

## Solow wins Nobel Prize in economics Showed importance of technology in growth

By Niraj S. Desai  
Institute Professor Robert M. Solow was awarded the 1987 Nobel Memorial Prize in Economic Science on Wednesday for his contributions to the theory of economic growth.

In making the award, the Nobel committee stressed the importance of Solow's idea that technological advancement has a greater impact on the growth of an industrialized economy than either capital accumulation or increases in the labor supply.

Solow is the eighth member of the MIT faculty and the third member of the department of economics to win the Nobel prize. His victory came only nine days after Professor of Biology Susumu Tonegawa won the prize in medicine or physiology.

The other two MIT economics laureates are Paul A. Samuelson, Institute professor emeritus and the 1970 winner, who was cited for introducing scientific analysis into economic theory, and Institute Professor Franco Modigliani, who won the prize two years

ago, primarily for his life-cycle theory of consumption and savings.

Much of the seminal work for which Solow was awarded the prize was done in the 1950s. Solow attempted to build a mathematical model describing how such factors as capital formation, labor, and technology affect productivity.

"It is easy to list things that might contribute to economic growth," Solow told a Wednesday morning press conference. "The problem is . . . to make a model, to understand how these things interact, and to do it in such a way that you might have a prayer of measuring it."

Prior to Solow's research, most economists believed that capital formation and labor dominated economic growth, and that technological change played only a small part.

Solow found, however, that the quality of the technology outweighs both simple capital growth — the number of new factories, machines, etc. — and changes in labor — increases in the working population.

"We owe a lot of it to the growth of high technology," Solow said of the expansion of the US economy in the past several decades.

Solow's insight has "fundamentally changed the way firms view research and development," said Ann F. Friedlaender PhD

'64, dean of the School of Humanities and Social Science, who is also a professor of economics. "What you need is technical change and R & D."

Beginning in the 1950s, Solow "was certainly the leader in the field — both explaining [economic growth] theoretically and . . . empirically," said Richard S. Eckaus PhD '54, head of the Department of Economics. "He built the first model of all the factors . . . of growth."

"It is an immensely popular decision. He is very highly regarded for his technical skill, his theoretical insight, his ability as a

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Photo courtesy Donna Coveney/Tech Talk  
Institute Professor Robert M. Solow, recipient of the Nobel Memorial Prize in Economic Science.

## Faculty hear fund drive goals

By Darrel Tarasewicz  
Three hundred forty-five million dollars of funds expected to result from MIT's capital campaign will go to academic programs and student financial aid, President Paul E. Gray '54 announced at Wednesday's faculty meeting.

Gray explained how the \$550 million "Campaign for the Future" is a major venture for the Institute. This is only the fourth fundraising campaign in the past 50 years, he said.

The current campaign will satisfy only half of the \$1.2 billion need that was originally calculated, he stressed. This figure repre-

sents serious needs and "is in no way a wish list," he said. "We had to scale down our goals because \$550 million was about the limit as to what the supply was willing to give us."

Around \$225 million will go to academic programs in the Center for Cancer Research, the department of brain and cognitive science, the Center for Real Estate Development, and other programs. One-hundred and twenty million dollars is slated for undergraduate and graduate student financial aid.

Gray explained how the remaining \$205 million in funds would be distributed:

- \$100 million for the endowment of faculty chairs;
- \$65 million for renovated facilities, including a new graduate student dormitory and biology building; and
- \$40 million of unrestricted gifts.

In the average year, the Institute receives about \$50 million in

gifts, he continued. "With this campaign, over the five year period, we will double what we make now." He added that after every fundraising campaign, the two-fold increase in income has been sustained.

### Doctoral program in STS approved

The faculty at its meeting also approved a proposal that would create a doctoral program in the Science, Technology and Society Program.

The program will be a five-year trial program, according to Frank E. Perkins '55, dean of the Graduate School.

Ann F. Friedlaender PhD '64, dean of the School of Humanities and Social Sciences, stressed that this program will not be exclusively for STS students. "All along I was troubled by having such a small program exclusively in STS. Only after the anthropology and history sections received

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### FALL BACK

Daylight Savings Time ends this Sunday, Oct. 25, at 2 am. Remember to set your clocks back one hour before going to sleep Saturday night.

## EECS enrollment hits ten-year low

By Ben Z. Stanger  
Two hundred and seventy-seven sophomores have declared a major in the department of electrical engineering and computer science, the lowest number of Course VI sophomores in ten years, according to figures from the Registrar's Office. In addition, approximately 10 percent of the Class of 1990 chose majors outside engineering and science.

The "fifth-week count" of the Class of 1990 also showed a decline in the number of sophomore declarers in the Schools of Engineering and Science, and an increase in the number of sophomores who declared majors in the other schools — the Sloan School of Management, the School of Architecture and Planning and the School of Humanities and Social Sciences.

The 186 declared EE majors and 91 declared CS majors represent a 15.8 percent decrease from last year's 329 sophomores who said they would major in Course VI. Total undergraduate enrollment in the department is 940.

Since 1983 Course VI has urged the Committee on Undergraduate Admissions and Financial Aid to restrict a fraction of each entering class from majoring in EECS unless enrollment in the department fell below certain annual benchmarks. However, CUFAFA never implemented the restrictions. The committee decided this spring not to restrict next year's incoming class from Course VI based on the results from a preliminary survey by the Undergraduate Academic Support Office.

Although sophomore enroll-

ment this year just missed the benchmark of 270, CUFAFA Chairman Keith Stolzenbach said there would probably be no restrictions on the Class of 1993 either.

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## EECS: SM degree takes too long

By Mary Condello  
The department of electrical engineering and computer science is considering imposing a limit on the time students take to receive the Master of Science degree.

The proposal, one of four suggested in the "Report of the Committee on the Length of the SM Program," would deny registration to SM degree candidates who take longer than six terms to complete the degree.

The EECS department established the committee in the fall of 1985 to study ways of decreasing the time master degree students spend at MIT.

"We would like to serve more people," said Arthur C. Smith, graduate officer in EECS. There are many qualified applicants to the EECS graduate program who would be able to be admitted if the SM program could be completed in a shorter length of time, Smith explained.

The average time taken to attain the SM degree has increased from 3½ terms to 4½ terms over the past 10 years, according to Smith.

The committee has determined that the SM thesis is the most significant factor determining the time required to complete the degree, Smith added.

"We want to change people's perceptions of the master's thesis," said Robert G. Gallagher '57, committee chairman and professor of electrical engineering and computer science.

The Gallagher committee rec-

ommended four proposals to reduce the length of the program:

- Denial of further registration to students who have not completed the requirements for the SM degree in six or more regular terms. Exceptions will be made by the department graduate committee after submission of a petition from the student and a letter by the thesis supervisor.
- Circulation of a statement of the objectives and scope of the SM thesis to students, faculty, and research staff.
- Raising graduate stipends for students who have completed the SM degree.
- Requiring a statement endorsed by a faculty or research staff member at the end of each regular term from each student in the SM program who has not yet submitted a thesis proposal.

The only proposal guaranteed to be implemented is the stipend

increase, Gallagher commented.

Some students are concerned that the proposal for a time limit on the SM degree might be too harsh, Gallagher said. But, he pointed out, the proposal is aimed at prompting the EECS graduate committee to pay more attention to students who exceed six terms to complete the program and to work with them rather than disqualify them from the program.

### Misconceptions of SM thesis

According to Thomas Russ G, member of the EECS Department Committee on Graduate Students, "internal pressure and attitudes and expectations" about what constitutes a good thesis play a significant role in the duration of time students spend in finding and completing a thesis.

Faculty expectations of a good

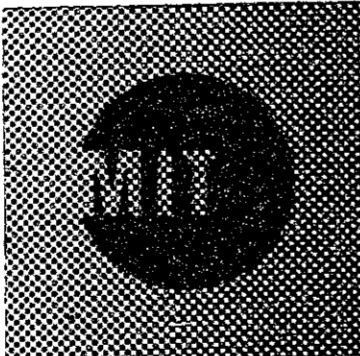
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## \$550 million fund drive begins

By Katie Schwarz  
MIT officially announced its half-billion-dollar "Campaign for the Future" fund drive yesterday, with celebrations of its two new Nobel prize winners and reassurances that Monday's stock market crash will not cripple the campaign.

"MIT has weathered other stock market declines in previous fund drives," said Glenn P. Strehle '58, treasurer and vice president for resource development. Monday's crash represents a fluctuation and "the factors that caused it are nonrecurring," Strehle believed, noting that the Dow Jones Industrials average remains slightly higher than it was at the start of the year.

The crash reduced MIT's endowment by almost \$100 million this week from its pre-



Campaign for the Future  
previous level of nearly \$1.2 billion.

The Institute's last fundraising drive also began at a low point of the stock market — April 1975 — yet that campaign was a success, raising 10 percent more than expected, he said.

"This may seem to some of you like rather an odd time to

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## Thomas F. Trobaugh

Thomas F. Trobaugh G was found dead in the basement of his Somerville home yesterday. The Somerville Police are treating his death as an apparent suicide, although the Middlesex County medical examiner is still investigating. He is survived by his wife, Marcia Lewin, their 2-month-old son, his mother, two sisters, and a brother.

Trobaugh came to MIT three years ago as a graduate student in the School of Architecture and Planning. He was a PhD student in the Media Arts and Sciences section. Dean Robert M. Randolph said Trobaugh was "well thought of, and highly regarded within his department."

No information was yet available about the time or place of the services.

# Homeless: "To you, we're the invisible people"

## Reporter's Notebook

By Thomas T. Huang

Last Tuesday night on Landsdowne Street, at the northern edge of campus, a homeless man of Apache blood exploded in a drunken rage. He confronted his lover, mistakenly believing that she had betrayed him for another. In the darkness of the decrepit, abandoned house where they were staying temporarily, the couple teetered to the brink of violence. Had it not been for the other street people who forced the couple apart and talked some sense into them, the argument might have ended in bloodshed.

Carlos Gonzalez, 45, had seen a lot of things like this happen on the street. For years, the cityscape was his home by choice. Born in Harlem, NY, he had a keen intelligence and a forceful voice. He knew of the despair and frustration of the homeless. Living on the street could turn a human being into an animal, and this is what he was struggling against. As the October winds grew colder, harsher, he realized that he and his fellow homeless faced an uphill battle to maintain even a vestige of basic human dignity.

He reflected on how he and the others had come to occupy the tents on a stretch of grass on MIT property, near the corner of Blanche and Green Streets, just beyond the candy factory. They had also gained entrance to a rundown house nearby — a residence that had been abandoned in 1979 — and had proceeded to occupy it. How had it all begun?

Last Saturday and Sunday, the Simplex Steering Committee had staged a protest called "Tent City" to dramatize the need for more homes for the poor and the working class on the 27-acre MIT-owned Simplex site. When the protest ended Sunday afternoon, roughly twenty street people remained on the site, in six tents donated by indi-

"To you, we're the invisible people," Gonzalez said. "You don't think we're human beings. You don't see us."

vidual protesters, renaming the community "Shantytown, USA." William Cavellini, head of the SSC, had not anticipated this. With reluctance, he soon disavowed the occupation, although he did "personally sympathize" with the homeless to find decent housing.

Meanwhile, Walter L. Milne, assistant to the chairman of the MIT Corporation and to the president, said that MIT had not given permission for the use of the land or made a formal arrangement with the protesters. On the other hand, MIT did not consider the trespass serious enough to complain, he said.

This is what Gonzalez remembered as he entered the abandoned house on Landsdowne Street late Wednesday afternoon, when the cops weren't looking, past the psychedelic mural-like painting that graced the front door. He was a leader among the homeless. He was the one who had come up with the idea to stay on the plot of land. He wanted to show Cambridge that the homeless had genuine concerns and realistic goals — that they wanted to occupy abandoned houses and convert them to homes. Wouldn't anyone listen? Gonzalez asked himself. Didn't anybody care?

Gonzalez

It's hard to be alone out here, Gonzalez thought. With eyes averted, passersby would ignore the homeless who walked the street. "To you, we're the invisible people," Gonzalez said. "You don't think we're human beings. You don't see us."

The homeless called him "The Mouth," because he was their spokesman, and he had a way with words. Heavy-set and balding, he resembled an aging social activist out of



the 1960s — politically astute, optimistic, daring, aggressive. In fact, he had decided to run for a seat on the Cambridge City Council.

Yet there was a plaintive side to him, as well, for he knew that people were often quick to judge others by appearance. People could not see through the rumpled, stained clothes, the piss-stained pants, the dirty, greasy straggles of hair matted against creased foreheads, the black fingernails, and the grime from the sidewalks that mottled the skin. "We may have lost our homes, but we're still Americans. Don't we have the right to life, liberty and property?" he asked.

She had been on the streets for five years. Knowing that she would soon bring a baby into the world, she wanted to get off the streets.

Gonzalez truly believed that he had to make a stand now. He was going to have to fight to stay human, refusing to give up. "What is it like at the shelters for the homeless?" he asked. "They're for those who have given up. But I'm an adult. I don't want to be institutionalized. I don't want to be 'taken care of.'" He thought the shelters were dehumanizing, because they threw people together who neither knew nor trusted each other. Instead, he and the others would have to demonstrate that they could form a community of trust and take care of themselves. "I'm not interested in keeping this land," Gonzalez said, pointing to the tents. "This is just a demonstration project to show that the homeless can get together — cooperate — to build something for ourselves."

Nevertheless, Gonzalez was prepared to go to jail. He had been there before. "Without a home, it's hard to be a law-abiding citizen," he explained. He said the Cambridge police had thrown him in jail for a month when they discovered that he and 45 other people were living in abandoned townhouses near Central Square. He said he had also been arrested for stealing a plastic canvas from the MBTA to cover six kids from the rain. They had been sleeping by the river.

Wolf, Bear and Princess

Wolf with his piercing eyes and wiry frame turned to greet a visitor. A brown, ragged beard covered most of his face, which was chiseled like stone, angular. Born in Cambridge and living for most of his 27 years in Boston, he acted as an enforcer for the group of homeless.

This became apparent as the visitor first approached the

People could not see through the rumpled, stained clothes, the piss-stained pants, the dirty, greasy straggles of hair matted against creased foreheads, the black fingernails, and the grime from the sidewalks that mottled the skin.

community. At that moment, one of the street people, a man named Memory, abruptly grew nervous, then angry and violent. Clutching a pair of scissors, he began to yell: "Hey, Jap, you think you're a policeman? Hey, Jap, who do you think you are, signing us off?" Wolf intervened quickly, with hammer in hand. He forced Memory out of Shantytown, shoving the man through an opening in the wire fence surrounding the plot of land. The derelict continued to spew out garbled threats as he walked away.

"Just ignore it. Just ignore it," another man told the visitor. "He's playing with 26 out of 52."

Wolf returned with a grin. Daniel Butts was his real name. He had spent the last twelve years of his life traveling the streets of Boston, hanging out at the Boston and Cambridge Commons. When his father died, Wolf had left his mother, who lived in Brockton, because he wanted to be free. But he hadn't realized that there was freedom in falling, as well.

Wolf only went to the shelters for food. He couldn't stand staying there. He said the people treated him like a kid. "They tell you to go to sleep at 9 o'clock, and then you have to get up at 5 in the morning," he said. "I still want my freedom." Yet it was hard for him to find work with only a seventh grade education.

Bear and Princess Sullivan lived in a large tent that was close to collapse, battered like a sail in the heavy wind. "It's a nuclear disaster," Bear, 25, said, pointing to the inside of his tent. In red sweat pants, barefoot, he resembled Wolf, who was his cousin. Bear said he was born in New York and had gone out west as a youngster to become a stunt man for the California Hell-drivers, driving a motorcycle around a high, curving track called "The Wall of Death." But he got out of the business because of the accidents that came with the job. A thin, pale scar cut across his forehead.

Princess, a large woman with golden hair and a pretty face, caressed her belly. In four months, she would have a child. She was 19 years old. With only moccasins on her feet, she was a long way from home — Hollywood, FL. There she had been living in and out of her mother's house, but her stepfather wanted her out for good. He



Photos by: Kyle G. Peltonen/The Tech

hadn't been prepared for a "ready-made" family, she said.

She had been on the streets for five years. Knowing that she would soon bring a baby into the world, she wanted to get off the streets. She dreamed of converting the houses nearby — standing like rotting, hollow shells — into homes. She also hoped to go back to see her mother, in Florida, for Christmas. She and Bear had been married just three weeks before.

Gonzalez

"We are abandoned people who have adopted an abandoned house," Gonzalez said. "It's better than being beaten up by a drunk in the front yard of some house. It's better than sleeping on the train tracks."

Entering the empty house, he thought of the people who lived on the railroad tracks near MIT. There were about eight of them, and they were some of the saddest, most tragic examples of human beings he had ever seen. The rats would scurry among them. There were so many rats that the people gave them names.

Inside, Gonzalez showed the visitor that he was trying to build a community in which shells and smooth stones could be used for barter. He said that street people who did chores for one hour were paid one shell. The shell could be saved or turned in for food.

He had bought sugarcane juice in small cartons real cheap from Chinatown and sold them at a profit of 90 cents each to people at the Head of the Charles regatta. With that money, he was able to buy fruit, vegetables and muffins, now stored in the old kitchen of the house. Fifteen loaves of French bread had been stuffed into the oven. With a small bunsen burner, he and the others could do some simple cooking, as well.

This was all a lot better than life on the street. He remembered what it was like to piss in his pants, what it was like to take one shower a week at the Salvation Army, what it was like to carry his belongings 24 hours a day, what it was like to get up at five in the morning to try to find temporary work.

"There are actually plenty of meal programs," he said. "The problem is lack of transportation. It takes so much time and energy to walk from shelter to shelter. Despair sets in. People look down at you, insult you, close their doors in your face."

On the second-floor, Gonzalez crept into a closet full of musty, old clothes and ducked through a gaping hole in the wall into a secret passageway. Up a dark stairwell, he climbed to the attic. The aging wooden steps creaked underfoot.

The rats would scurry among them. There were so many rats that the people gave them names.

He surveyed the room with a burning candle in one hand and a hammer in the other. The pale gray light through the window revealed a makeshift bed and clothing and newspapers strewn across the room. He had cleaned up the room and made it his home. Still, wooden planks lay scattered on the floor.

Gonzalez had been up for 35 hours straight. He told the visitor that he was very tired, exhausted. Gonzalez peered outside the window and saw the six tents propped up on the lawn across the street, and a police car parked on a distant side street. Wind whipped the flaps of the tents. One of the tents had already collapsed in a jumbled heap. In the back of his mind, Gonzalez knew that MIT might come any day and force them out, but he wasn't sure when that would happen.

For years he had lived on the streets, searching for a home for his compatriots. Finally, at least for now, he had found one.

# news roundup

from the associated press wire

## World

### Missile strikes Kuwaiti oil platform

The Kuwaiti defense ministry said yesterday that an Iranian Silkworm missile struck a Kuwaiti oil loading platform injuring five people. This was the third attack in the past week. Earlier an American-owned ship and an American flagged tanker had been struck.

Iran has considered Kuwait a supporter of Iraq in the Persian Gulf war and had vowed retaliation for a US attack on one of its offshore oil platforms earlier this week.

### Brodsky wins Nobel in literature

Poet Joseph Brodsky was awarded the Nobel prize in literature yesterday. Brodsky, who was a former inmate of a Soviet labor camp, was informed of the announcement in London while he was eating lunch with spy novelist John LeCarre. It was his wish when he learned of the reward that more people read Russian poetry.

### Islamic Jihad makes new threats

The Islamic Jihad, the pro-Iranian group holding hostages in Lebanon warned of new possible attacks against US forces in the Persian Gulf. The group issued a statement claiming that thousands of suicide bombers are prepared to strike the American ships in the area. In addition the group released new photographs of American hostage Terry Anderson and French hostage Jean Paul Kauffmann. Neither looked terribly fatigued, but both appeared to have lost weight.

## Nation

### Dow Jones index falls again

Despite recovering 186 points during trading Wednesday, which had many believing that the stock market was recovering from its 508 point drop on Monday, the Big Board sagged 77 points yesterday.

In an effort to curb the massive trading that occurred the past week, officials turned off the computer system that handles huge parcels of stock during transactions. In addition John Phelan, stock exchange chairman, announced that the trading day would be shortened by two hours on Friday, Monday, and Tuesday in order to give officials time to catch up from this week's record volume.

In an effort to instill confidence in the market President Reagan announced the creation of a three-member panel to examine the Wall Street situation. Sources say the panel will investigate a need for changes in stock market procedures. It will report back to the President in 30 to 60 days.

### Bork debate ends

The Senate decided yesterday that since Judge Robert Bork has no chance of winning Senate approval to the Supreme Court no further debate was necessary. Senate Majority leader Robert Byrd announced that the vote on Bork will be taken this afternoon.

Senate conservative, Strom Thurmond, has accused liberal groups of misrepresenting Bork's record. Bork himself has publicly stated that he wishes a quick vote to end the matter.

### NASA releases new flight schedule

The National Aeronautics and Space Administration announced yesterday a new flight schedule which includes 19 space shuttle flights over the next three years. This schedule has five fewer launches than the previous schedule. The first launch since the *Challenger* disaster is set for June 1988. NASA also plans 49 unmanned satellite launches which moves away from its previous near total reliance on the shuttle.

### No change on South Africa sanctions

Assistant Secretary of State Chester Crocker announced yesterday that the administration has no intention of repealing sanctions on South Africa. In speaking to a Senate panel, he said that sanctions have had little impact on the white-minority government. He added that sanctions have limited the ability of the United States to seek diplomatic solutions to South Africa's racial segregation laws.

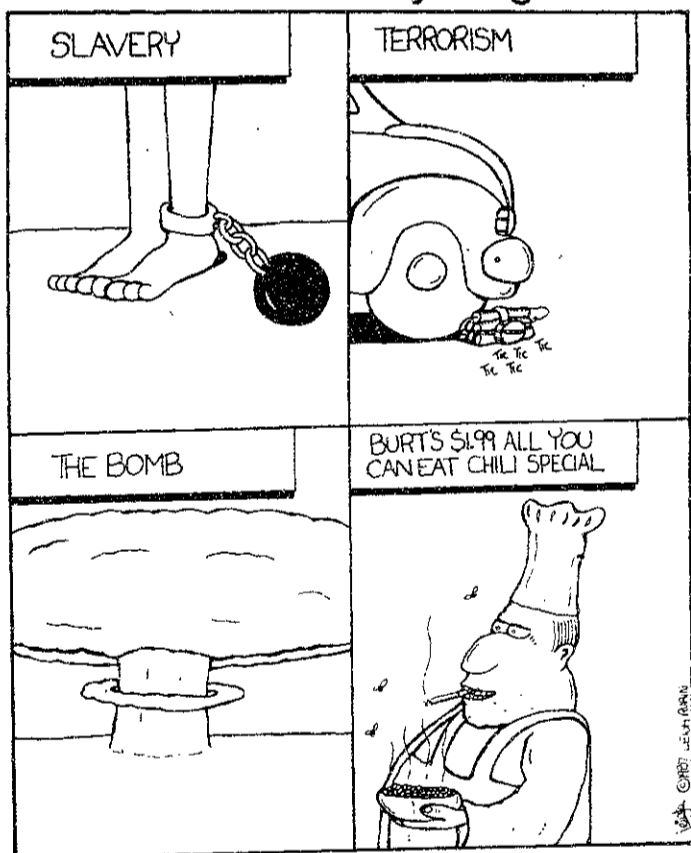
### Teamsters seek reinstatement

Thirty years after being expelled from the AFL-CIO, and facing a government takeover, the Teamsters Union wants to be reinstated into the AFL-CIO. Federation president Lane Kirkland said the application will be taken up by the AFL-CIO's executive council on Saturday. The Teamsters were expelled from the federation after leaders refused to sign a code of ethics.

### Commission rejects female statue

The Federal Commission on the Fine Arts has dismissed a plan to add a statue of a woman to the Vietnam Veterans Memorial in Washington. Supporters had wanted the additional statue to represent the estimated ten thousand women who served in Vietnam. The commission which voted four to one against the idea can only be overruled by Congress.

Rubes® By Leigh Rubin



### Reagan backs off on tax issue

After years of flatly ruling out tax increases as a method of reducing the huge federal deficit, President Reagan announced he would meet with Congressional leaders and not rule out any deficit-cutting option. Reagan hopes that spending and taxes will be kept as low as possible.

Many analysts believe that Reagan's softer approach is to allay the fears of many of the stock market traders.

### Iranian gunboats have US motors

The US Customs Service is probing reports that armed Iranian speedboats may be powered by American-made outboard motors. Officials of the Outboard Marine Corporation in suburban Chicago say they welcome such a probe. An OMC spokesman says the company does not condone sales to Iran and such an action could not have occurred with company knowledge.

## Sports

### McMahon reactivated

Jim McMahon was officially reactivated by the Chicago Bears yesterday. He has been sidelined the entire season so far because of shoulder problems. He is expected to play but not start in this Sunday's game against Tampa Bay.

The Bears are most happy to get McMahon back since Chicago has won the last 23 games that McMahon has started.

## Weather

### Fair Weather Ahead

As the high pressure moves off to our east, a cold frontal system will slowly approach from our northwest and increase our clouds Saturday and Sunday. Precipitation should stay to our north and the higher elevations of northern New England could see some snow.

**Today:** Mostly sunny. High 54-57°F. Winds west 10-15 mph.

**Tonight:** Increasing cloudiness with lows 36-38°F. Winds west 8-12 mph.

**Saturday:** Partly cloudy. High 58°F, low 38°F. Winds southwest 5-10 mph.

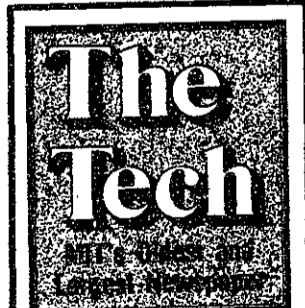
**Sunday:** Variable cloudiness with possible showers. High in the mid-50's, low in the lower 40's. Winds southwest 10-15 mph.

Forecast by Mark P. Lubratt

Compiled by Darrel Tarasewicz

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# opinion

Column/Thomas T. Huang

## On the students we have lost

MIT: listen to me for just a moment.

I remember returning from classes to my dormitory on a cold day in February, 1983, and hearing that a resident had committed suicide. People told me that he had hung himself in his room. They told me about how the ambulance came down Amherst Alley to take his body away.

I didn't know him very well. When I met him the fall before, my first impression was that he could probably cut me in two with a karate chop, but he turned out to be quite a gentle, quiet person. He was a young, athletic black man who liked writing. Sometimes he would wear something that looked like an American Indian headdress of feathers. Often he would make amusing comments at study breaks.

I didn't realize that he was having problems. I didn't know him very well, and I didn't take the time out of my classes and other activities to change that fact.

As a freshman, I couldn't understand why an upperclassman might take his or her own life. It seemed to me that freshmen were the ones who were undergoing great changes and new pressures. Even with the pass/fail grading system, freshman year jolted me and then drained some life from me.

On the other hand, I believed that upperclassmen had had the time to adjust to the pace of MIT life. I thought they could handle anything: longer hours of work, harder tests, less flexibility in late problem sets and papers.

MIT: I hope that, after the tragedies of the past year, you will come to realize that this is not so. Support and understanding — from counselors, professors, teaching assistants, house masters, floor tutors, and students themselves — should not be reserved for freshmen.

For, as Stephanie Harriston-Diggs, assistant dean for student affairs, explained in an interview in the October issue of *The Graduate Student News*, upperclassmen — particularly seniors — face immense pressures. Seniors stand at the crossroads. They are about to leave their friends. They have to tackle career decisions. Will they be able to get that job? Will they be able to get into graduate school? Once in graduate school, will they be able to pass their qualifying examinations?

Upperclassmen and graduate students face the unknown. If they can't see the future, they think they have come to the end of the road. Perhaps a loved one has abruptly left their lives. Perhaps a career opportunity has suddenly vanished. Perhaps a door has been closed. Young people just don't have the experience of years that tells them there are many, many doors in a life.

MIT: I'm warning you that the number of suicides in the past year ought not be treated as some "glitch." I'm warning you that these suicides ought not be considered as isolated, pathological cases of mentally unstable students. For callous statements like these are just denials of the fact that some students do get lost and confused in the grind — denials of the responsibility we as a community must take in looking after them.

MIT: You leave very little room for failure or self-doubt or exhaustion. Possibly this confinement is wrought by the students, but you do little to steer us away from the misguided view that overachievement is a healthy way of life.

MIT: You seem to expect students to be supermen and superwomen. We are not. We freshmen, sophomores, juniors, seniors, and graduate students are simply young men and women who are still growing up, who still don't quite understand what the hell is going on. You should expect us to fail just as you expect us to succeed.

Yes, you and I, we're all busy, and we all have our own problems, and with every day it gets harder to listen to each other, and who can really tell when a student is on the verge of self-destruction?

But MIT: Were you and I then still too busy to grieve for the lost? Are we supposed to grow accustomed to the cadence of student suicides, treat it as mere noise in the background, and go on with our lives as if nothing has changed?

On Sunday, Oct. 5, 1986, Randy Wei '87 took his own life.

At some time between Oct. 15 and 17, 1986, Dan O'Day '87 took his own life.

On Friday, Oct. 2, 1987, Jeffrey Liebman '88 took his own life.

On Saturday, Oct. 3, 1987, Kent Anderson G took his own

life. On Friday, Oct. 16, 1987, in their Mattapan apartment, next to the still body of their eight-month-old child, former graduate students Sam Amponsah SM '79 and Melanie Amponsah were found dead.

And yesterday, in the basement of his house in Somerville, Tom Trobaugh G joined the universal silence.

*Thomas T. Huang G, a student in the department of electrical engineering and computer science, is a former editor in chief of The Tech.*

Column/Julian West

## Arias deserves Nobel Prize

The awarding of the Nobel Peace Prize to Costa Rican President Oscar Arias is to be applauded, not criticized. His Central American peace initiative is a legitimate effort which may yet bring peace to a profoundly troubled region.

K. J. Saeger G takes exception to the decision ["Peace prize rewards useless effort," Oct. 20]. I was taken aback by his conclusion, but his reasoning is clear.

Saeger believes that the Peace Prize should be awarded annually to those who attempt to impose peace by external force of arms. He selects the example of United States intervention in Central America as being most germane, but he might equally have applauded Margaret Thatcher for her peaceful conclusion of the Falklands dispute, or the Soviet Union for its effort to impose peace in Afghanistan.

What should be obvious from these examples is that lasting peace can never come from the barrel of a gun. The Pax Romana, or the present Pax Americana, provides only the illusion of peace to those living at the hub of their empires. What Saeger proposes is not a revision of the criteria for the peace prize, but a new award for successful military adventurism, and he should say so.

He does not; he chooses instead a direct attack upon the Nobel committee. Saeger second-guesses not only the plans of a well-educated, well-travelled international statesman, but the de-

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*Letters and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. No letter or cartoon will be printed anonymously without express prior approval of The Tech. The Tech reserves the right to edit or condense letters. Shorter letters will be given higher priority. We regret we cannot publish all of the letters we receive.*

cision of the committee members, and even the intentions of Alfred Nobel himself.

Saeger says that the Peace Prize should be awarded for results, and that Arias has produced none. Both halves of his syllogism are false.

Arias has produced results. First as planning minister, then as president of Costa Rica, he has helped preserve his country's democracy, and kept confrontation — which engulfs his region on several fronts — from spreading within his borders. This is a small accomplishment, but one which each Costa Rican president must achieve.

Arias has brought the leaders of Central America to the bargaining table, and forced them to hammer out an agreement. It is not perhaps the agreement which Saeger might desire, which Ronald Reagan might desire, or which I might desire. It is doubtless not the agreement which Daniel Ortega would ask for either. Such is the nature of bargaining.

Anyone with even a cursory awareness of Central American politics must understand what a feat this represents. The fact that the plan has yet to be essayed is neither here nor there. The Nobel award makes it that much more likely that it will come to fruition; that Arias' good intentions will continue to produce results.

Secondly, it is not true that one must convincingly produce a state of peace to deserve the Peace Prize. A state of war can

be produced, and is self-perpetuating; if anyone were sick enough to award a prize for war, candidates could be found in abundance. A state of peace must be sustained; it must be nurtured like a fragile plant.

Those who contribute to the maintenance and preservation of peace are not to be faulted if there comes a time when it can no longer be kept alive. Many of those Saeger calls undeserving have attempted to cultivate peace in the harshest of climates: in South Africa, divided into dozens of warring ethnic minorities; in Northern Ireland, with a history of 800 years of sectarian enmity. Such challenges are not to be faced lightly.

Saeger's analogy to physics is fallacious. The greatest contribution to physics consists of the most elegant theory, the most dramatic breakthrough. The greatest contribution to world peace is not necessarily that which saves the most lives this year, and certainly not that which best safeguards US military interests. The prize is, perhaps, for the most noble-hearted effort, the willingness to forgive past wrongs, the greatness to lay aside arms.

The struggle for peace is an eternal one, and the Nobel prize recognizes this reality. Oscar Arias is a deserving man of peace.

*Julian West, a graduate student in mathematics, is a contributing editor of The Tech.*

# The Tech

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## feedback

### New IAP proposals are senseless

To the Editor:

The proposed modifications to Independent Activities Period are quite possibly the most condescending, senseless policy changes to be proposed by the Institute in recent years. The article ["MIT considers IAP changes," Oct. 20] was rife with official quotes that demonstrate dramatic misconception of the nature of MIT students.

According to IAP Policy Committee Chairman David G. Wilson, MIT students "get so used to being told what to do during the semester that when January rolls around, they don't know how to organize their time."

Dean for Undergraduate Margaret L. A. MacVicar '65 elaborated: "Type A MIT people don't know how to be reflective and do things in a new way."

Such statements suggest that MIT students are robots, incapable of gaining knowledge or broadening their horizons without official control.

On the contrary, MIT students are uniquely skilled at managing their time in a demanding environment. IAP offers students the chance to achieve their own goals in a less structured environment similar to the post-collegiate "Real World."

Students engage in many IAP activities which were not addressed by the Undergraduate Academic Support Office's survey. During IAP, students have time to explore the cultural offerings of Boston. IAP offers students the largest single block of time during the year to work on theses and UROP research; students can concentrate on their projects, free of the normal term

obligations.

Students' activities during IAP are not limited to the MIT campus, or even the Boston area. Some students travel, and others use the month to work full time, off-campus or even out-of-state. Indeed, many students depend on their IAP income to pay a sizable portion of their tuition. MIT is unique in that it gives its students an alternative to a January vacation, while allowing students who need vacation time to take it.

Clearly, the IAP Policy Committee has not carefully considered the implications of its proposed IAP modifications, changes which would surely eliminate many valuable opportunities for learning beyond MIT's official curriculum.

Dan Gilbert '91  
 Arthur Gleckler '88  
 Jerry Larivée '90

# opinion

Column/Michael J. Garrison

## IAP journal writer complains

I admit it. I was one of those ten juniors last year who filled out a journal for the Independent Activities Period Policy Committee and didn't attend a single Institute-sponsored IAP activity. But then the Institute wasn't sponsoring any activities within 2000 miles of where I was staying. I spent the entire month of January at home, in Bothell, WA.

Did I slack off? Did I spend my IAP in an unproductive manner? These are two different questions, right? The IAP Policy Committee apparently doesn't think so ["MIT considers IAP changes," Oct. 20].

When I was asked to keep this journal I called the IAP office and asked if they wanted me to keep it even though I would not be here over IAP. They said they did and that I would be paid \$25 upon completion of the journal.

I was supposed to write about everything I did. So I wrote about my yearly reunions with my friends, visiting my great-grandmother's farm (I missed her 90th birthday party last September), snowmobiling with my father, and showing my girlfriend (who was also skipping IAP in order to work in Philadelphia) around Seattle.

I suppose all of these are "non-productive" activities, but I was very thankful to have the chance to do them. Other students seem to agree with me. The story we

ran on Tuesday has drawn the most mail of any single story printed this term, and every one of those letters was against a more structured IAP.

In my case, which I'm sure is the same as a great number of "long-distance" students, I cannot afford to go home for any holidays besides summer and winter vacations. Also, since I work here in the summer, I have not had more than ten days at home between September 1985 and now, except for IAP. Because of this I have not been at MIT for IAP since my freshman year.

I often wish I could attend some of the interesting activities advertised each year over IAP. But for me, and for many other students, spending time at home with my family is "productive." I am sure I would not have lasted four years in the MIT environment without the break of spending January at home.

IAP's greatest value to the students has been its lack of required structure. MIT students get enough rigid structure all year — they deserve a chance to set up their own schedule, work on their own priorities, and choose their own itineraries.

The IAP Policy Committee should accept the results of their own survey with a more open mind. The attitude of the committee ignores a clear student demand for "rest and recreation" between the hectic paces of fall

and spring terms.

I was glad the committee was interested in how students really spent IAP. Of course, I assumed they were trying to find out what students felt they needed. Instead, it almost seems like they were checking up on us to make sure we were doing our homework.

Besides, I don't think I ever did get that \$25.

Michael J. Garrison, a senior in the department of aeronautics and astronautics, is publisher of The Tech.



→ feedback

## IAP rounds out an MIT education

To the Editor:

It's 2 am. I'm still wide awake after having drunk only one cup of coffee all day, so I'm in pretty good shape. Just having finished a job application for next summer, I begin reading *The Tech* to take a break before starting a problem set.

What do I read? Members of the Independent Activities Period Policy Committee believe that students spend IAP in unproductive ways ["MIT considers IAP changes," Oct. 20].

What are these "unproductive" activities? According to the committee, they are reading novels,

watching movies, and socializing with friends. It seems that MIT students, used to being told what to do during the semester, just lay around and let their brains turn to mush because they have no deadlines to meet.

I, for one, do not consider reading novels and socializing with friends "unproductive." I find such activities educational, especially because I don't have the time during the term to do them to any significant extent. During the term, I must complete problem sets, study for tests, write papers, etc., etc. Not much time to just sit back, relax, and read some trashy novels like *Heart of Darkness* or *Great Expectations*.

MIT is supposedly making an effort to give its students a well-

rounded education. Talk of curriculum reform is pretty bogus if there are plans to turn IAP into a structured, one-month mini-term.

The statement that IAP "may have actually increased the pace and pressure of the shortened terms that remain" is not based on very sound reasoning. At MIT, the mode of operation is "make the students work their asses off during the semester." MIT students accept that — it is one of the reasons we came here. Expand the term by cutting down IAP to one week and you will not get a slower-paced semester, you will get a semester that is three weeks longer with three weeks more worth of work.

The first word in IAP is "Independent." Leave it that way.

Chad E. Raymond '88

## IAP committee imposes its view of productivity

To the Editor:

Every once in a while I get the impression that MIT is being run by a bunch of imbeciles. This is one of those times. Now they are telling me that Independent Activities Period is being wasted and we should do more productive things during this period ["MIT considers IAP changes," Oct. 20]. Someone somewhere decided that IAP was not working and that it needed to be fixed.

A minority of faculty believe that "IAP is not fulfilling its educational purpose," and as IAP Policy Committee Chairman David G. Wilson said, "... we have found that a large percentage of people don't spend their time wisely during IAP." In a nutshell, these seem to be the concerns brought up by the committee and are the reasons changes are necessary.

What does Wilson mean by "wisely"? He might not think that reading a popular novel or socializing is a wise allocation of time, but does that mean that others, especially those engaged in these acts, also view this as a waste of time?

The Undergraduate Academic Support Office study on which many of the committee's assumptions are based is obviously not the best study to use. Again, just because the report says that novel reading, movie watching, and socializing are not productive does not mean that everyone under the sun believes these activities non-productive.

As a person, I feel rather insignificant. Here are all these faculty and administrators telling me what is productive and what is not — telling me what is time wisely spent and what is not. As a student, I'm insulted that these

people have the audacity to dictate what is and is not productive. Give some people a title or a PhD and they think they know it all.

Let's just look at what IAP means — *Independent* Activities Period. It is not Independent To Be Spent Doing What We Think Is Productive Activities Period. Most of the people to whom I've spoken enjoy how they spend — or waste — their time over IAP. What's wrong with reading a book? What harm is there in socializing? I wish I had more time to socialize! I really don't see how these and other activities can be labeled as being unproductive.

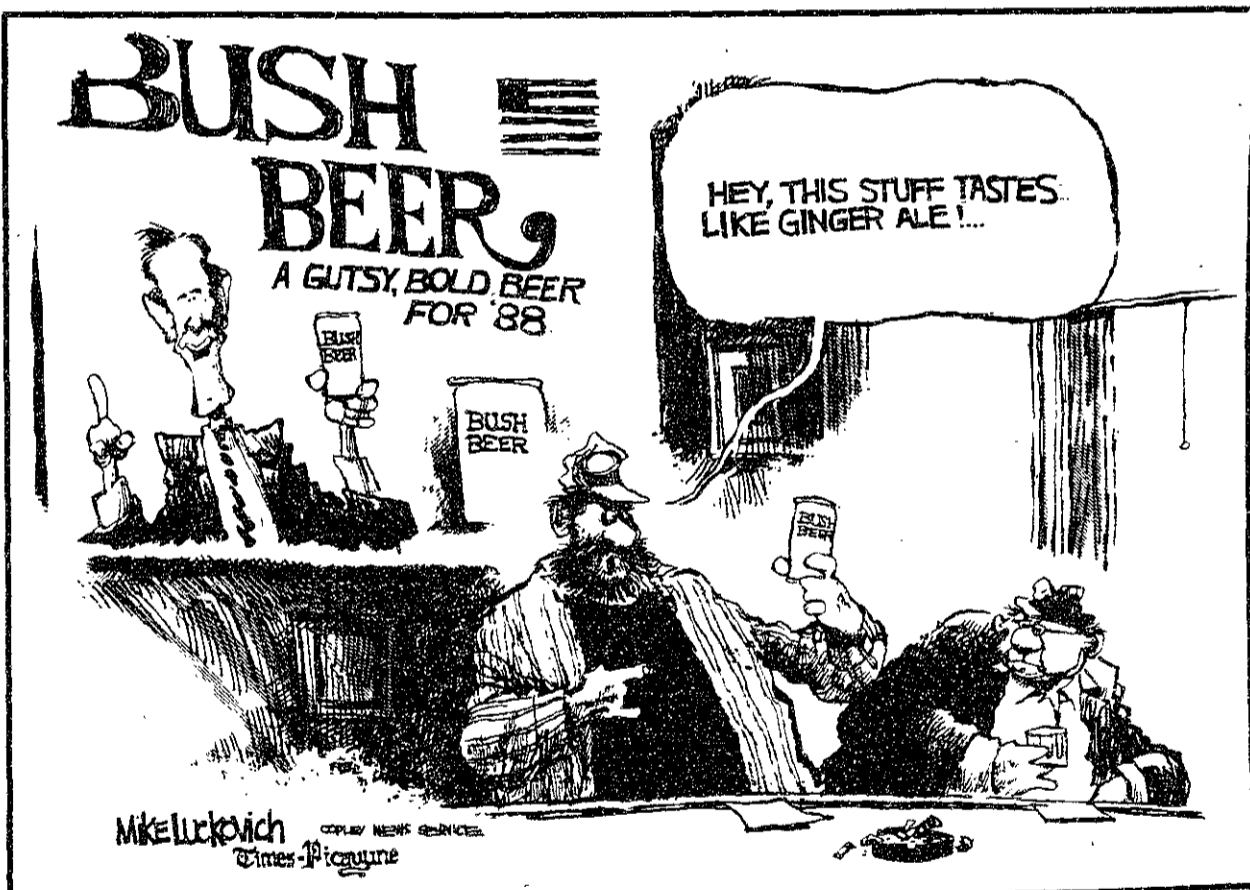
If people say they are bored, whose fault is that? Is it IAP's fault because it has hundreds of activities going on or the student's fault for sitting around and complaining? It would be a grave mistake to change IAP because of the belief that people are unproductive during this time.

Then there is the issue of IAP not fulfilling its educational purpose. There are some that would like to see more credit courses offered, and other more structured options. If this is a concern, then the solution is not to change IAP but to add what is missing (this might also satisfy those who find themselves bored).

Yet to make IAP into a mini-term wouldn't solve anything. Everyone I know especially values the independence of IAP. The last thing people want to have to do is put up with more requirements and added pressure. We have enough of that during the term.

The last thing people want is more forced work. People who want to take advantage of what

(Please turn to page 8)



→ feedback

## Student apologizes for being unproductive in IAP

(Editor's note: This letter received a copy of this Tech addressed to Margaret L. A. MacVicar '65, Dean for Undergraduate Education) Dear Dean MacVicar:

I am a "type-A MIT" person who does not know how to do things in a new way. Clearly this is true since writing a letter to a newspaper is one of the oldest ways to express opinion. Luckily, I "don't know how to organize my time." If I did, I would certainly be doing something more productive. After all, isn't our goal to always be productive?

I apologize to the staff and faculty of MIT for making Independent Activities Period a failure; I know they worked hard to see it succeed. I guess I never considered the consequences of my actions.

It all started freshman year. I walked into my dorm room. The year was already a week and a half old, and I had frittered away the past ten days "flopping" around Manhattan and playing football on Long Island. I put down my bags and glanced through the IAP calendar.

Without thinking I passed over the seminar on NMR (Nuclear Magnetic Resonance for those still naive as I was), and checked off the few projects that seemed even vaguely interesting. I toured the nuclear reactor the next day. There I was, locked in an airtight cement cavern listening to a man drone on inaudibly about how thick the walls were.

So, you see, I really did try, but I just didn't have the perseverance to stick to it. The rest of the month wasted away unpro-

ductively. I learned to play the dulcimer, learned how to ski, read a few books by J. D. Salinger and some lesser known authors, started fencing again (I had stopped after high school), met some good friends, and saw some good movies. Through it all I did not feel the slightest tinge of remorse.

The next year I was no better. Shamefully, I decided that I would earn some money during IAP. My productivity dove as I squandered my time working at Baker Dining Hall.

Please, Dean MacVicar and Professor David G. Wilson, forgive me for my sins. Remember that I am just a simple "type-A MIT student." I just cannot be trusted to be productive without someone holding my hand.

Joseph Lichy '89



TMA 10/87

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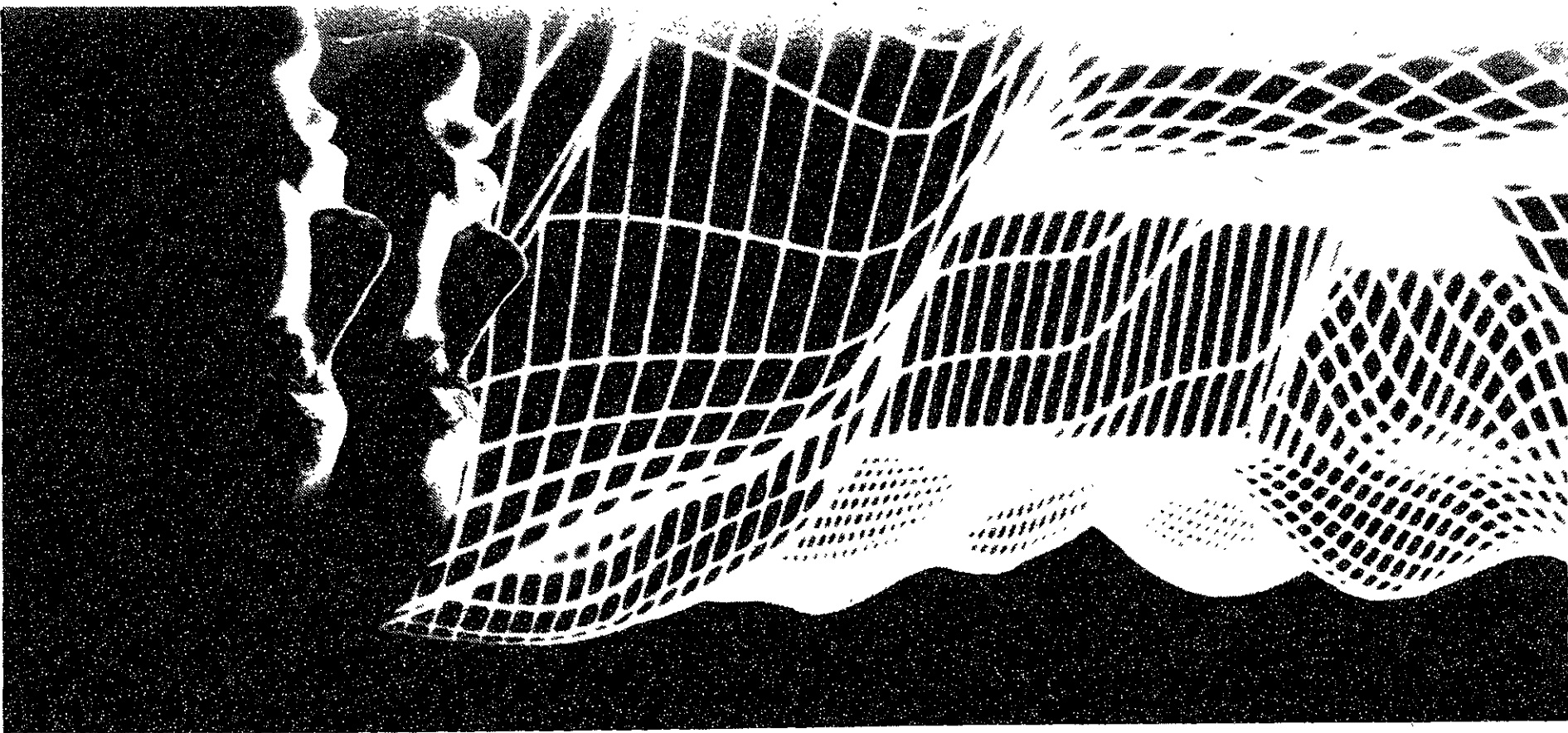
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# opinion

## feedback

### IAP should not be "spring training"

To the Editor:

Since Dean for Undergraduate Education Margaret L. A. MacVicar '65 et al. are so concerned about MIT students using their time "unproductively" during IAP ["MIT considers IAP changes," Oct. 20], I'd like to suggest one possibility for giving us more work to do.

As MacVicar points out, "rest and relaxation really miss the boat as to what IAP is all about." I think that each department ought to offer its most draining and demanding classes during this interval, and make registration mandatory. This would serve as sort of a "spring training" for the upcoming term and would insure that students wouldn't be distracted by wasteful activities like reading or socializing and instead jump right into an 18-hour workday.

With only three and a half weeks to cover an entire semester's material, the pace would be aggressive, but no doubt rewarding. IAP would serve as a fantastic opportunity for professors to eliminate the deadwood in their classes as they put their students

to the ultimate test of their intellectual caliber and physical endurance — five all-nighters in a row for three weeks on end.

This sort of thing would appeal to those students with a masochistic streak, giving them a new thrill as they plunged headlong into an endless sequence of problem sets, tests, papers and final projects coming one right after another with machine-gun like rapidity.

Lectures would probably have to be cancelled in extra-challenging courses like Unified Engineering (16.001) and Introductory Digital Systems Laboratory (6.111) so that students

would have enough time to do the homework. Rest and relaxation — who needs it!

Such an ambitious program would no doubt be criticized by those weak of will and mind. No wonder, because it's this sort of riffraff who squander the Institute's precious resources lounging around during IAP while they should be hard at work. MacVicar was right to question MIT's paying its January maintenance bill — why don't we just let the slackers freeze? Better yet, let's just root them out of the Institute and make IAP a productive time for everyone who's left.

Rick Osgood '89

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# opinion

## feedback

### Homeless to stay at Simplex

To the Editor:

The mood in tent city today was friendly, optimistic, and defiant. The small but dedicated crowd protesting MIT's plans for the Simplex Site and the plight of the homeless in general, is a diverse group. It includes an ex-medical school student known simply as "the doctor," a couple who call themselves Princess and the Bear, and Carlos Gonzalez who is currently running for a seat on the Cambridge City Council.

#### Students do not want IAP requirements

(Continued from page 5)

IAP has to offer will, and that's fine. But there are others who do not want to spend all their time engaged in educationally broadening activities.

There's a strong belief among many that a lot of learning goes on outside the classroom, and one of IAP's greatest strengths is that it allows for this learning to occur without the constraints that exist during the terms. What I hear coming from the IAP committee and other administrators is that the classroom is the only source of education and to hell with anything else.

Last year the department of electrical engineering and computer science proposed to offer Structure and Interpretation of Computer Programs (6.001) over IAP. I suppose one solution to this great "IAP problem" would be to eliminate everything during IAP and require everyone to take 6.001. For the sake of diversity, MIT could also offer Thermodynamics (2.40), Unified Engineering (16.001), Quantum Physics (8.04), and other such educational and productive classes.

What fun that would be.  
Claudio S. Goldberg '89

pulled them all together this weekend and still holds them is not, as *The Tech* put it ["Simplex protest seeks more housing," Oct. 20], "the protest's offer of shelter and a free breakfast." It is rather that each of them is, or has been, homeless. These are the street people, the people who did not get swept up in what is commonly referred to as the economic recovery of the 1980s. Instead, they are a casualty of it, caught in the cogs of the economic machine that keeps the rest of us clothed, fed, and most importantly, housed.

The group is split on what the goals of tent city should be. Many, including Princess and the Bear, want ultimately to gain the deed to the land which they now occupy. They talk of how they would remodel the few houses left standing on the site, and convert them into homes. "The worst place in the world to raise a kid is on the street," commented Princess who is now five

months pregnant.

Others, including Carlos, see the struggles as a way to show the City of Cambridge, and the entire United States that the homeless are a force to be contended with. After living on the streets for years, he hopes to force the country to realize that beneath the ratty clothes and sometime scraggly hair, they are people too; in fact they are US citizens who deserve the right to life, liberty, and property, like the rest of us. All expressed their determination to control their own destiny, and direct their own lives. None enjoy the dependency that is forced upon them.

Regardless of their ultimate goals, the protesters are united in their immediate plans. All will remain at the Simplex site until MIT removes them forcibly. As one put it, "MIT will have to build around us," and another corrected, "MIT will build for us."

Steve Fernandez '88

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Because of the agreement by the two publishers, the M.I.T. Press could not supply the books to the M.I.T. Coop at the lower retail prices. The Coop continues to work with both publishers to resolve the problem.

The price differentials were discussed with Coop management, and it was agreed that the Coop would credit or refund the price differential to any M.I.T. student who purchased any of the four books. Credit or refund would be made upon presentation of a sales receipt or other proof of purchase. Students interested in obtaining credit or refund should do so at the Book Services Desk at the M.I.T. Coop at Kendall by October 31, 1987.

Your Coop Directors,

Christine Chu	'88	Mark Phillips	Sloan '88
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Julie Kim	'90		

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# opinion

## feedback

### Leaders of oppressed deserve prize

To the Editor:

Once again, columnist K.J. Saeger has managed to insult several groups with one broad stroke of his pen ["Peace prize rewards useless effort," Oct. 20]. His remark about previous recipients of the Nobel Peace Prize who "accomplished nothing," Bishop Desmond Tutu and Lech Walesa in particular, was an affront to those of us who happen to believe that it is worth struggling against oppression, no matter what the odds are.

Walesa, along with slain priest Jerzy Popieluszko, united the Polish people in their struggle against their government. This was no small accomplishment, considering the myriad of factors which weighed against them. But I guess Saeger is right — after all, Poland is still a satellite of the Soviet Union, the people are still lining up for hours in food

lines, and martial law can be imposed at any time. Not even a glimmer of accomplishment, right?

Wrong. After the banning of Solidarity in December 1981, the people struggling against the communist regime did not just say "Well, it's been fun fighting with you, see you in the bread line." The movement went underground, and the illegality of their actions did not (and still doesn't) even come into consideration as they distribute "anti-social" literature, such as texts of Father Popieluszko's homilies, almost illegible because the carbon paper between the fourth and fifth pages is clear from overextended use and the keys on the ancient typewriter just don't pack the punch they used to.

The people continue to struggle, and my aunt in Warsaw tells me the momentum is gaining

slowly but surely. She should know — she spent six months in prison for committing "crimes against the state," and as soon as she got out of prison she went right back to her "subversive" activities. The thought of incarceration is even more meaningless to her now, since she has experienced the suffering on both sides of the cell wall and would gladly return to prison rather than stop fighting for what she knows is right.

The spirit of oppressed people cannot be broken under the tyranny of martial law, or apartheid, or war; if Lech Walesa, who personified the Solidarity movement, is not deserving of the Nobel Peace Prize, then who is? Perhaps Ronald Reagan, for bringing his own special kind of peace to the Persian Gulf, or Nicaragua, or Grenada? I'm sure K.J. would find that selection justified.

Alek Grabinski '88

### Homeless take stand against displacement

To the Editor:

"Tent city" was a protest held by Cambridgeport residents against the expansion of MIT into community lands ["Simplex protest seeks more housing," Oct. 20]. The residents of Cambridgeport ended their protest activities on the morning of Sunday, Oct. 18.

After this, a group of homeless people who call themselves "the council of the homeless" remained on the land in order to take a stand against displacement and for decent living conditions. In particular, the goals that they stated were the following:

- To be given a share of the land which MIT now occupies in order to build and reconstruct houses. Some houses are already there.

- To get MIT students to use their talents to actively combat displacement of the homeless.

- To increase the general public awareness of the problems of the homeless and to rally support for action in the city government.

- To empower themselves. They were eager to have solidarity among themselves and with other homeless people around the city, and to draw upon their skills and talents.

Ron Francis G

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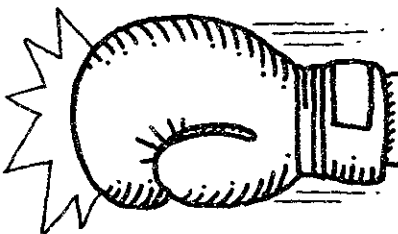
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### AN ISRAEL UPDATE

Friday, October 23  
8:30 p.m., Ashdown House Dining Room  
With Israel Consul General Arthur Avnon

### SCIENCE & TECHNOLOGY IN ISRAEL

Monday, October 26  
3:00 p.m., Room 8-119  
With Dr. Ami Ben-Amotz of Israel's I.O.L.R. Institute

### CAREERS & STUDY IN ISRAEL

Monday, October 26  
4:00 p.m., Room 8-119  
Reception with Israeli foods

### ISRAEL FAIR

Tuesday, October 27  
11:00 p.m. - 2:00 p.m., Lobby 7

### ISRAELI FOLK DANCING

Wednesday, October 28  
7:30 p.m., Lobby 13  
Sponsored by MIT Folk Dance Club

### ISRAELI DINNER

Thursday, October 29  
5:30 p.m., MIT K kosher Kitchen (Rm 50-007)  
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ARTS

# Watts' youthful energy & intensity magnified at age 40

**ANDRE WATTS**  
Works of Haydn, Mozart, Schubert, and Brahms.  
Symphony Hall, October 18.

By DAVIN WONG

**W**ATTS IS POWER. From the opening phrase of his recital of works by Haydn, Mozart, Schubert and Brahms, André Watts grabbed the audience's attention. The pianist who began his musical career playing Liszt's *Piano Concerto in E-flat* with the New York Philharmonic under Leonard Bernstein at age 16, showed the Boston crowd that his

youthful energy was, if anything, magnified at age 40.

He began with Haydn's *Sonata no. 58 in C*, Hob. XVI/48. Its opening *Andante con espressione* was serene. Slow and expressive, Watts soothed his instrument into responses of absolute grace. His fingers alone appeared to move. Head poised over his keyboard, Watts delivered each note with care. Next, came a crisp, vibrant *Rondo*. His mouth silently echoed the themes that the hands played, feverishly singing in harmony with his piano. His hands could be seen gliding off the keyboard at the end of certain phrases, as if to help shape tonal textures.

Up and down snapped his head, rein-

forcing the musical punctuations. Watts left the audience eager for more as he walked off the stage.

Mozart's *Sonata in F Major*, K. 332 was next in line for Watts' enlightened interpretation. The *Allegro*, — with a lively alberti bass — was gay and spritely. The tuneful *Adagio* inspired peaceful reflection. The final, magical, *Allegro* drew smiles from the audience. His technique, sharp and assertive here, exemplified rare energy and intensity.

Franz Schubert's *Sonata in A minor*, Opus 143, D. 784 was third on the program. Beginning forcefully, yet elegantly, Watts gradually created a furious whirlwind in the final *Allegro vivace*. The piano was driven so intensely that he was later compelled to wipe the perspiration from the keys.

Schubert *Sonata in A Opus 120*, D. 664, can have a soporific effect, but the rate at which Watts pumped adrenalin prevented anyone from snoozing off. His rendition was enjoyable but, on the downside, certain spots lacked tenderness, and the pedal decays would have been more pleasing had they been held longer.

The final scheduled music, Brahms *Hungarian Dances*, made for a happy affair. Dance 6, the *Vivace*, charmed everyone. No. 7, the *Allegretto vivace*, was wonderfully comical. A serious and troubled atmosphere followed in No. 9, *Allegro*, then Watts concluded with a mysterious *Allegro non assai*.

Well-deserved standing ovations drew three encores. The favorite was Liszt's *Carousel*, which Watts executed with great panache.

The Tech Performing Arts Series presents...

## SINFONOVA

Mostly Bach

Sinfonova is a chamber orchestra of extraordinary talent and versatility. Their first concert of the season will include both Bach's *Concerto for two violins in D minor*, BWV 1043 and the *Concerto for two keyboards in C*, BWV 1061. The beautiful *Bachianas Brasileiras* No. 9 is also on offer. Hear Sinfonova once and you'll want to go to the whole season. Jordan Hall. October 31, 8pm.

MIT prices: \$13.50 tickets for \$6; \$8.50 tickets for \$4.

Tickets are on sale at the Technology Community Association, W20-450 in the Student Center. Office hours posted on the door. Call x3-4885 for further information.

The Tech Performing Arts Series, a service for the entire MIT community, from *The Tech*, MIT's student newspaper, in conjunction with the *Technology Community Association*, MIT's student community service organization.

## Dogs In Space needs no narrative to produce re-creation of punk

**DOGS IN SPACE**  
Directed by Richard Lowenstein.  
At the Copley Place and Harvard Square cinemas.

By MANAVENDRA K. THAKUR

**L**AST YEAR, in his film *Sid & Nancy*, British director Alex Cox gave American audiences a beautiful and sad love story set during the height of the British punk movement in the late 1970s. That film worked so well because its endearing romance complemented, reinforced, and played off the chaotic anarchy of the punk movement depicted in the film.

This year, Australian director Richard Lowenstein challenges American audiences with *Dogs In Space*, a film that picks up where *Sid & Nancy* left off. *Dogs In Space* grabs the "punkness" meter and turns the knob all the way up. For 108 minutes, the film immerses the viewer into the extreme

alienation felt by the survivors of the hippie and punk movements in 1979 Melbourne, Australia.

These rejects from the 60s and 70s congregate in a broken down two-story house, take drugs, have sex, play hard driving 80s music in various punk bands, and live life only for the thrill and excitement of the moment. Not once does Lowenstein soften or sentimentalize the film in any way. The uncompromising intensity of *Dogs In Space* combines with its superb technical virtuosity to produce a startling re-creation of the Australian punk movement in its heyday.

The strength of the film derives from seeming weaknesses that would be the death-knell of an ordinary film. This is most readily apparent in the film's opening sequence, which also encapsulates the rest of the film. We see a group of disheveled groupies camping overnight on a dirty sidewalk outside a stadium, waiting to buy

(Please turn to page 11)

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★★★★★ WONDERFULLY INTELLIGENT AND GRACEFUL — Kathleen Carroll, NY DAILY NEWS

★★★★★ METICULOUSLY CRAFTED, INTELLIGENT AND ARTFUL — Jack Corry, GANNETT NEWS SERVICE

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MIT

What in the World is Going On?

Talks by the MIT Faculty  
Friday, October 23, 1987

MIT celebrates the beginning of the five-year Campaign for the future with a series of informal presentations by the faculty for the entire MIT community and the National Alumni Conference.

<b>Huntington Hall</b> Room 10-250 President Paul E. Gray Moderator	<b>Edgerton Hall</b> Room 54-101 Chairman David S. Saxon Moderator	<b>Kresge Auditorium</b> West Campus Provost John M. Deutch Moderator
<b>2:00 PM</b> <b>Buildings to Atoms: Automated Precision Manufacturing</b> Alexander H. Slocum Department of Civil Engineering	<b>2:00 PM</b> <b>An Historian's Perspective on the Middle East</b> Philip S. Khoury School of Humanities and Social Science	<b>2:00 PM</b> <b>Chemistry: Molecules That Matter</b> Mark S. Wrighton Department of Chemistry
<b>3:00 PM</b> <b>Organizational Structure &amp; Artificial Intelligence</b> Thomas W. Malone Sloan School of Management	<b>3:00 PM</b> <b>Biotechnology: The New Frontier</b> Daniel I.C. Wang Biotechnology Process Engineering Center	<b>3:00 PM</b> <b>City Marketplaces: Dealmaking to Rebuild Downtown</b> Bernard J. Frieden Department of Urban Studies and Planning
<b>4:00 PM</b> <b>The Superconductor Revolution</b> David A. Rudman Department of Materials Science and Engineering	<b>4:00 PM</b> <b>Changing Patterns of Research and Development in Japan</b> D. Eleanor Westney Sloan School of Management	<b>4:00 PM</b> <b>Education for a Nation's Future: A New Agenda for the MIT Undergraduate Program</b> Margaret L.A. MacVicar Dean for Undergraduate Education

A R T S

# Shakespeare Ensemble — peeling away masks of sanity



Julio Friedmann and Anne LaFlamme as King and Queen Mark D. Virtue/The Tech

**HAMLET**  
*The Shakespeare Ensemble at MIT.*  
 Directed by Kristin Linklater.  
 Kresge Little Theatre.  
 October 22-27, 8pm.

By JONATHAN RICHMOND

**K**RISTIN LINKLATER'S PRODUCTION of Hamlet grows ever in intensity, peeling away masks of sanity to reveal the madness and darkness beneath. The final scene is breathtaking; coordination could not be tighter; action flashes past as tension builds to larger-than-life proportions and the bodies fall in their marked places on the monument to depravity.

Most remarkable of several excellent performances was that of Andrew Borthwick-Leslie '87, cast in the title role. In monologue Hamlet's soul was concentrated as a laser on the head of a pin. "Alas, poor Yorick:" here we are exposed to heartfelt regret and human compassion. "To Be or Not to Be" — no clichés here, but access to the brooding within.

Borthwick-Leslie's expressions of mad-

ness showed a man in blank distraction, through which the articulation of purpose still shone. His words were delivered with magnetic flow, phrased to hinge upon each passing nuance reason for yet one more disturbing thought.

Also top notch was the Claudius of Julio Friedmann '88. What a loathsome creep he made of him! How carefully was his gait studied to convey the false confidence of a man wooed by a guilt he can only hopelessly try to spurn. Claudius is projected all in the foreground; there is no depth to be seen below the cheap cardboard exterior. It is just as well for that depth which Claudius has is best not seen. In Friedmann's hands, its absence tells all. With Anne La Flamme '88 as Gertrude, Queen of Denmark, we have a dialogue of syrup, a pair of condemned puppets sojourning in the jester's court outside Hell before being sucked down to their final damnation.

Eric Ristad G's Laertes came to its fore as the denouement approached. The expression on his face on hearing of his sister's death penetrated to the core. And yet thoughtfulness was banished by lust for revenge as we see Ristad's character easily fall for the scheming of Claudius.

Ophelia was also shown at her most powerful as her end approached. Andrea McGimsey '87 endowed her with a tearful tearing madness with none of the purpose or control that dwell with Hamlet until the end.

Bjoren Davis '89 made for a lively Polonius and several of the other minor parts were nicely done too. A couple of the others could do with some improvement, it might be noted, but it would be churlish to point the finger when the production in general has so much to recommend it.

Despite the vigor maintained for most of the show, there were patches that lagged mildly; but the subtle lighting and disembodied sound effects commanding subliminal control of the captive audience's psyche made it hard to resist the production's essential message. Go for it!

## CinemaScope and stereo sound used to the fullest

(Continued from page 10)

tickets for a David Bowie concert. A car that looks and sounds like the V8 Interceptor from *Mad Max* pulls up and stops. One of the guys in it jumps out and shouts, "Oy! You! Over there!" We don't know what is going to happen next. Will they break into a fight? Are they going to burn the stadium down? We don't know what's going to happen in the next moment, and that's exactly the way it is for the rest of the film.

There isn't any narrative or plot development because the loose disjointed life-style of the characters doesn't leave any room for such conventional cinematic techniques. Nor does the film have any great acting; many roles are filled by non-

actors. The nominally main character is played by the lead singer of the Australian rock band INXS. Music from that particular band as well as Iggy Pop, Whirlybird, Brian Eno, The Primitive Calculators, and other bands comes through loudly and clearly and often unintelligibly.

Paradoxically, the vehicle for depicting the chaos surrounding the isolation of the characters is the film's excellent use of widescreen photography and the most spectacular use of multi-track stereo sound since *Apocalypse Now*. Images crowd all sections of the entire screen while speech, sound effects, and loud music bombard the ear from all directions. The camera focusses on as many as three different conversations at once and often veers from in-

doors to outdoors and back again in one continuous shot.

*Dogs In Space* utilizes the potential of CinemaScope and stereophonic sound to the fullest, perhaps more so than any other film since Robert Altman's early films. Using these techniques, Lowenstein has captured and conveyed the very essence of a separate time and place whose characters reject the value and importance of society and creative endeavors in a film that is itself a stunning example of the heights that film makers can aspire to. *Dogs in Space* must be seen — and heard — to believe that such film makers are still in existence. For full effect, it is advised that you ensure that the film is playing in a Dolby Stereo equipped theater.

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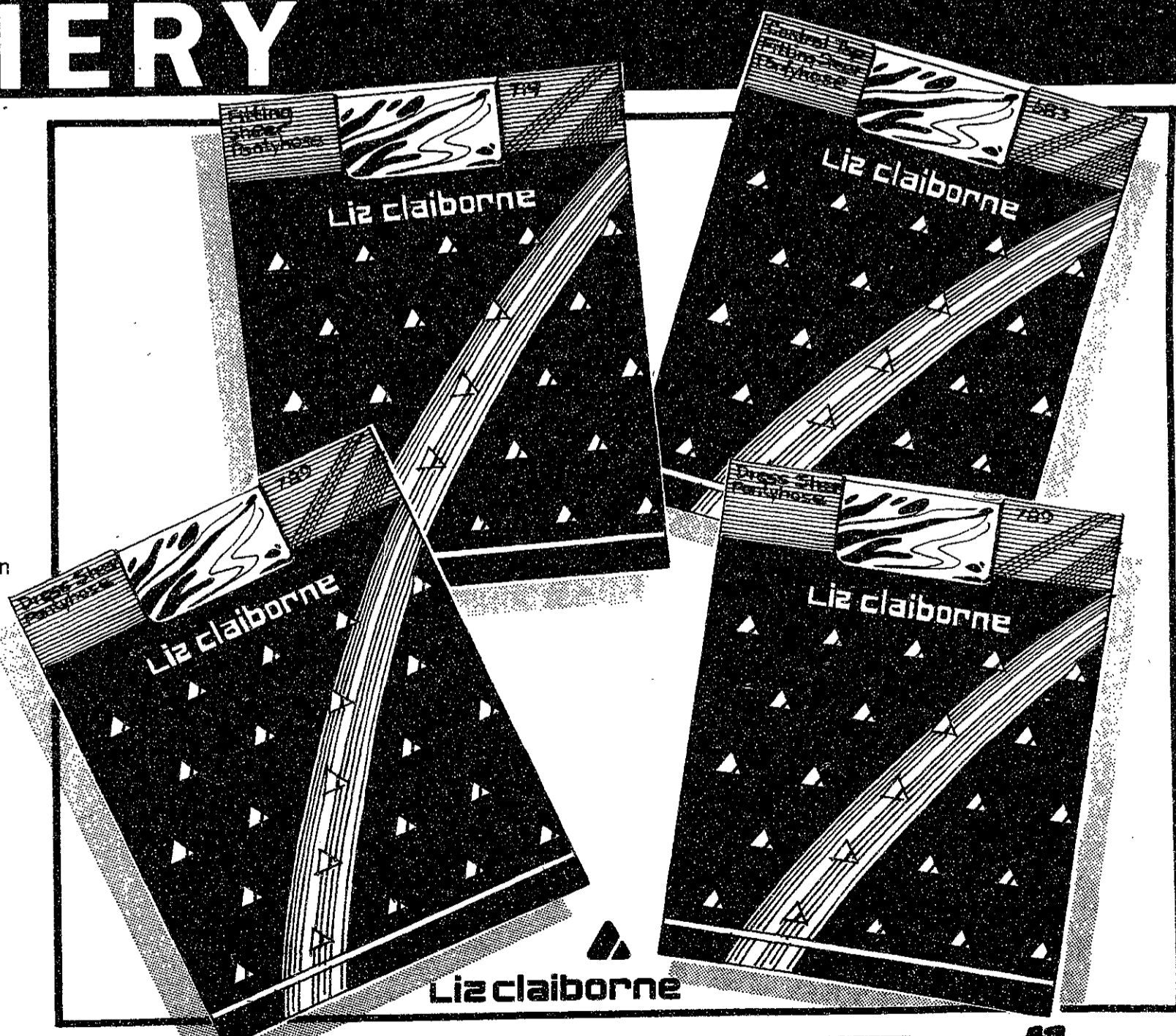
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A R T S

The Tech Performing Arts Series presents...

**ORFEO**

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Jon Humphrey sings the title role in this concert version of Monteverdi's *Orfeo*. Jordan Hall, October 23, 8pm.

MIT price: \$5

**PRO ARTE**

MIT's Gloria Raymond to sing...

Mezzo-soprano Gloria Raymond will sing Mahler's *Kindertotenlieder* with the Pro Arte Chamber Orchestra, conducted by David Hoose.

A world premiere by Steven Mackey is also on the program, as is Haydn's *Symphony No. 86*. Wonderful music; home-grown talent. Sanders Theatre. October 25, 3pm. MIT price: \$12 tickets reduced to \$6.

**HALLOWE'EN!**

Boston Musica Viva goes wild for this weird and wonderful event. To include H. K. Gruber's *Frankenstein* complete with mouth sirens, car horns, plastic hoses, baby rattles, paper bags and a merry-go-round, Henry Brant's *Homage to the Marx Brothers*, Donald Erb's *The Devil's Quickstep* and Kurt Schwetsik's *Draculas Haus — und Hofmusik*.

You have been warned.

Jordan Hall, October 30, 7:30pm. MIT price: \$5

Tickets are on sale at the Technology Community Association, W20-450 in the Student Center. Office hours posted on the door. Call x3-4885 for further information.

The Tech Performing Arts Series, a service for the entire MIT community, from *The Tech*, MIT's student newspaper, in conjunction with the Technology Community Association, MIT's student community service organization.

**CHINESE PALACE**

The Chinese Children's Palace of Hangzhou is a group of dancers, singers, musicians, and acrobats making their premiere US appearances. The performance weaves delicate Chinese classical music and ancient Chinese folk dance. Symphony Hall, October 28, 8pm.

MIT price: \$5

**ALEJANDRO RIVERA**

Chilean guitarist Alejandro Rivera and "New Directions in Latin American Music" will perform original compositions by Rivera, as well as music from Argentina, Chile, Venezuela, Brazil, Peru, Ecuador and Puerto Rico.

Kresge Auditorium, MIT, November 1, 8pm.

MIT price (in advance only): \$8.

**COLLAGE**

This is going to be intriguing... Collage is presenting the world premiere of "*Cymbeline*" after Shakespeare, by Charles Fussell, conducted by the composer and featuring Jack Larson (who played Jimmy Olson in the original *Superman* series) as narrator, with tenor David Gordon. Shakespeare with a difference in Sanders Theatre. November 2, 8pm. MIT price: \$4.

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Tuesday, November 10- \*Interviews from 9-4:30 p.m. in the Office of Career Services

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ARTS



Andrew Borthwick-Leslie '87 as Hamlet

Mark D. Virtue/The Tech

# Hamlet

presented by the  
Shakespeare Ensemble at MIT  
directed by Kristin Linklater

October 22-27, 1987  
Kresge Little Theatre 8pm

tickets: \$6 and \$4  
information: 253-2903



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# Enrollment in Course VI falls to ten-year low

(Continued from page 1)

## Over 10 percent of sophomores not science or engineering majors

One hundred and nine sophomores, or about a tenth of the Class of 1990, have decided to major outside of engineering and science.

The shifting enrollment pattern is "what we set out to do," commented Director of Admissions Michael C. Behnke, adding that the trend is likely to continue.

Public relations has been responsible for much of the change, because it has increased the applicant pool and altered MIT's image as a purely technical institution, Behnke explained. The number of applicants to MIT rose by 19 percent last year.

Behnke said that MIT faculty members have been informing

him anecdotally of changes in student interests.

The results of the fifth-week count confirm that those changes are being materialized by the major that the student chooses.

Behnke recently met with the political science faculty to discuss what they saw as a rapid rise in undergraduate interest in political science, a department traditionally predominated by graduate students. The number of sophomores declaring Course XVII jumped from three for the past two years to eight this year.

The political science faculty members were anxious to learn how they could serve the increasing number of undergraduate majors, Behnke said.

Stolzenbach, who this fall replaced Kenneth R. Manning as CUAFA chairman, felt the

changes are the result of students being more aware of their options. Decreasing enrollment in Course VI was a specific goal of CUAFA because the resources of the department could not meet student demands. But he emphasized that there is no set policy intended to shift students from one field to another.

## No departments burdened by influx of new majors

The decrease in sophomores choosing majors in the School of Engineering from 735 last year to 638 this year has not caused overcrowding in any other department, Stolzenbach assured. The total number of students in the class is lower, and those who decided not to major in EECS are reasonably spread out among the other departments, he said.

## CUAFA: Past and future

By Ben Z. Stanger

The Committee on Undergraduate Admissions and Financial Aid was forced to monitor enrollment in the department of electrical engineering and computer science when demand had seriously surpassed departmental resources in 1984. But this was one of the most specific duties that CUAFA has ever been given, according to Keith Stolzenbach, the new chairman of the committee.

CUAFA is responsible for more general policymaking, said Stolzenbach, who is an associate professor of civil engineering. This year, the committee is going to "look beyond the numbers" to get a feeling about the impact of the admissions priorities which CUAFA had set. In the past, the committee had looked predominantly at students' MIT grades to get an idea of the effectiveness of admissions policies. This year, CUAFA is interviewing faculty and deans to get a more personal appraisal of the kind of students that have been admitted and the experience they are having, Stolzenbach said.

He added that CUAFA will also try to have some input in setting next year's self-help level based on its experience with the impact of financial aid obligations on the quality of life. The decision is ordinarily made by the President and the Academic Council.

Behnke, who makes an annual prediction of the number of EECS majors in each class, said the number next year would be closer to 260.

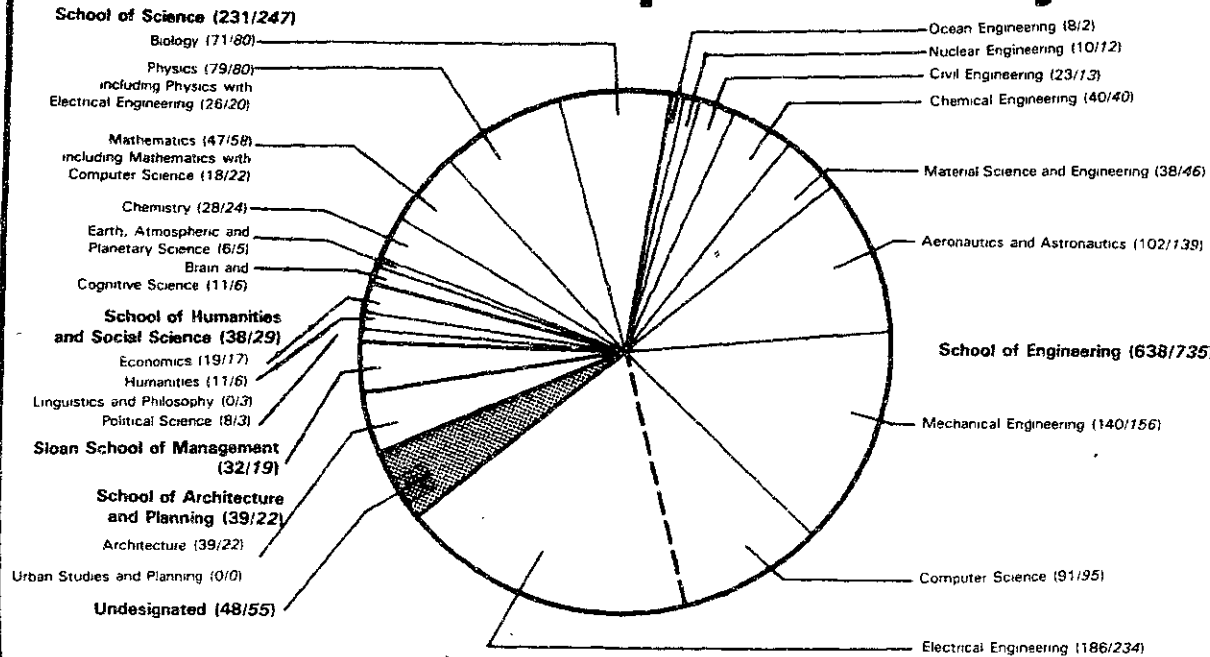
But the admissions committee does not let applicants' proposed majors influence individual admissions decisions, Behnke insisted.

Behnke added that the actual selection procedure has had little to do with the changes in department enrollments. Rather, MIT's

increased visibility as an all-around university has helped reshape the applicant pool.

Between 1984 and 1985 MIT instituted degree options related to electrical engineering and computer science in the departments of physics and mathematics. The Institute also promoted programs in the Sloan School of Management and the departments of brain and cognitive science and material sciences and engineering.

## Breakdown of sophomore majors



This is the official fifth-week count of declared sophomore majors provided by the Registrar's Office. Numbers in italics after the slash are the numbers of sophomores in the department or school last year. There are a total of 1037 sophomores this year; there were 1113 last year.

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# CPs, MIT still at odds over contract

By Wayne W. Wu  
(Second of two parts)

Disagreement over work schedules has been a major obstacle towards a settlement in contract talks between the Campus Police Association and MIT, according to James J. Fandel, MIT labor relations manager.

One major proposal made by the CP union causing much controversy is the 4-2 work schedule. Under this work schedule, an officer would work 8½ hour shifts four times a week and receive two days off.

With this schedule, if the officer works Monday through Thursday, he would have Friday and Saturday off. The next week, his work days would be Sunday through Wednesday with Thursday and Friday off. This would cycle until in seven weeks time, he would have Friday and Saturday as his days off again.

Currently CPs operate on a 5-2 schedule where patrolmen work eight-hour shifts five times a week with two days off each week. Paul Conway, president of the Association, maintains that this schedule exerts extra stress on the job.

Fandel indicated that the 4-2 schedule is unfeasible since it is very expensive. He noted that several years back it would have cost MIT \$150,000 to implement such a schedule, though he did not know the current cost.

With the 4-2 plan, officers would accumulate 17 extra days off each year and MIT would get nothing in return, Fandel said. He added that "the plan did not meet our security needs," since to cover the 17 days, MIT would have to hire three new officers.

Conway maintained that the 4-2 work schedule could be implemented without an increase in manpower or cost and that each officer would still average a 40-hour week as they do under the 5-2. He believed the 5-2 is an antiquated system and indicated that many other police departments, such as the one at Bentley College, have switched to the 4-2.

Michael J. Parr, assistant manager of labor relations at MIT, noted that originally the 5-2 "schedule was proposed by the Association some 10 years ago" and now the union seeks to modify the schedule.

Fandel affirmed that the administration has made its position on the 4-2 schedule clear and that he hoped the police union would not continue to press the unacceptable proposal.

Normally, on the 5-2, an officer works 5 days a week. Prior to the changeover, the officer will work Monday through Friday. On the week of the changeover, he will be forced to work Monday through Saturday totalling six days for that week. In the proposal, the union sought to have the sixth day off, Conway said.

According to Conway, the modified forward 5-2 schedule would amount to four extra days off for each officer at a cost of \$16,000 per year. Under the reverse 5-2 schedule, Conway maintained that it would cost MIT \$8,000 per year for the two extra days off the officer would receive.

The plan would have cost the administration "the price of a second hand car to settle the contract," Conway said. "They turned us down."

Fandel explained that the proposal was turned down because it required an unacceptable eight thousand dollar increase in police salaries.

On Sept. 28, both parties met again, though no issues were resolved. Currently, both sides have ceased meeting as negotiations have reached an impasse.

### Seniority, discrimination in promotion system

There have been allegations by officers on the ineffectiveness of the current promotion policy. "It's antiquated by 20 years," explained Conway.

Under the current promotional system, Campus Police Chief James Olivieri determines promotions based on recommendations from his staff. Conway added that often, "more qualified people get passed up."

Senior Vice President William R. Dickson '56, however, emphasized that the system was fair and that "Olivieri has served the institution in a remarkable way."

"Various factors need to be considered when looking at the qualifications of a candidate," Dickson said. However he did not know the specific procedures the police department uses in considering promotions.

Chief Olivieri declined to comment on the matter.

Patrol Officers Brent Nelson and Joe Fratto have each filed grievances over the administration's promotional policy claiming that they were passed over by less qualified candidates who lacked seniority.

Dickson reiterated that various

aspects must be considered in determining promotion and that seniority alone is not a determining factor.

"Every other department has a modern promotional system, which includes definitive ways to determine a candidate's qualifications for promotion," Conway said. He added that MIT's promotional system is based on word of mouth.

There were allegations during the summer by Patrolman Ted Lewis of discrimination and racism in the promotional system. Fandel emphasized that the allegations "have no credibility."

Dickson commented that if there were any overt problems in the promotional system such as unfairness or discrimination, action would have been taken to change the system.

Conway said that both cases will go before arbitration on Oct. 27. The action will be mediated by the American Arbitration Association.



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- Community Service Fund Board (1)
- Medical Consumers' Advisory Council (2)
- Student Affairs (1)
- IAP Policy (2)
- Radiation Protection (1)
- Women's Advisory Board (2)

Hearings will be held on Monday, November 2, 1987 beginning at 2:30 p.m. Please call for an application, appointment, or other information.

### Other settlements discussed

On June 22, Fandel had proposed to the union a reverse schedule. This plan calls for an adjustment to the 5-2 work schedule where officers would shift their days off backward, rather than forward as is done under the current schedule.

For instance, an officer who has Saturday and Sunday off will shift back one day and have Friday and Saturday off. This would cycle such that in seven weeks time, the officer would have Saturday and Sunday off again.

Conway and the Association, however, turned down the reverse schedule proposal.

The Campus Police Association presented a proposal to MIT on Sept. 15 for a new work schedule which Conway believed could have settled a contract at a reasonable cost. The proposal was rejected by MIT as too expensive, Fandel said.

Conway had proposed a modification to the current 5-2 schedule that would work in the following way:

Currently if an officer's days off fall on Saturday and Sunday, after two months, he will shift to having Sunday and Monday off.

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# MIT officially kicks off fund drive

(Continued from page 1)



Sarath Krishnaswamy/The Tech MIT Corporation Chairman David S. Saxon '41 at the banquet celebrating the beginning of the fund drive.

announce the largest fundraising drive in MIT history, and one of the largest ever for any educational institution," President Paul E. Gray '54 acknowledged. But notwithstanding the stock market, "this has been a very exciting two weeks," he said, mentioning the rollout of the Daedalus human-powered aircraft, the debut of a TV series hosted by Institute Professor Philip Morrison, and two Nobel prizes.

MIT's latest Nobel laureates — Professor of Biology Susumu Tonegawa, winner for physiology or medicine, and Institute Professor Robert M. Solow, winner for economic science — spoke later in the press conference.

The \$550 million campaign centers on support for faculty and students, "the foundations of MIT," Gray said. It will make possible research initiatives in important areas — like materials, biotechnology, manufacturing, and brain science, he explained, and it will support the reform of undergraduate education to include the social contexts of science and technology. [See "Faculty hear fund drive goals."]

Today, 30 years after Sputnik, science faces "skepticism over whether technological advances can be used in a socially and environmentally responsible manner," Gray observed, and MIT must respond with a "science-based liberal education" to lead the way for other schools.

The Institute's goal must be to produce "not only technological leaders but leaders of society," Provost John M. Deutch '61 agreed. "No goal of the campaign is more important than our effort to devote new resources to undergraduate education."

MIT also needs endowed funds for creative new research in a time when the federal government and other sponsors are supporting fewer and narrower projects, Deutch added. Similarly, endowed dollars must replace federal student aid, which has declined by 14 percent in constant dollars since 1980, according to Strehle.

"No institution . . . has been more successful" than MIT at producing the research and capable graduates that are needed for technological progress, said Ray Stata '57, president of the Alumni Association. "There's not a better investment in America today than MIT and other research universities."

Tonegawa stressed the importance of basic scientific research to technological progress, citing the biotechnology industry that has arisen from recombinant DNA techniques. These techniques were invented not by industrial entrepreneurs but by scientists curious about the behavior of DNA, he said. A private company sponsors the Basel Institute of Immunology, where basic science leading to three Nobel prizes (including Tonegawa's) has been

done in the 15 years since it was founded.

The character of this country depends on economic growth that is built primarily on technology, said Solow, who won the Nobel prize for his studies of growth driven by technology. At a time when the productivity growth in the United States has slowed

down dramatically since the beginning of the 1970's, "it would be the height of shortsightedness to choke off the activity that will nourish economic growth in the future," he concluded.

But, he added, "if economic forecasting were any good, we would not be starting this campaign this week."

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## Economist Solow wins Nobel

(Continued from page 1)  
teacher . . . he is in some ways the consummate economist," Eckaus added.

"His work has led the profession in the most important new directions," agreed Professor of Economics Rudiger W. Dornbusch.

### "An MIT product"

Solow described his initial reaction to the news of his victory as 50-50 between pleasure and bewilderment. "The pleasure is growing," he added.

The 63-year-old Harvard-trained economist came to MIT in 1949. "I've spent my whole professional life at MIT . . . the only other full-time job I ever had was as a sergeant," he said.

"You have before you an MIT product. You're visiting my home," he told the crowd of reporters.

Solow joined the faculty as an assistant professor of statistics. He became an associate professor in 1954, a professor in 1957, and an Institute professor in 1973.

The fact that an university centered around science and engineering should have an economics faculty that includes three Nobel laureates should not come as a surprise, according to Eckaus. MIT has led the field for more than twenty years, he said.

"MIT has always been an economics school — that's what attracts the engineers," Dornbusch joked.

Friedlaender traced the strength of the MIT economics department to individuals like Solow and his longtime research partner, Samuelson.

"We had the foresight to offer Paul Samuelson a job . . . Paul then acted as a magnet to attract [other top-rated economists]," Friedlaender explained. Samuelson joined the MIT faculty in the late 1940s.

Since then, the department has been dominated by economists of the generation of Solow, Samuelson, and others — especially Modigliani.

Friedlaender credited Solow with helping to introduce a new generation of economists to MIT and to the field generally. Solow served as a mentor for many of today's economists, including Friedlaender who had him as an early teacher.

Solow is a role model for all of us, Lester C. Thurrow, dean of the Sloan School of Management, told the press conference.

### A victory for Keynesianism

"I think that it gives the Keynesian view of the economy a new engine," Dornbusch said of Solow's victory.

Solow, who served as an advisor to the Kennedy and Johnson Administrations, has been a leader in the Keynesian school which argues that fiscal and monetary policy are effective tools in regulating the economy.

That view has come under heavy attack since Kennedy's New Frontier and Johnson's Great Society by such economists as University of Chicago Professor Milton Friedman and James Buchanan, professor at George Mason University and last year's Nobel winner. They argue that the government should not intervene in markets. The Reagan Administration has been heavily influenced by this group of economists.

Solow has been a harsh critic of the Reagan Administration. "The best thing you can say about Reaganomics is that it hap-

pened in a fit of inattention," he said.

The fiscal policies of the Reagan years have done a lot of damage to the economy, Solow argued.

The United States has been diverting its resources toward consumption and away from investment in research, education, and equipment. By reducing spending on improvements to technology, the country has hindered its ability to grow.

This trend must be reversed, Solow said. He argued that the federal deficit should be reduced and that monetary policy should be loosened, reducing the interest rate and spurring investment.

Solow believed that taxes are a necessary ingredient in reducing the federal deficit. "The Congress has the feeling that, in good conscience, it has pared away as much as it can" from the non-defense part of the budget, he said.

Solow saw a number of obstacles preventing the government from pursuing his policies: the memory of Walter F. Mondale's defeat, caused in part by his pledge to raise taxes; the fact it is hard to manage a fiscal contraction without causing a recession; and the President.

"I want the President to drop this nonsense about how we are only going to have a tax increase over his dead body," Solow said.

But he admitted that some of his proposals would cause suffering: "They are not going to make life happy for us in the next few years."

"This award comes at a great time," said Christina D. Romer PhD '86, one of Solow's former students now at Princeton. Solow's views about the positive role the government can play are valid and should be heard, she said.

MIT economists — led by Solow — have argued that monetary and fiscal policy both should be used to regulate the economy, Friedlaender said. The non-interventionist ideas of rational expectations, monetarism, and supply-

side economics are just "fads," she said.

Solow refused to speculate on why the stock market fell by 508 points on Monday, but did remark that the market was overvalued to begin with. "If there is nothing holding it up, there's nothing to keep it from falling," he said.

Solow is particularly noted by colleagues and students for his sense of humor.

"He's the wittiest man in our department. Anyone who has had him in lecture will always live in envy [of his ability to be funny]," Dornbusch said.

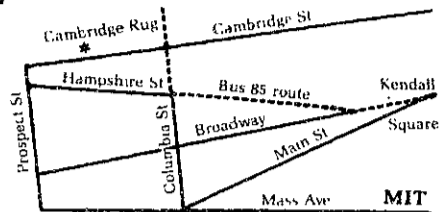
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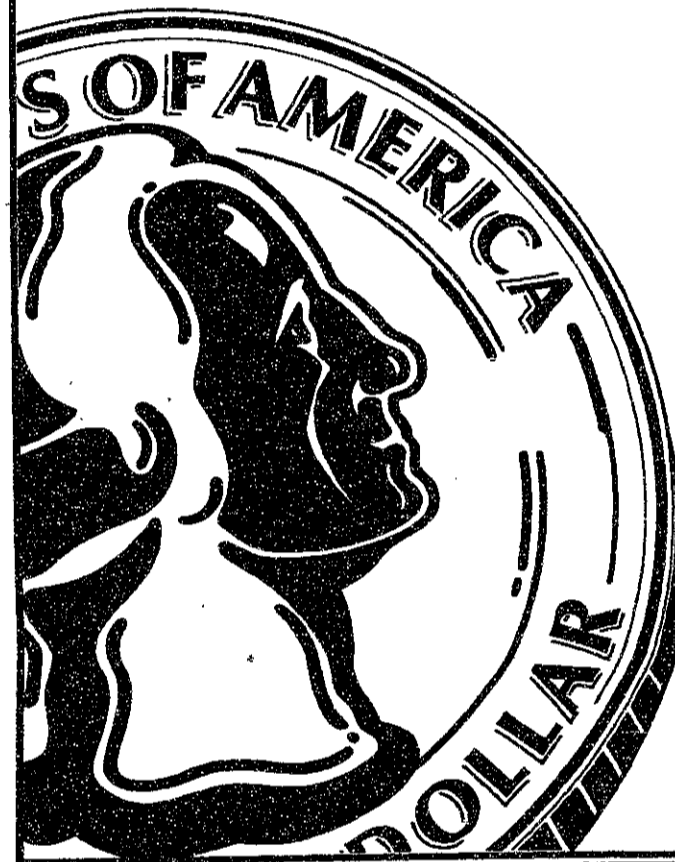
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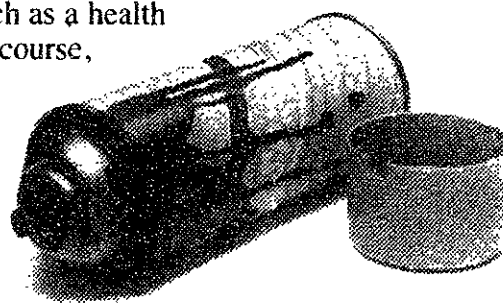
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# CUP to examine Institute science requirements

(Continued from page 1)

full participation in this program did I become a convert to the idea," Friedlaender said.

"One might question how can you justify creating a doctoral program for four students each year," said Kenneth Keniston, professor of STS. He added, though, that competing programs at Harvard University and the University of Pennsylvania accept a similar number of students each year.

According to Perkins, establishment of doctoral programs where no prior departmental PhD program existed is quite rare at MIT. "In the four years that I've been dean, no such pro-

posal has come forward," he said. He added that establishment of interdepartmental doctoral programs occurs much more frequently.

Professor of Anthropology and Archaeology James Howe remarked how a former faculty member in the STS program left because he had no PhD students to teach. "Some of us have been waiting for 15 years for this opportunity to teach doctoral students," Howe said.

### Faculty updated on undergraduate education

Dean for Undergraduate Education Margaret L.A. MacVicar '65 presented conclusions that

the Science Education Committee reached in its report in September. According to MacVicar, the committee found that the current commitment to mathematics and physics is satisfactory.

But the report cited serious problems with the science distribution requirement, MacVicar said. It proposed to cut the current number of distribution subjects from 70 to 15. Finally, the report concluded that there should be a life sciences requirement. The report made no mention as to how this would be administered.

MacVicar announced that the main goals this year of the Committee on the Undergraduate

Program would be to further review the science, math and laboratory requirement. A second, though equal, priority would be to examine the freshman year and determine whether it is achieving its academic goals, MacVicar said.

All these goals need to be accomplished if MIT is to preserve its policy of a general education and, above all, have personal fulfillment as the main goal of its education, MacVicar said.

### Demonstrator disrupts meeting

The faculty meeting was disrupted by Carlos Gonzalez, lead-

er of the homeless demonstrators at the MIT-owned Simplex site. After making an impassioned plea to the faculty and stating, "I want to make my point, and I am prepared to be arrested," he voluntarily left the room under the escort of Associate Provost Samuel J. Keyser.

"There was no need to use force or to arrest the man," Keyser said afterwards. "All I did was to walk him by the arm, and to hear him out."

Keyser pointed out that this was the first time ever that such a disruption of a faculty meeting had occurred.

## Master's in EECS takes too long

(Continued from page 1)

thesis have changed over the years, said Smith. Fields have become more involved and students have been doing more extensive theses, he added.

Before choosing a thesis topic, students often look at past theses, Russ explained. Students want to do a thesis that is either comparable to the ones they have seen or even better.

"No one wants to be the first person to get by with a less extensive thesis," Russ said.

"There's a view of more being better," Gallagher agreed. The committee's most important recommendation is to try to change the perception of the faculty and students about the complexity of the thesis.

Perceptions must change because the length of the thesis cannot be legislated; the thesis is a "very personal thing" between the student and his advisor, Gallagher said.

The thesis work should consist of "doing the best job you can — within a limited amount of time," Gallagher asserted.

### Two types of SM students

There are two groups of SM students — those who plan to go into industry after completing the degree and those who plan to pursue a doctoral degree, Smith

said. "The current system is not optimal for either group," said Bror Saxberg G, member of the Department Committee on Graduate Students.

Saxberg, currently a PhD candidate, believes that completion of an SM thesis is an excessive requirement for admission to the doctoral program. He observed that doing a "great" SM thesis is so exhausting that students need a year to recover before starting the PhD program.

"There should be a less expensive, more efficient way to determine whether a person is capable of PhD work," Saxberg said.

Students planning to leave with an SM degree are inconvenienced by the current system, Smith said. He believed that students going into industry should not have to spend significantly more than one year for the entire degree.

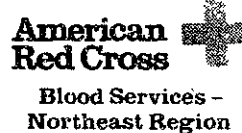
An SM degree is more of a professional, rather than a research-oriented degree for those students not pursuing PhDs, Gallagher said. It should not be necessary to spend so much time on thesis research, he continued.

People seem to believe that original research is a requirement for a SM thesis, Gallagher said. The scope of a thesis is actually much wider. It can include study or research that is not brand new,

design of a device, or a critical literature survey, he explained.

The department is moving slowly in implementing the recommendations to shorten the SM program because "the graduate program in Course VI is highly regarded; the system seems to be working," Smith said. People are reluctant to change parts of the program which might affect the whole, he added.

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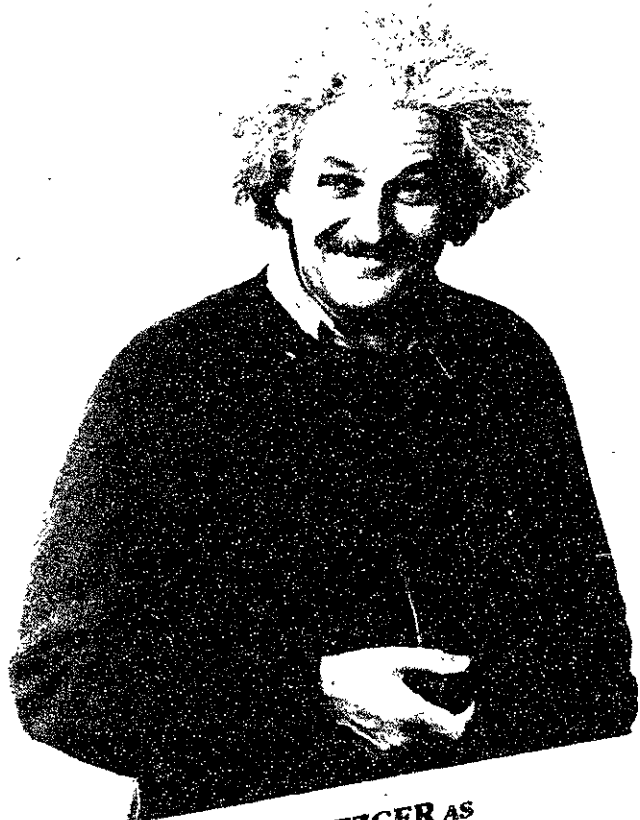
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Tuesday, November 3, 8:00 P.M.  
Kresge Auditorium, MIT

Tickets: \$1.00 with student ID  
\$3.00 with MIT community ID  
\$5.00 general admission

Available from MIT Hillel, 312 Memorial Dr., Cambridge MA 02139 OR at the door  
Sponsored by MIT Hillel and Dept. of Physics  
For additional information, call 253-2982

## Data General

### INFORMATIONAL RECEPTION

**MONDAY, OCT. 26**

**6-8 PM**

**Rm 8-105**

**Will be interviewing on OCT. 27**

**Refreshments Served**

**Data General**  
Careers a Generation ahead.

# sports

## Sports Update

### Men's Cross Country loses first meet since Oct. 1983

MIT's men's cross country team lost its first meet since October 22, 1983 last weekend when it dropped a 38-22 decision to Division I, University of Rhode Island. Senior Anton Briefer of Milford, NJ, covered the five mile course in 26:33 to place second in the meet. MIT's last loss in a dual or triangular meet was to Williams College. The streak had covered 25 wins.

### Men's Sailing finishes second in Sloop Championships

MIT men's sailing team finished second in the New England Sloop Championships last weekend held at the Coast Guard Academy. The team also finished eighth in the Boston University Invitational. The top nine rated teams in the country, as well as 11 of the top 20 were represented in the regatta. Before the race MIT was not ranked nationally.



Lisette W. Lambregts/The Tech

Sofia Merida '88 takes the ball past a Brandeis player during yesterday's game. MIT lost, 3-0.

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MONDAY THRU SATURDAY 10:00-6:00

### MIND BENDER (LT)

Will the 20th century be known by our descendants as the dark age of science? Many, many generations will be endangered by and blame us for the highly radioactive residues from our nuclear power plants and weapons. In a few generations the USA will no longer have to worry about going to war to get more than our share of Iranian oil, the World's trees and lakes will no longer be dying off while smog, loss of ozone and worries about the greenhouse effect will fade away. Why? Science will finally be forced into clarifying basic laws.

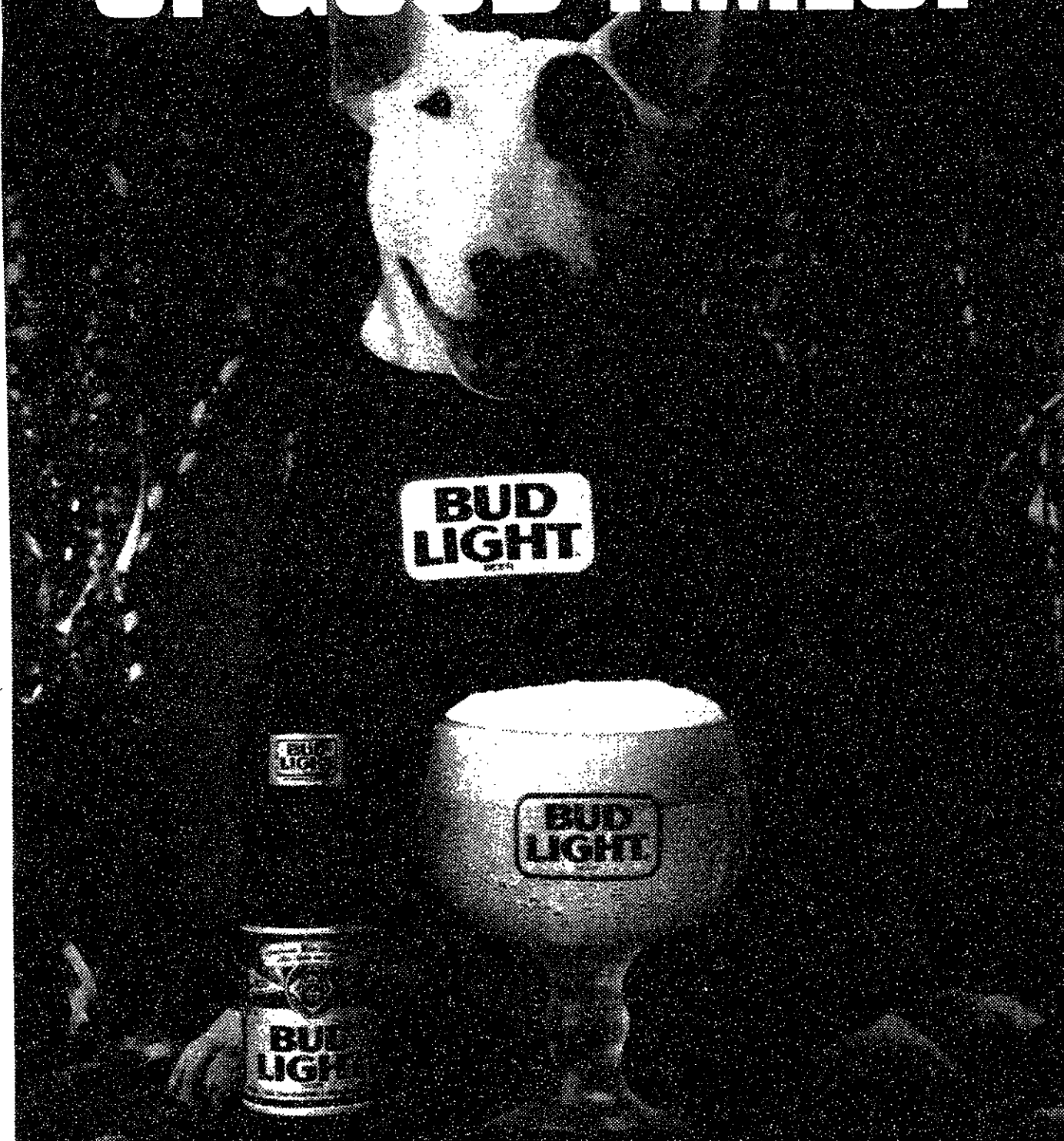
We will replace h with s. Since h is about bits or quanta it is anything but a basic constant. Even though s is a magnitude smaller than h it is a constant. We got into this mess because Planck's ideas were widely promulgated for 3 decades until in 1925 Uhlenbeck and Goudsmit found all electrons in all atoms always spin at s or with a constant angular momentum.

Unfortunately Einstein derived c from h but  $c' = c + or - v$ . Tune 3 CB (citizen Band) radios to the same channel and turn the modulation off so all 3 are on the same crystal controlled (f) frequency. Place 2 CBs by the side of the road and a mile apart. One CB is on a car at 55 mph between the other 2. The CB behind 55 mph car gets a lower f than moving car transmits while at the same time the car ahead is receiving a higher f. These 3 fs from 1 prove  $c' = c + or - v$ .

All science students somehow seem to learn if they see no motion no energy is required or used. This misleading concept was first proved wrong in 1820 when Oersted could only keep a compass needle pointing E with no motion by running a steady current or energy through a conductor running N and S. Oersted's discovery is the basis for electric motors and generators. As taught  $W = fs$  has been very misleading.

A simple thought experiment indicates we should immediately correct the above errors and oversights. A (sc) superconductor levitates a magnet. Someday it may be a room temperature sc. If we take a current from the sc will the magnet hover lower? If we stop taking current from the sc will the magnet float back up to its original hovering point? Do we have a non polluting gravity driven electric generator with no rubbing parts? This indicates a levitated train with scs on board and opposite in the tracks only requires a tiny starting current to levitate the train. When the train is not moving it can be used as a generator. (Patent Pending.) For a copy of patent 4,567,407 to harness s with standard electric components and no brushes send \$2 (and a #10 SASE with 22c stamp on it) to John W. Ecklin, 6143K Edsall Rd., Alexandria, VA 304.

# HE'S THE GURU OF GOOD TIMES!



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