Massachusetts Institute of Technology



January 26, 1977 Volume 21 Number 23

### Winners, Winners, Winners By MARY ENTERLINE

Editor, IAP Guide

"And the winners are ... " This phrase was repeated often as students competed in the MIT College Bowl, the Book Collecting Contest, the Table Tennis Tournament, and the Institute Programming Contest.

Before 600 noisy spectators at the College Bowl last Thursday, January 20, Hillel's four-man team gained victory in the play-off by walloping the all freshmen-sophomore team, Random, 270-75. For their skill Hillel members were awarded the College Bowl trophies, crystal bowls

Earlier in the evening Hillel and Random won elimination rounds against the two other semi-finalist teams. In the first and most exciting game, Hillel barely beat the all graduate student team, Neo Classics Plus One, 145-140. In the second elimination round, Random out answered Mudshark, 215-140.

Members of the victorious Hillel team, who brought their own cheering section complete with noise makers, were the captain, Bob Schloss, a junior in electrical engineering from Oak Park, Mich.; Ernie Davis, a junior in mathematics from Providence, R.I.; Jeremy Nussbaum, a senior in electrical engineering from Brooklyn, N.Y.; and Michael Stiefel, a graduate student in nuclear engineering from Flushing, N.Y.

The MIT Libraries sponsored the College Bowl, as well as the Book Collecting Contest, which was held the same day. That afternoon eighteen undergraduates and graduate students exhibited examples from their collections.

Ed Kalin, a senior in management from West Hartford, Conn., won the first prize of \$50 in cash and a \$50 gift certificate from the MIT Press for his collection of books, magazines, catalogs, and photographs of the American Radio Relay League. A licensed amateur radio operator, Kalin particularly impressed the judges with his complete set of 54 editions of The Radio Amateur's Handbook, published yearly since 1926.

Second prize of \$25 in cash and a \$20 gift certificate to the Harvard Book Store was awarded to Alexander Bialy, a sophomore in mathematics from LaGrangeville, N.Y. Bialy displayed a portion of his collection entitled "Barry Smith: Evolution of an Artist," in which he traces Smith's artistic development from a hack comic book artist to an exponent of Pre-Raphaelite painting and art nouveau. Bialy said his entire collection includes 500 to 700 books, magazines, comic books, portfolios, posters, prints, and original art work mainly by Smith and two other artists who began with comic books.

J. Mark Schuster, a graduate student in Urban Studies and Planning from Meriden, Conn., won third prize, a \$25 gift certificate to the COOP, with his collection of Boston guidebooks. Schuster became interested in guidebooks after he began coordinating production of the guidebook, Boston: The Official Bicentennial Guidebook, for Boston 200, the Mayor's Office of the Boston Bicentennial.

Honorable mentions were also given to David Powell Herwald, a senior in architecture from Madison, Wisc., for his collection of books by and about James Agee; to Robert F. Golden, a senior in humanities and engineering from Woodbridge, N.J., for his collection of "Antecedents and Examples of the English Novel," and to John Messina, a graduate student in architecture from Arlington, Mass., for his collection of the works of Lafcadio Hearn. Books from the winning collections will be on display for a month on the landing between the Science and Humanities Libraries.

In the Table Tennis Tournament, two graduate students earned the right to represent MIT in the New England Regional Intercollegiate Championships next month. The victor in MIT's tournament, Stephen Chan, was no surprise. A graduate student in mechanical engineering from Hong Kong, Chan won the New England championships in 1974 and 1975.

What did surprise MIT table tennis regulars was the tough competition Chan received from runner-up Arvi Ben-Zeeb, a graduate student in biology from Jerusalem, Israel. Although competing for the first time at MIT, Ben-Zeeb has twice been a member of Israel's team in the student world table tennis championships.

All six teams finishing the Institute Programming Contest



Despite occasional chants of "\$4,350 is too damn much," following last week's announcement of the tuition increase, the President and Chancellor's 1977 IAP party was a resounding success. A jazz trio composed of Roy Lamson, Art Litchfield and visiting planist William Youngren from Boston College provided music to munch by. And munch everybody did-some 7,600 cookies, 40 gallons of cider and 15 gallons of hot chocolate. Inspired by the music, Barbara Ann Wilson, '77, and Admissions Director Peter H. Richardson (above) demonstrat--Photo by Calvin Campbell ed a jitterbug for the guests

#### rchestra Kecord Symphony Issued

**By KATHERINE S.C. JONES** Staff Writer

The MIT Symphony Orchestra, which has played to critical acclaim in Carnegie Hall, Kennedy Center, and other major concert halls across America, will be represented in a series of four recordings to be released by Vox Productions, Inc., of New York City.

In recent years the orchestra, under the direction of David Epstein, has gained widespread recognition through nationwide telecasts of a concert on the Public Broadcasting Service and through its annual spring tour to such cities as New York, Philadelphia, Washington, Chicago, Dallas, and San Francisco.

The university orchestra is now appearing for the first time on a major record label, in company with some of the most distinguished orchestras in the US and Europe. The repertoire includes some works that have never been recorded before. Among these first recordings are Ernest Bloch's Suite Hebraique in the composer's orchestrated version, Frank Martin's Sonata da Chiesa for viola d'amore and string orchestra, and David Epstein's Night Voices.

During the academic year 1975-76 with assistance from the Council for the Arts at MIT, the orchestra

Vote Reconfirmed

AARP To Meet Next Week

Cambridge City Council Monday by a vote of 5-to-4 passed on second reading a proposed ordinance that would permit the conduct of recombinant DNA research in Cambridge under conditions set forth in an earlier report by the Cambridge Experimentation Review Board.

The Council's Ordinance Committee will hold another public hearing on the proposal this coming Thursday. Also, the proposed ordinance will be given legal notice by newspaper publication.

Council member David Clem, sponsor of the ordinance, said he hoped the measure will come up for final vote at the Council's meeting Feb. 7. A twice-extended "good faith" moratorium on such research passed by the Council earlier pending study is scheduled to expire that same day. Scientists at MIT and Harvard plan such research.

taped music quadraphonically on location in MIT's Kresge Auditorium. John Newton, who has been associated with recordings of the Boston Symphony Orchestra and the Berkshire Music Festival, was recording engineer.

The first record was issued in mid January. Three more will be released by Vox at intervals during the coming year.

The first record pairs two American works: Aaron Copland's Dance Symphony and Walter Pis-ton's Suite from "The Incredible Flutist." The Dance Symphony dates from the years 1920-25 and is considered by Copland to be among his earliest works as a professional composer. The music, drawn from an unperformed ballet and divided into three tableaux played without pause, reflects the influence of French impressionistic music as well as jazz elements found in Copland's later works. The music features at its climax a procedure that gained currency in the 1920s: the simultaneous juxta-position of disparate musical ideas.

Piston's music for the ballet, "The Incredible Flutist," was premiered in May, 1938, at a Boston Pops concert under Arthur Fiedler. The Suite presents many salient tableaux from the full ballet. Its scenario concerns a circus flutist whose remarkable playing and personality charm both people and circus animals alike The second record, expected to be released in the spring of 1977, will present the first recordings, named above, of works by Bloch and Martin as well as Paul Hinde-

submitted programs of comparable quality and will all receive prizes. The contest organizers, Dan Halbert, a junior in electrical engineering from Oak Ridge, Tenn., and Dan Carnese, a graduate student in electrical engineering from Berkeley, Calif., made the decision to award part of the \$300 in prize money donated by the Laboratory for Computer Science to everyone who finished.

The competing teams were given ten sets of positions on a checkers board and asked to produce a sequence of cooperative moves so that one player would win as quickly as possible. Computer time for the contestants was donated by the Information **Processing Service.** 

Fifty-six people participated in the Scrabble bee organized by Jeff MacGillivray, a graduate student in physics from Bethesda, Md. Semi-finals for the Institute-wide Scrabble bee held during IAP will take place this afternoon (Wednesday, Jan. 26) at 5:30pm in the Bush Room (Rm. 10-105). The finals will be held on Thursday, Jan. 27, also at 5:30pm in the Bush Room. People are invited to observe the competition. The games should last for an hour-and-a-half.

This spring the IAP Policy Committee will be presenting a report evaluating the last four years of IAP for the Committee on Educational Policy. The report, which is required by the faculty resolution establishing a permanent IAP, will assess the extent to which IAP is fulfilling its objectives. Members of the MIT Community who have issues they would like discussed in the report are urged to contact the chairman of the Policy Committee, Professor Michael Feld, in Room 6-007 or any other member of the Policy Committee listed in the IAP Guide.

munity aged 55 or more are invited to an organizational meeting of an MIT chapter of the American Association of Retired Persons Thursday, Feb. 3, at 4pm in Rm 9-150. Parking will be available in West Garage.

Robert J. Radocchia, manager of Walker Memorial and chairman of the steering committee for the AARP chapter, will open the meeting and introduce Edward E. Simpson, '33, Massachusetts state director of AARP. Mr. Simpson will explain requirements and benefits of membership in the national organization and advantages of chapter affiliation.

Following the presentation, election of officers and a board of directors for the chapter will be held.

Officers proposed for the chapter include: president-Robert J. Radocchia; vice president-Ruth L. Dawson; secretary-Mary Frances Daly; treasurer-Max M. Byer.

Nominations proposed for the board of directors are: Netta Murphy, Joseph Mercurio, Jeri Whitman, Dorothy Donahue, Dick Os-

All members of the MIT com-bunity aged 55 or more are invited to senow, Frank Bidwell, Harold Dreyer, Samuel Clark, Alfred Keil, Edward Vivian, Zachary Taylor, Fred Soule, Bill Henry, Art Johnson, Pete Darvirris, Walter Milne, Fran Mc-Gurn, Jack Principe and Joe Lynch. Additional nominations will be accepted from the floor.

Light refreshments will be served following the meeting.

(Continued on page 4)

### Sick Pay Tax Exclusion

In the November 24, 1976, issue of Tech Talk employees were informed that the Sick Pay Exclusion from federal income taxes was retroactively repealed by the Tax Reform Act of 1976. However, the deduction for "sick pay" is still allowable under the Massachusetts law as an adjustment to income under the provisions of the U.S. Internal Revenue Code as amended and in effect on January 1, 1971.

Employees requiring assistance in arriving at the amount of sick pay for use on the 1976 Massachusetts Tax Return should obtain a "Report of Absence" form from the appropriate Payroll Office (Lincoln Lab employees at Room A-274 and Campus employees at Room E19-515). These forms should be completed and submitted only for paid absence due to injury or sickness beyond thirty (30) calendar days, or for absences of less than thirty (30) days if paid at less than 75% of normal salary.



### Seminars and Lectures

#### Wednesday, January 26

What is Happening in Cambridge, Lowell, New Bedford, Quincy & Waltham Under CETA? (208) — Charles Myers, Sloan Fellows Professor of Management & director of Industrial relations section; Thomas Barocci, industrial relations. 10-11:30am, Rm E52-542.

**January 26** 

February 6

through

Strobes for Bird Photography\* - Harold Edgerton, Insititute Professor and professor of electrical measurements, emeritus. Strobe Lab Lecture Series. 12n, Rm 4-402.

How to Prevent Food Poisoning\* - Anthony Sinskey, applied microbiology. Research in Nutrition and Food Science (153a). 12n, Rm 16-134.

IAP Introductory Lectures: Open Session for Questions about the Arteriosclerosis Center\* - Arteriosclerosis Center: Medical Research (228). 12:30pm, Rm E17-421.

Interstellar Gas Clouds - Their Weight and Fate\* - Philip Myers, physics. Lectures on Physics (177). 1pm, Rm 4-231.

X-Ray Bursters, Pulsars, Binaries and Galaxies: A Special Symposium on the Results from the MIT X-Ray Observatory on the Third Small Astronomy Satellite (SAS-3) (234a, 185)\* — Bruno Rossi, Institute Professor Emeritus, physics, et. al. 2pm, Rm 9-150.

Mirrors\* - Ned Block, philosophy. Why Do Mirrors Reverse Right/Left But Not Up/Down? (169). 2pm, Rm 66-168.

The State of the International Air-Transport Industry\* - N. K. Taneja, aero/astro. Aeronautics and Astronautics Highlights (4). 2pm, Rm 33-206.

Women in a "Man's" Profession in the U.S.A.\* - Vera Kistiakowsky, physics. Meet Americans: Discussions for Foreigners (440d). 2:30pm, Rm 14N-221.

Solar Energy\* - Peter Glaser, Arthur D. Little Co. Innovation Center Seminar. 3pm, Rm 33-319.

Geodetic and Geologic Evidence for Contemporary Doming of the Adirondack Mountains\* – Y. W. Isachsen, New York State Geological Survey, Albany, NY. Earth & Planetary Sciences Colloquium. 4pm, Rm 54-425. Tea 3:30pm, Rm 54-923.

Exhibition and Demonstration of Chinese Calligraphy\* - Demonstration by Lydia Chang, well-known calligrapher & artist, with exhibition including works done by students during IAP course (The Art of Chinese Cal-ligraphy, 330a). Sponsored by MIT Chinese Students Club. Exhibit 10am-8pm, demonstration 7pm, Stu Ctr West Lng.

Ken Rogoff and the Biel Interzonal (335b)\* - Ken Rogoff, chess master. 8pm, Stu Ctr Mezz Lng.

#### Thursday, January 27

Women in Management (207) - Harold Kellner, Phd. in Psychology & Edith Whitfield Seashore MA in Psych & Pres., NTL Institute for Applied Behavioral Science, Consultant. 10am-12n, Rm E52-143.

Neutron Molecular Spectroscopy (143)\* - C. V. Berney & D. H. John-son, nuclear engineering. 10am & 1:30pm, Rm 24-115.

Probing the Nucleus with Real and Virtual Photons\* — June Mat-thews, physics. Lectures on Physics (177). 10:30am, Rm 6-120.

Theory of Molecule Surface Interactions\* - Robert Silbey, chemisty. Symposium on Catalysis (46). 11am, Rm 4-231.

Comic Book Prices: Who Determines Value (380)\* - Paul Hoffman, discussion leader. 11am, Rm 5-134.

Beyond Feminism: Enlarging The Creativity Range\* — Virginia Gunter. Art Courses and Lectures (300). 12n-2pm, Stu Ctr Rm 429.

Corrosion Related Problems in Energy Conversion\* - Roger W. Staehle, professor, director of Fontana Corrosion Center, Ohio State University. Materials Science and Engineering, Nuclear Engineering and Nuclear Reactor Laboratory Joint Colloquium. 2pm, Rm NW12-222. Coffee 1:30pm.

The Radiation Entry Barrier\* - J. R. Baron, aero/astro. Aeronautics and Astronautics Highlights (4). 2pm, Rm 33-206.

Materials and Microelectronics\* - K. Jones, Draper Lab., & H. L. Tulmaterials science. Materials and Microstructu

### Friday, January 28

Women in Management (207) - Three women in corporate positions in NY & Boston firms. 1-3pm, Rm E52-143.

Topics in Number Theory (Analytic) (107) - Dorian Goldfeld, mathematics, 2pm, Rm 2-135,

Intelligence — Ned Block, philosophy. Why Should Anyone Care Whether Intelligence is Inheritable? (170). 2pm, Rm 66-168.

Airports — Where They Are, Where They Are Going\* — A, Odoni, areo/astro. Aeronautics and Astronautics Highlights (4). 2pm, Rm 33-206.

Hadrons as Strings\* - Charles Thorn, physics. Lectures on Physics (177). 3:30pm, Rm 4-231.

Culture of Vascular Endothelium\* - Dr. Michael A. Gimbrone, Jr., assistant professor of pathology, Harvard Medical School and Peter Bent Brigham Hospital. Arteriosclerosis Center Seminar. 4pm, Rm E17-421.

#### Monday, January 31

Arms Control\* - George Rathjens & Ted Greenwood, political science. Political Science Seminar. 12n-1:30pm, Rm E53-482.

Melting of Thermoplastics in an Injection Molding Machine\* - Robert E. Nunn, USS Chemicals. Mechanical Engineering Seminar. 3pm, Rm 37-212.

On Delay-Differential Systems and Certain Questions of Commutative - Edwardo Sonntag, University of Florida. ESL Control & Algebra<sup>\*</sup> Communications Seminar. 4pm, Rm 39-500.

#### Tuesday, February 1

Scissle Bonds and Coal Conversion\* - Heinz W. Sternberg, Lawrence Livermore Laboratories. Chemical Engineering Seminar. 10:30am-12n, Rm 66-110.

Diffusion Across Fractures\* - Steve Richardson, Smithsonian Astrophysical Observatory, Cambridge, Ma. Earth & Planetary Sciences Colloquium. 4pm, Rm 54-425. Tea 3:30pm, Rm 54-923.

OB Associations, Giant Molecular Clouds and Star Formation\* -Charles Lada, Center for Astrophysics. Astrophysics Colloquium. 4:15pm, Rm 37-252. Refreshments 3:45pm.

The Natural and Recombinant C-Type Proviruses: A Multigene Family Encoding Virion and Differentiation Antigens of the Mouse\* - Richard A. Lerner, Scripps Clinic, La Jolla, Calif. Biology Colloquium. 4:30pm, Rm 6-120. Coffee 4pm, 5th fl vestibule, Bldg 56.

#### Thursday, February 3

Space Flight Via Maxwell's Equations: Constraint without Contact; Magnetic Lift\* - Gerard K. O'Neill, Jerome Clarke Hunsaker Professor of Aeronautics and Astronautics (Visiting). Aero/Astro Special Seminar. 3pm, Rm 37-252.

#### Friday, February 4

The Growth Structure and Electronic Properties of Ultra Thin  $Al_x$ , As,  $Ga_{1-x}$  As-GaAs Heterostructures\* – Raymond Dingle, Bell Ga<sub>1-x</sub> As-GaAs Heterostructures\* — Raymond Dingle, Bell Laboratories. Center for Materials Science & Engineering Colloquium. 4pm, Rm 10-105. Refreshments 3:30pm.

### **Community Meetings**

Wive's Group\*\* - Group leaders: Charlotte Schwartz, sociologist & Myra Rodrigues, social worker, both from Medical Dept; Carol Hulsizer, faculty spouse in residence, Ashdown Hse. Wed, 2-4pm, Stu Ctr Mezzanine Lng. Babysitting Stu Ctr Rm 473, Cheryl, x3-4911. Jan 26: Informal group discussion of life in Poland, Australia, the Philippines, Greece and France.

Association for Women Students\*\* - Planning meeting with discussion of upcoming meeting with director of admissions; other spring plans. Wed, Jan 26, 5pm, Rm 3-310. Refreshments.

Learning to Draw in One Day "The Natural Way"\*\* - Dick Stroud, artist & teacher. Free drawing session sponsored by Student Art Associa-tion, for beginners and others. Thurs, Jan 27, 12n-4pm, Stu Ctr Rm 429. Coffee available. Info: x3-7019.

MIT Women's Forum\*\* - After IAP Social Mon, Jan 31, 12n, Rm 10-105. Join us for beverages & munchies to dispell that after-IAP letdown feeling.

Project MUG\*\* - Microcomputer Users Group will meet Tues, Feb 1, 7:30pm, Rm 16-134.

Alumnae-Student Informal Dinner\*\* - Come share an inexpensive meal (less than \$4) with women students and women alumnae. Meet Wed, Feb 2, 6pm, Zorba's in Central Square.

Low Back Problem Exercise Class\* - Thurs, 1-2:30pm, Stu Ctr West Lng. Bring 3 pillows and an OK from your doctor. \$15/ea class. Info: x3-4138, Mon, 9am-5pm.

## Social Events

Faculty Club Special Dinners\*\*\* - Fri, Jan 28: Fish Fry: chowder, seafood platter. Cost: \$4.95 + tax. RSVP, x3-4895.

IAP Strat's Rat - Sponsored by Student Center Committee. Fri, 8:30pm-2am, 2nd fl Stu Ctr. Beer & wine sold, requests and other good dancing music played by DJ. Free with college ID.

Wild Strawberries (Bergman)\* — MIT Film Society. Fri, Jan 28, 7:30 & 9:30pm, Rm 6-120. Admission \$1.25.

You Only Live Twice\*\* - LSC. Sat, Jan 29, 7 & 10pm, Rm 26-100. Admis sion 75¢, MIT or Wellesley ID required.

The Wizard of Oz\*\* - LSC. Sun, Jan 30, 7 & 9:30pm, Rm 26-100. Admission 75¢, MIT or Wellesley ID required.

Silent Running\*\* — LSC. Mon, Jan 31, 7 & 9:30pm, Rm 26-100. Admission 75¢, MIT or Wellesley 1D required.

- Political Films (190). Mon, Jan 31, 7:30 & 9:30pm, Rm 6-120.

The Virgin Spring (Bergman)\* — MIT Film Society. Fri, Feb 4, 7:30 & 9:30pm, Rm 6-120. Admission \$1.25.

### Lobby 7 Events

Folk Dance Club\* - Will be dancing Fri afternoons in Lobby 7 throughout the winter months. Come and join in! Fri, 12n-2pm, Bldg 7 Lobby. Free,

### Music

Concert of Flemish Music of 1500\* - Fri, Jan 28, 5pm, Bldg 13 Lobby. Sponsored by Music Section. Free.

Kontarsky Brothers in Concert\* - Duo pianists Aloys & Alfons Kon. tarsky will give a concert Fri, Feb 4, 8pm, Kresge. Program: En Blanc et Noir and Six Epigraphs Antiques by Debussy, Monument, Selfportrait, Mo-tion by Ligeti, and Variations and Fugue on a Theme by Beethoven, Opus 86, by Reger. Sponsored by MIT Music Section. Free.

### **Theater and Shows**

Jacques Brel is Alive and Well and Living in Paris\* - MIT Musical Theatre Guild production. Fri & Sat, Jan 28-29, 9pm, Stu Ctr Lobdell. Tickets \$3.50, \$2.50 with MIT ID. Group rates & info: x3-6294.

Misalliance\* — MIT Dramashop production of George Bernard Shaw's play, directed by Joseph Everingham. Performances Fri & Sat, Feb 4 & 5, and Thurs-Sat, Feb 10-12, 8pm, Kresge Little Theatre. Tickets: \$2.50, \$1.50 on Feb 4, sold at door. All seats reserved. Reservations: x3-4720.

### Dance

MIT Dance Workshop - Tues & Thurs evgs, 5-7pm, duPont Armory dance studio.

MIT Folk Dance Club - International: Sun, 7:30-11pm, Sala. Balkan: Tues, 7:30-11pm, Stu Ctr Rm 491. Informal: Fri, 12n-2pm, Kresge Ova (Bldg 7 Lobby in bad weather). Israeli: Thurs, 7:30-11pm, Sala.

Renaissance Dance\* — Sponsored by MIT SCA. Beginners welcome. Wed, 8pm, Burton dining hall. Info: Beth Parkhurst, 964-1840.

### Exhibitions

Lofts: How Artists Solve their Space Problems\* — A multi-media display. Mon, Jan 3-Fri, Jan 28, Rm 7-304. Rotch Library Exhibit. Open daily.

MIT Faculty Club Exhibit\* - Etchings and woodcuts by Nancy R Davison. Thru Fri, Jan 28, Faculty Club.

Redesigning Architecture Headquarters: Results of the 1977 IAP Staff Design Studio\* — Models and drawings on display thru Wed, Feb 2, Rotch Library, Rm 7-304, Info: x3-7053.

Experimental Photography: A Travelling Exhibit from the Visual Study Workshop, Rochester, NY\* — Jointly sponsored by Creative Photography Laboratory and Visual Language Workshop. At Creative Photo Lab (Bldg W31.310) thru Jan 31. At Skidmore Rm (Rm 7-304) and adjacent corridor display cases Feb 1-Feb 15.

Works on Paper by Sculptors\* - From the MIT Collection. Thurs, Jan 13-Sat, Feb 26, Hayden Corridor Gallery. Open daily.

The Iceberg and Its Shadow: Two Views\* - Monumental glass structure environment by Calif artist Larry Bell. Exhibit Sat, Jan 15-Sat, Feb 26, Hayden Gallery. Hours: Mon-Sat, 10am-4pm. Configuration of *Iceberg* will be changed by Bell Feb 7-9, during viewing hours.

Strobe Alley\* - High speed, photographs by Harold E. Edgerton, Institute Professor and Professor of Electrical Measurement, Emeritus. Bldg 4, 4th fl.

Hart Nautical Museum\* - Permanent exhibit of rigged merchant and naval ship models of yachts and engine models. Open daily in Bldg 5, 1st floor.

MIT Historical Collections\* — Permanent exhibition Mon-Fri, 9am-5pm. Bldg N52, 2nd floor. Bicentennial Exhibits: Katharine Dexter McCor mick, '04; Vannevar Bush, '16; Karl Taylor Compton; and Norbert Wiener, 1876 exhibit, Bldg 4 corridor. The New Technology Exhibit and Energy Exhibit: 2nd floor balcony.

Facsimiles of Composers' Manuscripts\* — Including Bach, Haydn and Beethoven. Music Library, Rm 14E.

## Athletics

Home Schedule\* - Wednesday, January 26 - JV Hockey. Thayer Academy, 3pm, ice rink. M V Swimming. Tufts, 6pm, Alumni Pool. Fri-day & Saturday, January 28 & 29 – V Wrestling. Central Conn, NY Maritime, Penn. Fri 11am & 2:30pm, Sat 1:30pm, duPont wrestling rm. Saturday, January 29 – JV Hockey. Lawrence Academy, 2pm, ice rink. V Squash. Fordham, 10am, duPont squash courts. JV, V Squash. Amherst, 2pm, duPont squash courts. M Swimming. WPI, Lowell, 2pm, Alumni Pool. Monday, January 31 - JV Squash. Brooks, 3:15pm, duPont squash courts. Tuesday, February 1 — W Swimming. SMU, 7pm, Alumni Pool. Wednesday, February 2 — M JV, V Basketball. Amherst, 6:15 & 8:15pm. Rockwell Cage. W V Fencing.URI, 7pm, duPont fencing rm. W Gym-nastics. URI, 7pm, duPont Gym. JV Hockey. Emerson, 4pm, ice rink. V Squash. Tufts, 7pm, duPont squash courts. M Swimming. Amherst, 6pm. Alumni Pool. V Wrestling. Boston College, 7pm, duPont wrestling rm. Thursday, February 3 — W Swimming. Boston College, 7pm, Alumni Pool. JV Wrestling. Emerson, 7pm, duPont wrestling rm. Friday. February 4 — W V Basketball. BU, 7:30pm, Rockwell Cage. Saturday. February 5 — M JV, V Basketball. Clark, 6:16 & 8:15pm, Rockwell Cage. W & M V Emaing. Holy Crass. Jam. M. Compared in Science of M. Compared in Science of M. Carlos and Science of M. Science of M. Carlos and Science of M. Science & M V Fencing. Holy Cross, 1pm, duPont fencing rm. M Gymnastics. Coast Guard, 2pm, duPont Gym. V Hockey. Bates, 7pm, ice rink. W & M V Swimming. Trinity, 2pm, Alumni Pool. JV, V Squash. Williams, 2pm, du Pont squash courts. V Squash. Bowdoin, 4pm, duPont squash courts. V Wrestling. Williams, 2pm, duPont wrestling rm.

Conics are Tangent to 5 Others? (108)\* - Steven Kleiman, mathematics. 2-3:30pm, Rm 2-139.

Mathematics\* - N. Kerzman, mathematics. Fourier Series Applied to Arithmetic (101). 2-3:30pm, Rm to be announced.

**26Al in the Early Solar System\* – Typhoon Lee,** California Institute of Technology, division of geological sciences. Earth & Planetary Sciences Colloquium. 2:30pm, Rm 54-425

Careers in Social Sciences, Planning, Architecture and the Humanities\* — Association for Women Students Seminar. 3-4:30pm, Rm 3-310.

Climbing Mt. Everest\* - Arlene Blum, Wellesley College. Chemistry IAP Special Event. 3pm, Rm 6-120.

Absolute Motion?\* - Philip Morrison, Institute Professor, Physics. Lectures on Physics (177). 3:30pm, Rm 4-231.

Cloud and Weather Photographs\* - Kerry Emanuel, graduate student, meteorology. Cloud Photo Show (121). 4pm, Rm 54-100.

Current Solar Energy Research at MIT - R. Thorton & G. Pratt. electrical engineering & computer science. Ecology Action Activities (440a). 7pm, Rm 66-110.

Lecture on Dimitri Hadzi's public sculpture\* - Dimitri Hadzi. Sculpture Projects (236). 7:30pm, Rm 54-100.

Page 2, Tech Talk, January 26, 1977

60's Rock Revival - Traditional rock revival updated a decade, sponsored by Student Center Committee. Fri, Feb 4, 8:30pm-1am, Sala. Beer & punch free. Come enjoy great dancing music! Admission \$1/prsn, \$1.50/cpl, college ID required.

### Movies

Ecology Action Film Series (440a) - Wed, Jan 26. 11:30am-1pm, Stu Ctr West Lng

Invaders From Mars\*\* - LSC. Wed, Jan 26, 7 & 9:30pm, Rm 26-100. Admission 75¢, MIT or Wellesley ID required.

Contraception, Pregnancy and Abortion: How About You: A Film on Birth Control and Sexuality; Young, Single and Pregnant; It Happens to Us; The First Days of Life - Sex Role Films (444a). Wed, Jan 26, 7pm, Rm 1-390. Optional 50¢.

The First Twenty Five Years - Nuclear Films (140). Wed, Jan 26, 7:30pm, Rm 9-150.

The Life Around Us: Should Oceans Meet - Sea Life Exhibit and Film Series (272). Thurs, Jan 27, 3pm, Stu Ctr Rm 500.

Class, Race, Age, Preference: Women Emerging: Comparing Cultural Expectations; Crystal Lee Jordan; I Am Somebody; Yudie; Continuous Woman — Sex Role Films (444a). Thurs, Jan 27, 7pm, Rm 1-390. Optional 50¢.

Ecology Action Film Series (440a) - Fri, Jan 28, 11:30am-1pm, Stu Ctr West Lng.

His Girl Friday\*\* - LSC. Fri, Jan 28, 7 & 9:30pm, Rm 26-100. Admission 75¢, MIT or Wellesley ID required.

Maggie's Self-Designed Fitness Class - Classes 12n-1pm, duPont fenc ing & wrestling rms. PE credit course, but all are welcome.

MIT Scuba Locker\*\* - Scuba gear may be rented at Alumni Pool by appointment only during winter months. Call 492-8322.

Freshmen are encouraged to attend departmental lectures and seminars. Even when these are highly technical they provide students one means to learn more about professional work in a department and

\*Open to the public \*\*Open to the MIT community only

\*\*\*Open to members only

Send notices for Feb 2 through Feb 13 to the Calendar Editor, Room 5 111, Ext. 3-3270, before noon Friday, Jan 28.

**CLASSIFIED** ADS X3-3270

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 Institute extension. Only Institute extensions may be listed. Members of the community who have no exten-Members of the community who have no exten-sions may submit ads by coming in person to the *Tech Talk* office, Room 5-111, and presenting In-stitute Idenrification. Ads may be telephoned to Ext. 3-3270 or mailed to Room 5-111. Please sub-mit all ads before noon, Friday, Jan 28. They will be printed on a first come first serve basis or space permits. as space permits.

### For Sale, Etc.

Pr snows, 6.50x15L, used 1 seas, w/rims, for VW Sqbk, \$25. Nate, x3-1852.

Flr pillows, \$2/ea; dbl bed, \$20; 3 bkshlvs, 36x26x9, \$3/ea; sturdy desk w/chr, \$25; lg set wdn shlvs, 45x-45x12, \$8. Randy, 235-5438. Compl compact stereo, b nw, amfm, phono,

player-rcrdr, w/pr 3-way spkrs, \$150 or best. Rick, 262-7394.

Aquar, 10 gal, compl w/2 pumps, fltr, htr, wrought iron stand, xtras, used 3 mos, \$30. Dick Moore, x3-7739.



APO Afterfinals-One week away at a Boy Scout camp, working together on major renovations sponsored by the AX chapter of APO. Jan 25-31, Treasure Valley Scout Camp. It will be possible to come along for any part of the week. Call x3-3788 for transportation arrangements.

## **Echoes**

January 22-January 28

#### 50 Years Ago

At the annual banquet of The Tech, Mr. Oswald G. Villard, editor and owner of The Nation, addressed the gathering on the subject of freedom of expression. Mr. Villard stated that we must have either absolute liberality or despotism such as that exercised by the dictator Mussolini over the Italian press.

### 40 Years Ago

In an exciting game before 200 spectators, MIT's basketball team defeated Tufts College, 28-27.

### 25 Years Ago

Wilfred Roth, '48 and co-inventor Stanley R. Rich announced the development of an electronic testing instrument designed to tell whether a person is mentally ill. The instrument makes use of ultrasonics and will in some cases eliminate the necessity for long expenGirl 3 spd prpl 24" bike, \$30; boy blu 20" bike, \$15; prpl girl 20"; bike, \$15; exc cond. Doris Adams, x7155 Linc,

Xcntry ski boots, sz 8, lk nw, \$10; 3 karate suits, sz 3, 4 & 5, \$5/ea. Carolyn, x3-3045.

Dynaco stereo, perf cond, PAT-4, \$60; FM-5, \$110. Dave, x3-7423.

Sears 5x7' qn sz xtra firm bed, matt & box spr. cln, \$125; Michelin 4.25x18 hi spd mtrcycl tires, b nw, \$30; Norton 750 cc Atlas cyl head, not too cln but disassembled & compl, \$50 or offer. Jim Corning, 20157 how more x3-3157, lve msg.

Morse port elec sew mach, all attach, nvr used, \$75; 15 gal aquar compl w/chrome stand, access, \$25. Call 484-0680, evgs.

Glenwood gas on gas stove, exc cond, cln, 4 yrs, ask \$175. John, x8-2722 Draper.

Girl dance costumes, sz 6, 8, 10, \$12/ea; girl tap shoes, asst szes, \$4/ea; Regina fir polisher, \$25; Farberware broiler, \$25. x8-4095 Draper.

Underwood "Five" manual office typwrtr; B&D saber saw (jigsaw); best. x3-7805, lve msg. Pr mtd snows, 6.95x14m from Ply Duster. Brett,

Olivetti manual port typwrtr, \$25. Betsy, x3-2697. Motorola 21" console clr TV, \$220 or best; 12" b&w port, \$50. Paul, x5-7505 Dorm.

Pr Ohm C spkrs, 31/2 yrs, exc cond, \$200. Mike, x3-

AGFA-Gevaert Rapidoprint LD-14 w/chemicals & paper, \$250, Strobe Lab, Rm 4-405, x3-4629,

Sears crib, yr old, \$50; crib sheets, blnkt, enter-tainer, \$10; carseat, \$5; jumper, \$3; paddling pool, \$5; hichr, \$5; everything \$70. Ken, x3-3244. Panasonic 12" port b&w TV, exc cond, 2 yrs, \$70 or

best, x3-3503 Bauer girl toddler sz 9 wht ice skates, sgl runner, yr old, lk nw, \$23 nw, ask \$15. Tony, x8-3051 Draper.

Pr 7.00x13 4 ply nylon snows, lk nw, \$25 or best. x5-6632 Dorm.

HP-25, \$95. x5-9461 Dorm. Humanic Victory Racer, m $9\,\%$  ski boots, list \$140, b nw, \$55 or best. Andy, x3-3256.

BSO Open Rehearsals-Tickets on sale now for Wed, Jan 26, at TCA Office, Stu Ctr Rm 450, 11am-3pm, x3-4885,

Graduate Student Council-Meeting, Tues, Feb 8, 5pm, International Stu Lng, Rm 50-210 (Walker, 2nd fl front). Agenda: discussion of

upcoming Graduate Survey.

GSC Housing & Community Affairs Committee-Meeting, Tues, Feb 8, 5pm, International Stu Lng, Rm 50-210 (Walker, 2nd fl front). Agenda: discussion of upcoming Graduate Survey.

MIT Language Laboratory-The Language Lab, Rm 14N-0643, is open during IAP as follows: Mon-Thurs, 9am-7pm; Fri, 9am-5pm; Sat, 1-5pm; Sun, 1-7pm.

NY Metropolitan Opera- Get priority seating for the Met's performances in Boston in mid-April by ordering tickets at TCA, Stu Ctr Rm 450, x3-4885, 1am-3pm. Limited time only.

Seminar on International Students & Participation in Development\*—Organizational meeting, Thurs, Feb 3, 7pm, Rm 14N-313.

#### **Religious Activities**

The Chapel is open for private meditation 7am-11pm daily.

MIT Buddhist Association\*-Meditation session & informal discussion Thurs, 5:30pm, Rm 8-205. New members always welcome.

Hillel Services\*-Orthodox: Fri. sundown, Rm 50-005; Sat, 8:30am, Rm 10-105. Traditional/ Egalitarian: Sat, 10am, 312 Memorial Dr (Religious Counselors Bldg). Reform: Fri, 7:30pm, Chapel.

Protestant Worship Service\*- Worship, prayer, praise & teaching. Sun, 10:45am, Chapel. Coffee, donuts & fellowship following.

Tech Catholic Community -Roman Catholic Liturgies will be offered as follows: Sun, 9:15am, 12:15 & 5:15pm; Tues, Thurs, 5:05pm; Fri. 12:05pm.

### **New Subjects**

21.712 The Bible and Western Tradition- will be offered second term. Instructor: P.S. Donaldson. Check catalogue for description.

4.898 Holography as an Art Medium (A) Year: G Arr

Special Problems in Environmental Art. Concept design technique. Relationship to other media. Consideration of the present state of the art of holography and its developmental potential. Hologram actualization and laboratory work possible for interested individuals. First meeting, Thurs, Feb 10, 7pm, W11. SubPioneer 424 rcvr, 2 yrs, exc cond, \$110; pr Acoustiphase spkrs,  $6^{1}x^{\prime\prime}$  woofer, 1" tweeter, ported, effic sys, 48 Hz-20 kHz response, \$75/pr. x5-9440 Dorm, evgs.

Slide proj, \$10; steam iron, \$5; comf chr w/mtch crtns, \$10; air hockey tbl game, \$10; racoon hat, nvr worn, was \$75, \$30; long sz 14 skirts, \$5. Gundersen x3-6085

Returning to Eng, must sell nrly nw twin sz matt, \$18; cork coffee tbl, \$3; pine shlving, cheap. x3-3854

Pr SWTPC Universal Tiger amps, equals 1 stereo amp, has strá massive ht sinks & cstm whnt cab, \$110 or best; AR rcvr, recently srvcd by fac, 60 W/ch at 8 ohms, \$200 or best. Call 646-3427.

Mtrcycl: '70 BSA 500, 16 K, stripped bolt in carb, nds taillight, \$300; SLR camera, Canon FTb w/50 mm f1.8, 135 mm f2.8, 2X converter, barely used, \$250; Silvertone elec guitar & Kalamazoo amp, \$50. Tom, x3-2310.

Desk; chest; bureau; tbl; 3 bikes; Baldwin organ, \$4,500. Call 862-5122.

Remington 6 elec shaver, exc cond, incl 3 nw replacement blades, \$15. x3-3106.

Gen Rad pine chests, exc for storage, toy chest, valuables, furn & shipping, 3 mdls, \$10 & up. x5valuables, fu 6676 Dorm.

Epiphone hollow body elec guitar w/case, perf cond, ask \$100. Brad, x5-8316 Dorm, kp try. (3) K chrs, \$5; twn bed, \$20. x3-5318.

Regency scanning monitor rcvr, 10 chnl, w/crystals, exc cond, orig \$189, ask \$100. x3-5374. Kitchenaid dishwasher, conv port, 7 yrs but nw motor last yr, works but nds repairs, best offer takes away. Willie, x7178 Linc.

Sears Craftsman mertric comb wrenches, 10 pc asst szes, 6-19 mm, nw, indiv \$29, set \$24; Xcelite H56-18 hollow shaft nutdriver set w/case, 10 pc asst szes, 3/16-9/16", exc cond, \$15. John, x7837 Linc.

Gdrich Slvrtown H78x15 stud snows w/rims, lo mileage, \$30/pr. Ed, x7695 Linc.

Ampex AX-50 open reel tape deck + 50 reels of tape. Jonathan, x3-2521.

### sequent meetings to be scheduled. **Graduate Studies**

#### United Nations Graduate Student Intern and **Study Programs**

The United Nations Office of Public Information will conduct a four-week Graduate Student Intern Program at UN Headquarters in New York from July 25 to Aug 19, 1977, and a Graduate Student Study Program at the European Office of the UN in Geneva from Aug 8 to Aug 26, 1977. The aim of the programs is to provide an opportunity for an international group of students to deepen their understanding of the principles, purposes and activities of the UN and its related agencies. No stipend or travel expenses are provided. Deadline: March 15, 1977.

Contact: Graduate School Office, Rm 3-136.

Medical Insurance Waivers Due

All students are reminded that they will be enrolled automatically in the Student Hospital and Accident Insurance Plan (cost \$55.00) for the spring term unless an insurance waiver has been filed with the Medical Department Insurance Office. Waivers may be obtained from and filed with Norma Loomis, Room 12-134.

### New UROP Listings

For more detailed information on UROP opportunities listed, MIT undergraduates should call or visit the Undergraduate Research Opportunities Program Office, Room 20B-141, Ext. 3-5049 or 3-4849 unless otherwise specified in the listing. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

Development and Aging Boston Biomedical **Research** Institute

This project would test the developmental theory of aging which suggests that the biochemical changes associated with aging are similar to those associated with early development. The project will seek to interrupt normal development of the nematode Caenor habditis elegans by inducing nutritional deficiencies or by using metabolic inhibitors. The effect of arresting normal development on the life span will then be studied.

Holmes, x3-3688.

5.

Audio Vox fm converter & cassette player, nvr used, orig \$55, \$40. Walter, x5-8273 Dorm. Konica Autoreflex T-3 SLR camera w/f1.7 lens, '73 VW bus, exc cond, std, CB antenna, amfm radio, carpet, must sell, best. Betty, x3-7008.

'74 Audi 100LS, 4 dr. grn, auto, sunrf, amfm v tape deck, rear defogger, reclining seats, 39 reasonably priced. x3-2772.

'74 Dodge van, roof extension, radio, radials, pan-eling, carpet, \$3,500. Barry, x3-7233.

'75 Dodge Colt Cstm, vinyl roof, auto, 16 K, exc cond, \$3,200. Ginny, x3-3651.

76 Vega GT Htchbk, 4 spd, vinyl int, mag whls, many xtras, \$1,350. Roman, x8-3725 Draper.

'76 Dodge Cstm 5 psgr sport van, 7 K, auto, p st & br, radio, rust proofed, \$5,400 or best. x7643 Linc.

Bos, lg 2 Br apt, Commonwealth Ave, avail for sub now, Kette, washer/dryer, gd loc. Call 262-5090,

Camb, nr Harv Sq, BR, frpl, avail 3/1, \$239 w/ht.

Camb, Comm Ave nr Harvard Ave, lg studio w/alcove, conv loc ideal for stu. Call 232-5686, aft

Jamaicaway, BR, nr T, \$183 incl ht. x3-1502,

Bridgton, Me., Pleasant Mtn ski area, lg A frame

Chalet avail during wk, some wknds, v conv loc, no driving once there, exc slopes & ski condit, beaut marked Xcntry trails on lake, in wds, all util provided. Call 1-358-7884.

Wht Mtns, 3 BR chalet w/frpl, nr major ski areas, secluded loc, exc Xcntry, \$150/wk, \$100/mid-wk. Steve, x5584 Linc.

Conway, NH, ski lodge, slps 30, avail M-F. Charlie, x3-2704.

Still space avail at Talbot Hse on wkdys in Feb, wknds have been scheduled. Preprofessional Of-fice, Rm 10-186, x3-4158, for info & applications.

Camb, lg stu w/gd closets, pool, free pkg, AC, gd security, sub avail 2/6, pets allowed, grad stu w/in-come or prof pref, \$225 incl ht & gas. Call 492-8313,

Welsh terrier w/papers nds home w/plenty of love & attention, he's hsebrkn. Call 864-4625, aft 5pm.

Lost: M gold watch w/Elmore timepce, at duPont or on Mass Ave, Jan 10, \$30 reward, no questions. Mindy, x3-6327.

Found: f wristwatch in Bldg 7 Lobby, call 266-1977

Lost and Found

Used piano, up to \$400. Tom, x3-7859.

Pr f sz 8 ice skates. Carol, x3-4675.

Roommates

Wden mast, min 20'. Leonard, x8-1365 Draper.

Rm in Cambport or nr Institute, Feb 1, low rent & pleasant living conditions. Dave, x5-9643 Dorm.

Ride wanted to Phila, wknd of Jan 28. Christina,

Mtl turning lathes willing to make some repairs.

Rear bike whl, 26", w/coaster brake attach. Al Saxe, x3-5117.

Rmmate for 5 rm apt in Belmont hae, share w/1 prsn, nr T, bkyrd & grdn, \$122.50 + util. Phil, 484-6558, aft 4pm.

Rmmates, 2, 1st fl 2 fam hse in Watertown, sgl rm

for ea, 50 yds bus stand, \$84 + ht. Petros, x3-6644.

Share cntry farmhse, 30 acres wds & fields, 8 frpl,

35 min north of Camb, sgl prsn over 25 pref, \$120 incl util. Call 1-887-5900, evgs.

Own BR in 2 BR apt, share K, B, LR, semi-furn, v cln, 10 min walk MIT, \$82 + gas, elec. Moham-mad, x3-3211.

 $Prsn\ 25+$  to share Lex hse w/m, 2 f, 13 yr old child, own rm, common K, grnhse, etc, on bus to Harv Sq. Call 862-9506, evgs.

Spac furn rm w/frpl, priv B, K priv, on bus line, ovrlks Fresh Pond, qt, secl, priv, avail immed, \$50/mo in exch for responsibility of dog-sitting, maintenance. x3-6155.

M sought for big coed Bklne apt on T, mid-20's

Rmmate, pref f, nded immed, 5 rm apt off Harv Sq. on bus to MIT, off Mass Ave, own rm, rent ap-prox \$120. Call 494-8243.

Camb, BR avail in 3 BR apt w/K, LR, B, \$60 + elec. Glenn, x3-2245.

F to share Bklne 6 rm apt, 3 BR, LR, DR, washer, \$137.50 incl ht. x3-6196.

pref \$102 incl util Call 731-4994

Housing

evgs.

lpm

x3-5124.

11:30am-1pm

aft 6pm.

Animals

to identify, aft 6pm.

Wanted

x3-5324.

x3-2250.

also 28 mm f2.5 Vivitar wide angle to fit, bou Christmas '76, w/cases, \$275. Mark, 876-2360. Army coat, removable wool liner. x3-6550.

(2) sgl bed box spr, gd cond, \$15/ea. Candy, x3-6534.

Pr tckts Sun, Jan 30 concert, 3pm, Symph Hall, Hungarian Gypsy Orch dances, \$4.50/ea. Wm Lobar, x183-0 Bates Linear Accel.

Wd full bed w/matt, box spr, \$60. Lloyd, x3-2215. Sofabed; brick shlvs; dresser w/mirror; closet; nite tbl; study desk; bridge tbl; nw Sony color TV; lamps; armchr; humidifier; vac; crtns; etc. Call 494-0340, aft 4pm.

Nw m Persian lamb skin med sz coat, \$35; cstm amfm stereo radio & 8 trk, 20 W, 6 mos, \$50; Zenith 24" b&w TV, remote cntrl, great frame & spkrs, brkn, \$15. x3-7489.

(3) tbl lamps, \$4/ea; hot plate brnr, \$2. x3-7138.

#### Vehicles

'65 Ply sed, body dented, gd mech cond, slant 6 eng, snows, make offer. Ed, x8-1325 Draper.

'66 Ford Mustang, b nw batt, radiator nds fixing, nw muff, \$150. Dushan, x5-9657 Dorm.

'70 VW 9 psgr van, v gd cond, eng just reblt 6 mos ago, 6 K grnty, \$1,500. Dave, x3-2336.

'71 Peugeot 304, nw tires, nw muff, std, 4 drs, 52 K, \$1,000. Chopra, x3-3679.

'71 Vega Htchbk, amfm tape deck, snows, 39 K, gd mileage, \$900. Jeff, x3-4327. '71 Buick Skylark, 2 dr, exc cond, 47 K, stud

ws, \$1,100. Sam, x3-6748. '72 Dodge Colt hdtp cpe, 4 spd, stl radials, 31-34

mpg, hi mileage but mech sound & v cln, no work nded, exc winter starter, \$800. Call 779-6473.

'72 Vega cpe, 48 K, exc mech cond, nw brakes, clutch, muff, radials, \$650. Call 864-6379. '72 Volvo 145S, 46 K, cln, \$3,600 or best. Kate Herzog, x3-7744.

**Chemical Engineering Department** A research project is available in the chemical engineering department in the application of data base management systems in chemical process simulation. Students should have had some exposure to these systems and will work with a team of chemical engineers and make recommendations regarding the suitability and application of commercial DBMS. UROP project or senior thesis. Pay available. Contact Prof L.B. Evans, Rm 66-405, x3-4580,

or Dr. B. Joseph, Rm 66-224A, x3-6500. Graphical Communications at the Archi-

tecture Machine Students are encouraged to participate in an

ongoing project in computer graphics, centered around the notion of using hand-drawn sketches as an input medium. Research is also proceeding in programs for interactive manipulation of two and three dimensional descriptions. Available hardware includes a large selection of data tablets, storage tubes, refresh displays, and raster scan displays, connected to a set of dedicated mini-computers.

Contact: Christopher F. Herot, Rm 9-512, x3-5158.

Mass General Hospital: Anesthesia Department

Boston A project is available with the Bioengineering Unit, Department of Anesthesia, Mass General Hospital, involving the development of various schemes for measurement of anesthetic agents and/or expired gasses during anesthesia. They have in mind certain techniques and devices which require testing and evaluation. The project would involve some circuit design and fabrication. A junior or senior level student with some laboratory and practical circuit design experience preferred.

Distribution of <sup>51</sup>CR Within the Red Blood Cell This project is involved with the study of the distribution of 51Cr between the protein and non-protein portion of the red blood cell cytoplasm. The primary techniques involved in this study will be gel filtration and disc gel electrophoresis and applicants with a background in chemistry or biology are preferred. Major experimental portion will be conducted at the Naval Blood Research Laboratory (Boston University Medical Center). Contact: Dr. Nicholas Catsimpoolas, x3-6791.

**Department of Nutrition and Food Science** 

A project is available that involves studying the physical and functional properties of plant cell wall tissue suspensions. Dried cell wall tissue will be added to water at various temperatures and increase in mixture viscosity noted as a function of time, pH and presence or absence of ions. Similar studies will be done with undried cell wall tissue subject to various heating-cooling cycles. For credit only. Contact: Prof ChoKyun Rha, x3-3492, or Brad

sive psy	chiatric	tests.		

Prepared by Marcia Conroy, MIT Historical Collections, x3-4444.

> **TECH TALK** Volume 21, Number 23 January 26, 1977

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CABLE TV SCHEDULE X3-3625
A3-3023

**January 26-February 1** 

Channel 8		8-9
Wednesday, Jar	1. 26	
12noon-2pm	MIT COLLEGE. BOWL Recorded live at Kresge on Jan. 20. Produced	Tuesda
	by Jonathan Braunhut.	12noon
2-3pm	THE END OF OBJECTIVITY NO. 1 By Professor Giancarlo Rota.	2-3pm
	Concourse Lecture Series.	
8-9pm	THE END OF OBJECTIVITY NO.	8-9pm

	Thursday, Jan. 27		Carpools
	2-3pm	THE END OF OBJECTIVITY NO.	Carpools
	8-9pm	2 By Professor Giancarlo Rota. Concourse Lecture Series. THE END OF OBJECTIVITY NO. 2	Nd ride from Allston-Bri to Draper, M-F, 8-5, or 1 way, wl pay. Vivian, x8-3204 Draper.
	Friday, Jan. 28		Miscellaneous
	2-3pm	THE END OF OBJECTIVITY NO.	Ivriscellaneous
	8-9pm	3 By Professor Giancarlo Rota. Concourse Lecture Series. THE END OF OBJECTIVITY NO.	CWSP grad stu to work The Tech indexing project, \$3.50/hr, your hrs, work at home. Dave Boccuti, x3- 1541.
	oopm	3	May's wake-up srvc, never be late again, wl call anywhere metro Bos area, \$5/mo. J. May, x8-2843 Draper.
	Monday, Jan. 31		WI type theses, manu, reports, fast & accurate. x3- 4528.
2-3pm THE EN 4 By P	THE END OF OBJECTIVITY NO. 4 By Professor Giancarlo Rota.	Typing, tech, theses, manu, etc, IBM Selec. x3-1566.	
		Concourse Lecture Series.	Typing, fast, accurate & reliable. Jean, 628-8271.
	8-9	THE END OF OBJECTIVITY NO.	Tech typing, equations. Sheila, x3-5705.
ed		4	WI do tech, stat, thesis typing, IBM Correct Selec. Shelly, x3-2686.
ed	Tuesday, Feb. 1		WI do gen, tech or thesis typing, IBM Selec. x3- 1713.
0. ta.	12noon-1pm 2-3pm	TUESDAY NOON THE END OF OBJECTIVITY NO. 5 By Professor Giancarlo Rota.	Wl stu who tape-recorded Air Pollution Conf, Dec 2-3, pls contact Prof Friedlaender, x3-3456.
		Concourse Lecture Series.	

THE END OF OBJECTIVITY NO.

Tech Talk, January 26, 1977, Page 3

# Symphony Orchestra Record Issued

(Continued from page 1) mith's Der Schwanendreher, all with violist Marcus Thompson as soloist. Associate professor of music in the MIT Department of Humanities, Thompson is regarded as one of the brilliant solo violists of his generation. He was soloist with the orchestra in a performance of Der Schwanendreher at the Kennedy Center last April. Paul Hume, in a Washington Post review of the concert, called Thompson "an elegent musician who plays with great style and handsome silky tone." Two years earlier Raymond Ericson, in re-viewing a New York recital in The New York Times, wrote, "...he played with the authority of a mature artist. He combined vigor and sensitivity, rhythmic power and tonal color, attesting to the complete interpreter."

The third record, expected to be released in the fall of 1977, will feature Abbott Ruskin as piano soloist in the Samuel Barber Piano Concerto and the Copland Piano Concerto. Ruskin has won numerous prizes and has performed as soloist with such leading American orchestras as the Chicago Symphony, Minnesota Symphony, and the Philadelphia Orchestra.

The fourth record will include the first recording of David

POSITIONS

AVAILABLE

This list includes all non-academic jobs currently

Inis use includes all non-accadenic joos currently available on the MIT campus. Duplicate lists are posted on the Women's Kiosk in Building 7, out-side the offices of the Special Assistants for Women and Work (10-215) and Minority Affairs (10-211), and in the Personnel Office (E19-239). Personnel Interviewers will refer any qualified applicants on all binesh, iche as come as presible after their

all biweekly jobs as soon as possible after their receipt in Personnel.

Persons who are NOT MIT employees should call the Personnel Office on extension 3-4251.

Employees at the Institute should continue to con-

tact their Personnel Officers to apply for positions for which they feel they qualify.

NOTE: Effective with jobs opened 1/1/77, Spon sored Research Staff positions will be identified by an "R" prefix. (Sponsored Research Staff positions opened prior to that date are identified by a "D"

Admin. Staff, Industrial Liason Office,

Dick Higham Pat Williams Carolyn Scheer

Virginia Bishop Mike Parr Ken Hewitt

Sally Hansen

prefix.)

(Secretary - Ann Perkins)

(Secretary - Paulette Chiles)

Lewis Redding Richard Cerrato (Secretary — Jenni Leibman)

3-4278 3-1594 3-1595

3-1591

3-4266 3-4267

3-4275

3-2928 3-4269 Epstein's Night Voices with Janet Bookspan as narrator.

Epstein, professor of music in the MIT Department of Humanities and for the past 12 years conductor of the MIT Symphony Orchestra, is a composer and critic as well as a teacher and conductor. His compositions have been performed at numerous concert series in the US and Europe, including the Aspen Music Festival, International Society of Contemporary Music, Boston Symphony Chamber Players, Philadelphia Quartet, the Louisville Orchestra, South German Radio Orchestra, and other major ensembles. He has received awards and commissions from, among others, the Fromm Foundation, New York State Council for the Arts, Ford and Rockefeller Foundations, and the Louisville Orchestra. Many of his works have been recorded. His reputation as a conductor has grown over the past decade. Most recently he has been guest conductor with the Royal Philharmonic Orchestra in London, the Vienna Tonkunstlerorchester, the Bavarian Radio Symphony Orchestra, the Jeru-salem Orchestra, and the Berlin Radio Symphony.

The MIT Symphony Orchestra, formed in 1884 and a vital part of MIT's music program, is composed of more than 90 musicians from the MIT and Wellesley College communities. The orchestra annually presents four concerts in MIT's Kresge Auditorium and goes on a spring tour. Its repertoire combines standard works with contemporary music by major and younger composers.

The orchestra has won considerable critical acclaim. Paul Hume, in reviewing the Kennedy Center concert, wrote in The Washington Post that the players "offered their Kennedy Center audience a program that would greatly honor the lists of any of our major orchestras. It was of a kind that the majors all too rarely put together." A New York Times critic wrote after a Carnegie Hall concert, "Shades of Leonardo! There is a new Renaissance in the making. The Massachusetts Institute of Technology Symphony Orchestra played at Carnegie Hall ... and it was hard to tell the engineers, physicists, chemists or whatever from the musicians, everyone having played so well. It was a concert that would have been a credit to a professional orchestra." And from the San Francisco Chronicle: "The Orchestra is on a par with the best of the country's metropolitan orchestras."

reports. Coursework in petrology equivalent to MS level, experience in using and interpreting data from electron microprobe, scanning electron microscope and x-ray diffraction equipment re-quired. R77-14 (1/26).

Sponsored Research Staff, in the Center for Cancer Research Immunology Laboratory. Will immunize, bleed and breed mice; purify cells and proteins; culture cells. Position also involves work with radioactive isotopes. Bachelor's degree or equivalent combination of education and ex-perience required. R77-12 (1/26).

Sponsored Research Staff, in Mechanical Engineering to develop hardware and software for a computer controlled ultrasonic system for Cancer treatment and have primary responsibility for overall system integration. A Master's degree in Electrical Engineering (or equivalent), several years laboratory or industrial experience in digital circuit design and softward development required. Analog circuits experience preferred. R77-9 (1/19).

Analog circuits experience preferred. R77-9 (1/19). Exempt, Real Time/Diagnostic System Program-mer at Haystack Observatory to develop, maintain and improve software systems which support real time control of a new complex long range high resolution radar system. May work on application of computers to radio astronomy data processing. A Bachelor's degree, or equivalent experience, plus a minimum of 2 years programming experience re-quired as well as a good mathematical bachground. Engineering or physics background and expreience on Data General or other mini-computers also desirable. Position occasionally involves irregular work hours. E77-5 (1/26). work hours. E77-5 (1/26).

Exempt, Supervisor, in the Center for Cancer Research Animal Laboratory to transplant tumors; research Animai Laboratory to transplant tumors, maintain mouse breeding colonies; maintain com-plex transplant, immunization, breeding records; collect data on newly arrived laboratory animals; schedule use of and maintain facilities in operating room. Ability to collect and record precise informa-tion required. 1-2 years in a college level biology rogram or related laboratory experience required. E77-2 (1/19).

Exempt, Mechanical Shop Supervisor, in Physical Plant to supervise the maintenance and operations activities of Physical Plant Mechanical Shops; activities of Physical Plant Mechanical Shops, direct and coordinate supervisory and other employees in performance of their duties. Prepare work schedules, monitor performance of tasks; coordinate work with other shops and be fully responsible for the maintenance and operation of ull building mechanical surfaces assigned to all building mechanical systems assigned to mechanical shops. Extensive experience in maintenance and operation of large commercial and/or institutional building mechanical systems; five years in a supervisory position and demonstrated leadership qualities and ability to supervise building mechanical maintenance operasupervise building mechanical maintenance opera tions required. Applicants must also have oral and written communication skills. E77-3 (1/19).

Admin. Staff, Industrial Liason Office, in a Program providing interface among MIT faculty, staff and representatives of member companies of Program. Will also solicit new member companies. Position involves extensive foreign and domestic travel. A Bachelor's degree in a science or engineer-ing field, as well as Master's degree, or equivalent experience required. Candidates should also pos-sess a management perspective and have at least 2 years industrial experience. A77-1 (1/26). written communication skills. E77-3 (1/19). Secretary IV in the Counseling section of the Dean for Student Affairs Office to perform varied secretarial duties relating to student counseling functions, special student programs, seminars; handle accounts; assist students in counseling and procedures matters. Opportunities exist for writing assignments. Excellent typing and machine transcription skills, familiarity with office procedures required. Candidates should be able to set priorities, to guide others, and to deal sensitive-ly with people and confidential information. B77-4 (1/12).

fields. Handle volume correspondence and manuscript typing, including some technical data. Arrange appointments and travel; do occasional library research. Position includes opportunity to learn securities field. Excellent typing, organization skills and telephone manner required. Familiarity with investment securities and options helpful. B77-30 (1/26).

Secretary IV to two Civil Engineering faculty members working in the field of water resources. Type technical materials; prepare course material; schedule meetings; monitor research accounts. Ability to assess priorities, to handle several pro-jects simultaneously required. Excellent technical typing and general office skills necessary. B77-26 (1/26).

Secretary IV in the office of the Associate Dean, Sloan School of Management to handle varied secretarial duties related to School's teaching programs; arrange meetings and seminars; main programs, arrange incernigs and seminars, numars, numars, train Dean's appointment calender; answer phones; interact with School faculty and representatives of outside organizations. Excellent secretarial skills, including shorthand, secretarial experience and ability to organize required. College training preferred. B77-31 (1/26).

Secretary IV to 3 Biology faculty members; type correspondence and scientific manuscripts; ar-range travel; answer student inquiries; handle purchasing procedures; maintain expense records; assist in budget preparation. Excellent typing; ability to organize and complete work active to organize and complete work with minimal supervision required. Familiarity with MIT accounting and purchasing procedures desirable. B76-498.

Secretary III-IV, part-time, to two faculty members in the Center for Cancer Research to type

Secretary III-IV, in Mechanical Engineering. Will Secretary III-IV, in Mechanical Engineering, win independently answer routine inquires; monitor accounts; arrange conferences and social meetings; prepare course materials, correspondence, reports including some technical material; maintain stu-dent and faculty groups. Secretarial school train-ing or equivalent experience, shorthand and machine dictation skill required, as well as ability, to type technical material R77-15 (1/19). R77-21. to type technical material. B77-15 (1/19), B77-21, B77-34 (1/26).

Accounting Clerk/Secretary III In the Student Ac counts office to assist in the preparation of degree list candidates; assist in the review of students' financial status, perform typing of letters, filing, maintain office supplies, petty cash; answer general questions. Ability to deal with students in

Senior Clerk IV in the Student Accounts Office to review contracts of students sponsored by various agencies and perform the billing collection, etc. To st with the computerized accounting controls of assist with the computerized accounting controls of a large receivables system. To maintain time and payroll records. Good knowledge of accounting procedures and of computerized operations re-quired. B77-19 (1/26). classifications; participate in maintaining various files and authority records. A Bachelors degree, ability to follow complex direction and to handle detail with accuracy required. Typing skill also necessary. Library experience helpful. B77-20 (1999) (1/26).

the campus force.

Typist/Pasteup Artist IV in the Illustration Department of Graphic Arts Service will perpare camera-ready justified and tabular material on. IBM Proportional Spacing Typewriter; size photos; pasteup copy and prepare finished mechanicals for offset reproduction (black/white, color). Excellent typing skills plus 2 years ex-perience in pasteup preparation required. 40 hrs/wk B77-35 (1/26).

Asst. Computer Operator III in the Office of Administrative Computer Operator in in the office of Ad-ministrative Computing Services to operate IBM Model 145 and associated peripheral equipment under DOS/VS Power. A good knowledge of DOS job control, multi programming experience and ability to follow standarized operating instructions required. One years related working experience also necessary. 4pm-Midnight shift. B77-25 (1/26).

Bartender, hourly, part-time, in the Faculty Club to serve drinks; mix cocktails; charge checks; make change; clean glasses, bar, tables; set up and break down bars in private dining rooms; handle other related duties as necessary including closing bar. Experience in making drinks, ability to speak English and to work well with people required. 12-20 hrs./wk., as necessary (Mon.-Fri., evenings) H77-11 (1/26).

Asst. Animal Technician, hourly, in the Division of Laboratory Animal Medicine to perform routine animal care assignments such as cleaning cages and equipment; feeding and watering animals, perform other miscellaneous duties as necessary periorm other miscellaneous duties as necessary including lab housekeeping functions. Graduation from high school, or equivalent, knowledge of animal care required, as well as willingness to par-ticipate in formal job training programs. H77-2 (1/26).

Designer/Draftsperson (Mechnical), hourly, in the Designer/Dratsperson (Mechnical, houry, in the Energy Lab to support several project groups; turn sketches and rough designs into finished drawings and layouts; design standard and special ex-perimental equipment for combustion, magneto-hydrodynamics and gas turbine research projects. Will also do electrical layouts. A minimum of 5 years applicable experience, familiarity with-machine shop, welding and construction practices and requirements necessary. H77-17 (1/26).

Waiter/Waitress, hourly, part-time in Faculty (Club to set tables, take orders, serve food and beverages on banquet trays, clean and reset tables; dust chairs; wipe tables. Experience helpful but not necessary. Applicants must be able to read and speak English. 20 hr./wk. 11am-3pm, Mon.-Fri., including some possible evening work, H77-3, H76-127 (1/12). An opening also exists to work approx-imately 12-15 hrs. a week, on call, Mon.-Fri, 5pm-9pm, H77-10. (1/26). 9pm, H77-10, (1/26).

The following positions were still available at TechTalk deadline. The date following each position is the date of the most recent Tech Talk issue in which the position was described.

ADMINISTRATIVE STAFF:

A75-71, Documentation Manager, Admin. Info. Systems (7/14) Applications Programmer, Off. of (1/12) B76-658, Sec. IV, Physics Dept. (1/12) B76-659, Sec. IV, Nutrition & Food Sci. (1/12) B76-659, Sec. Usek III.IV, Off. of the Dean for

-Photo by Cathryn M. Chadwick

- Student Affairs (1/19) B77-5, Sec. IV, Div. for Study & Res. in Educ
- B77-6, Sec. IV, Athletics Dept. (1/19) B77-9, Tech. Asst. IV, Architecture (1/19)

#### ACADEMIC STAFF:

IT'S OFFICER GLAVIN AND OFFICER GLAVIN now, following the mar-

riage Saturday of Campus Patrol Officers Anne Romano and Michael Glavin in

the MIT Chapel. The officers met while assigned together on cruiser duty. They

will return to their patrol posts following a brief honeymoon. Officer Anne

Glavin, who describes herself as a traditionalist, says she is not at all concerned

about the possible confusion that may arise from having two Officers Glavin on

C76-6, Microbiologist, Medical Dept. (4/21) C76-19, Institute Archivist, Librarian, Librarier C76-23, Tech. Asst. Biology (1/12)

SPONS. RES. STAFF:

- D75-161, Economist/Policy Analyst, Energy Lab. (9/15)
- D76-17, Biochemist, Res. Lab. of Elec. (2/25) D76-49, Plasma Physicist, National Magnet Lab. (4/14) D76-71, postdoc. res., Physics, Lab. for Nuclear
- Sci. (5/5)
- Sci. (5/5) D76-108, Eng. Prog., Res. Lab. of elec. (7/14) D76-115, Immunologist, Clinical Res. Ctr. (7/14) D76-121, Res. Engineer, Energy Lab. (7/28) D76-123, Staff Biophysicist or Biochemist, National Magnet Lab. (7/28) D76-106 (1999) (
- D76-126, Immunologist, Clinical Res. Ctr. (8/11) D76-120, immunologist, clinical res. Cr. (8/11) D76-140, Operations & Instrumentation Manager, National Magnet Lab. (8/25) D76-172, Chemist, Elec. Eng. (10/6) D76-175, Scientific Prog., Earth & Planetary Science (10/6)
- D76-179, Prog., Ctr. for Space Res. (10/6) D76-180, postdoc. res., Physics, Lab. for Nuclear
- Sci. (10/13) D76-182, Staff Engineer, Elec. Eng. & Computer
- Sci. (10/13) D76-187, Postdoctoral Scientist, Ctr. for Space Res. (10/13) D76-188, Postdoctoral Scientist, Ctr. for Space
- D76-208, Technical Writer, Aero./Astro. Innova-tion Ctr. (11/13) D76-210, Radiochemist, Nuclear REactor Lab. (11/3)
- D76-212, Fusion Reactor Res., National Magnet Lab. (11/10)
- D76-220, Research Analyst, Ctr. for Policy Alternatives (11/24)
- natives (11/24) D76-224, Policy Analyst, Energy Lab. (1/5) D76-225, Sci. Applications Prog., Lab. for Nuclear Sci. (1/5) D76-231, Mngr. of Syst. Prog. & Devel., Lab. for Nuclear Sci. (1/19) D76-232, High Energy Physics Res., Bates Linear Accelerator (1/5) D76-233, High Energy Physics Res., Bates Linear Accelerator (1/5) D76-235, Technical Officer, Tech. Adaptation
- D76-235, Technical Officer, Tech. Adaptation
- Pr rog. (1/5) D76-239, Systems Theory Res., Elec. Syst. Lab. (1/12)
- D76-240, Admin. Asst., Political Sci. (1/12) D76-243, Metallurgist, National Magnet Lab.
- (1/12)D76-244, Manager, Combustion Facility, Enerty
- D76-245, Chemist/Biologist, Earth & Planetary Sci. (1/19)
- R77-5, Energy Syst. Analyst, Energy Lab. (1/19) R77-6, Staff Scientist, Arteriosclerosis Ctr. (1/19)

members in the Center for Cancer Research of years correspondence, grants, manuscripts; maintain grant records and files; handle general office duties as required. Good typing and general office skills required. Familiarity with chemical and biological terminology and knowledge of MIT procedures helpful. 30 hrs./wk. B77-29 (1/26).

Secretary III-IV in Resource Development to han-dle general secretarial duties: arrange travel; type correspondence; answer phones; transcribe machine dictation. Excellent typing, ability to type letter-perfect copy, on occasion, and to exer-cise initiative and judgement required. Secretarial school training and/or secretarial experience re-quired. B77-16 (1/19).

a very busy atmosphere reguired. B77-18 (1/19).

tion Processing Services Programming Develop-ment Office. Primary duty will be performing quality assurance for MULTICS system: test and quality assurance for MOLTICS system, test and intergrate changes; carry out crash analysis and performance tuning. Experience in systems, systems programming, PL/1, knowledge of MULTICS or other advanced time sharing systems required. Applicants should have a Bachelor's degree or equivalent combination of education and experience. A77-3 (1/26).

Admin. Staff, Systems Programmer, in Informa-

Acad. Staff, Tech. Asst. to assist in Biology Dept. Acad. Staff, Tech. Asst. to assist in Biology Dept. research involving isolation and physical characterization of key components of the blood coagulation systems by which components interact in fulfilling their physiological roles. Bachelors degree, a background in physical chemistry and some background in biochemistry required. Good laboratory skills also necessary. C76-14.

Sponsored Research Staff, Programmer, half time, Sponsored Research Staff, Programmer, nail time, for a Laboratory for Nuclear Science study to determine the feasibility of the use of a remote computer via Multics and the ARPA net as well as use of networks for mail teleconferencing, etc. Applicants should be experienced in teleconferencing message systems on networks, design of large data bases and the programming language used on IBM, CDC and Honeywell computers. The ability to write network protocals as well as in depth knowledge of Multics system and the ARPA ork and a Physics background also necessary Half-time appointment. R77-13 (1/26).

Sponsored Research Staff, Stall Petrographer, and Earth and Planetary Sciences to examine and describe thin sections and crack sections of ternsored Research Staff, Staff Petrographer, in restrial rocks with standard and scanning electron microscopy; do compositional analysis of rocks us-ing electron microprobe and x-ray diffraction equipment; prepare technical and petrographic

Secretary IV-V to the Executive Officer, Office of Secretary 12-v to the Executive Onler, Onler, Onler, the Provost to perform general secretarial duties which include report typing; maintenance of special project files; arranging meetings and ap-pointments; processing of special funding requests. Candidates must be able to operate IBM Executive uncertainty of the August of Secretary with accurate of the August of Secretary of the Secretary of typewriter and to handle figures with accuracy. 40 hr./wk. B77-27 (1/26).

Secretary IV in the Information Processing Center to perform secretarial duties for Director of Computer Services, Academic and Research, and other puter services, Academic and research, and other professional staff: transcribe and type machine dictation; set up and maintain a filing system; schedule meetings and maintain calendar; coor-dinate public relations for educational courses, demonstrations and other events. Will work with computer based document preparation systems. Several years of secretarial experience, excellent general secretarial skills required. Competence in computational skills desirable. B77-23 (1/26).

Secretary IV to the Director of Alumni Records Secretary IV to the Director of Alumin Records, Alumni Association to handle varied secretarial and general office duties: type correspondence, reports; answer phone inquiries; maintain files. Secretarial experience, good typing and organiza-tion skills required. Applicants must be able to set priorities and work independently. Ability to use MTST equipment (or willingness to learn) also necessary. B77-33 (1/26). sary. B77-33 (1/26).

Secretary IV to Earth and Planetary Science geophysics faculty and research staff members to handle general secretarial duties including typing nancie general secretarial duttes including typing of technical manuscripts; scheduling appoint-ments and travel. Excellent typing, ability to type technical material, English grammar skill, ability to proofread and perform light editing duties re-quired. B77-28 (1/26).

Secretary IV to Sloan School faculty member working in finance and investment securities

Sr. Clerk III in Nutrition and Food Science headquarters to handle various duties; prepare and process billing; maintain supplies; file; type forms, and report drafts; act as messenger; assist secretary with duties as necessary. High school graduation, or equivalent, good typing skill and facility with figures required. B77-32 (1/26).

Sr. Clerk III, in the Accounts Payable section Comptrollers Accounting Office will process in voices; apply discounts; audit invoices; acrumulate data on outstanding commitments, on dollar volume totals; prepare records for keytape entry. Ability to operate adding machine and to work with figures required. Candidates should have 1-2 years related experience. B77-24 (1/26).

Sr. Clerk III in the Medical Department MIT Health Plan Office will handle various clerical duties related to processing of claims: post claims on log; type related correspondence, forms; main on log; type related correspondence, joins, mains, mains tain claims records. Position involves extensive xeroxing and filing activity. Will also act as office receptionist and handle some Plan enrollment processes. Excellent typing, facility to handle details, judgement and sensitivity in dealing with people required. B77-22 (1/26).

Clerk III in the Division of Laboratory Animal Medicine will handle general clerical duties; main-tain purchasing and billing records; file; answer phones; type varied material. Typing skill, facility with figures required. B77-11 (1/19).

Sr. Library Asst. IV in the Libraries Catalogue Department to catalogue monographs in all languages and subject fields using OCLC 100 ter-minal; catalogue added and second copies and con-tinuations; recatalogue from Dewey Decimal to LC A76-44.

Admin. Info. Syst. (12/1) A76-45, Special Assistant, Off. of the Chairman

(1173) A76-46, District Officer, Resource Devel. (11/10) A76-48, Investment Real Estate Off., Treasurer's

A76-51, Applications Programmer, Off. of Admin. Info. Syst. (12/1)

Aronne, anto. 9981, (12/1) A76-52, Applications Programmer, Off. of Admin. Info. Syst. (12/1) A76-53, Systems Analyst, Off. of Admin. Info. Sumt (12/1)

Syst. (12/1)

yst. (12/1) A76-58, Asst. Dir., MIT Assoc. Prog. (1/12) A76-59, Asst. Dir., MIT Assoc. Prog. (1/12)

BIWEEKLY
B76-334, Sec. III, Sloan School (8/25)
B76-511, Asst. Computer Oper. III, Office of Admin. Info. Syst. (10/27)
B76-539, Clerk IV, Physical Plant (1/5)
B76-592, Sec. III-IV, Mechanical Eng. (11/24)
B76-609, Sec. IV, Sloan School (12/1)
B76-613, Sec. IV, Ctr. for Policy Alternatives (12/4) 12/1) B76-626, Sec. III-IV, Chemical Eng. (1/5) B76-626, Sec. IV, Physical Plant (1/5) B76-630, Sec. IV, Energy Lab. (1/19) B76-633, Admin. Asst. V, Chemical Eng. (1/5) B76-634, Sec. IV, Res. Lab. of Elec. (1/5) B76-636, Sec. IV-V, Health Sci. & Tech. (1/12) B76-637, Sec. IV, Medical Dept. (1/12) B76-638, Sec. IV, Medical Dept. (1/12) B76-638, Sec. IV, Medical Dept. (1/12) B76-639, Sec. IV, Sec. (12/1)B76-640, Sr. Clerk IV, MIT Press (1/12) B76-644, Sr. Clerk III, Admissions Office (1/12) B76-646, Sec. IV, Secondary Tech. Educ. Proj. (1/12)B76-647, Computer Oper. III, Lab. for Nuclear Sci. (1/12) B76-653, Sec. III, Student Financial Aid Off.

B76-656, Sr. Clerk IV, Summer Seeions Office

EXEMPT: E76-41, Principal Oper., Physical Plant (12/1) E77-1, Food Serv. Superv., Food Service (1/19)

#### HOURLY

B77-14

H76-137 H76-112

B77-10

H76-130, Tech. C. Lab. for Comp. Sci. (1/12) H76-132, Sr. Tech. (Elec.), Lab. for Nuclear Sci. (1/19)

H76-133, Mech. B (Heat & Vent), Physical Plant (1/5)

H76-134, Tech. B (Elec.), Lab. for Nuclear Sci. (1/19)

The following positions have been FILLED since the last issue of *TECH TALK*: B77-3 Sec. IV D76-218 Spons Res. Staff

B77-3	Sec. IV
D76-218	Spons Res. Staff
B77-7	Tech. Asst.
B77-8	Tech. Asst.
B76-654	Sec. Clk. III
H77-4	Waiter
B76-639	Sec. IV
B76-610	Sec. IV
B76-649	Lib. Asst.
B76-605	Sec. IV
B76-648	Sec. III
B76-645	Tech. V
C76-18	Acad. Staff
D76-70	Spons. Res. Staff
B76-652	Clk. III

The following positions are on HOLD pending final

Sec. IV Counter Person Metal Worker Admin. Asst. V