## Massachusetts <br> Institute of Technology

June 9, 1971
Volume 15
Number 34


Johnson,Speaking at Graduation, Says Change Demands Caring

President Howard W. Johnson told 1,240 seniors and graduate students at MIT's 105th commencement Friday that change in institutions such as schools, businesses, governments and churches will be effective only when men and women truly care about them as institutions.
Caring, he said, requires interest, compassion, concern, self sacrifice, wisdom, tough mindedness and discipline.
"The institution itself then must be the object of intense human care and cultivation," he said. "Even when it errs and stumbles, it must be cared for. And the burden mus be borne by all who work for it, all who own it, all who are served by it, all who govern it--to care with somewhat the same response to its needs that one would give an individual person.
Society is suffering because its institutions fall short of what people expect from them with the resources they have and this is because "not enough people who influence their quality care.
"Institutions are seen as in struments to be used and ex ploited," he said. "The result is just as corrupting to an institution as if the same treatment were accorded an individual person.'
Universities, he said, cờuld become the pace setters for socia advance and he urged that MIT through the people who care for it, become the leader in this.
"Beyond becoming an institution where all the constituencies care where the search for truth is paramount, where compassion is part of principle, we should make this Institute where more...mean ing can be extracted from experi ence," he said.
Mr. Johnson urged the graduates 'to care in new ways for MIT and for the institutions where you live and work the rest of your life."
"The future of these institutionsand the world--will depend on tha kind of personal caring on the part of each of you.'
It was Mr. Johnson's last commencement as president. On

July 1, he will succeed Dr. James R. Killian, Jr., as Chairman of the Corporation, and Dr. Jerome B Wiesner, now provost, will become president.
More than 3,000 persons, in cluding parents, relatives and friends of graduates, filled Rockwell Cage for Friday's com mencement. All told 1,423 degrees were conferred, since some graduates received more than one degree. They included 147 doc torate degrees, 72 engineer degrees, 429 masters' degrees and 775 bachelor's degrees.
Following commencement Friday, graduates gathered unde tents on the Great Court for the annual President's Luncheon where Dean Irwin Sizer of the Graduate School presented Harry Manley Goodwin Medals for conspicuously effective teaching among young staff members to Woodie C. Flowers, a mechanica engineering instructor, and Lawrence E. Susskind, an in structor in urban planning. They were selected by students, faculty supervisors and co-workers. Cas awards of $\$ 500$ accompanied each medal

Commencement activities began Thursday. Vice Admiral Edwin B Hooper, official US Navy historian was principal speaker at ROTC commissioning exercises for 14 Army, 11 Navy and 11 Air Force cadets. Later Thursday, Julian Bond, young black state legislator from Georgia, was the principal speaker at the annual commencement convocation
Saturday and Sunday alumni classes as far back as 1921 held reunions on campus and at New England resorts. On Sunday evening and Monday, alumni from all classes gathered on campus for Homecoming Weekend. Panel pro grams dealing with science and public policy highlighted the homecoming program on Monday and speakers included Dr. Clarenc Linder, president of the Nationa Academy of Engineering, and Dr Edward E. David, science advisor to President Nixon.

## Two Named Associate Heads of EE

Dr. Paul E. Gray, dean of the School of Engineering, has announced the appointment of two associate heads of the Department of Electrical Engineering.
Professor Wilbur B. Davenport, Jr., will become associate head of the department for Electrical Science and Engineering.
Professor Robert M. Fano will become associate head of the department for Communications Science and Engineering.
Both men will serve with Professor Louis D. Smullin, head of the department, to coordinate academic programs and faculty development in the department simultaneously within the two broad subdivisions. All faculty appointments will continue to be made to the Department of Electrical Engineering as a whole. Flexibility within the department will permit faculty members to move from one area to the other and back again as their individual interests evolve
The Department of Electrical Engineering is the largest department in the Institute. The appointment of Professors Davenport and Fano will strengthen its efforts in recognizing and evaluating the
educational processes within the subdivisions while retaining the unity of the department.
Dr. Davenport, a specialist in communications with experience in advanced systems, is a native of Philadelphia. He received the B.E.E. degree in 1941 from the Alabama Polytechnic Institute and the S.M. and Sc.D. from MIT in 1943 and 1950, respectively.
After serving in the Navy for three years, he returned to MIT in 1946 as an instructor of electrical engineering, and was appointed assistant professor in 1949. In 1951 Professor Davenport joined Lincoln Laboratory as leader of the Communications Techniques Group, becoming associate head of the Communications and Components Division in 1955. Two years later he was appointed head of the division and in 1958, became head of the newly-formed Information Processing Division.
Dr. Davenport returned to the Institute as professor of electrical engineering in 1960. From 1960-63, he was associate director of RLE, and from 1963-63 assistant director of Lincoln. Since 1968 he has served as undergraduate academic officer of the department and chairman of
its undergraduate Educational Policy Committee.

Professor Fano, Ford Professor of Engineering, was the originator of MIT's Project MAC and served as its director from 1963 to 1968. A native of Torino, Italy, he completed part of his undergraduate study at its School of Engineering before coming to this country. He received the S.B. in 1941 and the Sc.D. in 1947 in electrica engineering from MIT
During World War II, Professor Fano was a member of the Radiation Lab staff, working on microwave components and filters. From 1950-53 he was group leader of the Radar Techniques Group at Lincoln, and he has been a member of RLE since its forma tion in 1946.
Dr. Fano was appointed professor of electrical communications in 1956 and became Ford Professor in the School of Engineering in 1962, while maintaining his association with the Department of Electrica Engineering. He is the author of Transmission of Information and co-author of two textbooks electromagnetic theory


New associate heads of electrical engineering: Professor Davenport, left, and Professor Fano

## Returning Alumni Present Class Gifts

Reunion gifts amounting to $\$ 1,776,931$ were announced by the 50,40 and 25 -year classes at the 1971 Alumni Homecoming Day luncheon Monday. The funds were raised by the three reunion classes over the past five years.
326 members of the Class of 1921 Celebrating their 50th anniversary reunion, contributed to a reunion gift of $\$ 700,583$. Not included in the gift, but separately announced was that 43 members of the class have included the Institute in their
estate plans, which would result in MIT receiving more than an estimated $\$ 985,000$ in future years. The 1921 class gift was announced to alumni attending the luncheon by Irving Jakobson, vice president of the class and reunion gift chairman
The class also gave a new shell for the rowing crew. It was the Class of 1921 that started crew as a varsity sport. The shell, called the Class of 1921 , was unveiled by seven members who were in crew as undergraduates and was christened with champagne by the wives of two class officers.
The reunion gift for the Class of 1931 amounted to $\$ 886,838$, which

The reunion gift by the 25 -year Class of 1946 was $\$ 189,510$. That gift was achieved by the participation of 353 members of the class. James Craig, reunion gift chairman for the Class of 1946, reported the gift at the luncheon on behalf of his classmates.


Commencement is a proud and happy time, as this young graduate
aptly demonstrates.
-Photo by Owen Franken, 70

## Corporation Elects New Members Including Five Recent Graduates

The Corporation elected eight new members Friday, re-elected two others to new terms, and voted present Chairman James R. Killian, Jr., a Life Member
The eight include three prominent business leaders and alumni who were each elected to five-year terms and five young alumni who were elected to a new category of membership called Repre sentatives from Recent Classes
The formal election took place a a regular quarterly meeting of the Corporation before commence ment exercises
Dr. George W. Thorn, physician-in-chief at Peter Bent Brigham Hospital and Hersey Professor at the Harvard Medical School was re-elected to a five-year term. Re elected an ex officio member was Paul V. Keyser, who serves on the Corporation as president of the Alumni Association, a post to which he was recently re-elected. Dr. Killian has been Chairman of the Corporation since 1959 and will retire from that post on June 30 The three business leaders and alumni who were elected to new five-year terms beginning July 1 are Paul M. Cook, '47, president of the Raychem Corporation, Menlo Park, Calif.; William S. Edgerly, ' 49 financial vice president of the Cabot Corporation, Boston; and Kenneth H. Olsen, '50, president of the Digital Equipment Corporation, Maynard, Mass
The five young alumni, including two from this year's class, were nominated by their classmates and


Michael Sawyer and his mother, Mrs. Dorothy Graves, after his election to the Corporation.

Photo by Bob Lyon
elected by the Corporation for specific staggered terms ranging rom one to five years beginning with the next annual meeting of the Corporation on October 8.
Two of the five are young women: Pamela Whitman, '70, and Mrs. Christina Jansen, '63, who is now a graduate student in Metallurgy. Miss Whitman will serve a five-year term, Mrs. Jansen a three-year term. They are not the first women to be elected to the Corporation--Mrs. Philip Wagley, 47, was elected to a five-year term last year
The two who are members of this year's class are Michael Sawyer, elected to a four-year term, and Laurence Storch, elected to a oneyear term. Both are 21, but Mr. Storch is younger by a few weeks and thus becomes the youngest erson ever to serve on the Corpration. Mr. Sawyer is the third black ever elected to the Corpora-
tion. The others are Jerome $H$ Holland, US ambassador to Sweden, elected in 1969, and the late Whitney M. Young, Jr., elected in 1970.
The fifth young alumnus is Dr. James Hester, '65, elected to a two year term. He received his Ph.D in city planning from the Institute in 1970

## Graduate Program for Biomedical Engineers to Begin

The Committee on Graduate School Policy (CGSP) has ap proved the establishment of graduate program in Biomedical Engineering.
The formal interdepartmental program is intended to co-ordinate all the new programs of study and research established recently such as the Joint Harvard-MIT Program in Health Sciences and Technology The Biomedica Engineering Committee (BMEC) Engineering Committee (BMEC) consists of seven professors from
various departments. BMEC chairman Professor Laurence Young of Aeronautics and Astro nautics, Dr. Philip Drinker of the Harvard Medical School, Professor Gordon Brownell of Nuclear Engineering Professor Rober Engineering, Professor Rober Professor Edward Merrill of Professor Edward Merrill of
Chemical Engineering, Professor Chemical Engineering, Professor
Robert Rose of Metallurgy and Robert Rose of Metallurgy and
Professor William Siebert of Electrical Engineering have pro posed both policy and subject material for graduate courses in material for graduate courses in Biomedical Engineeri
cording to the proposal:

The interdepartmental com mittee should not have author ity for the initial evaluation and admission of graduate students to MIT--this authority, as well as the re sponsibility for formal registration, remains with the departments. However, the BMEC anticipates that stu dents of the strength sough for this program would, with the support of the BMEC, have admission to one of the exist ing departments. Once ad mitted to a department and accepted into the program by the BMEC, control of the stu dent's program would shif entirely to the BMEC as de scribed above and in more de-
tail below tail below.
Most of the predoctoral studepartmental pror the inter BMEC would have under graduate or master's degrees in engineering or physical sciences. A few may have de grees in biology or other
fields, provided that their fields, provided that their
programs have included programs have in mathe matics and physical science Most of the students admitted to the BME program would be initially admitted to MIT by and registered in the depart ment corresponding mos nearly to their undergraduate major. Thus, we anticipate that a few of the BME students may be registered in such departments as biology, nutri-
tion and food science chemistry or physics rather than an engineering depart ment. It is important to em phasize that we envision th Broposed program as a relativel BME program as a relatively marily to that small group of graduate engineering student who have had biological or medical as well as engineer ing tráining in depth. We believe that for the bulk o BME students, separate pro grams tailor-made to thei needs, as at present, All students admitted to th interdepartmental program in BME would be expected either to have had introductory courses in general biology and chemistry or to rectify thes deficiencies during the firs year of graduate study. The degree requirements would be specital committee. In genera mental committee. In general grams will consist of two equal parts:
a) graduate subjects pro viding both breadth and depth in some areas of engineering knowledge
b) subjects in the life sciences and bioengineering including both biochemistr and human physiology in area.
Each student would be asked to prepare a plan of studies early in his program
All students would be ex pected to complete early in pected to complete a master's their programs project of comparable depth if the studen already has an SM degree) We consider such a thesis (or project) to be an integral par of the training program, pro viding a mechanism for bring ing students and faculty together in the laborator as preparation for the majo as preparation for the majo thesis. The Ph.D. thesis for a BME students would, o course, always combine engineering and life scienc knowledge and skills; it would often be carried out in co operation with a medica school or hospital. On the average, we anticipate that
the Ph.D. program in BME will require 4 -5 years from the bachelor's degree.
Qualifying and general examinations for the doc torate in BME will b arranged individually by the will test his competence i both engineering and life science areas. The engineer ing component would often be a segment of the examinations required by the appropriat engineering department

After reporting informally to the CGSP in the fall, the BMEC pre sented its formal proposal in March. The CGSP then appointed a subcommittee of six professors to examine the proposal in detail. The favorable report from sub committee chairman Professor Whitman Richards of Psychology Professor C. Forbes Dewey of Mechanical Engineering Professor Bernard Gould of Biology, Professor John Stanbury of Nutrition and Food Science, and Professor Kenneth Stevens of Electrical Engineering led to the establishment of the program.
Dean Irwin Sizer of the Graduate School will soon appoint a Standing

Interdepartmental Committee to supervise doctoral programs in Biomedical Engineering. He has indicated that he will appoin certain originators of the proposal and two biomedical scientists to this committee.

Faculty Officers
Step Down


Retiring faculty officers E. Neal Hartley, left, and William Ted Martin.

Last Wednesday the faculty hel its last meeting of the academic year. Reports were given by the Dean of the Graduate School and the Committee on Academic Per formance on June graduate and undergraduate degrees. It was als the last meeting at which Pro fessor William Ted Martin will serve as chairman of the faculty and Professor E. Neal Hartley will take minutes as secretary.
At the start of the meeting President Johnson paid a special tribute to the two outgoing officers. He cited their distinguished years of service to both the Institute and the faculty. Following the President's remarks the two men received a standing ovation from their colleagues.

Professor Martin has been chair man of the faculty for two years, during which time the faculty met more than the usual number of times. At a recent dinner meeting of the Committee on Educational Policy, of which he has also been chairman, Professor Martin was presented with a specially in scribed copy of Pieces of the Ac tion, the most recent book by Dr Vannevar Bush, honorary chair man of the Corporation. Next year Professor Martin will continue to lecture in freshman calculus
Over the last five years Profes sor Hartley has taken, by his own count, "185 pages of single-spaced prose" minutes at 68 faculty meet ings. He will continue working a Institute Archivist, in addition to teaching in the history section of the Department of Humanities.
Also stepping down is Professor Robert Halfman, who has served as first Associate Chairman of Faculty and deputy chairman of the CEP the past year. Next year he will continue to serve on the CEP as a representative from the School of Engineering

## Inflatable Shelter for Indoor Tennis

## is Gift of Alumnus

President Howard W. Johnson an nounced plans for the construction of the J.B. Carr Indoor Tennis Cen ter at the Alumni Day luncheon Monday

The building will provide the first year-round indoor tennis faci ity for students and other members of the community. It is a gift from J.B. Carr, '16, and his wife of Wilkes-Barre, Pennsylvania and Palm Beach, Florida and their son and daughter-in-law, Mr. and Mrs David B. Carr of West Palm Beach, Florida

In establishing this center, Mr. Carr said, "my wife and I also wish to pay tribute to our oth
"Our principal purpose in giving this new center is to advance the sport of tennis at the Institute," he said. "We wish to help remedy the existing inadequacies in tennis facilities as well as provide opportunities for play during rainy windy, cold and snowy weather. have played tennis for more than 60 years and regard it as a lifetime recreational activity contributing to good health, relaxation of business and professional tensions and long life. I am deeply interested in seeing this fine sport flourish at MIT.
In announcing the plans President Johnson said, "Such an addi tion to the Institute's athletic facilities will be welcome indeed Tennis facilities are in short supply for all parts of the Institute's athletic program, but particularly so in the recreational program Here the demand so greatly exceeds the availability that participation in tennis is restricted."

The Carr Tennis Center will be an air-supported, inflatable, "failsafe" structure located on Briggs Athletic Field, near the duPont Athletic Center and adjacent to student residence halls along Memorial Drive. Covering four existing tennis courts, the building will be 212 feet long, 120 feet wide and 40 feet high. It will be white on

June 10
through
June 18, 1971
Equal Opportunity Guidelines Extended
President Howard W. Johnson last week issued the following memorandum outlining an extension of
the Institute's Affirmative Action Plan for Equal Employment Opportunity.

The M.I.T. Affirmative Action Plan was adopted in October, 1969 to carry out the recommendations of the Ad Hoc Task Force on Equal Employment Opportunity. The objective of the original plan was representation from minority groups, particularly blacks, among the student body and the employees of the Institute, and to
extend to the disadvantaged of all races new opportunities to join the M.I.T. Community." The term "employees", as used in the plan applies to all categories of employ-
ment - faculty, administrative and research staff, and supervisory, office, and hourly employees.
An examination of results of Affirmative Action since 1969 show certain areas of progress, but generally the attempt to increase ment and advancement at M.I.T. has not been fully satisfactory. Further, the original plan failed to emphasize equal opportunity for women. The purpose of this docuand to set out policies and procedures aimed at making further and effective progress in redressing inequities and eliminating discrimination wherever it may occur. To this end, all supervisors at
M.I.T. will be urged to give high priority to the Institute Plan for Affirmative Action.

Specifically, each academic and administrative department and each laboratory is requested to establish affirmative action goals and timetables and make the commitment to achieve them. While certain overall goals are being set
for the Institute as a whole, the greatest effort must come from the departments in establishing internal goals that are ambitious, yet achievable. To establish a pro-
gram having a high probability of success, the following actions are to be taken:

1. Each academic and administrative department head and laboratory director will be responsible for:
a. Developing a departmental Affirmative Action Plan, and submitting this plan, including proposed recruitment, training and development methods to the Chairman, Equal Opportunity Committee, by July 1, 1971. This plan should include goals and timetables for the hiring or upgrading of women and minority employees which take into account estimates of faculty and other personnel requirements over the next two years.
b. Recording all activities involving recruitment and hiring of women and minority candidates for positions, i.e.,
the specific recruitment efforts undertaken, numbers interviewed or considered,
rejections with reasons, and numbers employed. Copies of this record should be sent quarterly to the Chairman, Equal Opportunity Committee.
Assistance to departments in carrying out these responsibilities will be furnished through the office of the Vice
President, Administration and Personnel whom I have asked to coordinate this extension of the Affirmative Action Plan. More detailed procedures will
soon be available from his office.
2. In the appointment and promotion of women and minority other academic staff positions, the following policies will apply:
a. There will be full opportunity for staff appointments, including tenure appointments on the faculty, of
women who may be able to devote only part of their time to their academic staff duties during their child-rearing period.
b. The advice and assistance of women and minority members of the academic staff should be sought in candidates for these positions.
c. Prior to making any new academic staff appointments each year, department heads are expected to demonstrate
to the Equal Opportunity Task Force on Faculty and Staff that a serious search for qualified women and minority candidates has been made.
3. In the appointment and promotion of administrative and D.S.R. staff and supervisory, office and hourly employees, the following policies and procedures will apply:
a. All requests for employment, whether for replacement or increased personnel requirements, will be submitted to the Office of Personnel Relations prior to any offer of employment.
b. The Office of Personnel Relations will explore and attempt to determine the most effective ways of bringing vacancies to the attention of terested employees of the Institute so they may be encouraged to apply.
c. The Office of Personnel Relations will establish an inventory of employee skills and qualifications in order that opportunity for career advancement may be made available to all employees. Included in this inventory will identified as not effectively utilized in relation to their qualifications, who have re-

MIT Club Notes
Baker House SPAZ Jogging
Club ++
quested transfer, or who have received layoff notices. This inventory will be the primary before outside hiring or advertising is attempted. Special consideration, based on work experience and seniority, will and minority employees in filling these vacancies. The procedures in this document are not intended to require a or laboratory position which would seriously hamper its operation.
d. To assist in the above actions, each department will submit a report to the Office of Personnel Relations of its women and minority employees who appear not to be effectively utilized in relation to their qualifications, stating tion, based on manpower needs and expected attrition. e. All minority employees, and to the extent possible all ployees, will be interviewed by representatives of the Office of Personnel Relations immediately following their two-week notification to the
department that they are leaving the Institute. When the interview discloses that terminating employees wish to remain in another work situa-
tion, they will be given priority consideration in filling existing or upcoming vacancies for which they may qualify. The Opportunity Development Officer will
write to all minority employees who resign in an effort to isolate problem areas and to draw on past employees' suggestions to improve our ployees.
4. In the patterns of compensa tion, the following policies will apply:
a. It is the intention of the Institute to have salary equity between men and women employees having the same qualifications, responsibilities and performance in the same rank or job classification. It
will be the responsibility of the department or laboratory head to review the data and initiate adjustments where necessary.
b. In stances where husband and wife are both employed at the Institute, the fact of one's employment shall not influence decisions with respect to the rank, classification or compensation of the other. 5. a. Any employee who feels that M.I.T.'s stated policy of non-discrimination has been violated and that he or she has been discriminated against means of seeking redress. Such persons should be en-

Jogging around BU and Harvard Bridges.
Daily, $10: 45 \mathrm{pm}$. Baker House,
Second Floor West.
Outing Club +
Thursday, June 10; Monday, June
14; Thursday, June 17; 5 pm . Student Center, Room 473.

Science Fiction Society+

Deep-Ocean Mining+ Material from Sea Grant Project Hart Nautical Museum, Building 5, First Floor, through June.

## CLASSIFIED ADS

## For Sale, Etc.

Voice of Music tape rerdr w aux amp \& spkr
$\$ 260$ new, now $\$ 100$. John, $\mathbf{x} 3955$. Kittens, 3, born Easter Sunday, 4 gray \& wht. tiger striped. x 2874 .
Moving: new color TV, 201, ${ }^{1195 ;}$ new green LR sofa, orig $\$ 700$, now $\$ 250$; misc frpl access,
new, various prices; new tweed Danish sofa new, various prices; new tweed Danish sofa

Moving: Westinghs oven-roaster $\$ 25$, stand \$10; wht util th1 Ins paint \$5; uphol floral prin platform rocker $\$ 15$; invalid equip, step stool
long steel handle, unused, $\$ 12$; wht bathtul seat $\$ 7$. Mary, x 7361 Linc.
Air cond, 5000 BTU, $\$ 75$. Call 776-7741.
Olympia port typewrtr; sliderules: Post Versalog. K\&E Dec-i-lon, best offers. Call 491
4012 .
$\checkmark$ gd baby grand piano, just recond. Call 94
Stenorette Embassy dictating mach, $\mathbf{l k}$ new orig $\$ 220$, asking $\$ 75$. Call 734-9425
Sofa $\$ 30$. Jacob, x2066 or 491-5732 evgs.
Nikkorex 35 mm s 1 r camera w telephoto \& wide angle adaptors, built in
complete. x7034 or $492-1831$.
Old set of golf clubs, $\$ 10$. Dick, x4627.
AR 4X spkrs, 2, \$85: AR trmtbl w $\$ 60$ list ADC cart. \& dust cover, $\mathbf{l}$. A0, both components 5 mo

Stereo, 80w, w rcrd chngr, AM-FM stereo \& (2)
sprr sys. Call 354-1021
Gas refrig, late mod. W. Derry, x276.
Boat mooring for rent, Gloucester Harbor
July \& Aug, $\$ 80$. Call $862-9462$ or $862-7484$.
Ethan Allen maple spoonfoot harvest tbl,
Furn, 9 mos old: king sz bed, $570 ; 16^{\prime \prime}$ TV, 570 ; Kit thl w 2 chrs, 550 ; man's bicycle, English, spd, $\$ 25$ : porter-crib, $\$ 10$. Andre, x2280, before Lrg office dsk, wd; dbl bed, complete, both for
$\$ 50$. Walt, x 6235 .

Teac-A-1200 U tape deck, 1 k new, 6 mos guar
Teac-A-1200 U tape deck, lk new, 6 mos guar
remaining, $\$ 250$. Chip, x 1587 or $787-5137$ evgs. Free; 2 yr old f cat, spayed. Bernie, x7670

## Bundy slide x 466 Linc.

Free: $6^{\prime}$ long Danish sofa, seat nds recovering, turns into sngl bed, mod style, struc sound Call 864-3753 evgs.
er bell $w 50 \mathrm{lb}$ of weights. $\$ 5$. Bill, $\times 4956$.
Refrig \& misc hshold items. Call 484-3148.
rish setter pups, champ stock, AKC. 44652 or
Peugeot 10 spd racing bike, 1 mo. old, 1 k new wht. Charles, 2626664

Wdn potty chr $\$ 6$; wdn high chr $\$ 13$; infant sea 1.50; maternity clothes inc long gown \& matching coat $\$ 8$; for 2 pieces; crib matt $\$ 4$; layette; mother-in-law crib, nds wrk, $\$ 3.50$;
designer clothes inc long wht peasant dress
orig $\$ 200$ now $\$ 19$; clothes from the 40 's. Call orig $\$ 200$
$484-9729$.

Snows, 2, studded, 6.95x14, used 1 seas, $\$ 30$ or
best: Zenith TV $23^{\prime \prime}$, console, $\$ 30$. Alam x7020.
Guild Starfire elec guitar, new cond, \$350. Bob, 551 Draper 7.

Great Dane, v loveable, $\mathrm{m}, 2$ yrs old, has
ady's English 3 spd bike, ex cond, $\$ 35$. Call 492-5867.
Harmony guitar, 6 string nylon, Spanish style for beginner, free capo
asking $\$ 25$. Call $648-6397$.
Wilson Tony Trabert tennis racket. $\times 5528$ or
$322-1086$ evgs.
 studio couch, $\$ 20$. Call 547-2748.
Prof. Santa Claus, avail yr round. Jim Lopez,
Free: 3 adorable kittens. Alice, 862-4674.
Pampers, 2 boxes, 30 ea, 90 cents; Pagoda bird cage $\$ 8$; wdn dsk chr $\$ 10 ; 3$ stacked tbls $\$ 15: \mathrm{p}$
4640.
Bell \& Hwl 8 mm movie camera, zoom lens \& elec eye, Kodak, self threading movie proj,
carrying case \& screen, $\$ 170$ or best offer. carrying case \&
Doug, 5528 Linc.
${ }_{491}$ Wesuggis evgs.
Tech Flying Club membership. Mike, x737 Linc or $275-9060$ evgs.
Lrg red couch; patio chr; bed-frame; 2 floo
lamps, best offers. Bart, x1965 or $739-1123$. Tyrol man's ski boots, lace, sz 12M, 940 new. best offer. Call 3545616.
Free kittens, gentle, affec, half siamese
raised w children. Call 3695285 .
Classical guitar \& 12 string guitar $\$ 50$ ea. Call 862-6782 evgs.
Elec stove $\$ 5$; gas stove $\$ 10$; refrig $\$ 10$; refrig
$\$ 15 . \times 2325$.
Wool rug, beige w pad 9 ' $\times 12, \$ 50 ;$ pr of
armchrs, rust tweed. $\$ 300$. David, x6656 or 868 .
Older Admir refrig, $6-7$ yrs old, $\$ 40$, wrks frine Older Admir refrig, 6-7 yrs old, 540 wrks frine;
2calicof kittens, 1 shrt hair, 1 long hair, 7 mos
old, free to gd homes. John Vivian, x7286 or $646-3639$ evgs.
Wash mach, 6 mos old Hoover port, ex cond
$\$ 75$ or best offer. Call $492-2344$

## Vehicles

Dune buggy, Corvair eng, top w
carpet, $\$ 1895$. Barbara, x 7755 Linc.
'62 VW, perf mech cond, ultra reliable, 64 K ,
$\$ 150$. S. Bernstein, x5842 Linc. or $862-5408$.
${ }^{6} 62$ Classic Mercedes Benz, 300D, 4 dr sedan 62 Classic Mercedes Benz, $300 \mathrm{D}, 4 \mathrm{dr}$ seda
limosine type sunrf, 4 spd trans, newly rebu
eng, new tires, exec cond. Call $296-654$.
'63 Chevy Impala conv, 409 eng, 5 br new tires, Delta Super wide treads,
Call $322-1054$ from 47 pm .
${ }^{63} \mathrm{VW}$ sunrf, new tires \& batt, R\&H, $\$ 450$.
${ }^{63}$ Ford, $\mathrm{V}-8$, stndrd, R\&H, 66 K , best offer
'65 Chevy Belaire sta wgn, V-8, R\&H, pwr st pwr rear window, 58 K , exc tires, studde
snows on back, $\$ 650 . \times 269$ Linc or $275-8992$. 65 Chevy Impala conv, auto, 6 cyl , pwr st, gd cond, $\$ 850$. Call $232-9965$ evgs.
65 Dodge Sports van, rebuilt auto trans, gd
cond, best offer. Den, x 2420 .
${ }^{6} 65$ Internat Harvester Travelall, 6 cyl, 4 spd L. Linc. Dodge Dart sta wgn, R\&H, xtra snows, vgo cond, \$440. Call 862-94凤.

166 Plymouth Sp
$\$ 8000$. Bill, x 4479 .
${ }^{67}$ Austin American, 25K, R, v gd cond, orig © Buick LeSabre, 4 dr, Call 762-4143.
© Citroen DS 21 , pallas sedan, citromatic, R
52550 . $\times 5170$ or $369-6014$
'69 Peugeot $404,4 \mathrm{dr}, 11 \mathrm{~K}, \mathrm{R} \& H, \$ 1900 . \mathrm{x} 4305$ or 491-1272 evgs.

70 VW sedan, $1600 \mathrm{ccm}, 30 \mathrm{~K}, \mathrm{w}$ sunrf, \&R (FM AM-CM), v gd cond, $\$ 1450$ or best offer, avail
end of Aug. Lothar, x 4710 .

70 Buick Skylark, 4 K , mint cond, 4 dr . x 7752
${ }^{71}$ Volvo, 2 dr, stndrd, 6 mos old, going
"66 Yamaha 305 cc, exc cond. Call 227-1624.
67 Bridgestone motorcycle, 175 cc , exc cond
2295. E. Palmer,
© Super Triumph Bonneville, $10^{1 / 2}$ to 1 , ravesi cams, balance crank, ceriani frnt end, cobr seat, revs to 8500 , looks \& goes lk dynamite \$1500. Call 862-3515.
70 Honda CL 175 Scrambler. Call $244-697$
Aqua Cat. 12' sailing catamaran, wht fibergls hulls, dacron deck, leg sail, spray shield, $\$ 650$ Fibergls canoe

Wildcat trailer, $15^{\prime}$ cab-over sleeps 7,3 burner stove, lighted vent hood, pressurized water sys, frig, all scotch guard uphol, 3 lighting sys, canopy, hitch $w$ hood \& sway bars.
xtras, exc cond. Charles Ellis, $782-1164$.

## Housing

N. Hampton, $\mathrm{NH}, 4 \mathrm{rms}, \mathrm{lrg}$ porch, country
setting, 10 mi to beach, 1 hr 20 min from Boston, 6 acres fields, new heating sys, $\$ 18,000$

Woburn, spacious mod ranch, 3BR, eat in $K$,
Woburn, spacious mod ranch, 3 BR , eat in K ,
formal DR $\mathbf{w}$ deck, frpl LR, playrm, garage,
$\$ \$ 0,9$. Call $933-6741$.

Ads may be telephoned to Ext. 2277 or mailed
to Room 5-122. Ads must include full name and
extension or room number. Ads are limited to extension or room number. Ads are limited to
one per person per issue and may not be re-
peated in successive issues. The ad deadline is peated in successive issues. The ad deadline is
5 pm , Wednesday.

Arl apt, avail $7-1,3$ BR, frpl, LR, DR, dish \&
disp, garage, yard, $\$ 295-\mathrm{mo}$. Jim, $646-5319$
Brookline apt, $7 \mathrm{rms}, 4 \mathrm{BR}, 11 / \mathrm{B}$, heated, rear porch, elec $\mathrm{K}, 5 \mathrm{~m}$ in from MIT, $\$ 325$, avail $8-1$,
Camb, 2 BR apt, quiet, mod, trees \& grass, 15 min walk to MIT, gd neighbrhd, no lease req.

Camb summer sublet w Sept option, 1BR,
nicely furn, nr MIT, avail $7-1$. Call $354-7240$.
Camb summer sublet $6-15 \mathrm{w}$ option for fall,
close to Hary Sq, 18R, furn, all utill, s160, backyard, nice quiet neigh
Ellsworth Park, $354-7542$ evgs.

Seacon Hill sublet, 1BR, river view, 6-15 to 8-31 option, $\$ 185$-mo. Jessica, x5695
Furn summer sublet during July, 5 min walk to
HarvSq, $3 \mathrm{rms}, 2 \mathrm{BR}$, porch, $\$ 150$; also furn $6^{1 / 2}$ $m$ apt, elegant twnhouse, Brookline, 10 min dr to Harv Sq, for July \& Aug w option, $\$ 285$. Call
$731-0320$ or $868-3273$.
ummer sublet, July thru Aug, own rm, share K \& B, furn, gd view, in Westgate, $\$ 75$-mo,
hare w tenant, wife on holiday. x 7904 .
Green River, VT, Aug vacation rental, A-
frame, swimming, Marlboro music. x7146 or
rame, swimming, Marl baro music. x7146 or
$354-2691$.
Lk Winnipesaukee rental, $\mathbf{w}$ frpl, secluded yet
use of priv recreational facil such as pool,
Lk Winnipesaukee rentals on lake, mod,
heated. Call $603-293-4455$ Laconia, NH.
Wht Mt cabin, secluded, on Saco River in
Bartlett, NH, all conv, $\$ 75$-wk. $\times 4823$ or 527 -

## Wanted

Rmmate to share house in Camb 2 others, 6 -
10 thru $911,10 \mathrm{~min}$ walk from MIT, frpl, backyard, study, $2 L R$, K, own BR, ample

Male rmmate for summer, walk to MIT \& Harv, 1 block irom inman Sq,
for 4. Call $864-0454,5$ BR apt

Fem rmmate to share apt in Lowell, $\$ 57$-mo.
Physics student to correspond w Indian physicist, age 30. For address call Stevenson, x5543.

Empty warehouse or garage, for storage, wl
pay reas rent. Peggy, x1757 or $599-4898$ evgs. Rmmate, lrg beautiful furn apt, betw Harv \& Inman Sqs, own rm, $\$ 100$. Call 547-9852.
${ }_{2}^{\text {Rmmate, to share house in Washington, DC, w }}$ cond, gd loc, for the summer JuneSept, \$75 per mo. Tom Wood, 498-5551.
Rmmates (2) to share furn Camb, Cent Sq, 4BR apt, ww carpet, air cond, dishwshr, avail
$6-1 \mathrm{w}$ option to lease in Sept, $\$ 80$-mo ea. Paul, O1 2359 or $868-4260$ evgs.
$\underset{2 B R}{ }$ Fem rmmate for July - Sept 1 \& after, share 28R apt, w 2 other girls in Brighton, on bus line evgs.
Dry barn or 1 rg garage space to rent for
furniture storage, from $6-25$ to $8-15$. Susan, 272 furnitu
5719.
Hay tedder. Carl Benner, x2250
Commuting ride to and from Medfield for student $w$ summ
or $359-2668$ evgs.
Someone to drive my car to Miami after 6-15
Fem rmmate for summer, mod apt, close to Smokers who want to quit, rough but effective
method wl be expalined at a mtg, Fri, June 11 , method wl be expalined at a mtg. Fri, June 11,
5 pm , Room 20 C -221, method takes 1 wk. Info
Call Dr Green, x 5304 .

Junk English bicyles \& parts, reas prices. Call 782-3734.
Man's bike. Ron, x6379 or x4749
Rmmate, own rm, furn, 5 min from MIT, $\$ 63.25$
mo. Peter, $x 5768$ or $868-5698$ evgs. Apt, 2BR, unfurn, nr MIT, for 1 yr . Geosta, $\times 7811$.
Used women's 3 or 5 spd bicycle. Kathy
Dwyer, $726-3923$.

## Miscellaneous

WI do babysitting in my home in Somervl, Mon-Fri, anytime, have child
$\times 5150$ or $776-2647$ after 8 pm .

Irish MAT seeks job for July \& Aug teaching typing. receptionists, interviewing, exper Willie MeCarter, x 4935 .

Wh type theses, or gen \& tech typing on IBM
Selec. Liz, x6724. sem thime
II do typing. x2360.
Mother wl babysit in her home in Camb Am offering full time day care for pre care at reas cost. Mrs. Tocci, $862-2420$ or Dan care at
$\times 2413$.
Join study tour to Japan $8-15$ to $9-11$, organized
MIT + Hary members nembers; also earn $\$ 35$ for Dave Williams, $492-7555$ evgs.
Dery
Fast, accurate tech typist wl do manuscript. term paper \& gen typing; graphs, cha
LeRoy lettering done also. Dee, x6838.
Lost and Found
Found: sunglasses, curved type, tan lthr case,
left in $37.351 . \times 7543$.

## Swing Your Partner

Tuesday evenings Room 491 in the Student Center is devoted to squares--square dancing couples, hat is.
A group called the Tech Sqares is reviving this lively form of dance. Square dancing is a constantly changing form. The simple paterns that the over-thirty generation may remember are giving way as new calls are continually eing invented.
To encourage wider participation, the Tech Squares are offering an intensive series of lessons that will make advanced dancers out of beginners after eight sessions. The second and fourth Tuesdays of each month will be given over to beginners; the other Tuesdays will be restricted to advanced, or club level, dancing.
Dancing sessions begin at $8 \mathrm{p} . \mathrm{m}$. Admission is free to observers and to first-time beginners. For regular attenders there is a one-dollar fee which goes to pay the caller.

## TECH TALK

Volume 15, Number 34
June 9, 1971

## Editor

Joanne Miller

## Staff Writers

Robert M. Byers
Peter M. Close
Steve Grant
Linda Omohundro
Ty Rabe
William T. Struble
Business Manage
Paul E. Johnson
Tech Talk is published weekly by the Institute Information Services and is distributed free to all members of the com munity. Additional copies are available in the Information Office, Room 7-111, or in the News Office, Room 5-105. Please address news and comment to the editor, Room 5-105, Ext. 2701.

