

IN ASSOCIATED PRESS INTERVIEW

Killian Traces Engineering Trends into the Future

(This article by well-known Associated Press Science Writer Alton Blakeslee recently appeared in newspapers throughout the U.S.)

By Alton Blakeslee

This year and last, 10 per cent of the engineers graduating from the Massachusetts Institute of Technology headed off to medical school to become doctors as well.

There they will wed their engineering skills with medical knowledge, some to become practicing physicians and surgeons, some to enter research, and some to practice a new, growing kind of

medical engineering, devoted to such objectives as better delivery of health care, better use of computers in the service of patients and medicine, greater application of technology to advance medicine, as in better materials for implants.

They are part of a new breed of truly "civil" engineers, bringing their skills to bear upon solving society's problems, says James R. Killian, MIT's well-known engineer-educator.

These socio-technical engineers are coming at a time, he says, when the pendulum of public

opinion is swinging away from a recent disenchantment with science and technology.

Killian sees a trend now toward greater public and governmental acceptance of the concept that more science, more engineering, more technology—not less of them—are essential to solving societal, economic and human problems, some of which, like air and water pollution, were spawned by applying technology without forethought as to its total effects. And a current urgent example of this need, he adds, is to maintain U.S. world leadership in producing

technological products for export.

On June 30, Killian retired after 12 years as chairman of the Corporation of MIT. He was president of MIT for 10 years before that, but he hasn't severed a continuous relationship with the famous science and engineering school that dates back to his undergraduate days in the early 1920s. He is continuing on as chairman of the development committee.

He's had some leaves of absence, as in 1957-59 in serving as the first science advisor to the president, in Dwight D. Eisenhower's administration.

In an interview, Killian recalled that "there was a super-charged atmosphere in 1957," just after the Soviets had launched the first Sputnik, when there was widespread worry the United States might be losing its leadership in technology, when there was sudden pressure and desire to train more scientists.

"The great strength of that period was that a group of scientists and engineers were doing their best, out of the limelight, to serve the President and their country, with no commitment to a
(Continued on page 3)

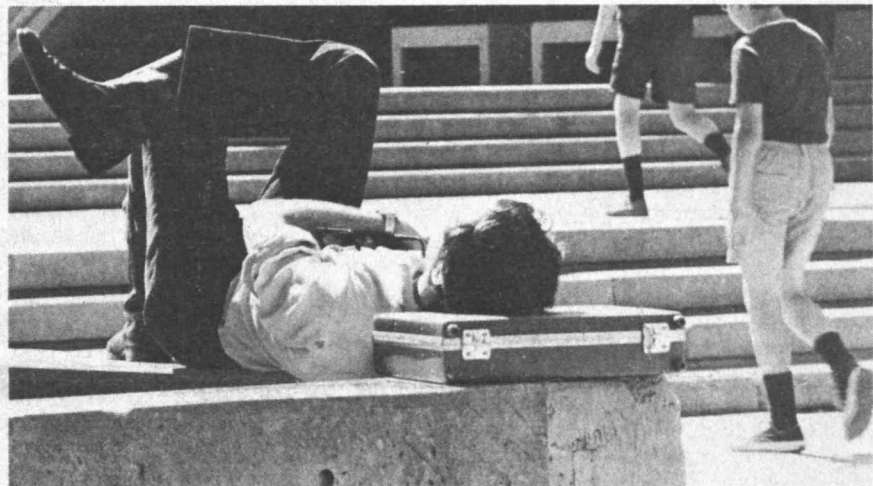
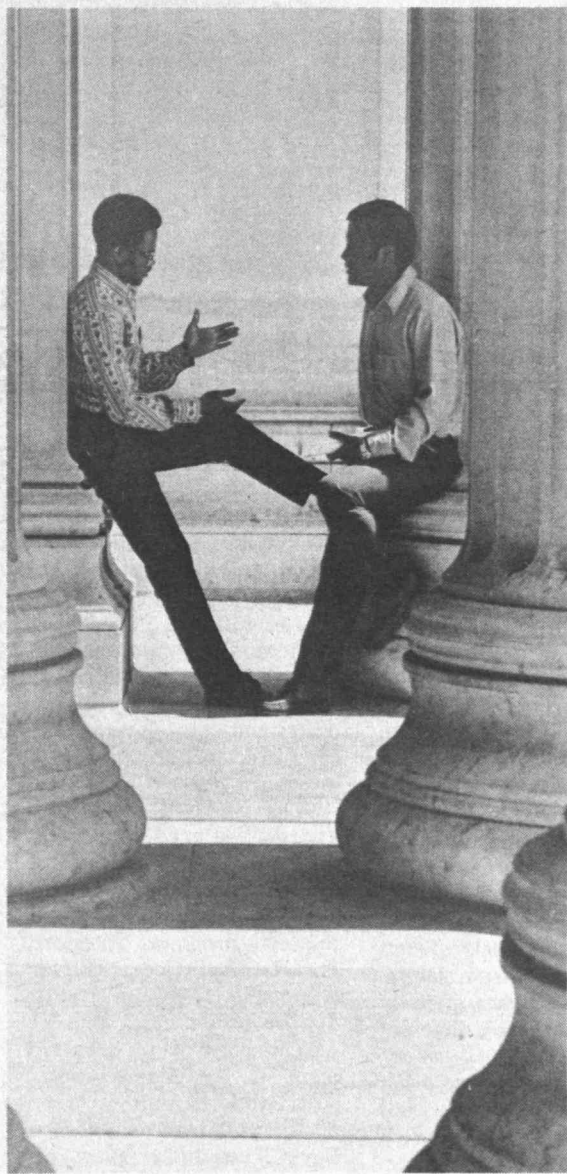
Computerized Trash Picker Under Study

A computerized "trash picker" under development in the Departments of Mechanical and Electrical Engineering may someday sort half or more of a city's refuse into re-usable parts.

Professor David Wilson of Mechanical Engineering, leader of the team of engineers working on the trash project, hopes that such a system may not only reduce the amount of material wasted by society, but also help pay for itself by sorting out batches of materials—metals, glass, paper—that can be sold for reprocessing and re-use.

In the pilot plant being constructed, trash will first be sorted into "large" and "small" categories. Anything as large as a soft-drink bottle will go into the "large" category. Machines will then place the large chunks, one by one, into individual compartments on the rim of a rotating 13-foot carousel. The carousel will then move the chunks of trash past a variety of sensors, which will analyze the chunks and report their findings to a computer. On the basis of the sensors' analyses, the computer will decide whether the trash is wood, steel, aluminum, paper, or cloth, for example, or whether it contains some identifiable mixture of materials. As the compartment swings around on the turntable, the computer will order its contents dumped into an appropriate chute.

Professor Wilson and his colleagues in mechanical engineering are designing the mechanical trash-handling equipment and
(Continued on page 2)



Instituting a Summer Day

The sun shines, the sprinklers spew, and the MIT community finds that suddenly it's mid-summer. The scenes have changed. Once there were snow drifts in Kresge Plaza... today there are post-lunch cat naps pillowed by brief cases. Casual chats occur among the columns, where just a few months ago the winds howled. And, yes, occupants of Great Court benches occasionally are those enthralled by the special fondness that belongs to summertime.

—Photos by Margo Foote



MONITORING POLLUTION POTENTIAL

Weather Service to Open MIT Operation

National Weather Service scientists will soon begin launching balloons from the roof of the Institute.

To learn about the "pollution potential" of the Boston atmosphere, Henry Cochran, Francis Patterson, Thomas Malmgren and John Cohen will launch two or three balloons each day from a station atop Building 24. The National Weather Service plans to dedicate the station as an Environmental Meteorological Support Unit (ENSU) August 19, when the four men will also send up their first package of instruments.

The instruments on the balloons will tell the team at MIT how much potential for pollution exists. Temperature, air pressure, winds and humidity all influence the dissipation of such pollutants as smoke. Each balloon will carry instruments sensitive to these characteristics and a small battery-powered radio transmitter to send the information back to the team. They will relay the data to the Weather Service Forecast Office at Logan Airport, which in turn will transmit the information to other users.

Meanwhile, an observer will

track the balloon's movements optically to determine wind conditions aloft. Optical tracking will be possible because the balloons will rise slowly to a height of about 10,000 feet. Ordinary weather balloons used for forecasting rise to heights of 100,000 feet and require sensitive radio equipment to determine their positions.

Each instrument package will also be equipped with a small automatic paper parachute. When the balloon eventually breaks, the

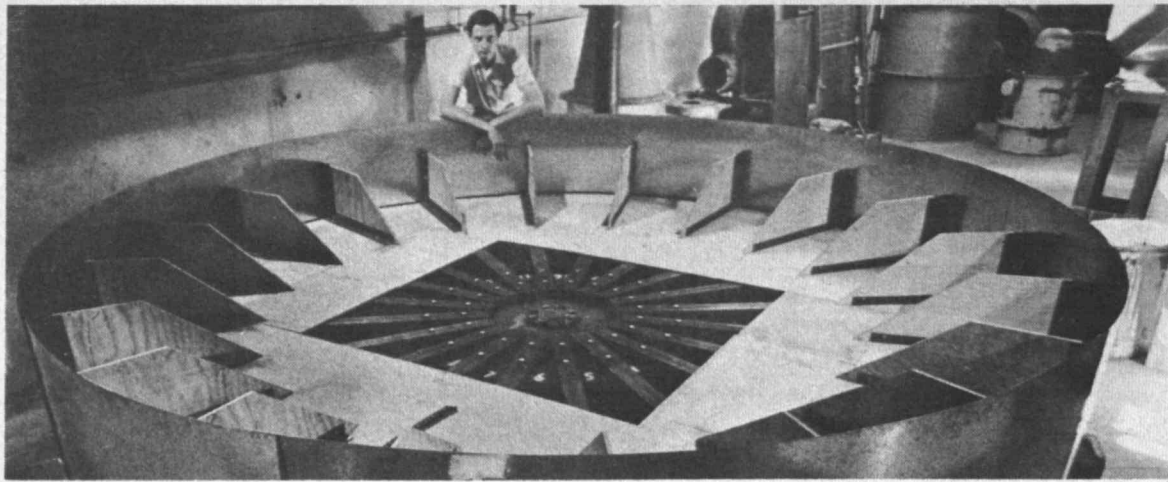
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Thomas Malmgren prepares a balloon for launching.

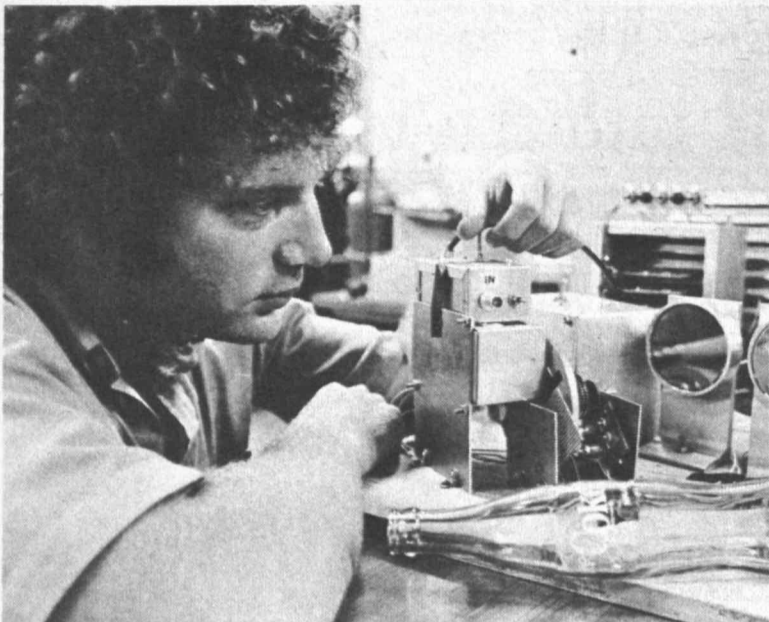
—Photo by Margo Foote

The Information Center is moving to temporary headquarters in Room 7-108 today. Telephone requests for information can be made at Exts. 4795 and 4796, as usual. The Information Center in Room 7-111 is being renovated and redecorated, but will reopen its doors in five or six weeks.



Graduate student Robert Sutton, a member of Professor Wilson's research group on trash sorting, and the carousel that will carry the sorted trash.

—Photo by Margo Foote



Arnold Epstein studies a Coke bottle with an infrared sensor.

—Photo by Margo Foote

Computerized Trash Picker Under Study

(Continued from page 1)

some of the sensors, and Professor Stephen Senturia of Electrical Engineering and his group are developing the computer system and other sensors.

Chunks which the computer cannot identify and "small" trash which was originally set aside go to a pulverizer and then to a centrifuge which will separate the material by density. Thus heavy items like metal will be separated from the lighter material.

"What we want to do," Professor Wilson says, "is to be able to sort out anything we want—into up to 50 categories instead of the four or five that are possible today."

The problem with today's trash-sorting systems, he says, is that they use "yes-or-no" sensors. A magnet, for example, will sort ferrous from non-ferrous materials, and a pool of water will separate items which will float from items which will not. But each sensor of this type can sort trash into only two possible categories.

Professor Wilson and his group are developing sensors which can separate trash into five or six categories each. When the sensors are used together, the number of possible categories is multiplied.

One sensor, developed by Professor Senturia's group, analyzes the way a lump of trash reflects infrared radiation. In tests the infrared sensor has been able to distinguish paper, plastic, metal and glass. It can even distinguish painted metal from bare metal and in some cases pick out different colors of paint.

An impact sensor developed by Professor Wilson's group identifies different materials by their response to a blow from a hammer. Wood, for example, "feels" different to the hammer from aluminum. The impact sensor is particularly good at identifying different types of metal.

The group is considering other types of sensors, but have not tested them yet. They include a device to analyze how trash transmits or reflects radar waves and a spectrophotometer which would burn a small sample of the material and identify ingredients in it by the color of the flame.

Professor Wilson feels that it is more practical to sort trash at a central location than to ask each household to sort its own.

"It's almost hopeless," he says, "to try to sort trash at its origin—except maybe newspaper."



Professor Mollo-Christensen's group prepares buoy for research.

Giant Buoy Launches Mass. Bay Research

A giant, computerized buoy has entered the fight against water pollution in Massachusetts Bay.

The 114-foot, 9-ton buoy was anchored this past weekend at a point in the Bay four miles north of Boston Light by a team of divers and crew riggers for Professor Erik Mollo-Christensen of meteorology.

The buoy's new research undertaking is being sponsored by the Office of Naval Research and the National Science Foundation. The data also will be used in research programs sponsored by the National Oceanographic and Atmospheric Administration under the Sea Grant Program.

The buoy is to be a key element in the Massachusetts Bay Area Study, a multi-faceted study of the pollution problems of the Bay. The importance of the buoy's data to this study involves how pollutants and other properties of the water are transported in the Bay and adjacent waters by currents and eddies.

Professor Mollo-Christensen, who designed the buoy, says it will be used to do "research on air-sea interaction and transport and mixing processes in air and water." For the past year, the buoy has been used in other air-sea interaction research at a point off the coast of Martha's Vineyard.

The vessel and its two 9,000-pound anchors were towed 60 miles to the new site by the tugboat Whitefoot under the direction of Dan Clark, marine contractor.

The research will provide the basis for predictive modelling of the transport processes in Massa-

achusetts Bay and adjacent harbors and inlets.

For its new undertaking in the Bay, the buoy is equipped with instruments that include wind velocity measuring instruments, a compass, a wave gauge, current meters, and temperature transducers. A forty-foot radio tower atop the buoy will beam the data from these instruments to a tower on the Green Building where it then will be fed into a computer.

TECH TALK

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Editor
Joanne Miller

Staff Writers
Robert M. Byers
Peter M. Close
Steve Grant
Linda Omohundro
Ty Rabe

Business Manager
Paul Johnson

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Dialing 10 Summons Emergency Aid

What to do in an emergency? Dial 10 from any Institute telephone, or 100 from a dormitory line. This summons help in any emergency—fire, injury, electric shock or chemical burn.

When someone dials 10 or 100, red lights flash on the main switchboard and a warning bell rings. At the same time a special telephone rings in Campus Patrol and someone there monitors the call. While the operator calls for the necessary assistance, campus police can be on their way, if needed.

The switchboard has an emergency line to several red telephones in the Medical Department. In the case of illness or injury, dialing 10 brings much quicker response than calling the Medical Department directly, which puts the emergency call in competition with all the normal business calls.

The Medical Department needs four pieces of information.

First, describe the injury or illness accurately. This will enable the doctor or nurse to tell Campus Patrol whether the victim should be left where he is, be taken to the Medical Department or, possibly, to a particular hospital. The caller will also be told what steps he should take until help arrives.

Second, give the location exactly, so that Campus Patrol doesn't have to hunt for you.

Third, give the extension you are calling from, so that you can be called back if there is a vital question to ask or further advice to give.

Finally, give the victim's name. This lets the Medical Department

search his medical history for possible heart trouble, diabetes, epilepsy, reaction to penicillin or other factors which might affect the treatment he should receive.

Here and There

—The MIT Nautical Association is running summer Shore School for aspiring sailors in the community. Shore School is held each Wednesday evening beginning at 5:15 and consists of three sessions: a lecture, a demonstration and a trial run in one of the sailboats. All that's needed for enrollment is a sailing card and a swimming test. Sailing cards are available in E19-215, except for those enrolled in special summer programs, who can get cards at the Sailing Pavilion.

—Colleen A. Leary, a graduate student in meteorology, is enrolled in a summer fellowship program conducted by the National Center for Atmospheric Research in Boulder, Colorado. She and eight other graduate students are learning to use the high speed electronic computer as a tool in atmospheric research. They are attending seminars and lectures and working with NCAR staff scientists on programming tasks and research problems.

—Rebecca Grant, '71, has received a graduate fellowship award from the Tau Beta Pi Fellowship Board to continue her work in the area of soil mechanics. She is the only female in the group of 11 students who received the \$2,500 award. She majored in civil engineering and was a member of the Institute's chapter of Chi Epsilon

ent to begin operation in the East.

The Service based its choice of the location of its Boston unit on a number of attractive features MIT offers. Its urban location gave MIT an advantage over outlying Boston College, where the characteristics of the downtown

air are less apparent. In addition, the presence of the Department of Meteorology also helped persuade the Service to set up its facilities here. The station will share its findings with the Department, and students in the Department will be welcome to visit the observation center any time they like.

Weather Service to Open MIT Operation

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parachute will assist in the possible recovery of the package.

The National Weather Service has plans eventually to maintain about 25 similar observation sites around the country. The MIT station will be the Service's sev-

THE INSTITUTE CALENDAR

July 21
through
July 30, 1971

Send notices for July 28 through August 6 to the Calendar Editor, Room 5-105, Ext. 1766 by noon Friday, July 23.

Killian Traces Trends into the Future

(Continued from page 1)

party. It was a time when science had the confidence of the people. And Eisenhower had confidence in us."

Under Eisenhower and President Kennedy, Killian says, "there was a close coupling of the scientific community and top policy-making.

"I don't think science was ever high on President Johnson's agenda... There was a lessening of influence and impact of science in his administration, not so much by conscious design, more a turning away."

Under President Nixon, the science advisory role "is working extremely well at the present time... There is growing recognition in this administration that science and technology are essential in solving health care and environmental problems, and in keeping the United States competitive in world markets."

But in the last decade, "science" began falling from public grace, Killian observes.

There came a "disenchantment." Science came to be blamed for what happened when man began applying, through technology, the discoveries from science. Partly this was because of the Vietnam war, with some feeling that military technology has been responsible for what is happening there. Environmental pollution problems became obvious, and technology was blamed for that, also. There has been a surge of anti-intellectualism, of anti-rationalism.

"Now I think this attitude is beginning to moderate. Science and technology are simply too essential for solving many of our new problems, as in protecting our environment. Besides, science is a fundamental force in the human intellect and culture; it has a majesty of research and discovery; it represents some of the highest achievements of the human mind. We are not going to give all that up.

"So I think we are going to see the emergence of the "civil" type of engineer, in the old term, men and women concerned with social affairs. We need people who are not only masters of some technology, but who can contribute to policy and management that turn upon our social needs. They must be the bridges between science and the humanities, between technology and a new social science.

"And I do see a growing preoccupation of young people in science, engineering and technology to accentuate these broader functions of their specialties."

He added:

"I see scientists and engineers turning away from preoccupation with problems of space exploration and other technology to begin to grapple with problems of health care and pollution, and putting new emphasis on technological assessment and the social impact of new ventures."

Seminars and Lectures

Chemically Induced Dynamic Nuclear Polarization *

Professor Hanns Fischer, Physikalisches-Chemisches Institute der Universitat Zurich. Sponsored by the Department of Chemistry. 3pm. Room 4-270.

MIT Club Notes

Baker House SPAZ Jogging Club **

Jogging around BU and Harvard Bridges. Daily 10:45pm. Baker House, Second Floor West.

Science Fiction Society *

Every Friday, 5pm. Student Center, Room 421.

Classical Guitar Society **

Summer classical guitar classes every Monday and Thursday, 5pm. Room 1-132.

Outing Club *

Every Monday and Thursday, 5pm. Student Center, Room 473.

Nautical Association **

Basic Sailing Shore School. Repeated every Wednesday throughout the summer, 5:15pm. MIT Sailing Pavilion.

MIT/DL Duplicate Bridge Club **

Every Tuesday, 6pm. Student Center, Room 473.

Music

Guitar Recital by Walter Stanul *

Sponsored by the MIT Classical Guitar Society. Program includes selections by A. Tansman, J. S. Bach, Villa-Lobos and A. Lauro. Friday, July 23, 8:15pm. Kresge Auditorium, Little Theatre. Free admission.

A Summer Festival of Chamber Music *

A Summer Festival of Chamber Music *

Presented by the Department of Humanities. Program includes works by Beethoven, Brahms, Stavinsky and Davidovsky performed by clarinetist Ray Jackendoff, cellist Joan Esch and pianist John Buttrick. Tuesday, July 27, 8pm. Kresge Auditorium, Little Theatre. Free admission.

Movies

Passionate Plummer **

Lecture Series Committee. Wednesday, July 21, 7 and 9:30pm. Room 10-250. 50 cents.

You Can't Cheat an Honest Man and The Pharmacist **

Lecture Series Committee. Saturday, July 24, 7 and 9:30pm. Room 10-250. 50 cents.

Because They're Young *

MIT Film Society. Monday, July 26, 8pm. Room 10-250. \$1 admission.

Maltese Falcon and Casablanca **

Lecture Series Committee. Wednesday, July 28, 7 and 9:30pm. Room 10-250. 50 cents.

Theatre and Shows

MIT Community Players *

Auditions for September production of Harold Pinter and Floyd Barbour's one-act play, "Day Work." Musicians and black actress needed. Production position also open. August 2, 3 and 4, 7:30-10pm. Room 8-119. For more information call Jane, 492-6832 after 5pm.

Dance

Modern Dance Class **

MIT Dance Workshop. Intermediate/Advanced. Every Thursday, 7pm. McCormick Gym.

Israeli Folk Dancing *

MIT Folk Dance Club. Every Thursday; party last week of each month. 7:30-11pm. Student Center, Room 407. Basics taught from 7:30-8pm.

Friday Afternoon Dance Break *

MIT Folk Dance Club. International Folk Dancing on the oval lawn in front of Kresge Auditorium. Every Friday, 12-1pm.

International Folk Dancing *

MIT Folk Dance Club. Every Sunday, 7:30pm. Student Center, Sala de Puerto Rico.

Dance Development Class **

Every Monday, Wednesday and Friday, 5:15pm. McCormick Gym.

Balkan Dancing *

MIT Folk Dance Club. Basic, Intermediate, Advanced. Every Tuesday; party first week of each month. 7:30pm. Student Center, Room 407. For more information call Jane Weiman, 876-5609.

Square Dance Club *

Every Tuesday, 8pm. Student Center, Room 491. For information call x6213.

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. 1-5pm daily through the summer. Hayden Gallery and Courtyard, through September 19.

Steamboat Design *

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

Deep-Ocean Mining *

Material from Sea Grant Project Office. Hart Nautical Museum, Building 5, First Floor, through the summer.

Main Corridor Exhibitions *

Presented by students and departments. Buildings 7, 3, 4, 8.

Athletics

Summer Rugby *

Every Tuesday and Thursday, 5pm. Briggs Field.

Religious Services and Activities

Christian Bible Discussion Group *

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

Islamic Society Prayers

Every Friday, 12noon. Student Center, Room 473.

Roman Catholic Mass

Every Sunday, 11am. MIT Chapel.

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

Don't Forget

Join your friends at the Muddy Charles Pub, 110 Walker Memorial, 11:30am to 7:30pm daily. *

*Open to the Public

**Open to the MIT Community Only

***Open to Members Only

†Freshmen interested in departmental program encouraged to attend.

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 or room number. Ads may be telephoned to Ext. 2707 or mailed to Room 5-105. The deadline is 5pm Friday.

For Sale, Etc.

Polaroid 230 camera, w/case, portrait kit, flash gun, \$55. Dwyer, x3830.

Norris Hyde upright piano, \$25 or best. Gary, x3762.

Twin bed, 3 yr old w/frame, \$25; dresser & night tbl, \$15. Wolfson, 661-9262.

Dk grn sofa & 2 chrs, \$75; twin bed, \$35; 24" TV, \$65; office chr, \$10; coffee tbl, curtains. x6260 or 277-8029.

Moving must sell: Queen Anne solid walnut tbl & buffet w/3 chrs; mahog dbl bed w/ortho matt, misc hsehold items. Call 489-1315 evgs.

Crib w/matt, \$35; stroller, \$3; Sears 18" port TV, \$60. Call 489-2625 after 7/25.

Kenwood 4066 tape deck, 3 heads, 6 mos old, \$135 or best offer. Marshall, x2110 or 731-2242.

Conv bby carriage/stroller/carbed, exc cond, \$20. Call 354-2249.

Free for asking, 5' wooden skis w/bindings, ski poles, size 9 man's ski boots, old but usable. Russ, x3641.

Folding tbl w/upholstered vinyl chrs, \$20; lrg blk vinyl chr & ottoman, \$35; bkshelves, tbls, etc. Call x7272 or 864-8620 evgs.

Golf shoes, size 13, \$8; golf clubs, bag, cart & balls, \$40. Bill R., x2445.

Port singer sew machine, gd cond, \$50. Joni, 623-8278.

Furn-B, chrs, tbls, etc; K supplies--dishes, pots, etc; gd cond, inexpens. x4425 or 492-2809 evgs.

High quality oriental rug, 4x6, Span octagonal & tbl, Span hand md wrought iron & glass standing light. Call 227-3754.

GE 10" TV, humidifier, lg office desk, terrazo marble suitable for patio. John, x7931 or 581-0261.

Boy's bicycle, \$8; clock radio, \$5; port Sony tpcrder; GE toothbrush; 3 Persian kilams. Call x7953 or 876-8725.

Sears air cond, 6000 BTU, 2 yrs old, avail 7/25, \$60; used furn. Call 643-9228.

70 linear ft of 3' high picket fence w/swinging gate, used 1 yr, exc cond, orig \$115, best offer accepted; 2 alligator purses and others. Call x6204 or 861-0142.

Port singer sew machine, exc cond, best offer. Mary, 354-7215.

Tech Flying Club, membership for sale. Mike, x7378 Linc or 275-8960 evgs.

Elec blenders (2), hand mixer, baby furn, infant clothes, maternity (9,10)--all in gd cond; odds and ends. Call 354-6063.

Moving: 2 keybrd Wurlitzer organ w/base pedals & bench, just cleaned & tuned, \$750; Speed Queen gas dryer, exc cond, \$75. Call x6527 or 686-7580 evgs.

Cinemaster II dual 8mm movie camera, \$10; Sparton AM-SW tube radio, \$10. Steve, x2943 or 261-8017 evgs.

Lee rug, 12x12, thick shag, like new, orig \$300, now \$150. Bill, x5020 or 646-8406.

N-gauge model trains, cars, locomotives, bridges, turntbls, roundhouses, trees, etc. Call 739-1423 evgs.

Small birch ofc desk, exc cond, \$50. Call x3895 or 659-3318.

Free: fuel oil tank, 275 gal, gd cond, take it away. Jim, x7686 Linc or 275-0616.

Baby stroller, gd cond, \$5. Call 489-0460.

Head GS skis, 210 cm, w/step in bndgs; Lang pro boots, 13; Scott poles; Bauer skates, 12½; good 1st base mitt; un-

used elec knife; ladies skates, 8. Don, x6997.

Maternity clothes, size 14 & 16; baby clothes & equip; GE TV, doesn't work; other things. Call 862-6966.

Norge gas clothes dryer, \$30; K set w/6 chrs, \$30. Bob, x5830 Linc or 862-6922.

Smith Corona manual typewriters, 2, exc cond, like new, best offer over \$40 ea. Call x2636 or 491-6781 evgs.

Mahog bdrm set: dbl bed, chest of drawers, dressing tbl w/chr, single bed, wood file cabinet, must sell by 8/27. George 782-2977 evgs.

Blankets, pillows, sheets, \$3 to \$50; pots & pans, \$2; bdsreads, antique type, sgl, white, \$4; chr, \$25. Call 566-1012 evgs.

La Pierre 10 sp bicycle, new. Michael, x5665.

Chest, \$20 or best offer; mirror, \$8 or best offer; tent, exc cond, \$90. Danielle, 864-0642 evgs.

Frigidaire refrig, 2 dr frostfree, \$125; Kenmore washer, \$100; children's furn incl crib, fans, etc for 4 yr old. Call 489-2417.

Bell 500-TX helmets, exc cond, \$25 ea or \$45 for both. Connie, 354-6164 evgs.

Fl length cockpit cushions, 2, for O'Day Tempest sloop, vinyl covers, lk new, \$60. x7711.

Crib, walker, stroller, playpen, other baby furn; toys; antique doll cradle; bowling balls. Call 484-5357.

'68 elec start Johnson outbd, 55 hp, 50 hrs on eng. David, x5559.

Furn: reclining chr, arm chrs, bkcase, tbls, couch, etc, sep or all for \$150. Call 661-1626.

Leave country: easy chrs (2), coffee tbl, Telefunken HiFi. George, x5710 or 547-2416 evgs.

Book: *Switching Circuits and Logical Design* by Samuel Caldwell, '58 ed, \$2. HiFi magazines, \$.10 ea. Mel, x4192.

Bar & 2 stools, \$30; couch, 3-piece & coffee tbl, \$25; desk & chr, \$25; 9x12 rug, \$20; dresser & mirror, \$35. x7536 or 628-5598.

Heath AR-13A stereo recvr, custom wired, \$150. Brockelman, x165 Haystack or 582-6758.

Bkcases, bed, mirror, easy chr, studio couch, wood desk/tbl. Call 277-4290.

Melodeon reed organ, 10 stops, 61 no keybrd, foot pump operated, \$135. G. Flakas, x6430 or 489-3739.

Heath sixer Ham R, gd cond, \$40; Wilson tennis racket, \$7. Call 322-1086 evgs.

Port baby crib, \$8; stroller, \$8; Hamilton Beach elec knife, \$5; set of barbells, \$5, ice chest, \$5. Rao, x7443 Linc.

Lg refrig, gd cond, \$50; hvy maple dr set, 6 chrs, \$100; maple couch, 2 arm chrs, \$125; TV, \$30; etc. x5549 Linc or 729-7782.

K set w/6 chrs, \$80; 4 cots, \$10 ea; all less than yr old. Call 298-7181.

Wedding gown, 7, Juliet style, train, headpiece, veil, wrn once, \$50. Glenda, x6966 or 298-2000 evgs.

Steel wardrobe, 67"x35"x21", fl width shelf, \$18; sgl box spr matt, \$45. Call 232-0965 evgs.

Moving must sell bunk beds, conv sofa, K set, metal bk shelves, etc, best offer. 661-0595.

Scott HHS20 sol st FM-stereo recvr-amp, 2 Fischer 8 speakers, \$100 ea or \$175 for all. Jimmy, 762-6912 evgs.

GE frost free refrig, 16 cu ft, wht w/walnut handle, exc cond, \$150. Donna, x1871.

Sunbeam 12 cup per; Hamilton Beach

hand mixer; pressure cooker, teflon lined; all new. Call 734-4453.

Belgian rug, 10x12, \$20; sofa w/cover, \$20; fan, 20", 3-sp, w/guarantee, \$12. x2514 or 899-3890.

Mich. X tire, 165x15, w/tube, \$12.50. C. O'Neal, x4301.

Contemp sofa, beige, gd cond. Call x6401 Draper or 646-3941 evgs.

Rock Maple R divider--hdbrds (2) & beds, Hutches bkcase (3), tbl top desks (2), chest w/3 drawers. M. Strandberg, x2561.

Sm metal desk w/3 drawers & chr, \$20; fiberglass chr, \$5. Dietrich, x6747 or 492-6922 evgs.

Man's 26" 3-sp bicycle, \$35. x3484.

Bicycles, 26" Phillips, 20" Sears, best offers. Call x2267.

Vehicles

'61 VW Body, fair-gd cond, \$75, some pts free to buyer. Alan, 232-3291.

'62 Mercedes 300D Limousine type, 4 dr sedan, sunrf, newly rebuilt eng, new tires, exc cond, best offer over \$2000. Call 296-6542.

'63 Volvo P1800 Spts Cpe, 4-sp w/elec overdrive, exc cond, must sell. Charlie, 484-8347 evgs.

'64 VW, 60K, reliable, snows, R, \$250 or best. Dave, x3959 or 327-7897.

'65 Ford Custom 500, wht, 4 dr, hrdtop, auto, pwr st, R, gd cond, \$600 or best offer. Call x3993 or 922-4138.

'65 VW bug, new eng, tires, batt & other parts, gd cond, one owner, \$340. Call x6123 or 254-6770.

'66 Mustang, 289, 47K, v gd, \$925; Singer touch & sew, \$200; Admiral TV, 19", \$45. Brandi, 868-0792.

'66 Ply Sport Fury, auto, \$550. Call 876-6904, 5-7pm.

'66 Impala SS, blk vinyl rf, wht body, pwr br & st, 60K, gd cond, \$800 or best. John, 6762.

'67 Pontiac Conv, air cond, R, low mileage, best offer. Call 531-6918.

'67 Pontiac Tempest, 6 cyl, auto, R & H, Pwr st, 4 dr, best offer. John, x6475.

'67 Austin 1100, 4 dr sedan, gd cond, 31K, \$590. Tony, 628-5817 evgs.

'67 Chevy wgn, V8, pwr st & br, auto, delux trim, \$1800. Heon, x7861 Linc.

'67 VW bus, exc cond. Tom, x6518.

'68 Pontiac conv, V8, best offer; also free buff colored fem dog, 1 yr old. Diane, x6265.

'68 Spt Malibu, 50K, exc cond, best offer. Jeff, x4093.

'69 Austin Amer, red, R, auto, gd cond, clean. Wayne, x4454.

'69 Chevelle Malibu, pwr st & br, auto, air cond, 30K, \$2400. x7536 or 628-5598 evgs.

'70 VW sqbk, dark blue, exc cond, 27K, R, snows, \$1900. Call 4996.

'70 VW auto stick, exc cond, 8K, R & H, \$1650 or best offer. Call 723-7011.

'71 VW, orange, R, 4K, \$1850. Call x1834 or 489-2368.

'71 MG Midget, still under warranty, exc cond. Call 933-5943 after 6pm.

'68 Suzuki Hustler Motorcycle, 250 cc, x-6, \$250. Jim, x7803.

'68 Honda 305 cc, exc cond, \$415-\$495 w/helmets, case oil, lock & chain, etc. Barry, x2514.

Aqua Cat 12' sailing catamaran, \$650; lrg std buckle boots, 8½N, \$75; elec knife/mixer, \$15. Mike, x6762.

Cabin Cruiser, 25', in water at Ports-

mouth, NH, must sell this month, \$2250, will take small boat in trade. Leon, x7764 Linc.

Housing

Arl N gate apt, 1 br, lrg liv rm, K, bath, ww carpet, for MIT people only, \$190, avail 8/1 w/option, \$210 after 9/1. Call x1871.

Buzzard's Bay area house lot, 90' frontage by 115, across from water. Call 665-8142.

Camb 1 br apt, avail now to 9/1, \$150 bracket. Jeff, x1532.

Camb sublet efficiency apt for 8/1, cheap. Jenny, x6249 or 354-8246.

Chelmsford: 7 R house w/3 B, lrg air cond family R, frpl, lvrn, K, lrg wooded lot, 40 min drive to MIT, for rent 9/1, \$290/mo. Call 256-3145.

Concord 3 bdr furn house in wooded area, avail 1/72-7/72, w/study, lrg playrm, air cond, recently repainted & return, w/G, \$400/mo. Domar, x3369 or 369-4427.

NH: new chalet on pond near Mt Sunapee, 3 B, all conv, beach, 8' rowboat, avail for 9/1-10/31, at \$100/wk. Call x7302.

Somerv 1 br modern apt avail Aug 1, \$100. Call housing office.

Somerv sublet w/option, new 2 br unfurn apt, lrg elec K, air cond, parking, \$210, avail now. Call x6735 or 623-8082 evgs.

Wat sublet, 2 br, gdn apt, pking, avail 8/1-9/12, \$185. Call 926-2701 evgs.

Animals

Free: spayed all-wht cat, lotsa character, gd pet. Anne, x3363.

Help: need loving home for 2 beautiful cats, 1 persian tabby & 1 Maine coon, can't split them. Linda, x1914.

Free: 2 sm spayed F cats, calico & tiger, to gd home. Peter, x6018 or 242-0704.

AKC Golden Retriever puppies, M & F, champ stock, gd w/child, \$150 ea. Call 332-8251 evgs.

Free to gd home--pocket Beagle, approx 6 yrs old, can't keep, gd disposition. Call 723-6428.

Wanted

Morris Minor Traveler w/gd wood. Call Bob, x368 Draper 7 or 489-3824 evgs.

Need part-time worker w/some painting and carpentry ability to do assorted jobs incl yard work, \$1.60/hr; need used household oil burner, gd cond w/compatible controls. Call 547-0950 after noon.

Sum job as mother's hlpr by Fr-Canadian HS senior. Call 969-0418 evgs.

Babysitter for 2 yr old, 2 days/wk, Arl Hts area. Call 646-4709.

Man's colorful racing bike. Gayle, Harris, x453 Draper 7.

Near Wellesley college campus, apt or R for 9/15, write K. Rosen, The Willoughby, apt 1020-S, 4515 Willard Ave, Chevy Chase, MD 20015 or call 1-202-WO4-5297 between 9-5pm.

Apt, 1 br or efficiency for 9/1 until 11/1. Peter, x7196 or 566-5485.

Man's bicycle, 1 or 3 spd. Ken, x6385.

Student boarder/helper for acad yr to do babysitting, yd work for Camb fam. Dan, x6046 or 492-4313 evgs.

Camb, lrg apt or house for rent in Peabody or Russell districts for 2 or 3 mothers w/1 child ea. Dorothy, x1534.

M rmmate for Harv Sq area, own rm, \$70. Paul, x6022 or 876-8321 evgs.

Used exercise bike. Pat, x5651.

Rowter & Formica cutters. Dave, 734-4532 evgs.

Bicycle, 3-sp, 26". x2871 or lv note with your phone number for box 425.

Miscellaneous

Will pay \$25 if you can find me a nice apt for 9/1, larg, 2 br, *very near where small children play*, spend up to \$250/mo, hopefully--to be paid if I sign lease. Call x3663 afternoons.

WI do quality housepainting, int or ext, use supplied paint only. Joe Cliff or Randy Gregg, x3785 or 266-6669.

WI pay board for loving, 100% housebroken cat during Aug & Sept. Diana, x4936 or 491-2438 evgs.

WI do fast technical thesis typing. Miss Wylie, x4380.

French student will tutor French. Phillip or Bruno, 321-1135.

DSR staff member will house-sit your home starting 9/71. Call D. Burmaster, x6040.

E. gate mother will babysit Mon-Fri days. Call 868-4039.

Lost and Found

Found: pr of safety prescrip glasses, in vicinity of bldg C penthouse at Linc. Call x5315 or 5314.

Found: port radio, foreign brand. x1994.

New Law Alters Safety at MIT

The Safety Office recently circulated a memorandum to department and laboratory supervisors outlining a new federal safety act which applies to many operations carried out at the Institute.

Known as the Occupational Safety and Health Act of 1970, the law was enacted "to assure so far as possible every working man and woman in the nation safe and healthful working conditions . . ."

The large task facing the Safety Office staff is implementation of the law at MIT. They have ordered copies of the *Federal Register* which contain the Occupational Safety and Health Standards, detailed instructions of the safety requirements. These safety standards apply to such operations and areas as walking and working surfaces, means of egress, hazardous materials, personal protective equipment, environmental controls, fire protection, medical services and first aid, materials handling and storage, machinery and electrical equipment.

All Institute supervisors are urged to read the *Federal Register* and become familiar with the safety requirements that pertain to their employee group. The Safety Office staff will meet with groups of supervisors to answer questions about the law and how it applies to MIT.

In the past most safety codes were usually advisory rather than mandatory. The Institute, classified as a charitable organization and research-oriented institution, was exempt from many of these codes but tried to follow them as closely as possible. The new federal law, however, does apply to the Institute and violations are subject to civil or criminal penalties.