201 or 868-9783 evgs.

Minox B camera w flash attachment viewer & cutter, best offer; DR set \$30; K tbl; best offer. x2424 or 734-7185 evgs.

Beautiful rabbit fur coat, used 8 mos, paid \$165, sell \$80. Clary, x5743 or 536-4495.

Furn; lrg sofa bed; coffeetbl; sngl kingsz bed; port TV; all gd cond, make offer. Louis, x4710.

Love spoiled kittens nd gd homes (3). Call 275-9070 after 3 pm.

Dirty blond human hair fall, exc cond, \$25 or best offer. Liz, x6808.

Wood desk. \$10. sngl bed. \$20: or best offer.

Lalit, x2338 or 492-0936.

Bowling balls. Paramount (candle & duck

pin), free engraving, gd prices. x5374.

Sweet kittens. 10 wks, blck, blck-wht, mixed,

nd loving owners. Margaret, x7053, or 262-1261 evgs.

French Prov chr, orig \$115, now \$45; fruitwd desk, orig \$195, now \$69; dresser and hutch, orig \$175, now \$69. Call 262-7241 betw 6 & 7 pm.

Kittens w shots, 1-2 Siamese, 1 blck w wht trim (m), 1 frosted tabby (f), both love people. x3380 lv name & No. or 776-2347 evgs.

Sngl bed, maplewd frame, \$50. Larry, x5743 or 547-9791 evgs.

AKC reg toy poodles, \$125, avail 6-15. Call 284-3414 evgs.

Kenmore washer, 15 lb capacity, exc cond, \$100 firm, Call 877-7152, Framingham, eygs.

Sharpe port 18" b&w TV, lk new, used 1 yr

Raleigh Sprite man's 5 spd. bike, \$45. x4387 or

only, was \$110, sell \$50. Heidi, x6281.

Bolex 8 mm S1 movie camera w 200 M lens;

Bolex proj. 8mm, exc cond, \$65 ea or \$125 both, or best offer. Call 333-0635 evgs.

AR trntbl. 1 vr old. w dust bug. \$49. Ted. x428

Line.

Pansonic stereo AM-FM phono combination, SG999D, lists \$250, 8 mos old, best offer around \$140. Bingham, x1408 or 661-1865.

Columbia exercise bicycle, gd cond, \$30; Underwd port adding mach, \$30. Beverly, x6014.

Mercedes Benz, '64; 2 Persian rugs: 7x5 1-2 and 9x6 1-2; lving country must sell. Call 924-1883 after 4 pm.

Port wash dryer, yr old, orig \$139, asking \$75.

Harmony Monterey elec guitar w case & premier No. 120 elec amp, \$275 new, now \$75. Henry, x5766 Linc or 263-3668 (Acton)

#### Vehicles

'61 Hillman Husky, 3 dr, R&H, 4 cyl, studded snows, \$200. Call 862-1790 evgs.

'62 Plymouth Valiant, runs v well, \$200. Call 868-5725.

'62 Morgan Roadster, 4-4, blck w red uphol. x4549 or 655-2210.

'63 Chevy Impala V-8, auto, 4 new tires, gd running cond, \$300. Paul, x410 Linc. '63 Volvo, R&H, perf cond, \$400 or best. Dennis,

547-0476 evgs.

'63 VW conv. wht w gd blck top, great summer vehicle, \$375. Neil, 787-2192.

'63 Volvo P1800, nds wrk, best offer; 14' Internat sailing dinghy. B. Snyder, x1896.

'64 Olds dynamic conv. pwr st & brks, gd eng,

'64 Alfa Romeo Guilia Spyder, Pirellis & snows, AM-FM, konis, abarth, gd cond. x5160.

'64 Chevy Belaire sta wgn, V-8, R&H, pwr st, \$300 firm. x401 Linc or 862-3840 evgs.

'65 Corvair conv, gd eng, low mil, \$200 or best

'65 Comet sedan, nds body wrk, eng OK, R&H, \$175. Karyn, x7179.

'66 VW sedan, nds eng wrk, \$400, x7197.

'66 Jeep Wagoneer, 4 whl dr, hubs, pwr st, R&H, trailer hitch, 2 stud snows on spare whls, 42K, gd op cond. John Kessler, x225 Linc or 876-0078 eygs.

'66 Ambassador sta wgn, motor exc, frnt end nds balance, R&H, 7 tires, inc 2 studded snows, best offer. x6836, lv word or 456-8704 Harvard.

'66 Plymouth Fury III, V-8, 2 dr hrdtop, pwr st, mech & body in perf cond, new tires, 56K, best offer over \$850, avail end of July. Henri, x2412 or Alan after 6-16.

'67 Pontiac Catalina, 2 dr hrdtop, air cond, new ww tires, batt, v clean, \$1495. Mary, x2519.

'67 Chevy El Camino pickup, exc running cond, complete w tonneau, has a few dents, \$700. x358 Linc or 667-7994 evgs.

'67 Fiat conv, superb cond, \$650, must sell. Call 454-0247, Lowell.

'67 Chevy Impala sta wgn, auto, pwr st, burglar alarm, \$1350 firm. x7803 Linc or 442-9772.

'67 Rambler Amer wgn, 6 cyl, auto, 1 owner, reclining bed, seats, R&H, rfrack, \$795 or best, must sell have truck now. Bruce, x2552.

'68 Triumph TR 250, 6 cyl, exc cond, soft & hard tops, TR 6 whls, radial tires, many options. Call 237-2444.

'68 VW bug, auto, snows, \$950 or best, can be seen at MIT. Call 851-4516 collect, Tewksbury evgs.

'69 Peugeot wgn, 47K, radials, careful maintenance, \$1700. Lyn, x2528.

'69 BMW, 1600, reclining seats, sway bars, stereo tape, R, beautiful detail wrk, 22K. Call 862-3515

'69 Plymouth Sport Fury, red w blck vinyl rf, well equip w factory air & tape deck. Call 924-1571 after 4 pm.

'69 VW sedan, auto, FM stereo radio, \$1400 x6926 or 868-0663.

'69 Fiat 850 Spyder conv, gd cond, \$1300. Call

'69 Chrysler, 4 dr hrdtop, vinyl rf & custom package, all pwr; new tires, brks & batt, 20K left on warr, exc cond, \$2300. x7500 Linc or 332-7152.

'65 Honda 150, sold w chain lock & helmet, \$200. Mark, 661-0398 evgs.

Cabin Cruiser 25', built in '63, plywd, GMC V-8 w stern drive, sleeps 4, newly painted, \$2250 wl deliver reas distance. Leon Baghdoyan, x7764 Linc.

Thompson boat 16' w 40 hp Johnson motor, trailer, batt, canvases, etc inc. Joan, x2766 or 391-5431 evgs.

Corinthian 19' fibergls sloop, sleeps 2, inc main jib & spinnaker, head, 6 life jackets, prepaid insurance, pram, compass, 3 hp motor, newly painted, mahog trim & drs, teak cockpit, exc cond. \$2700. Debbi x4408 or 429-2940 eygs.

Alcort Sailfish, fibergls, \$225. Call 957-0219 (noon - 1 pm).

'71 Skidoo, 35 hp, 18'' track w trailer & equip, orig \$1500, make reas offer. Ralph, x7379.

#### Housing

Beacon Hill, lux to eco apts, avail 9-1, 2BR from \$175 - \$205-mo, 1BR \$145 - \$175-mo. Jeff White, x1825 or 742-2769 evgs.

Beacon Hill, lrg basement studio w sep eat-in K. mod tile B, avail 7-1, \$155-mo. Jim, x7289.

Brighton 1BR apt, lrg K and B, priv prking, backyard, \$140-mo. Call 783-1815.

Camb Som line apt, 3BR, sunny, lrg K, LR, B, hallway, nr Harv Sq. \$245-mo. Anne, x7080 or

Rm in 4 BR apt, Inman Sq. start 7-1, \$81.50. Merryl, 354-7221.

Kenmore Sq, Irg 1 BR breezy apt on Bay State Rd, either summer or perm, from 6-15, frpl prking, heat, janitor serv. x2338 (lv message)

Sublet July & Aug, beautiful furn 2BR apt, mod

Summer sublet as of 7-1, w option, 1BR, furn, \$200-mo inc util, neg. Call 868-5023.

Arl mod apt, summer sublet w Sept option, 1 BR, air cond, ww carpet, prking, \$190-mo, only MIT affiliated people. Diaz, x7118 or 646-5771.

Arl Heights, spacious 3BR apt, w lake view, porch, mod K, avail about 6-15. Bill, x3223 or landlord 648-6338.

Arl Heights, Florence Ave, lovely sublet, July & Aug, furn. 2nd fl of 2 story house, 3BR, lrg mod K, washer-dryer, LR, DR, back enclosed porch, frnt open porch, garden, garage, avail 7-1. \$265. Call 646-5834 eygs.

Back Bay Beacon St nr Dartmouth sublet avail mid June w option for Sept, 1 BR, K, B, LR, furn, \$195-mo inc util. Mark, x4840 or 536-3453

Back Bay, Comm Ave, studio apt, sublease 6-1 w option to renew, \$145. Call 492-4615 or 262-

evgs.

Brighton, lrg sunny 1 BR apt, own lawn, exc cond, quiet, safe, parking free. 20 cents bus to BU, Harv, MIT, sublet July & Aug w option for renewal. Call 787-9438.

Brookline sublet w option to renew, 4 rms, \$195-mo, nr Cleveland Cir. x2253 or 566-6071.

Brookline summer sublet, 2 BR furn, \$250. Call 277-0439.

Camb furn 1 BR apt sublet or rent, 163 Pearl St, Cent Sq, avail 7-1, \$160 util inc. Dr. Suresh Arya, 495-4021 (2 - 8 pm).

Camb summer sublet w Sept option, 2 BR, nicely furn, nr MIT, \$170-mo neg. Call 868-5725.

Camb summer sublet, 2 rms, B, back porch,

quiet, clean, 20 min. walk from MIT, \$110 furn. call 547-2071. Nr Kenmore Sq. efficiency apt, avail 6-15 to 8-

14w option to renew, unfurn. Call 262-0790 from 6 - 9 pm.

Nr Porter Sq. Somervl, 1 or 2 BR's avail in v clean, recently renovated house, mod well equip K, sundeck, semi furn, avail mid June neg \$80-mo per person, option for fall lease. David 776-0397

Back Bay, beautiful 2 BR apt, furn, terrace, 6-1 to 9-1, \$205-mo: also share furn apt in Camb w 3 others, own BR, low rent, avail 5-25. Call 661-0399.

Summer rental 7-1 to 8-31, 5 BR, 3 B, 1 study, K, DR, LR, completely furn, \$375-mo, fam pref, ref required. Call 876-6556.

Winchester sngl house for rent during July, fully furn & equip, air cond, 5 BR, 2½B, \$300.

Winchester, 3 BR Cape for sale, den (or 4th BR), frpl LR, lrg eat-in K, full basement (walkout) 10,000 sq ft lot, 1½ blocks from elem school, 5 min to Wedgemere, must sell in June.

Bridgton, Me, 2 BR lkfrnt cottage, sleeps 6, secluded, w boat, avail by wk or mo, Aug & Sept, \$100 wk. x352 Draper 11.

Chilmark, Martha's Vineyard, lrg fully converted barn, avail July \$800; first half Aug \$450; Sept \$600; open landscape, ocean swimming, formerly owner occupied. Peter, x7894 or 645-2235 (Chilmark).

Shady beach cottage on Cobbett's Pond, NH, 2 BR, porch, all conv, rowboat, float, \$150 wk, call 321-1893 evgs.

Lake Winnipes aukee rental w frpl, pool, sauna, beach, club, tennis, horses, x6415.

Fairly isolated farm house on 90 acres in S.E. Me, partially furn, lights but no pwr, avail 6-15 to 9-15, fam only, \$600. Call 876-8472 evgs.

#### Wanted

Util trailer, 2 whl, in gd cond, reas. Tom, x4820.

Used elec refrig w freezer, wash mach, dryer, gas stove, gd cond, about 6-15. x4143 or 227-8510.

Sml 1 BR apt close to Harv Yard, cheap. Ajmal, 661-8744 or 547-1466.

Camper to rent from 6-11 to 6-20, pref VW, fair price & wl assume responsibility. Barry, x7027.

Garage space July & Aug. Robert Kolesar,

Frmmate to share lrg furn apt in Winchester.

Crocheting tutor, lunch hours. Linda, x5673.

Rmmate for summer, 6-1 thru 8-31, 12 min walk to Harv Sq, share w 3 grad students, own rm, \$45-mo. Call 628-5817.

Sml safe for home use, approx 24x15x15; also used outboard motor, 7-10 hp. Dr. Clark, x4488.

Inexp mattress, box spring set in, v gd cond, dbl or twin sz. Jeannie, x3584.

Rmmate for summer & or Sept, own rm in Newtonyl house. Rick, x469 Draper 7. Man's 10 spd bike. Dave Kelland, x5550 or

Wht frig, 2 dr, by 6-15, max height 62"; and Frigidaire wash mach mod WIAS or similar.

Aase, x4882 or 646-0343 evgs.

DR tbl that has enough leaves to expand to 12' long, reas shape, cheap; mobilett; rocking chr, gd cond, inexp; giant sz old style oak dsk; gd metal 4 drawer file cainet. Robert, x1420 or 332-5585.

Live-in mother's helper, care for retarded child after school hrs, light household duties, betw 6-1 & 7-1. Mr. Huston, x3316.

Rmmate for summer, fully-furn rm in 3 BR Camb apt, \$80. Dave, x4336 or 868-8723.

M or F rmmate (1 or 2), for 3 BR apt in

Medford, fully carpet, lrg & mod, \$80 inc all util. Call 396-7406.

House to buy or rent, within no more than 1 hr of MIT. Larry Storch, 868-0346.

#### Miscellaneous

Nimble fingered starving mother of 2 wl do your typing; for sale: woman's 10 spd English bicycle. Toni, 547-9299.

European girl, 18, wl babysit or tutor in French weekdays - free, 7-7-71 to 12-9-71. x6488 or 547-

WI teach Russian in exchange for French conversational practice. Anna, 492-4085 evgs.

WI do translations into French. Jean-Louis, x3106 or 491-2182.

Handsome German Shep, great disposition, w

papers, beautiful markings, nds German Shep wife who wants children. Tracy, x5941 or x6823. Capable student wife wlgive exc care to one or more children, part or full time. Lv name &

WI do gen & tech typing. Barbara, x2311.

No. Minos, x5305.

Rmmate for summer apt, 10 min from MIT, own rm, \$67.50-mo. Dave, x5217, lv message.

WI type term papers. Call 547-2748.

French Canadian high school senior desires summer employment as mother's helper. Call 969-0418 evgs.

College prof at Virgin Isl w 1 BR apt in Danish section St. Thomas & car, prefers exchange w similar situation in Bos-Camb area for July, wl rent. Call 484-8037.

I am selling all furn why not take over apt in Belmont too? free 8-1. x7074 or 489-2625 evgs.

WI do any typing. Cindi, x4213.

Anyone who wishes to wrk on his writing, any sort, is invited to join an exper teacherless writing class using materials esp prep for a forthcoming book. Prof. P. Elbow, x7894 or lv name & No. at x7954.

#### Lost and Found

Lost: pr sunglasses on Briggs Field, Friday, May 21. x4816 or 484-4125.

Found: on MIT campus, beautiful, long haired f cat, about 7 mos old, copper eyes, red cream coloring, can't keep her - she nds home. Tom, x7180 or 354-0871 eygs.

Lost: Sml lthr coin purse vic of Student Ctr, early May, Stu, x1418.