MIT TECH TALK
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BIOLOGY FOCUS

Technology Day 1991: Molecular Biology and Your Health

■ **By Eugene F. Mallove**
News Office

An event-filled Technology Day 1991 explored "The Impact of Molecular Biology on Your Health," or more colloquially, as its colorful "Pillsbury Dough-Man" poster announced, "Sex, Drugs, Genes, and Obesity."

Last Friday's symposium examined research in the health sciences at MIT and its impact on our lives. In opening remarks, President Charles Vest praised biological research as "one of the jewels in the crown of MIT" and noted the recent faculty action that makes MIT the first university in the country to require students to take a biological science subject, beginning with the class entering in 1993.

Professor of Biology Harvey F. Lodish moderated the proceedings in Kresge Auditorium and provided an overview of life sciences research here, which he said is supported by about 60 faculty members, 270 upperclassmen enrolled in biology, 170 graduate students and 200 postdoctoral fellows. Professor Lodish noted that MIT's current "preeminent position" is a far cry from the late 1960s, when "people were surprised to hear that MIT *had* a biology department."

Lodish noted the high quality of the biology faculty, of which two present and two former members are Nobel laureates. Unusual for almost any department, half of the biology faculty are members of the National Academy of Sciences. The biology faculty has an impact outside MIT, too, Lodish said. Eleven members have been instrumental in founding biotechnology companies, and the department is increasingly "a home for international scientists from throughout the world."

Associate Professor Eric Lander's revealing opening talk, "Human Genetic Diseases and the Human Genome Project," set the context for the morning's look at the biological revolution. "Human genetics has been transformed completely since 1980 by an idea born at MIT," he said, by former MIT Professor David Botstein. Botstein's seminal idea led to a completely new way to unravel genetic mysteries—from inherited physical traits to genetic diseases—that has culminated in the Human Genome Project now underway. Up to 1980, human genetics relied on "being lucky" and in being very "smart" in genetic detective work, Lander said. He said that the new approach to finding genetic origins of human conditions now relies on finding where in our DNA a condition may originate, instead of guessing merely *what* may be genetically derived.

There is now a rapidly expanding knowledge of the genetic origin of human traits—some 4,000 traits have already been cataloged. On average, Lander noted, our individual DNA is 99.9 percent identical to that of fellow human beings. That all-important one-tenth of a percent variation provides the vast differences among people, from height differences and serious inherited diseases to seemingly trivial differences such as how we clasp our arms.

Sometimes a very small alteration in human DNA, such as the deletion of a mere three chemical "letters" of the three billion in a person's DNA genetic complement, can lead to catastrophic results—the disease cystic fibrosis, for example. In that ailment, the genetic miscoding causes a particular "transport" protein in cell walls to be improperly shaped because it has lost a particular amino acid.

Among fundamental phases of the Human Genome Project already underway, said Professor Lander, are creating a basic genetic map—a significant fraction of which has already been done, the physical mapping akin to "the infrastructure of our highway system"—to be completed in about five years, and creating the ultimate three-billion-letter detailed sequence map, which may be done within 15 years.

Computer technology may accelerate the process. "Molecular biology and computer science are the only two fields that are proceeding in log-linear fashion," Professor Lander remarked, in noting the dramatic annual im-

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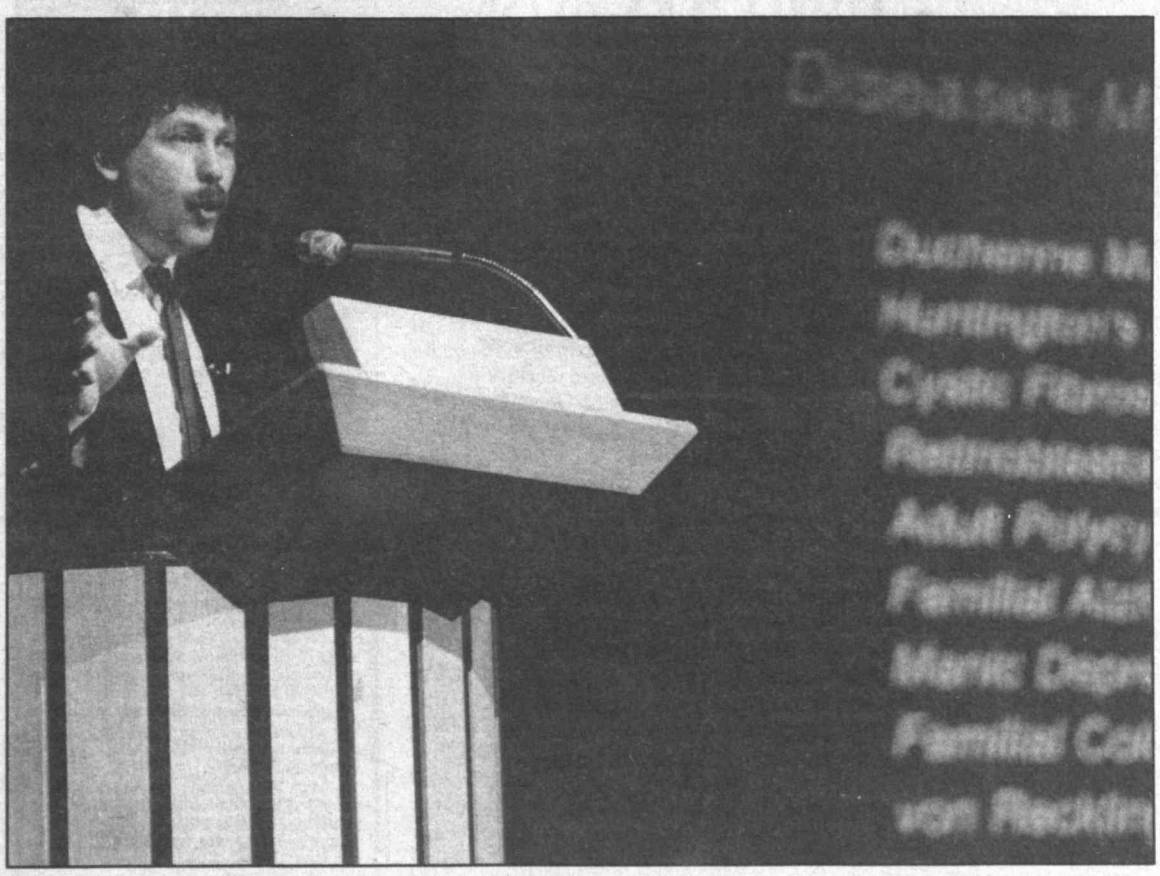
ROW, ROW, ROW YOUR BOAT—Rowers from the 50th reunion Class of 1941 were out on the Charles River on Technology Day. From front to back: Robert W. Blake, coxswain; Joseph G. Gavin, Jr., Robert Wilson Blake, Carl M. Mueller, Erling H. Hustvedt, William M. Folberth, Jr., John B. Murdock, Chester N. Hasert and Malcolm J. Abzug. Mr. Gavin and Mr. Mueller are Life Members of the MIT Corporation. See other photos, page 7. **Photo by Donna Coveney**



GENETIC MYSTERIES—Eric Lander, associate professor in biology, gave the opening talk "Human Genetic Diseases and the Human Genome Project" for the 1991 Technology Day symposium. The symposium examined research in the health sciences at MIT and its impact on our lives. **Photo by Donna Coveney**

ESSENTIAL SUPPORT

Reunion Gifts of $22M Announced

■ **By Charles H. Ball**
News Office

Reunion class gifts of $21,818,925 were announced Friday, June 7, at the annual Technology Day alumni/ae luncheon.

The luncheon in the Howard Johnson Athletics Center capped a week-long program for more than 2,200 alumni, spouses and guests. It included a symposium Friday in which members of the biology faculty described research in the health sciences at MIT and how it affects individual lives.

The gift chairmen for the three major reunion classes—Joseph Gavin for the 50th reunion Class of 1941, Marvin Grossman and William Maini for the 40th reunion Class of 1951 and Paul Rudovsky for the 25th reunion Class of 1966—presented their class gifts to MIT President Charles M. Vest during the luncheon program.

The Class of 1941 announced a gift of $5,300,000, with $332,000 designated for a special fund to support the study of the impact of science and technology on public policy issues.

The Class of 1951 announced a gift of $4,566,000, with $702,000 earmarked for a Class of 1951 Fund for Excellence in Education, which will recognize and encourage faculty and staff contributions to the Institute's educational programs.

The Class of 1966 announced a gift of $1,266,000, with $175,000 set aside for the Class of 1966 Harold (Doc) Edgerton Scholarship Fund. The late Professor Edgerton's wife, Esther, attended the luncheon.

The gifts of these major reunion classes comprise all gifts made to MIT by members of the classes during the five-year period preceding the reunion and all pledges to be paid in the five years following the reunion.

Other reunion gifts announced at the luncheon included: $6,429,310 from the Class of 1926; $2,964,762 from the Class of 1931; $412,535 from the Class of 1956; $675,720 from the Class of 1961; $110,797 from the Class of 1976; $37,111 from the Class of 1981; and $19,080 from the Class of 1986.

In addition, this year's graduating class contributed $37,610 as a five-year pledge to provide loan forgiveness to MIT graduates who become full-time public-school teachers.

It also was announced that the Alumni Fund is expected to reach approximately $15 million in cash gifts by the end of the fiscal year on June 30.

In his response, President Vest told the audience that such "sustained, generous support" was "essential to the vigor, quality and independence of MIT." Noting that this spring marks the 75th anniversary of MIT's move to Cambridge, he said that such financial support "has made the difference over the years—as MIT grew from a small technical institute in Boston to a world class research university in Cambridge."

Continuing "on a somewhat more troubling note," Dr. Vest commented that the nation's universities were receiving a bad press in regard to indirect cost issues, an antitrust complaint over financial aid practices, technology transfer issues, conflicts of interest and scientific misconduct.

While "significant questions underlie these headlines" and need to be dealt with forthrightly, he said, the effect has been that it "is beginning to turn the public against us in many ways."

He asked the audience to "contrast this press view" with the quality of research and teaching being done on the nation's campuses, as evidenced in the Friday symposium.

He told the alumni/ae that "the American university system is by far

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IN BRIEF

NEW HOURS

The Parking and Traffic Division of the Campus Police will adopt summer hours beginning Monday, July 1. Hours will be 8:30am-4:30pm Monday-Friday.

"We hope the community will find it convenient that we are open before 9am," Dorothy Shannon, manager of parking and traffic, said. "By closing at 4:30, we will be able to cash out at the end of the day."

If the summer schedule is acceptable to the community and the Campus Police, it may be continued through the fall.

Student Notices

*** -Open to public**
****-Open to MIT community only**
*****-Open to members only**

■ ANNOUNCEMENTS

Libraries Summer Hours—Admin Offices: M-F 9-5, Sat-Sun closed. **Aero & Astro:** M-F 9-5, Sat-Sun closed. **Barker:** M-Th 9-8, Fri 9-6, Sat 11-6, Sun 1-8. **Computerized Literature Search Svc:** M-F 9-5, Sat-Sun closed. **Dewey:** M-Th 9-8, Fri 9-6, Sat 11-6, Sun 1-8. **Humanities*:** M-Th 8-12, Fri-Sat 8-8, Sun noon-12. **Inst Archives & Special Collections:** M-F 9-5, Sat-Sun closed. **Lindgren:** M-F 9-5, Sat-Sun closed. **Microreproduction Lab:** M-F 9-5, Sat-Sun closed. **Music:** M-Tu 9-6, Wed 9-8, Th 9-6, Fri 9-5, Sat-Sun closed. **Reserve Book Room:** M-F 12-5, Sat-Sun closed. **RetroSpective Collection:** M-F 9-5, Sat-Sun closed. **Rotch:** M-Th 9-8, F 9-6, Sat-Sun closed. **Rotch Visual Collections:** M-F 9-5, Sat-Sun closed. **Schering-Plough:** M-F 9-5, Sat-Sun closed. **Science*:** M-Th 8-12, Fri-Sat 8-8, Sun noon-12. ***Open 24 hrs/day for members of the MIT community only (MIT ID required).**

WMBR 88.1 FM Summer Program Schedule—Mon-Fri: 8am Breakfast of Champions; 10am, Late Risers' Club; 12-2pm, Lost & Found; 8pm, Nightly News. **Mon:** 2pm, Hell Comes to Your House; 4pm Changes; 6pm, Molybdenum Vault; 8:30pm, Injected, Blown, and Running on Nitrous; 10:30pm, Electronic Countermeasures; 12:30am, Vitriolic Vicissitudes. **Tues:** 2pm: That was Then, This is Now; 4pm, Kind of Blue; 6pm, Folktracks; 8:30pm, Hard of Hearing; 10:30pm, Pipeline!; 12:30am, Puppies of Purgatory. **Wed:** 2pm, Tea & Theatre and Lunch w/Bob; 4pm, Intermission; 6pm, Black Perspective and Say it Sister!; 8:30pm, Aural Fixation; 10:30pm, Music Speaking; 11:30pm, Nite Owl; 1:30am, Audible Music. **Thurs:** 2pm, French Kisses; 4pm, Jazz Train; 6pm, Downeast Ceilidh; 8:30pm, Crash & Burn; 10:30pm, Night Cruise; 12:30am, Automatic Transmission; 2:30am, Funhouse. **Fri:** 2pm, Capital Radio; 4pm, Straight Ahead Jazz; 6pm, Troubadour; 8:30pm, Sick Packages; 10:30pm, Spin Control; 12:30am, RPM. **Sat:** 8am, Joyful Noise; 10am, Rockin' w/Greg; 12pm, Out of the Blues; 2pm, Afternoon Owl; 4pm, Under the Psilocybin Cloud; 6pm, Rumbles from Boston; 8pm, Have You Heard; 8:30pm, Treats & Second Stage; 10:30pm, Dope Jams; 12:30am, Mellow Madness. **Sun:** 8am, Haiti Focus; 10am, Classical Waves; 12pm, Sugar Shack; 2pm, The Envious and the Intolerant; 4pm, Aliens' Corner; 6pm, Rude Beat; 8pm, Good News; 10pm, For Your Pleasure; 12am, Club Scene.

A Safe Ride—**Call 253-2997 for a free ride within MIT boundaries. Service operates Sun-Wed 6pm-3am; Thurs-Sat 6pm-4am.

Arts Hotline—Recorded information on all art events at MIT may be obtained by dialing x3-ARTS. Material is updated every Monday morning.

Nightline—**a student-run campus hotline open every evening of the term, 7pm-7am. If you need information about anything or you just want to chat, give us a call. We're here to listen. x3-8800.

■ RELIGIOUS ACTIVITIES

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

Morning Bible Studies—**Fri, 7:30-8:30am, L-217. Ed Bayliss, x3456 Linc.

Noon Bible Study*—Every Wed, Rm 1-132, bring lunch. Ralph Burgess, x3-8121. (Since 1965.) (Graduate Christian Fellowship.)

MIT Bible Study Group*—The Economy of God, a look at God's eternal purpose to dispense Himself into man based on the revelation of the Bible, Fri, 8pm, Student Ctr Rm 407. Singing, prayer, Bible reading, fellowship.

Tech Catholic Community—**Mass Sundays, 10am, MIT Chapel. Info x3-2981.

MIT Christian Community—**Come and join monthly lunch and discussion on God and Christians at MIT with your fellow faculty, staff, administrators, and grad students. Info: Park x3-2875.

MIT Christian Impact*—The weekly meeting for the ministry of Campus Crusade for Christ. Wind up the week: relax, snack, sing, laugh through skits and gain practical insight from God's Word. Meets Friday 7:17pm, Student Ctr, 3rd flr.

United Christian Fellowship—**Large group meetings. Join us for a time of worship, prayer, and Biblical teachings, Fridays, 7pm, Rm 6-321.

Graduate Christian Fellowship—**Come join other grad students, faculty and staff in learning about and growing in the Christian faith. Activities open to both Christians and those interested in learning more about Christianity. Info: John Keen x3-7706, Dave Otis x3-2198.

Church of Jesus Christ of Latter-day Saints Student Association at MIT*—Sunday services, Cambridge University Ward, meets every Sunday 3-6pm at the Cambridge Chapel, corner of Brattle Street and Longfellow Park. Meetings are for students and young single adults.

MIT Hillel*—More info: x3-2982.

MIT Muslim Students Association*—*5 daily prayers* in the prayer room, Ashdown House (Bldg W-1) west bsmt. *Friday congregation:* 1:10-1:45pm in Ashdown House (Bldg W-1) west bsmt. Info: x8-9755.

Lincoln Laboratory Noon Bible Studies*—Tues & Thurs, Kiln Brook III, Rm 239. Annie Lescard, x2899 Linc.

■ STUDENT JOBS

There are more job listings available at the Student Employment Office, Rm 5-119. The Student Employment Office has many "one time only" jobs. Many students find these jobs a good way to earn money fast.

On Campus, Non-Technical, Summer. General office work. Duties include answering phones, xeroxing, errands, filing, assisting students and faculty. Prefer someone who can also work in the fall, 8-10 hours/week. Contact: Ms. Cynthia Rose, x3-7642 or x3-7909, 20B-140.

Off Campus, Technical, Summer. Person needed who has a solid knowledge of C and familiarity with UNIX workstations (with C++ a bonus). Responsibilities: Create and execute tests for state of the art programming environment. Work with developers to automate tape procedures. Work with release engineering to automate tape verification test procedures. Contact: Michael Dieter, 876-7636. Address: 185 AlewifeBrook Parkway, Cambridge, MA 02138.

Off Campus, Technical, Programming. C programmer needed to work on video boards for IBM PCs. Flexible hours. $8/hour. Contact: Mr. Darryl Ephrim, 498-9838.

Off Campus, Non-Technical, Translator. Native Japanese student with a background in electrical engineering needed to translate from English to Japanese. Contact: Caroline DePhillips, 864-3900. Address: 130 Bishop Allen Drive Cambride, MA 02139.

Crimewatch Log

Following are incidents reported to the MIT Campus Police Department May 31-June 6:

May 31: unattended backpack from W32, value $145; two bicycles stolen: 1) Westgate area, value $20, 2) E18, value $400.

June 2: computer parts stolen from Bldg 2, value $1200.

June 3: two bicycles reported stolen: 1) Bldg 13 area, value $150, 2) New House, value $270.

June 4: computer monitor stolen from Bldg 5, value $500; unlocked bicycle stolen from Bldg 13 bike compound, value $50; unlocked room in Burton, various items, $1500.

June 6: two bicycles left unlocked and unattended were stolen: 1) Bldg 20, value $400, 2) Bldg 14, value $50.

MORE THAN A STORE

The MIT Computer Connection

■ By Robyn Fizz
Information Services

Back in 1984, Information Systems opened the Microcomputer Center (MCC) in Building 11. The store sold DECmates, DEC Rainbows, IBM PCs, and 128k Macintoshes at educational discounts and offered technical assistance to prospective buyers. As sales increased and product lines expanded, the MCC outgrew its space. In 1988, the store moved to larger quarters, a former bowling alley in the lower level of the Student Center (W20-021). At the same time, PC Service, offering hardware diagnosis and repair, moved under the same roof.

Now more changes are in store. These are heralded by a name change from the Microcomputer Center to the MIT Computer Connection (still the MCC). This name change, which takes effect on July 1, reflects several things:

—The MCC no longer carries just microcomputers. In addition to selling Apple, IBM, and Dell machines, the MCC also carries DEC and NeXT workstations, and is looking into adding Sun workstations and IBM RISC System/6000s to its lineup.

—Several computer services have been consolidated and moved to the MCC. In addition to PC Service, the DEC and Sun software libraries and hardware maintenance contracts will be administered from Rm W20-021. Linda Lancaster, formerly manager of Vendor Services, will oversee the new Computer Services group.

—The MCC serves as a "computer connection" for the MIT community in many ways: customers can try out hardware and software; consultants are available to give technical advice; the publications racks are filled with computer-related literature; and public domain software and shareware can be copied from three servers.

THE MCC'S MISSION

According to Jeff Solof, manager of sales at the MCC, "We're here to provide the MIT community with access to the highest quality computer products and services at the lowest prices." What differentiates the MCC from retail computer stores is that service is its reason for being. There's no profit motive. The MCC staff, who are IS employees and members of the MIT community, have a genuine interest in helping customers.

One way in which the MCC tries to evaluate Institute needs is through the Hardware/Software Committee. This group meets twice a month to discuss new products, and it actively solicits suggestions from the community. If you have a suggestion or comment, send it to <mccflame@mit.edu>, or call the MCC at x3-7686 and leave a message for Jeff Solof.

ON THE SHOWROOM FLOOR

The MCC will be renovated this summer to make room for the new Computer Services group. The MCC's information desk will also be moved closer to the entrance, so that the receptionist can more readily direct customers to the right consultant or service.

Even during renovations, the MCC will continue to display several models of computers from notebooks to UNIX workstations. Customers are encouraged to try out machines or software before they buy.

Three public access software servers (PASS) offer Macintosh and DOS users a place to copy public domain software and shareware. Among the offerings are the Boston Computer Society collection of Macintosh software, Network Services software, and electronic forms such as the MIT Travel Expense Voucher. Be sure to bring blank, formatted diskettes if you plan to copy from PASS.

The renovated showroom will also display ergonomically designed office furniture from Inmac. Inmac is a mail-order computer supply company that offers MCC customers a 15% discount off its catalog prices.

The publications racks in the MCC hold a variety of IS publications, including price lists, quick guides, and documents about networks, mainframes, and Macintosh and DOS-based applications. There are also reprints from computer magazines, as well as vendor literature. All publications in the racks are free.

MCC EVENTS

The MCC sponsors several events throughout the year to give computer users a chance to explore new systems and software. This past year, these ranged from a MacFest, to an IBM Science and Engineering Day, to a NeXT third-party products showcase.

In the store, you can often find product specials promoted by vendors. Look for these at the start of the academic year, around the holidays, and at the end of the financial year. (Remember, June is the last month to buy a computer on the FY '91 budget.)

PAYMENT OPTIONS

MCC vendors offer generous educational discounts to the MIT community. For personal purchases (to qualified faculty, students, and staff; MIT ID required), several payment options are available. The MCC accepts MasterCard and VISA, as well as cash, bank checks, money orders, and personal checks up to $500. Department purchases require a requisition. See a pricelist for details.

Loans for computer purchases are available to MIT Credit Union members. IBM offers a "PS/2 Loan for Learning" and Apple Computer is considering a similar program.

Another way to make buying a computer more affordable is to take advantage of MCC Trade-Up Days. Through this program, you can trade in your old Macintosh or PC equipment for credit at the MCC toward new hardware.

NEWS FROM THE MCC

In its effort to be responsive to customers, the MCC frequently adds new products and services. To keep up with the changes, read the MCC Bulletin (distributed by campus mail and soon to resume monthly publication) and the "Bits and Bytes" column in i/s.

If you have an e-mail account, you can subscribe to mccnews for the latest flashes on product releases and MCC events. To subscribe, send e-mail to <listserv@mitvma.mit.edu> with the following message:

sub mccnews your real name

IN CLOSING

The Microcomputer Center soon to be the MIT Computer Connection is much more than a store. Visit the showroom in W20-021 to find out what the MCC has to offer. Hours are Monday, noon to 4:30pm, and Tuesday through Friday, 10am-4:30pm.

(This article was prepared for the June issue of i/s, News about Information Systems throughout MIT.)

END OF AN ERA

Optical Shop to Close; To Reopen in Fall

It was in September, 1965, at the opening of the MIT (now Stratton) Student Center, that Arthur Rosenbaum opened the Tech Optical Shop in the basement level of the building.

And there it has remained for the last 26 years.

"He came with the building," his wife Anne recalled last Friday (June 7) before closing the door to the shop for the last time. Her husband died last August and Anne kept the shop open, but now she has sold the business to the MIT Medical Department, which will operate the shop starting in the fall.

Anne noted that "all the records of everyone who ever did business with us" will be available to the Medical Department.

Linda L. Rounds, executive director of the Medical Department, said the shop will be refurbished and reopened after Labor Day as the MIT Optical Shop, under the direction of the coordinator of eye service, Dr. Patti A. Augeri. "This is a new venture for the Medical Department, but it seemed like an ideal fit," Ms. Rounds said.

In tracing the history of the shop, Anne said her husband had been an optician with the Harvard Coop in Harvard Square for 20 years when the general manager there asked him if he wanted to operate the shop planned for the MIT Coop.

He agreed and the rest is history. The shop functioned as part of the Coop for many years and more recently was run independently by Mr. Rosenbaum.

"He really enjoyed it here at MIT," Mrs. Rosenbaum said. "He loved every minute of it and everybody in the community. He also had a wonderful reputation."

That he did.

Mr. Rosenbaum was known for his friendly, helpful and cheerful manner—as well as his professional skills. And when time allowed, he liked to shoot a few games of pool at the nearby recreation room, displaying a steady hand and sharp eye for the right shot.

Mrs. Rosenbaum, a Winthrop resident, often helped out her husband in the shop, particularly in recent years. She, too, will miss the community. "They're all such wonderful people. It's a wrench," she said.

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SEMINAL CONTRIBUTIONS

Nam P. Suh to Head Mechanical Engineering

Professor Nam P. Suh, a mechanical engineer who has made important contributions to the science of manufacturing and mechanical engineering, has been named head of the Department of Mechanical Engineering where he has been a faculty member since 1970.

Professor Suh

He succeeds Professor David N. Wormley, who was named associate dean of the School of Engineering in January. Professor Suh's appointment was announced by Dean Joel Moses of the School of Engineering.

"Professor Suh brings to the position of department head broad leadership experience in education, research and government service," Dean Moses said. "From discussions with the Department Search Committee, Dean Wormley and I know that he has the strong support of the department faculty. We have every expectation that the department's exceptional tradition of excellence in teaching and research will continue to flourish under Professor Suh's leadership."

Dr. Suh, the Ralph E. and Eloise F. Cross Professor of Manufacturing at MIT, is internationally respected for his seminal contributions to engineering. These include the development of a series of patented processes for the manufacture of metals and polymers, the formulation of the delamination theory of wear, and the development of a set of axioms for designing manufacturing processes. He has written more than 200 papers and four books and has been awarded 30 patents for inventions in manufacturing and materials processing.

In addition, Professor Suh has been a pioneer in the development of university-industry research collaboration. In 1973 he founded the MIT-Industry Polymer Processing Program, considered the prototype for university-industry collaboration through a research consortium.

Professor Suh also founded in 1977 the Laboratory for Manufacturing and Productivity, now an interdepartmental laboratory within the School of Engineering.

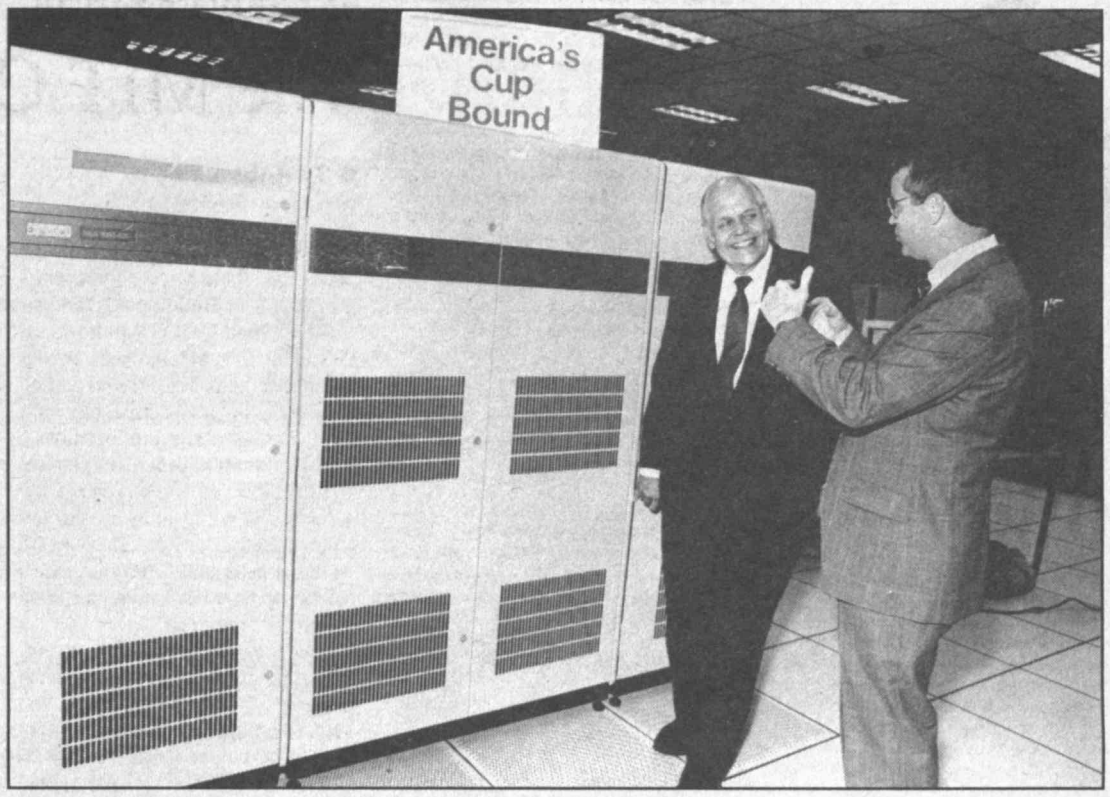
He directed the program and the laboratory until 1984, when he was appointed assistant director for engineering at the National Science Foundation by President Reagan. During his NSF tenure, he introduced a new organizational structure and new programs, including the Engineering Research Centers program, for supporting engineering research in order to strengthen engineering education and research. Professor Suh served in the NSF post while on leave from MIT until 1988.

Professor Suh's research interests have been broad. His contributions in tribology include the delamination theory of wear, a theory of the genesis of friction and better cutting tools. In the field of design, he has developed the Design Axioms and the associated design methodologies.

In the field of polymer processing, he invented many commercially important processes. In metal processing, he invented the Mixalloy processing technique. His current research projects are in design, manufacturing, tribology and materials processing. Among his current activities in manufacturing is the preparation, with colleagues in the department, of a fundamental undergraduate text in manufacturing.

Professor Suh holds the SB (1959) and SM (1961) from MIT and the PhD (1964) from Carnegie Mellon University. He joined the faculty as associate professor and was promoted to professor in 1975. He holds honorary doctorates from Worcester Polytechnic Institute and the University of Lowell, and received a Distinguished Service Award from the NSF. He is a foreign member of the Royal Swedish Academy of Engineering Sciences. He has also received many awards from professional organizations, including the American Society of Mechanical Engineering, the Society of Manufacturing Engineers and the Society of Plastics Engineers.

Professor Suh and his wife, Mrs. Young J. Suh, have four daughters, among them an MIT graduate and a current student.



PRESIDENTIAL INSPECTION—Kenneth H. Olsen, president of Digital Equipment Corp., and President Charles M. Vest of MIT check out the $3.8 million VAX 9000 Model 4209 VP computer provided by the company recently in conjunction with a research agreement. The machine, located in W91, will be a compute server in the Athena Compute Environment and will support a variety of research projects, including hull- and sail-design work directed by Professor Jerome H. Milgram of ocean engineering that relates to the coming America's Cup race. The two presidents got together June 4.

Photo by Donna Coveney

NEW TITLE

Gupta Promoted at Sloan School

Dr. Amar Gupta has become the first person to be promoted to the rank of senior research scientist at the Sloan School of Management, an appointment based on "demonstrated research competence equal to that of a senior faculty member."

Dr. Gupta concentrates on problems related to management of very large amounts of information, including information that is not directly computer-accessible and data collection that does not involve human intervention. His work has been documented in eight books, seven of which have been published by the IEEE Press; his latest IEEE book, *Integration of Information Systems: Bridging Heterogeneous Databases*, recently went in for a second printing.

At a party held to celebrate the promotion, Dr. Gabriel R. Bitran, head of Management Science and Nippon Telegraph and Telephone Professor of Management, said that Dr. Gupta showed unusual promise even as a graduate student at Sloan, presenting unique insights and looking at problems from new perspectives. As a candidate in the accelerated master's program, he noted, Dr. Gupta completed 19 subjects in one year and also worked as a half-time research assistant and wrote his doctoral dissertation.

Dr. Gupta

Dr. Gupta arrived from India in 1979 and received an SM in management and PhD in computer science in 1980.

During the last fiscal year, Dr. Gupta secured additional research funds exceeding $1 million, according to Dr. Stuart Madnick, J.N. Maguire Professor of Information Technology and Leaders for Manufacturing Professor of Management Science. "Apart from his persistence and exceptional management skills," Dr. Madnick said, "Dr. Gupta's success lies in his emphasis on long-term research relationships.

"Dr. Gupta usually begins a new research endeavor with a small initial contract to decide the scope of the entire project," Dr. Madnick explained, "and in two recent cases he advised the research sponsors against funding additional research based on technical reasons." A federal officer remarked that it was the first time in his career that a contractor had recommended that no additional money should be provided to the contractor, Dr. Madnick said.

SUCCEEDS SPAULDING

Thomas Steele to Chair CRED

Thomas A. Steele III, former president and chief executive officer of Perini Land and Development Company and Perini Investment Properties, has been appointed chairman of MIT's Center for Real Estate Development.

Mr. Steele, who has been involved in the center since its founding in 1984, most recently served on its advisory committee and has taught in the core finance course for many years. As chairman, he will be responsible for industry liaison, resource development, and administration of the center.

Mr. Steele said that one of his primary goals will be to strengthen MIT's ties with the real estate industry and promote research in areas beneficial to it.

He succeeds Charles H. (Hank) Spaulding, who was a prime mover behind the establishment of MIT's real estate program. Mr. Spaulding, who will continue to play an active role as honorary chairman, said "The center is fortunate to have Tom Steele associated with it. It will benefit from his real estate development and investment experience and his energy will be enormous."

Mr. Steele earned a BA from Harvard University and an MBA from the Harvard Business School. Under his leadership, the Perini Land and Development Company and Perini Investment Properties developed and invested in major properties in several states. He has recently formed his own real estate investment and development company, Development Concepts and Strategies, Inc.

The Center for Real Estate Development's major activities include an 11-month Master of Science in Real Estate Development Program for 35 students. It draws its faculty from the Departments of Economics, Urban Studies and Planning, Architecture and Civil Engineering, and the Sloan School of Management.

CISR Annual Meeting Set

The Center for Information Systems Research (CISR) will hold its 16th annual conference June 17-20 in Cambridge. The session will address managerial, organizational and technical issues related to the changing roles and responsibilities of information systems management.

The title of this year's conference, "Current Issues in Managing Information Technology: Enabling the New Organization," emphasizes the interdependent organization.

CISR faculty members will report the results of their research and discuss current trends and developments. Sessions will cover topics such as redesigning business processes, connectivity of information systems, aligning I/S and business strategies, systems development, organization support systems, computer support for group work, trends in technology platforms and electronic integration of organizations.

Approximately 175 information systems managers from major corporate and public-sector organizations from the US, Canada, Mexico, Europe, South America and the Far East are expected to attend.

Video Demo Set

Charles E. Miller, technical instructor/lecturer at the Strobe Lab, will host a hands-on demonstration of electronic still video equipment for the community from 9am-2pm Friday, June 14, in Rm 4-402.

The equipment will be used in a summer program, "Techniques in High-Speed Photography and Videography," directed by Mr. Miller. Included in the equipment is a system for inputting and manipulating images from a variety of sources and printing them in full color on a Canon laser copier.

Scientists Receive PYI Funds

Eleven researchers from MIT are among the 220 academic scientists and engineers the National Science Foundation has designated Presidential Young Investigators for 1991.

The awards, which fund research by faculty members near the beginning of their careers, are intended to help universities attract and retain outstanding young PhD and ScD scientists and engineers who might otherwise pursue nonteaching careers. Each young investigator can receive up to $100,000 per year for five years. The NSF action brings to 61 the number of MIT faculty who have been designated Presidential Young Investigators.

Named this year were:

Anant Agarwal, electrical engineering and computer science; Moungi G. Bawendi, chemistry; Dimitris J. Bertsimas, management; Mary C. Boyce, mechanical engineering; Linda G. Cima, chemical engineering; Munther A. Dahleh, EECS; Jesus A. del Alamo, EECS; Martha L. Gray, EECS; Jacqueline N. Hewitt, physics; Michael I. Jordan, brain and cognitive sciences; and Martin A. Schmidt, EECS.

Institute Calendar

*** -Open to public**
****-Open to MIT community only**
*****-Open to members only**

June 12 - June 30

■ SEMINARS & LECTURES

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 field.

WEDNESDAY, JUNE 12

Valuing a Business and its Technology*—June 12: 7:45pm, Rm 10-250. Case presentation by Assembly Guidance Systems, Inc., Waltham, MA, at 6pm, with presenter Scott Blake, Cofounder, President. Registration starts at 5:30pm.

THURSDAY, JUNE 13

Structural Studies of Eukaryotic DNA-Binding Domains: Zinc Fingers and Helix-Loop-Helix—Prof. Rachel E. Klevit, Dept. of Biochemistry, Univ. of Washington.** Whitehead Institute Seminar, 12pm, Whitehead Auditorium.

FRIDAY, JUNE 14

Characterization of Kinetic Intermediates of Globular Protein Folding—Dr. Kunihiro Kuwajima, Hokkaido Univ., Japan.** Whitehead Institute Seminar, 12pm, Whitehead Auditorium.

Strategies for Probing and Designing Protein-Protein Interfaces—Dr. James A. Wells, Dept. of Protein Engineering, Genentech.** Whitehead Institute Seminar, 2pm, Whitehead Auditorium.

TUESDAY, JUNE 18

A Unified Approach to Mobile Robot Navigation—John J. Leonard, Univ. of Oxford.** Autonomous Underwater Vehicles Seminar Series, 12pm, Rm E38-300. Bring a lunch.

WEDNESDAY, JUNE 19

Microsoft Word (for the Macintosh) User Group--**Sponsored by Information Services, 12-1pm, Rm 5-233. Topic: Tips and Shortcuts. For more info, contact: Phyllis Crerie, Rm 11-221, x3-0736.

Rectangular Boundary Division Method*—Dr. Masayuki, Tokimec Co. Sponsored by the Center for Electromagnetic Theory and Applications/RLE, 4:30pm, Rm 36-428.

■ COMMUNITY INTEREST

Alcoholics Anonymous (AA)—**Meetings every Tues, 12-1pm; Thurs, 12-1pm, Rm E23-364. For info call Alice, x3-4911.

Al-Anon—**Meetings every Fri, noon-1pm, Health Education Conference Rm E23-297; every Tues, noon-1pm, Rm 1-246; and every Mon, 12-1pm, Lincoln Lab Bldg 1218, Family Support Ctr. The only requirement for membership is that there be a problem of alcoholism in a relative or friend. Call Alice, x3-4911.

Alcohol Support Group—**Meetings every Wednesday, 7:30-9am, sponsored by MIT Social Work Service. For info call Alice, x3-4911.

Cancer Support Group—**Meetings every Thursday, 12-2pm, Bldg E51. For those with acute and chronic forms of cancer. Sponsored by the MIT Medical Dept. For information about weekly luncheon meeting, call Dawn Metcalf, Social Work Service, x3-4911.

Co-Dependents Anonymous (CoDA)*—Meetings every Thurs, 6:30-8pm, Rm 66-156. Info: Alice, x3-4911.

Eldercare Support Group—**Meetings every Monday 12-1pm, Rm 8-219. For info call Carole x3-9368 or Maria x3-8820.

Informal Embroidery Group—**MIT Women's League, 10:30am-1:30pm, Rm 10-340. Upcoming dates are: **June 12.** Summer Schedule: **June 26, July 10, 24, Aug 7, 21.** Summer group meets in Killian Court. In case of rain meet in the 3rd fl Women's Lounge, Bldg 10: Info: x3-3656.

Graduate Student and Postdoc Parents Support Group*—Co-leaders: Dawn Metcalf, MIT Social Worker, and Rae Goodell, MIT Coordinator of Parent Programs. Ongoing, meets weekly. Info: Dawn Metcalf, x3-4911, Rm E23-344, or Rae Goodell, x3-1592, Rm 4-144.

Boston Mutagenesis Group*—Meetings are held the first Wednesday of the month in the 6th floor conference room, E17, 7pm. Speakers from MIT, Harvard and other local schools discuss their research; related topics include mutagenesis, carcinogenesis, cellular repair systems and DNA damage in prokaryotic and eukaryotic cells. Info: Kara Best x3-6729.

Narcotics Anonymous*—Meetings at MIT, every Mon, 1-2pm, Rm E23-364 (MIT Medical Dept). Call 569-0021.

Overeaters Anonymous (OA)*—Meets Thurs, 1-2pm, Rm E23-364. Only requirement for membership is the desire to stop eating compulsively. Info: Alice, x3-4911.

Parenting Support Groups—New Parents Support Group:** Tuesdays, 12-1:30pm, contact Rae Goodell, x3-1592. For parents of children up to 6 months old or expected by 4/15. **Parent Support Group*:** Wednesdays, 12-1:30pm, call 1-800-882-1250. **Parenting After Divorce Support Group**:** Biweekly Fridays, 12-1pm, contact Rae Goodell x3-1592. **Child Care Briefings**:** Introductory seminars, 12-1:30pm, Rm 4-144 on June 12 & 26.

Technology Children's Center, Inc*—TCC has immediate openings for the summer only at the Westgate classroom. Hours available are 8:30am-3:30pm, 2, 3 or 5 days per week, for children ranging in age from 2 years 9 months to 5 years 6 months. Contact Olga Slocum x3-5907.

■ HEALTH EDUCATION

Nursing Mothers' Support Group—**Pregnant and breastfeeding women at MIT meet to gain confidence and share info and practical tips. First Tues of each month, 10-11am and third Weds of each month, 4-5pm, Rm E23-297. Babies welcome. Info: Margery Wilson 868-7218.

Working Mothers Support Group—**An ongoing support group that meets to discuss parenting-related issues in a casual atmosphere. Meets every other Thursday, 12-1:30pm (drop in anytime), Rm 18-591. Info: Therese Henderson, x3-7492.

Physical Education Summer Classes—**Registration for the following classes is currently underway and will continue until classes reach maximum enrollment: aerobic dance, morning aerobics, low impact aerobics, step aerobics, exercise fitness, sculling, tennis, weight training. Contact the Physical Education Department, x3-4498.

■ MITAC

***Ticket locations and hours:** Tickets may be purchased at the MITAC Office, Rm 20A-023 (x3-7990), 10am-3pm Monday-Friday. Lincoln Lab sales in Rm A-218, 1-2pm Thursday & Friday only through 8/30/91. Friday ticket sales in Lobby E19, 12-1:15pm. (There are no sales in Labby 10 during June, July and August.) Further details on events are included in MITAC's monthly flyer. To avoid disappointment, make reservations and purchase tickets early. Because MITAC is nonprofit, refunds are not available.*

MITAC, the MIT Activities Committee, offers discount movie tickets for General Cinema and Loews Cinemas, both are $4/ea (Loews tickets are not valid the first 2 weeks a movie is released). Tickets are good 7 days a week, any performance. Showcase and Entertainment cinema tickets have been discontinued.

Summer Weekend Escapes at Talbot House—July 12-14; 19-21; August 2-4; 9-11: $58/pp/adult; $29.50/child (3-10—under 3 free). Incl 2 nights' lodgings, 2 breakfasts, 1 dinner. Dorm style accommodations in a cooperative living environment. Room sizes for 4, 5, and 6 people. You provide transportation. One room per customer with MIT I.D. Reservations and full payment by June 28.

World of Dinosaurs—Discount tickets: $5/adult (reg $6), $3/child (ages 2-12) (reg $4). World Trade Center, through July 24. Tickets valid any day for the show. Discount tickets must be purchased in the MITAC office before June 28.

Museum of Fine Arts—The Council for the Arts has 10 passes employees may borrow for free admission. Call the MIT libraries, x3-5651, for availability. At Lincoln Lab, MFA passes are available in A-150.

City Books are here, only $1/ea (reg $7.50), terrific discount coupon book for the Boston area. Valid through 7/15/91.

Other discounts: **Arlington Capitol Theatre:** $1 off admission with an MIT ID ($3/pp, reg $4/pp). Call 648-4340 for more info.

Canobie Lake Park discounts are here, $3 off reg. all-day pass (reg. $13), valid Mon-Fri, June 17-Aug 30 excluding July 4.

Cambridge Discount Coupon Books: Discounts on dining, harbor cruises, comedy clubs, & more. Free. Available in mid-June.

Ferry Discounts: To Martha's Vineyard & Nantucket. Approximately 20% off r/t passenger fare (no discounts on vehicles). One coupon valid for up to 15 persons. MIT ID not required.

Kay Jewelers: Free corporate discount cards, offering 10% discount on regular or sale price jewelry purchases, more.

Kendall Athletic Club: Coupons for one free week, located in Kendall Square.

Magic Kingdom Club Card: Approx. 5-10% off admission into Disneyland, Disneyworld, Epcot, MGM, etc., plus a variety of other discounts. One card is valid for a whole family, and is free!

Plymouth County Discounts: Assorted discounts for Pilgrim Hall Museum, Plymouth National Wax Museum, Historic Houses—Plymouth, Edaville Railroad, cruises to Provincetown, Capt. John Boats, Star Land Recreation Center, & Plimoth Plantation. Generally valid through Fall 1991.

Rockport Chamber Music Festival—June 23: Downtown Rockport. Tickets are $10/ea (reg $13) with an MIT ID. Call x3-4861 for more information.

Rebecca's Café: 15% discount with $3.50+ purchase and an MIT ID.

Riverside Discount Coupons: Savings of $5 off/adult, $1 off/child, at the famous amusement park in Agawam, MA. Valid through 10/27/91.

Water Country: Approx. $5 off/pp when tickets are purchased @ $12/ea (reg. $16.95/ea). Valid through summer 1991.

Whale Watch Discounts: 2-for-1 coupons via Bay State Cruises; also good for Provincetown, Cape Cod, Outer Harbor/Georges Island, USS Constitution/Inner Harbor, & Nantasket Beach cruises. Discounts are limited.

Contact MITAC for diverse getaway information and summer dance/music schedules in Boston/New England.

■ SOCIAL ACTIVITIES

French Lunch Table—**Come to lunch and speak French; every Tuesday from 1-2pm in Walker dining hall. Look for the table with the tablecloth. All levels welcome. Sponsored by the Foreign Languages & Literatures Section.

German Lunch Table—**Come to lunch and speak German; every Monday from 1:15-2pm in Walker dining hall. Look for German flag. All levels welcome. Sponsored by the Foreign Languages & Literatures Section.

Israeli Dancing, 7-11pm, Lobby 13, with Early Teaching from 7-7:30pm. Info: x3-FOLK.

Aerobics Classes*—Sponsored by the MIT Dance Club, Every Mon, Wed, Fri, 6-7pm, Bldg W31 Dance Studio. $4/class, beginners welcome. More info: Julia, 492-1369.

Yoga*—Ongoing classes in traditional Hatha and Iyengar style. Beginners: Mon, 5:10pm; Intermediate/Advanced: Mon, 6:30pm, Rm 10-340. For information call Ei Turchinetz, 862-2613.

Kundalini Yoga*—Monday classes, 6-7pm, Rm 1-136. Beginners welcome. $1/class. For information call Andy Rothstein 232-9961.

MIT Dance Workshop Classes*—An activity of the Theatre Arts program taught by members of the Beth Soll & Co, MIT's resident dance company. Beginning Modern Technique, M,W, 3:30-5pm, T-Club Lounge, Dupont Ctr; Intermediate Modern Technique, Tu,Th, 5:30-7pm, Walker-201; Composition/Improvisation, Tu 1-2:30pm, Walker-201; Technique/Repertory/Improvisation, Wed 11-12:30, Walker-201. Tap, Fri 12-1:30pm, Walker-201. Info: x3-2877.

■ MUSIC

For recorded information on upcoming concerts and lectures call the MIT Music and Theater Arts Concert Line, x3-9800. Updated weekly.

The Worlds of Jazz Summer Concert Series*—June 18: Herb Pomeroy Trio. Intimate contemporary swing and bebop stylings by one of Boston's best trumpeters. 8pm, Killian Hall. **June 25:** Jazzhaus Köln. A mini-festival of leading German jazz artists co-sponsored by the Goethe Institute. 8pm, Kresge Auditorium.

Music at Noon Series*—June 13: Diana Herold, solo jazz vibraphone. **June 18:** Al Defino, jazz/blues guitar. **June 20:** Larry Carsman, jazz/blues guitar. **June 25:** Charles Thomas, vocalist and Woody Pak, guitarist perform jazz/popular music. **June 27:** C&B Duo perform jazz standards. All concerts 12:30-1:30pm, Stratton Student Center steps. Rain location: Lobdell Dining Hall.

■ THEATER

Call the Theatre & Dance Performance Hot-Line at x3-4720 for complete up-to-date information on theatre and dance performances at MIT.

Mona Kabala's Lies About Science (An Oral History Project for Mrs. Brown and the Alien). Performance/reading series of a work-in-progress by Roundhouse Artists w/members of the MIT Theater Dept. Text by Mona Letourneau. Part B: June 12, 14. 8pm, Rm 6-120.

■ DANCE & MOVEMENT

Body Awareness Course*—June 17-21: Taught by Beth Soll as part of MIT's Summer Session. 9am-12pm Mon-Fri, Walker 201. Call Meg Manderson x3-2101 for more information.

Intermediate Modern Dance Classes and Choreography Workshop with Outdoor Performances*—June 18-July 11: Classes taught by Lodi McClellan, MIT Artist-in-Residence and member, Beth Soll & Co. Funded in part by the Council for the Arts at MIT. Tuesdays & Thursdays (no class July 4), 5:30-7:30pm, Walker 201 and outdoors. Free to MIT Community, $7/class for public. For more information call x3-2877 or 547-6281.

MIT Folk Dance Club*—Three nights of dancing. Sunday: International Dancing, 7-11pm, Lobby 13, with Early Teaching from 7-7:30pm. Tuesday: Advanced Balkan Dancing, 7-11pm, Rm 491, Student Center. Wednesday:

The Cologne Saxophone Mafia

SWING TO FUNK

Jazz Comes to MIT

MIT will be alive and swinging this summer as the Summer Session presents The Worlds Of Jazz concert series on Tuesday evenings June 11-August 6 in Killian Hall. Concerts begin at 8pm and are free of charge.

Produced for the first time by Mark Harvey, music lecturer and leader of The Aardvark Jazz Orchestra, the Worlds of Jazz series features a varied blend of music including multi-ethnic musical blendings, swing, bebop and contemporary stylings by combos, vocalists, saxophone quartets, brass bands and big bands.

The series opened June 11 with a performance by Les Miserables Brass Band and continues with the sounds of swing and bebop by the Herb Pomeroy Trio on June 18. Considered one of Boston's best trumpeters, Pomeroy is a former leader of MIT's Festival Jazz Ensemble.

One of the highlights of the series will be the June 25 performance of some of Germany's leading jazz musicians on a tour of the United States and Canada co-sponsored by the Göethe Institute in Boston. The program will feature Jazzhaus Köln with the Franck Band, the Cologne Saxophone Mafia (photo), and others. This concert, the only Boston appearance of these groups, will take place in Kresge Auditorium.

■ EXHIBITS

List Visual Arts Center— Mark Tansey: Art and Source. Four large-scale oils, together with numerous preparatory studies and source materials, form complex meditations on reality, illusion and representation. **Warren Neidich, historical in(ter)ventions.** Concerned with the implications of an unquestioning acceptance of photography's apparent neutrality, Neidich subverts historical accuracy by creating his own fictitious photo-documents which look and read like the real thing. **Tourisms: suitCase Studies. An installation by Elizabeth Diller and Ricardo Scofidio.** A playful, inventive and challenging installation on the subject of travel and tourism in the electronic age. Exhibits run through June 30. Open M-F 12-6pm, Sat, Sun 1-5pm.

MIT Museum Bldg (N52)—Demarcating Lines: Urban Projects for Beirut: Organized by the MIT's Architecture Department in collaboration with the Architecture Department at the American University in Beirut. Through July 19. **Affissi! Affiches! Plakate! Posters! Swiss Poster Art 1906-1990:** Exhibit includes 90 posters for consumer products, tourism, art exhibitions, and public service by Swiss designers, reflecting the three dominant cultures of Switzerland. Through June 13. **Watercolors by Freddy Homburger:** Landscapes, primarily of Mexico and Maine by Freddy Homburger, physician, scientist, diplomat, artist. Through Sept 12. **Doc Edgerton: Stopping Time.** Photographs, instruments, and memorabilia documenting the late Harold Edgerton's invention and use of the strobe light. Ongoing. **Light Sculptures by Bill Parker.** Vivid interactive light sculptures, each with its own personality and set of moods. Ongoing. **Holography: Types and Applications.** Scientific, medical, technical and artistic imaging drawn from the work of the Spatial Imaging Group at MIT's Media Lab. Ongoing. **Math in 3D: Geometric Sculptures by Morton G. Bradley, Jr.** Colorful revolving sculptures based on mathematical formulae. Ongoing. Tues-Fri 9-5; Sat-Sun 1-5.

Hart Nautical Gallery—Ongoing exhibits: George Owen '94, Yacht Designer, Ship Models, Half Models in Naval Architecture. Ongoing. 77 Mass Ave, Mon-Sun 9am-8pm.

Corridor Exhibits—Bldg 1 & 5, 2nd floor: **John Ripley Freeman.** Lobby, Bldg 4: **Norbert Wiener, Karl Taylor Compton. Community Service Fund, Ellen Swallow Richards. Women at MIT.** An overview of the admission of women at MIT. Five photographic panels with text documenting the circumstances that increased the number of women in the classroom since Ellen Swallow Richards. Bldg 6: **Laboratory for Physical Chemistry.** Bldg 4, 4th floor: **Edgerton's Strobe Alley:** Exhibits of high-speed photography. (Corridor Exhibit). Through Sept. 1.

Wiesner Student Art Gallery—Attention to Detail. Photos by Wesley Huang '91. Through June 15. **Il Carnivale a Venezia.** Color photographs taken during Carnival in Venice, Italy, by Tamara Schulman '91. Through June 30.

Compton Gallery—Crazy After Calculus: Humor at MIT. Photographs, cartoons, and a collection of artifacts documenting a rich history of MIT wit and wizardry shown through "hacks,"—elaborate practical jokes involving humor and/or engineering technique. Through Sept 21. Hours 9-5 weekdays.

Other Exhibits—Institute Archives and Special Collections: Julius A. Stratton: Happy Birthday. In honor of his 90th birthday, May 18, this exhibit chronicles Dr. Stratton's career at MIT from his student days (Class of 1923) to his presidency (1959-1966). It also reviews his government service and scientific contributions outside MIT. **WIT at MIT: Thesis Humor.** The lighter side of thesis writing as expressed in titles, dedications and acknowledgments. First floor corridor of Bldg 14.

Send notices for Wednesday, June 26 through Sunday, July 21 to Calendar Editor Rm 5-111, before 12 noon Friday, June 21.

4,000+ YEARS

149 Retire from Across the Institute This Year

Some 200 members of the community and spouses gathered in Walker Memorial last week for MIT's "other commencement," the annual dinner for those who have retired since last year or are about to do so. The 149 members of this year's class have invested more than 4,000 person-years at MIT, for an average of nearly 27 years each.

Senior Vice President William R. Dickson was master of ceremonies for the occasion and Associate Provost S. Jay Keyser read the roster. President Charles M. Vest spoke to the "graduates," noting that he is just completing his first year here.

"Congratulations to each and every one of you," he said. "These years—and your accomplishments—demonstrate an extraordinary loyalty and commitment to MIT."

As he makes his way around the Institute to get acquainted, Dr. Vest said, "I am impressed not only with the research and teaching that goes on in each department, but also with the warmth and friendliness projected by the people who work there. . . MIT is a better place for your having been here."

Those who received certificates of appreciation for their service included:

Mary M. Addonizio, Department of Athletics, 26 years.

Dorothy Gordon Adler, Alumni/ae Association, 42 years.

Professor Robert A. Alberty, Department of Chemistry, 24 years.

Lindsey B. Anderson, Lincoln Division 3, 27 years.

N. Roy Andrew, Department of Aeronautics and Astronautics, 37 years.

Constance A. Bean, Medical, 14 years.

Russell J. Bioren, Haystack Observatory, 45 years.

Professor Lincoln P. Bloomfield, Department of Political Science, 34 years.

William P. Borge, Physical Plant, 28 years..

Lawrence F. Bostrom, Physical Plant, 20 years.

Donald E. Boucher, Lincoln Group 54, 39 years.

Professor George H. Buchi, Department of Chemistry, 40 years.

Ralph G. Burgess, Department of Mechanical Engineering, 34 years.

Clarence M. Callender, Physical Plant, 20 years.

Francis L. Carroll, Lincoln Division 1, 36 years.

Clarence Carter, Physical Plant, six years.

Lewis W. Chaulk, Lincoln Group 54, 36 years.

Constance C. Choquet, Department of Civil Engineering, 35 years.

Arthur Clifford, Department of Chemical Engineering, 50 years.

Clementine I. Coblyn, Libraries, 16 years.

Orlando Colleameno, Physical Plant, 10 years.

Nicholas Cosindas, Lincoln Group 71, 6 years.

Lenola L. Cossette, Lincoln Group 87, 20 years.

Robert F. Costello, Lincoln Group 11, 15 years.

Professor Stephen H. Crandall, Department of Mechanical Engineering, 47 years.

Ellen Curran, Graphic Arts, 16 years.

Richard E. Dean, Lincoln Group 33, 38 years.

Evelyn C. Decker, Graphic Arts, 39 years.

Francis Deneault, Physical Plant, 27 years.

Elizabeth K. Dexter, Artificial Intelligence Laboratory, 11 years.

Cesare A. Di Fava, Physical Plant, 13 years.

Vincent J. Diorio, Jr., Francis Bitter National Magnet Lab, 23 years.

Robert J. Donahoe, Physical Plant, 13 years.

Harold F. Doucette, Lincoln Group 12, 16 years.

Professor Richard M. Douglas, History, 29 years.

Albert Dove, Physical Plant, 10 years.

Joseph E. Eaton, Lincoln Group 85, 34 years.

Professor David J. Epstein, Department of Electrical Engineering and Computer Science, 44 years.

Professor Stephen L. Erdely, Music and Theater Arts, nine years.

John E. Everett, Physical Plant, nine years.

Anthony P. Ferdinand, Jr., Lincoln Group 51, 36 years.

Dorothy R. Finnerty, Alumni/ae Association, 22 years.

Ross Finney, Department of Mathematics, 29 years.

Walter J. Fitzgerald, Lincoln Group 71, 25 years.

William D. Fitzgerald, Lincoln Group 33, 30 years.

Roy P. Foote, Physical Plant, 39 years.

William J. Forti, Physical Plant, 28 years.

Professor Anthony P. French, Department of Physics, 29 years.

Dana H. French, Office of Sponsored Programs, 24 years.

Rhea Diamond Gendzier, Department of Brain and Cognitive Science, 24 years.

Joseph D. Gibbs, Physical Plant, 25 years.

Joseph Golomb , Lincoln Group 16, 22 years.

Edward G. Goulart, Lincoln Group 11, 39 years.

Walter J. Grabowski, Lincoln Group 72, 32 years.

Robert Gutro, Housing, 18 years.

George Haddad Jr., Department of Electrical Engineering and Computer Science, 14 years.

Charles T. Halpin, Jr., Physical Plant, 28 years.

John Hamer, Lincoln Group 86, 10 years.

Professor Donald R.F. Harleman, Department of Civil Engineering, 45 years.

Donald Harrison, Physical Plant, 22 years.

Louis Hirshberg , Lincoln Group 53, 39 years.

Harry O. Holmes, Jr., Lincoln Group 63, 39 years.

Ernest E. Holway, Lincoln Group 11, 15 years.

John F. Howard, Physical Plant, 12 years.

David A. Howes, Lincoln Group 12, 13 years.

Jessie E. Howes, Libraries, 36 years.

M. Jean Hudson, Laboratory for Nuclear Science, 25 years.

Robert W. Hudson, Lincoln Group 23, 38 years.

Elizabeth C. Hurlbert-Barbour, Office of Sponsored Programs, 29 years.

Professor Karl Uno Ingard, Department of Physics, 39 years.

William C. Johnson, Physical Plant, 24 years.

Harrison M. Jones, Lincoln Group 93, 37 years.

Eleanor M. Kalem, Lincoln Group 91, 26 years.

Edward J. Kelly, Lincoln Group 96, 39 years.

Eileen R. Kibrick, Libraries, 39 years.

Charles T. Kirk, Jr., Lincoln Group 23, 39 years.

Alfred J.R. Koumans, Medical, 25 years.

Professor Claire J. Kramsch, Foreign Languages and LIteratures, 25 years.

Stanley Kuhn, Physical Plant, 21 years.

Professor Thomas S. Kuhn, Department of Linguistics and Philosophy, 12 years.

Elizabeth and Robert Gutro talk with President Charles M. Vest at the recent retirement dinner. Mr. Gutro is leaving Ashdown House after 18 years of service.

Photos By Donna Coveney

Pasquale E. Leone, Lincoln Group 12, 33 years.

Vito N. Leone, Lincoln Group 53, 30 years.

Raymond D. Lizotte, Lincoln Group 72, 23 years.

Philip J. Lozier, Lincoln Group 18, 31 years.

Lionel A. Lynch, Housing, 25 years.

Roy W. Lynch, Campus Police, 16 years.

James F. Mahoney, Jr., Campus Police, 16 years.

Chester A. Marchewka, Physical Plant, 23 years.

James P. Mayo Jr., Lincoln Division 7, 36 years.

Edward F. McCaffrey, Haystack Observatory, 32 years.

Professor Frank A. McClintock, Department of Mechanical Engineering, 42 years.

Gerald R. McCully, Lincoln Group 38, 34 years.

Elton R. Merrill, Kwajalein, 39 years.

Marguerite A. Meyer, Department of Materials Science and Engineering, 44 years.

Walter L. Milne, Offices of the President and Chairman, 40 years.

Stanley R. Mitchell, Department of Chemical Engineering, 41 years.

Philip P. Moore, Campus Police, four years.

Conor Moran, Physical Plant, 30 years.

Albert C. Morelli, Physical Plant, 10 years.

Carmen A. Moretti, Housing, 13 years.

Lawrence F. Mullaney, Lincoln Group 76, 30 years.

William J. Mulligan, Plasma Fusion Center, 34 years.

Marie M. Murphy, Telecommunications Systems, 25 years.

Leon Niro, Lincoln Group 64, 36 years.

John G. Palm, Lincoln Group 13, 39 years.

Albert H. Picking, Haystack Observatory, 26 years.

Rosairo Piraino, Lincoln Group 18, 25 years.

George Pishenin, Campus Activities Complex, 39 years.

Claire P. Pritchard, Center for Cancer Research, 24 years.

J. Bruce Rankin, Lincoln Group 33, 29 years.

Professor Harald A.T.O. Reiche, History, 37 years.

Ayako Ohmaye Rich, Department of Materials Science and Engineering, 33 years.

Alden V. Roberts, Lincoln Group 76, 40 years.

John A. Roche, Physical Plant, 18 years.

Harvey Rosen, Lincoln Group 73, 31 years.

Sidney C. Rosen, MIT Press, 10 years.

Nicholas Saia, Laboratory for Nuclear Science, 43 years.

Anthony M. Santangelo, Microsystems Technology Laboratory, 34 years.

Lawrence E. Sargent, Lincoln Group 21, 36 years.

Michael A. Sarno, Lincoln Group 11, 40 years.

Shirley L. Sartori, Department of Economics, seven years.

David S. Saxon, Office of the Chairman, seven years.

Charlotte N. Schell, Lincoln Group 45, 19 years.

Anthony L. Silva, Physical Plant, 23 years.

Marjorie E. Smith, Lincoln Group 12, 32 years.

Raymond F. Smith, Physical Plant, 33 years.

Manuel Sopas, Housing, 19 years.

Edna I. Strom, Department of Electrical Engineering and Computer Science, 11 years.

Alan M. Strout, Department of Urban Studies, 15 years.

Rebecca Taggart, Libraries, 29 years.

Dorothy B. Taylor, Lincoln Group 18, 37 years.

Edwin F. Taylor, Department of Physics, 26 years.

Roger A. Tessier, Lincoln Group 12, 7 years.

Rena L. Themistocles, Ctr. for Technology, Policy and Industrial Dev., 28 years.

David M. Towle, Lincoln Group 96, 38 years.

Anthony Viera, Housing, 11 years.

Professor Felix M.H. Villars, Department of Physics, 40 years.

Claudia von Canon, Music and Theater Arts, 17 years.

Leo J. Webb, Physical Plant, 29 years.

Professor James Wei, Department of Chemical Engineering, 14 years.

Clinton E. Weikle, Lincoln Group 11, 16 years.

Lillian H. Whelpley, Public Relations, 38 years.

Jethro Williams, Lincoln Group 12, 19 years.

Robert L. Wixted, Lincoln Group 36, 13 years.

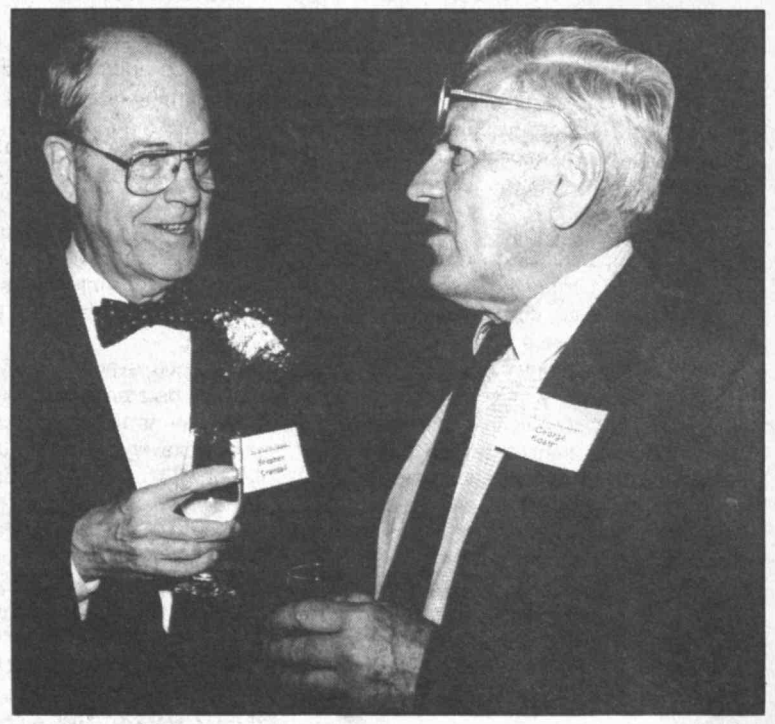
Leova Wolf, Department of Urban Studies, 16 years.

Professor Peter A. Wolff, Department of Physics, 21 years.

Erston Worrell, Physical Plant, 26 years.

Professor James E. Young, Department of Physics, 41 years.

Henry E. Zieman, Lincoln Group 53, 38 years.



Professor Stephen H. Crandall of mechanical engineering, who is retiring after 47 years, shares reminiscences with Professor George Koster of Physics.

Classified Ads

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INSTRUCTIONS: Ads are limited to one (of approximately 30 words) per issue and may not be repeated in successive issues. All must be accompanied by full name and extension. Persons who have no extensions or who wish to list only their home home telephones, must come in person to Rm 5-111 to present Institute identification. Ads using extensions may be sent via Institute mail. Ads are not accepted over the telephone.

All extensions listed below are campus numbers unless otherwise specified, i.e., Dorm, Linc, Draper, etc.

MIT-owned equipment may be disposed of through the Property Office.

Deadline is noon Friday before publication.

■ FOR SALE

Microsoft Excel 3.0 on MACs, brand new w/ plastic wraps still on, askg $250. Li x3-0991.

IBM compatible computer, Sanyo MBC 555, 2 disc drives, 128 RAM, incl ltr-qual prntr, mono mntr, software incl Wordstar, $500; lrg sturdy wooden desk, $35 or bst. Call 267-1472.

4 & 5 drawer vertical file cabinets, 3 folding metal chairs, 3 metal shelving units, M's 10-sp bike, best offer on all items. Call x3-2336.

M's 10-sp bike, $55; Mayflower rocking chr, $65; ktchn tbl, white, round, $45; Ency Brit, 1924, $150; 1948, $55; 2 coffee tbls, $45 & $35. Call x3-3175 or 332-8251.

Camping equipment: tent, tarp, coffee pot, stove, lantern, heater; also selling 3 home heaters, 1 quartz & 2 fan driven; 3-pc living rm set. Loretta x3-2608 or 617-937-3407.

Two tkts for MITAC-organized whitewater rafting down the Rouge River in Quebec, raft 1 day, hike the 2nd, June 21 pm - June 23, $120/ tkt. Dipti x3-6207 or 489-3496.

Sunbeam gas grill, fill tank of gas, and cover, must sell because grills are outlawed for condo balcony use, used ~10x, $80. Call x3-2933.

Giant yard sale, multi-family sale, everything must go, furniture, clothing, jewelry, household items, rugs, Sat. June 15, 9-5, 10 Academy Hill Rd., Brighton Ctr of Washington.

One-way ticket from Boston to Pittsburgh, Wed., July 17, 3:25pm, $100 or bst. Call x3-0145 or 776-1970.

AM/FM radio, model 86120-32330, fits Toyota Corolla sedan, $50 firm. Jan Blair, Draper x8-2843.

Q-sz matt (3pc), $190; F-sz (1pc), $90; lrg antq style mirror, $35; microoven, $60; vac clnr, $25; elec gril, $20; toast oven, $15; stroller, $15; 8x10 carpet, $35; Wd chrs (3), $15/ea. Call 864-7113.

Sanyo apt-sz washer-dryer, $200 or bst; legal sz file cabinet, $50; oak desk, $50; double bed w/ box spring & frame, $25. Nancy x8-9129.

One-way airline ticket for male, from Syracuse to Boston, Monday July 8, best offer. Call x3-1427 or 508-877-9518.

■ VEHICLES

1980 Olds Cutlass wgn, white, sm V-8, ps, AM/ FM, radials, excellent transportation, $500. Call x3-9646 or 484-6679.

1981 Dodge Colt, standard, 78K, engine runs well, red 2-dr htchbk, $500 or bst. Call 937-1389 days.

1981 Buick Skylark, call for details. Draper x8-4608 or 244-4605.

1983 Toyota Corolla SR-5, 3-dr htchbk, gd cond, 88K, 5-sp manual transm, AM/FM, nw trs/ muffler/radiator/water pump, $2000. Randall, Linc x3923 or lv mssg at 643-0454.

1985 Dodge Colt E 3-dr, 80K, red, sunrf, w/trailer hitch, runs grt, must sell. Call collect, Mike 714-639-9497 or e-mail mbparker@mit.edu.

1988 Ford Taurus GL wgn, metal blue, ps, pb, a/ c, AM/FM/cass, third seat, 41K, $8495 or bst. Kim 864-7113.

■ HOUSING

Arlington: rm for rent w/priv entrance & full bath, in single-fam home, overlooks bkyd w/trees, glass slider to deck, v quiet, non-smkr, no pets. Call x3-4251 or 646-1876.

Bermuda: timeshare for sale, lux 2BR cottage at the St. George's Club, St. George, Bermuda, pools, tennis, oceanside golf, accomodates 6, last wk in March. Ken, Linc x5702 or 603-432-4516.

Cambridge: nr Hvd Sq, rent-controlled sublet for July & August, 1BR completely furn, $512. Call x3-2336.

Cambridge: summer hse rental, 7/21 - 9/6, betw Hvd & Porter Sqs, 2BR, 2LR, 2.5b, DR, den, music studio, deck, encl garden, $1200/mo incl utils. Ruth 876-7821.

Cambridge: 5 min walk from Hvd Sq, sublet late June-Aug (flexible), lrg 2BR, hdwd flrs, security bldg, air cond in 1BR, $210/wk. Maryellen x3-8609.

Cambridge: on-campus sublet, furnished 2BR, a/ c, riverview, July 8 - Aug 6. Boaz x3-6212 or 494-1279 or email boaz@mit.edu.

Cambridge: 1BR, sublet July/Aug w/option to renew in Sept, bus sta right outside dr (to Hvd Sq), nr Davis Sq., prkg, d/w, air cond, hdwd flrs, balcony, vw, $800/mo + utils. Carol 876-0237 lv mssg.

Cape Cod: So. Harwich, charming 4BR, 2b, outside shower, deck, TV-cable, w/d, close to warm Nantucket Sound beaches, avail 6/22-29, 7/6-13, $650/wk. Pat, Linc x2981.

Cape Cod: So. Yarmouth, lovely 3BR home, quiet, priv area, patio, cable, nr 3 beaches, shopping, restaurants, fully eqipped, all the comforts, immac condition. Nancy x3-1096 or 933-6741.

Cape Cod: Mashpee resort, comp furn townhse (linen, towels, dishes), 2b, patio & resort amenities, avail 6/28 - 7/5, $500 or bst. Call 876-9617.

Concord, MA: 6 rms, 2-3BR, 1b, sunrm, sm guesthse, oil hot water heat, lrg wooded property, White Pond privileges, $149,000. Call 508-369-4484 lv mssg.

Dedham: spacious apt in Vict home, non-smkr, BR, LR, ktchn, bathrm, prkg, spac yd, safe nbrhd, w/d, Aug 1 occ, $600 incl all utils exc phone. Liz x3-9861 or 326-4415 aftr 6pm.

Gloucester: easternpoint, waterfront hse for rent, 3BR, 2b, priv beach, avail Sept, $900/wk. Call x3-3096 or 508-887-9942.

Hopedale, MA: charming, refurb 3BR antique Colonial (c. 1874), detached 2-story barn, 3 mi to 495, exc school sys, lrg back yd, new deck, by ownr $128,800. Call x3-1450 or 508-478-8845.

Maine: oceanfront hse for rent, Aug. 10-17, 9 miles from Kennebunk, 3BR, 2b, priv beach, big yd, surrounded by ocean & bay vws, quiet & peaceful, $775. Call 497-5525.

Somerville: 4BR, newly renov, reasonable rent. Call 625-3021.

Somerville: 8-rm, 4BR, LR, DR, ktchn, washer/ dryer, nr bus, shopping, hosp, $1000/mo. Call 666-5323 or 666-8550.

Winthrop: 1BR condo for sale, sunny, spacious flr plan, eat-in-ktchn, walk-in closet, balcony, 100 yds from Winthrop Beach, nr T, $69K, $145/mo condo fee incl ht. Bruce, Draper x8-2965.

Furn 1BR nr Blue Line, immac, renov apt, top flr ownr's home, ideal for MIT visitor, quiet, safe, sunny, harbor vw, microwv, avail summer or acad yr, $600+. Lois x3-3121 or 569-2045.

Sublet 7/1 - 8/31, 2BR townhse w/gar & deck, 5 min from MIT by car, nr T, rent & furn negot. Mike or Diane 864-2346.

■ WANTED

I will pay up to $1 ea for Coca-Cola 3" promo CDs found in 12 packs of Coca-Cola. Steve, Linc x4379 or 335-6352.

Childcare wanted for my 7-mo daughter, in my home in No. Camb. (5 min. Porter/Davis T)—or yours—walk from home or MIT, also parents interested in sharing nanny. Ky x3-4710.

Looking to rent studiio or 1BR apt in Salem, Swampscott or Marblehead for late Aug or early Sept, max $425. Sarah x3-1707.

Wanted: 15-17' canoe, aluminum fiberglass or ABS plastic. Jerry Morse, Linc x7472 or 617-259-1105.

Wanted: gas-powered inexpensive chainsaw. Also table saw. Jim x3-8941 or 617-547-3590.

■ ROOMMATES

Belmont: non-smkg F, age 27-40, no pets, shr lrg 2BR, prkg, d/w, disp, nr bus to Hvd Sq, $350+. Call 484-2157.

Cambridge: 3BR apt in Inman Square to shr, $350/ mo incl all utils. Call 617-547-7190.

Somerville: Union Sq, M or F to shr 5-rm apt, must like dogs (1 friendly labrador), $300/mo includes utils, plus dep. Call x3-3993 or 666-9059.

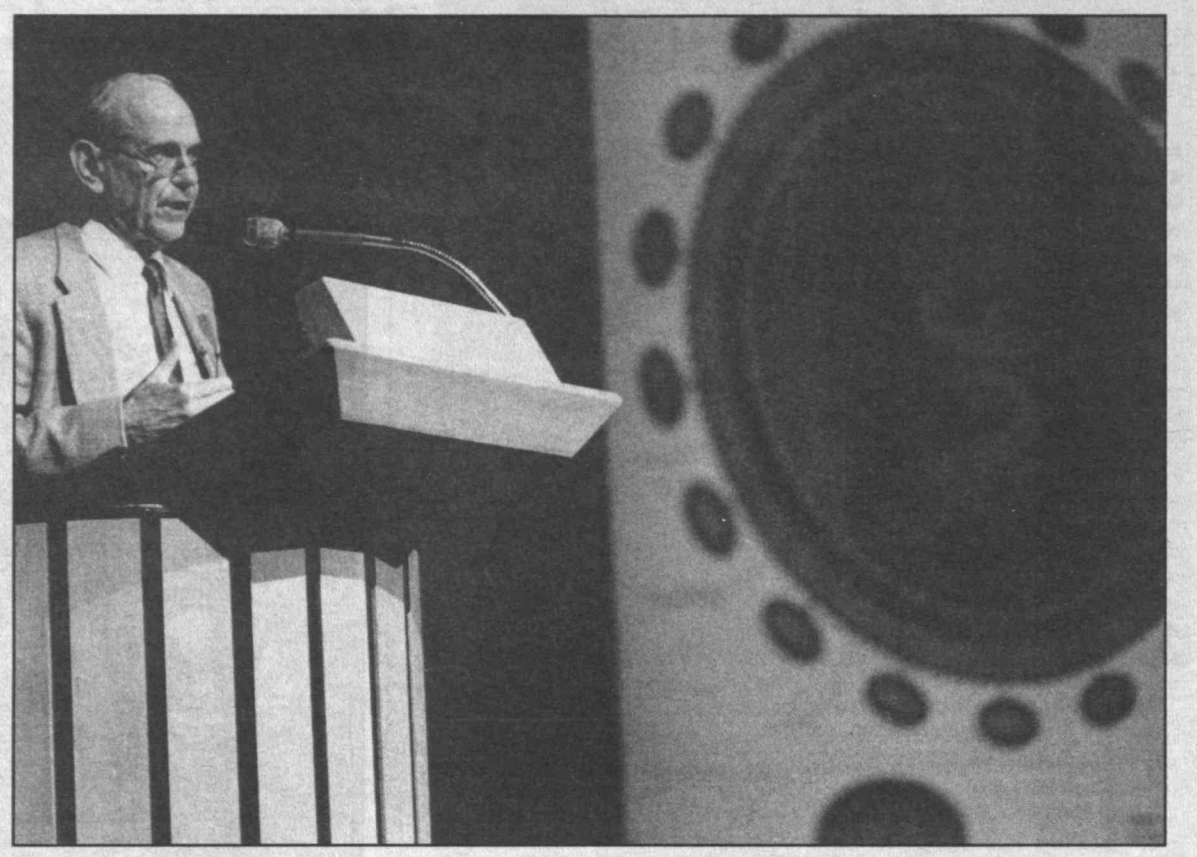
■ MISCELLANEOUS

Competent, caring day care person looking for work. Angela Tabullo has 12 yrs experience w/newborns, older babies, toddlers. Call Prof. Kenneth Oye x8-6455 or Willa Michener x5-6205 for reference.

To go to good, quiet home: 2-yr old indoor calico cat, female, spayed, declawed, has HMO health insurance, vaccines. Cheryl x3-2848 or 321-3746 eves.

Russian language svcs: interpreting, translating, word processing, editing, language instruction. Call 662-3153.

Technology Day: Biology and You



Professor Emeritus Herman Eisen spoke on "Immunity and AIDS" at the Technology Day symposium. Dr. Eisen serves on an advisory board of the National Academy of Sciences to oversee the entire AIDS program of the National Institutes of Health.
Photo by Donna Coveney

(continued from page 1)
provement in speed of techniques to sequence DNA.

Some diseases, such as atherosclerosis, diabetes, obesity, and autoimmune disorders, have very complex genetic inheritance mechanisms that require the function or dysfunction of many genes. "By peeling away the onion" of this complexity with the techniques of molecular biology, scientists can reveal the genetic causes of these diseases, Dr. Lander said.

Some diseases, such as the very rare Werner's syndrome—extremely premature aging—may not seem to justify the vast resources needed to conquer them, he said, given the limited number of victims. But scientists might gain insight into fundamental biological processes, such as aging, by studying such anomalies.

Professor Lander warned against common misconceptions about genetic inheritance. For example, if something is genetically transmitted, it is not necessarily predestined and unchangeable. "Nature versus nurture" is not always clear-cut. "Increasingly we see that it is not one or the other, but a combination of the two," Professor Lander said. Genes do not always directly control human behavior, nor do genes limit human potential.

Professor Robert Rosenberg '69 then launched a broad overview of the causes of heart attacks and current attempts to deal with them. "We've come a long way in the last 10 years," he said. "We've begun to uncover some of the causes of heart attacks and we've begun to develop therapies that are really quite effective... MIT has a real role in developing progress in this area."

NIH has designated MIT one of the three National Programs of Excellence in the use of molecular biology to unravel the problems of the cardiovascular system. "In my view this program, coupled with the Human Genome Project, has a real chance of picking out what are the alterations in genes which cause the great bulk of these diseases," Professor Rosenberg said. "I think that with this knowledge it is quite clear that we'll be able to develop more innovative therapies for preventing heart attacks."

Professor Emeritus Herman Eisen, who serves on an advisory board of the National Academy of Sciences to oversee the entire AIDS program of NIH, spoke on "Immunity and AIDS." He explained how the HIV virus has evolved a very subtle strategy for changing the protein composition on its surface so that it evades the antibodies that the body's own immune system forms against it. In effect, the virus maintains itself in its host by a form of Darwinian microevolution taking place over a period of weeks or months. "The virus stays ahead of the immune system," he said.

"The outlook for the short term is not one that can generate tremendous optimism. I think that the development of AZT has already had an impact on lengthening the incubation period of the disease so that it has some effect," Professor Eisen said. "That says that there are possibilities for other drugs being developed... I think that there is reason to believe that eventually we will have either a vaccine or drugs or both. But by 'eventually,' I think we have to accept the fact that we are talking about several years—five, maybe ten, something of that sort, as a sheer guess."

Professor Lodish introduced Professor Robert Weinberg '64 as the "founder of the field of human carcinogenesis—the development of oncogenes or genetic changes that cause human cancer." Dr. Weinberg, who has two MIT degrees, called himself a "Tech man born and bred; I'm a product of incest and inbreeding, still in the department that trained me, and I'm proud of it." Echoing the day's theme, he joked, "I'm of male sex, I don't take drugs, I have genes, and I'm moderately obese, so here I am.

"The great majority of cancer does not come from inborn predisposition, but rather comes as a consequence of accidents that occur during our lifetimes, accidents to our genes. Not that we inherit damaged genes, but that we damage them as a consequence of our lifestyles, of our diet, and so forth." Cigarette smoking causes cancer, he cited as a major example.

"At least for the present, the rates of most commonly occurring cancers are not increasing—the popular press not withstanding—and so far at least, the vast bulk of human cancer is not being influenced to any great extent by environmental pollution, which is once again against the grain of popular perception, or at least what one would deduce from reading the everyday newspaper," he said.

"All the cells in a tumor are all the descendants of a single ancestral cell that began to go awry... Now we begin to understand this evolution in terms of a model which is very similar to Darwinian evolution... We can now begin to picture—to conceptualize—the evolution of normal cells into tumor cells in terms of a succession of defined and definable genetic alterations, each one hitting one or another target genes, these altered genes conspiring together to orchestrate the final music or cacaphony of cancer."

Technology Day 1991 continued in the afternoon with small panels, lectures, and open houses to allow attendees to participate in discussions of research in molecular biology and its social and ethical implications.

MID-CAREER MANAGERS

Program Selects 40

MIT has selected 40 mid-career managers in engineering and scientific fields for its year-long executive program leading to the Master of Science in the Management of Technology degree.

The participants, most of whom are nominated by their organizations, come from 14 countries and a variety of industries as well as from government agencies.

The MIT Management of Technology Program, in its 11th year, is the nation's oldest advanced-degree program focusing directly on the management of technology. It is conducted jointly by the School of Engineering and the Sloan School of Management.

According to program director Roger A. Samuel, "The combination of a rigorous curriculum and participants who bring a rich diversity of experience provides a unique educational environment. We expect the graduates of the Management of Technology Program to become leaders of their organizations' efforts to develop and put into practice new product and process technologies. Although the program is still young, we already see this beginning to happen."

Reunion Gifts of $22M Announced at Luncheon

(continued from page 1)

the best in the world" and he asked them to "carry forth the message," based on their own observation of the quality of MIT's students and faculty, that universities are critically important to society and "are, in fact, a great bargain."

In return for societal support, he continued, research universities provide "dividends" in the form of educated leaders in academia, business and government; advances in understanding and amelioration of critical problems; contributions to national security, contributions to the national and world economy through spinoffs of companies and even entire industries, and increased understanding of our physical, social and natural worlds.

A key factor, he said, was the integration of education and research, in which "bright, creative individuals teach the living essence and the future of their subjects, not just their histories."

The luncheon program was conducted by Christian J. Matthew '43, the 1990-91 president of the MIT Alumni/ae Association, which has some 90,000 members in 128 countries.

He announced that alumni representing 73 classes were attending the reunion programs and that the most senior among them at the luncheon was Max Seltzer of the Class of 1918, observing the 73rd anniversary of his graduation. He also recognized four members of the 70th reunion Class of 1921 attending the luncheon, Onie Adams, Carole Clarke, Roy Snyder and Benjamin Fisher.

Also present, he said, were 22 international alumni and alumnae representing 11 countries. The person who had traveled the greatest distance, he said, was Shantanu Kirloskar of the Class of 1926, who came from Poona, India.

In keeping with the custom of recognizing individuals who, though not alumni/ae, have shown "great dedication, commitment and loyalty to MIT and its alumni/ae," Mr. Matthew announced that the Alumni/ae Association was bestowing honorary membership on two members of the faculty—Professor Franco Modigliani, Nobel laureate in economics, and Dean Lester C. Thurow of the Sloan School of Management. Dean Thurow was unable to attend the luncheon because of his son's graduation from Concord Academy.

Mr. Matthew noted that both recipients had been "tireless speakers" at alumni/ae functions throughout the nation and the world.

At the conclusion of the program, Mr. Matthew turned over the symbolic gavel of office as alumni/ae president to Peter M. Saint Germain, who becomes the 97th Alumni/ae Association president in 1991-92.

Mr. St. Germain received the SB degree in general science from MIT in 1949 (Class of 1948). He retired from active employment at Morgan Stanley & Co., Inc. and was elected an advisory director in 1982. At MIT, he takes on the role of ex officio member of the Corporation by virtue of becoming Alumni/ae Association president. He was elected to a regular five-year term on the Corporation in 1989. He has been a member of the Corporation Development Committee and several visiting committees, was chairman of the Alumni Center of New York and chairman of the Alumni Fund, and is a Founding Life Member of the Sustaining Fellows. He received the MIT Corporate Leadership Award in 1980, the Bronze Beaver Award in 1984 and the Marshall B. Dalton '15 Award in 1990.

Finally, Mr. Matthew introduced the Technology Day chairman, George Clifford '48, who in turn paid tribute to the members of his committee: George Beesley '39, Vincent James '78, Anita Killian '85, Bernard Lloyd '85, William Maini '51, Eugene Mallove '69, Kenan Sahin '63, Robert Seamans '42 and David Wadleigh '38. Biology professor Harvey F. Lodish, moderator for the morning program, was an ex officio member of the committee.

Row, Brothers, Row

Former crew captain Charles S. Butt checks the roster of rowers for the 50th reunion competition.

Rowers in boat two for the 50th reunion race were, from left: Charlie Butt, George White, John Potter, Dave Howard, Charlie King, Bob Smith, Sterling Ivison, Edgar Hayes and Marie Hayes, acting cox. **Photos by Donna Coveney**

Shuttle Life Sciences Update

An ebullient Professor Laurence R. Young called the News Office from NASA's Johnson Manned Spaceflight Center yesterday (Tuesday, June 11) to report an outstanding—"much better than expected"—collection of data in his group's space motion sickness experiments aboard space shuttle Columbia.

Professor Young, a principal investigator for the mission, said that there have been several "fortunate breaks" on the mission that have allowed them to test more of the astronaut crew than they had anticipated. Two payload specialists and two mission specialists underwent the visual nystagmus test that is being shepherded by MIT's Dr. Charles Oman.

The MIT experimenters have been eagerly watching live television coverage of their space-borne human subjects as they go about the long awaited tests. CNN has also provided splendid coverage of the MIT experiments, Professor Young said.

Obituaries

STEPHEN ROSOLIK

Stephen Rosolik, 72, of Cambridge, a retired metalworker in Physical Plant, died on May 24. Mr. Rosolik worked at MIT from 1964 until his retirement in 1983.

He is survived by his wife, Katherine Panzino Rosolik; two daughters, Janet Lewis of Waltham and Diane Ryan of Cambridge, and three grandchildren. Memorials may be sent to the Hospice of Cambridge, 186 Alewifebrook Parkway, Cambridge 02138.

STUDENT DIES IN FALL

Edward B. Hontz Jr., 21, of San Pedro, Calif., a member of the class of 1992, who died June 4 in a fall from the roof of Building 66, was to be buried today, June 12, in Arlington National Cemetery.

The fall was not witnessed, Campus Police said. The body was discovered a little before 10pm by a passing student. Mr. Hontz was pronounced dead at the scene by the Middlesex County medical examiner.

Summer Schedule

The next issue of MIT Tech Talk—the last in Volume 35—will be published on June 26.

The first issue in Volume 36 will be out on July 17, with other issues planned for August 7 and 28. Regular publication will resume on September 11.

Because of the infrequency of summer issues, the rule on repeating ads in successive issues has been relaxed until the September 11 issue.

Awards & Honors

■ The MIT **Department of Chemistry** has been selected as the 1991 recipient of the College Safety Award presented by the American Chemical Society's Division of Chemical Health and Safety.

The award is offered every other year "to the college or university demonstrating the most comprehensive program of chemical laboratory safety." It consists of a plaque and a $1,000 prize to the department to be used in support of its safety program.

The award will be accepted in August at the society's national meeting in New York City by Professor **Rick L. Danheiser**, chemical hygiene officer for the department and chairman of the department's safety committee.

■ Dr. **Richard J. Samuels**, professor of political science, associate head of the Department of Political Science and director of the MIT-Japan Program in Science and Technology, has been awarded a Fulbright Scholar Grant. The grant is for research at the Mitsubishi Research Institute in Tokyo from September, 1991, to May, 1992.

■ **Janos Gal** and **Sengdam Thongsavatdy**, assistant animal technicians, are the first two monthly winners of a Technician of the Month program started in April by the Division of Comparative Medicine.

Nominations are made by co-workers each month and one person is selected based on "the most outstanding work performance beyond normal required duties." The recipient is honored with a luncheon and has his or her name engraved on a permanent plaque.

■ Volunteer service in half a dozen organizations has brought a 1991 National Community Service Award to **Charlotte Webber** of the MIT-Cambridge Chapter of the American Association of Retired Persons. Mrs. Webber spends one day a week at South Shore Hospital working on the children's floor during the morning and visiting recent surgery patients in the afternoon. For the Salvation Army, she obtains food vouchers for those who need them; assures that utility bills are paid and gets gifts for children at Christmas. For the town of Hingham, she takes blood pressures in health clinics and works in the Senior Center. On weekends, she helps set up and serve dinners for inner-city needy people, and she has worked on Red Cross activities for more than 25 years.

■ **Technology Review** recently won the 1991 MagazineWeek Publishing Excellence Award in the science and technology category. Altogether some 43 magazines were cited for editorial excellence and "a publication's ability to distinguish itself by maintaining the highest standards in definition, recognition and achievement of editorial purpose." Technology Review is also now being distributed through The New York Times Syndicate.

■ **Amita Gupta** '91, who received her SB degree Monday, was a finalist in the Student Humanitarian Award competition of Campus Compact, a coalition of college presidents committed to increasing student involvement in public service. Ms. Gupta has been active in SAVE (Share a Vital Earth) and ARMIT (AIDS Response at MIT). She organized and taught an undergraduate seminar, "The Changing World of AIDS," during the spring term.

High Birth Rate is the Major Problem in Bangladesh

■ **By Lester C. Thurow**
Sloan School of Management

The disaster in Bangladesh raises a fundamental issue of Malthusian population dynamics. However many deaths were produced by the cyclone April 30, they were very small in comparison with the death caused every year by the poverty of Bangladesh—perhaps the world's poorest country. To give aid to help them recover from the effects of a storm is to focus on a minor problem while ignoring the major problem.

Bangladesh faces a harsh truth. Given its current population and its growth rate, Bangladesh will forever remain poor—regardless of what it or the rest of the world does.

No country has ever become rich without at least a century of low population growth rates. Consider the historical evidence. For 100 years Japan's economic growth averaged 4 percent per year while its population was growing 1.1 percent per year. This produced a 2.9 percent per year increase in per capita standard of living. A century later Japan is one of the world's wealthiest countries.

In Germany, economic growth has averaged 3 percent per year, leading to a 2 percent per year rise in standard of living. Today Germany is also one of the world's wealthiest countries.

During the same 100 years the American growth rate averaged 3.3 percent per year while its population, including immigration, was growing at 1.5 percent per year. The result was a 1.8 percent growth in per capita incomes. Since the United States was much richer than Japan 100 years ago and somewhat richer than Germany, its slightly lower per capita growth rate still left it with higher real per capita purchasing power in 1990 than either Japan or Germany.

But note that the world's most successful countries have only managed to average a 3 to 4 percent real growth rate over the past century. No one has ever done better. If the population of the three most successful countries had grown at a 3 to 4 percent rate, these three countries' per capita standard of living in 1990 would have been no higher than it was 100 years earlier in 1890.

What Japan, Germany and the United States cannot do—put together a century of real growth rates in excess of the 3 to 4 percent range—Bangladesh and other poor Third World countries with similarly high population growth rates cannot do. With a 3 to 4 percent population growth rate, to talk about economic development is to talk about the impossible.

The same reality can be seen by looking at what would have to be done inside a country with a high population growth rate if it were to become richer. Unfortunately it takes a lot of investment to bring new human beings up to the income levels of existing human beings. If there are too many of these new human beings, there simply isn't enough income left over to raise the standard of living of either the old or the new human beings.

A few numbers illustrate the problem. If a new American is to have the average amount of housing space, an investment of $20,000 has to be made in housing. Until these new Americans are old enough to begin work, each new human being requires feeding—the average diet requires another $20,000. To reach the average American education level necessitates $100,000 in public or private spending. To have the average American productivity at work, $80,000 in plant and equipment investments must be incurred. Another $20,000 will be needed to build the public infrastructure, roads, necessary to service those new human beings. In the aggregate, each new American human being will need an investment of $240,000 before he or she is capable of fitting into the American economy as a self-sufficient human being capable of earning the average American income.

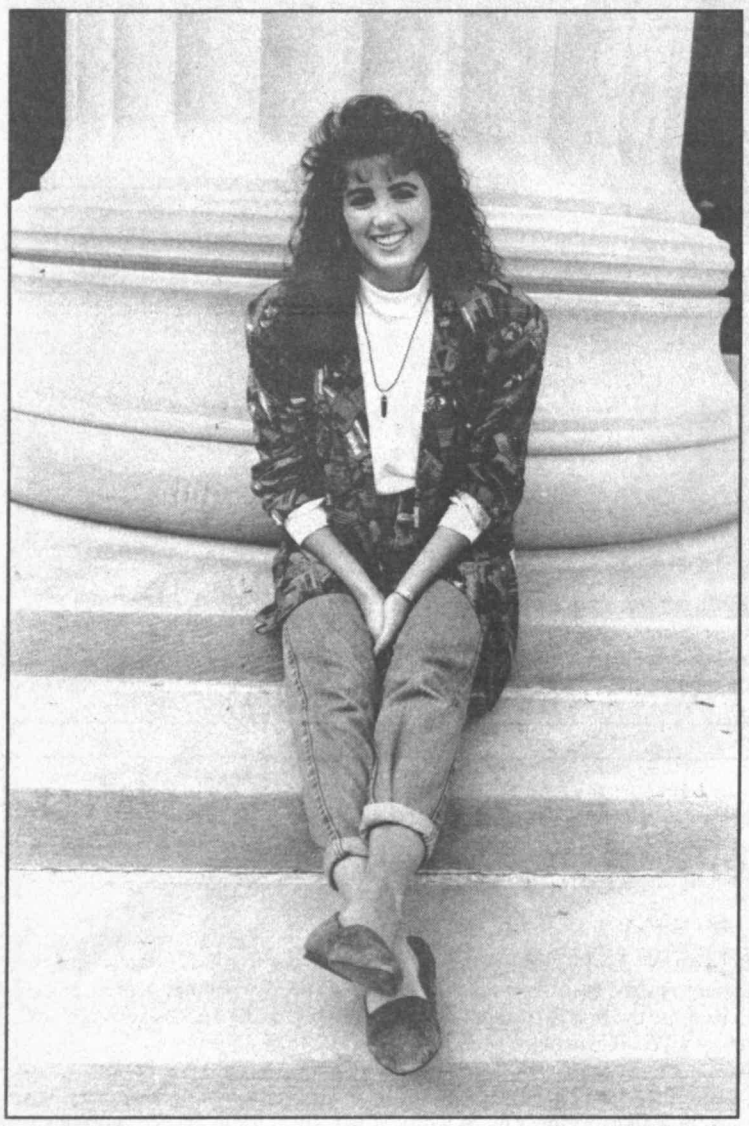
If the United States had a 4 percent per year population growth rate, the biological maximum, more than 40 percent of its entire GNP would have to be devoted to providing for those new Americans. Existing Americans would have to be willing to take a sharp cut in their current consumption standard of living. Nothing would be left over to raise the future standard of living.

Starting with a very different average standard of living, the magnitude of the investments necessary to solve the same problem differs in Bangladesh, but the proportions of GNP required are the same. Given current income levels, the sums necessary to finance the new generation's way out of poverty would require the starvation of the old generation in Bangladesh. In reality the new and the old generations share the burden of starvation and a substantial number of each generation dies of the factors associated with real poverty. And there is nothing left over to finance the investments necessary to keep the average standard of living from falling.

Giving aid to a country such as Bangladesh when a storm strikes makes one feel better, but it won't have any significant effect on the average standard of living or on the number of people who die in any given year. Only a lower population growth rate can help.

(Professor Thurow is dean of the Sloan School of Management. This editorial appeared in the Business Section of the Boston Globe last week and is reprinted here with the author's permission.)

Here & There



Ms. McCarthy

■ It remains to be seen what kind of a team the New England Patriots will have this year, but MIT's **Patricia M. McCarthy** will be urging them on no matter what—as a member of the team's cheerleading squad.

When the Patriots, under new management, decided to form a squad for the first time in several years, Patty, who works for the Audio-Visual Service, was among 250 women who auditioned for 21 cheerleading positions in May at the Lafayette Plaza Hotel.

"We did a dance and they cut it to 80 women and then we learned another dance and cheer and they cut it to 40," she recalled. She then survived a round of interviews to get one of the coveted spots.

"Actually, we're more of a dance squad than a cheerleading squad," Patty explained. "We'll be doing about 18 dances a game."

Neither dancing nor cheerleading is new to 23-year-old Patty. She was an Irish stepdancer for about 10 years, and a cheerleader for four years for the basketball team at North Adams State College, where she received a bachelor's degree in sociology last year. Her primary interests are social work and criminal justice.

Meanwhile, there is much to be done before the opening kickoff of the season, including regular practices.

Observing Patty's transformation into Patriots' cheerleader with interest and pride are two other MIT employees, her brother, **Michael F. McCarthy**, 28, who works in the property office, and her father, **Terence J. McCarthy**, a locksmith with Physical Plant.

Is her father a football fan? "He is now," Patty replies.

■ All of this gives us an excuse, of course, to reprint the MIT cheer:

E to the U,
D-U. D-X.
E to the X,
D-X.
Cosine, secant, tangent, sine.
3.14159.
Integral, radical,
U-D-V.
Slipstick, slide rule,
M.I.T. !!!!!!!!!!!!!!!!!!!!

■ Who was that student who placed a lei around the neck of President **Charles M. Vest** as he handed her her diploma on commencement day, and why did she do it?

The mystery has been solved. And there seems a good chance the same thing may occur next year.

It turns out that the student, **Heather T.C. Goo**, has a sister, **Heidi S.H. Goo**, an electrical engineering major who will be a member of the graduating class next June.

It also turns out that the Goo family and the Vests are acquainted. As Heather explained it in a telephone conversation from her family's home in Silver Spring, Md., her father, Professor Gee-In Goo of Morgan State University in Baltimore, Md., was a student in the first class that Dr. Vest taught at the University of Michigan.

And so Heather decided, on behalf of her family, both to welcome Dr. Vest to MIT and to congratulate him on becoming president by adorning him with the flowered wreath.

It was a traditional act for Heather because the Goo family is Hawaiian. And the lei was brought to the graduation exercises, directly from Hawaii, by her grandmother. Other family members in the audience were her mother, Lorna Y. B. Goo, and several uncles and aunts.

Oh yes, Dr. Vest might also be on the lookout for a lei in 1995. Heather's youngest sister, Holly, will be a freshman at MIT in the fall.

By the way, Heather received two SBs, in electrical engineering and economics, in the morning, and her commission as a second lieutenant in the Air Force in ROTC commissioning exercises in the afternoon. She plans to attend law school at the University of Maryland in the fall as preparation for becoming a lawyer in the Air Force.

■ This happened back in January, but it's really too good a story not to be told.

It began when **Wendell E. Rhine**, a research scientist at the Materials Processing Center, discovered his car stolen from the Albany Street garage.

Wendell called his wife, Phyllis, for a ride home, and as she was driving through Harvard Square to get him in their other car, she realized that the car in front of her was none other than their stolen 1986 Chevrolet Celebrity.

Naturally she tailed the car until the driver stopped and parked, and then she called the police for help. When they arrived, they told her they'd wait for the thief to come back to the car to "catch him in the act."

Phyllis then went on to MIT to pick up Wendell.

When they got back to where the stolen car had been parked, about four police cruisers were at the scene, but the car was gone.

It seemed, said Wendell, that the thief indeed had reappeared, but had eluded police who declined to get involved in a chase in order to avoid creating a dangerous situation in Harvard Square.

The police didn't make the Rhines feel any better when they told them that their kind of car was not the usual target for sophisticated car thieves.

In any event, it all ended reasonably well.

The Chevy was recovered two days later in Boston, "in pretty good condition," Wendell said.

CLIPS AND QUOTES:

—In a letter to The New York Times, Dr. **Kerry A. Emanuel**, professor of meteorology and director of the Center for Meteorology and Physical Oceanography, took issue with a Times story that described satellites as the cornerstone of modern weather forecasting.

"Had you consulted a practicing weather forecaster, rather than a National Aeronautics and Space Administration spokesman, you would have published a very different article," he wrote. "The data upon which the daily weather forecast is based are composed overwhelmingly of observations made by weather balloons, commercial aircraft, land-based instruments, ships and weather buoys. By contrast, attempts to use satellite data as a basis for weather forecasts have produced results ranging from a slight improvement to a noticeable degradation. Satellites simply do not provide the quantitative data about atmospheric winds, temperature and moisture that are needed to predict the weather. Diagnosing the state of the atmosphere using satellite data is a little like diagnosing human illness by looking at pictures of bodies."

—MIT economist and trade expert **Rudiger W. Dornbusch** told the Senate Finance Committee that failure to enact a free trade agreement with Mexico would be a costly mistake for the United States, according to The Houston Post. "Turning our back on trade opening means inviting a resurgence of protectionism not only in Mexico but throughout Latin America and beyond," the newspaper quoted Professor Dornbusch as saying. "If we are seriously concerned about the standard of living in Mexico, and democratization, we cannot escape the recognition that a thriving, open market economy will raise wages, create individual freedom, decentralize political power and allow people to organize around local issues."

—The New Bedford Standard-Times carried a story from the Ottoway News Service reporting that the "first, relatively crude" method of absorbing radar waves—which has come to fruition in the new generation of radar-evading "stealth" aircraft—was developed during World War II at MIT by a scientist named **Winfield Salisbury**. Dr. Salisbury, now 87 and living in Sun City, Ariz., said he was one of many scientists working at MIT to develop radar when he took "the next step... to find out how to dissipate the electromagnetic energy of radar." The result was the so-called "Salisbury Screen," a radar-absorbent compound soaked into canvas which absorbed all but a small fraction of the radar energy, Dr. Salisbury said.

—Institute Professor and former provost **John M. Deutch** told the Springfield Republican that President George Bush's national energy strategy proposal "has managed to avoid all important energy policy issues." Professor Deutch, former Under Secretary of the US Department of Energy, added: "Conservation, energy-efficient technologies, making allowances for the potential interruption of the supply of oil—all of these are tough policy issues that have been ducked in this document. The biggest mistake... is not to have more government encouragement of energy efficiency and conservation. The second biggest mistake is to not do more in energy research and development."

Charlie Ball