

Hiroshi Nishikawa

Nicholas P. Negroponte '66, director of the MIT Media Lab

Media Lab marks fifth anniversary

By Andrea Lamberti

The Media Laboratory celebrated its fifth anniversary on Monday and Tuesday, with an open house, lectures, new exhibits, and performances.

Although it is only five years old, the lab was "actually born in the 1970s, when the first thought was given to establishing a campus facility at MIT dedicated to the human computer interface, or, as the later phrase went, to inventing the future," according to the lab's anniversary booklet. In an interview yesterday, Me-

dia Lab Director Nicholas P. Negroponte '66 described the intellectual development of the lab over the past decade.

Negroponte said the lab has basically taken three steps since 1980. Initially, the "basic idea was human [and] computer interaction."

At that time, computers were rather "sensory deprived," he said, and personal computers did not exist in a form even close to their present state.

By 1985, when the lab opened (Please turn to page 15)

250 attend Pledge 101

By Andrea Lamberti

Last Sunday night, roughly 250 students attended the first of a series of seminars designed to increase student awareness of increasingly important social issues, according to Neal H. Dorow, advisor to fraternities and independent living groups.

"Pledge 101" is an educational series sponsored by the Office of the Dean for Student Affairs, with support from the Interfraternity Council and the Panhellenic Association, which will address the issues of date rape and sexual abuse, AIDS and sexually transmitted diseases, "multiculturalism" and diversity, and alcohol education, through five Sunday seminars this fall.

The program is aimed primarily at freshmen in fraternities and sororities, but is not limited to them.

On Sunday, ILG and sorority members watched a "Greek Life" teleconference, broadcast nationally, which focused on issues relevant to fraternities and ILGs in the 1990s, in addition to prob-

lems faced by living groups today, such as alcohol and drug abuse, date rape, and hazing.

Many ILGs and sororities have sponsored independent education programs in the past, but this series aims to complement new member and pledge education with a more thorough, comprehensive discussion.

"In the past, [this type of education] has been disjointed. . . [Pledge 101] tries to put everybody on the same ground on these issues," said Michael M. Ting '92, IFC public relations chair.

MIT is most expensive College Board estimates costs at \$23,000

By Brian Rosenberg

MIT is now the most expensive college in the country, replacing Bennington College in Vermont, according to a recent College Board report. MIT's total expenses this year come to just under \$23,000, the report states.

MIT's rise to the top comes as tuition and fees nationwide increased an average of five to eight percent from last year. According to statistics provided by the Financial Aid Office, MIT's total costs rose 6.9 percent, while the average cost of attending a four-year private college went up eight percent to \$13,544.

Bonny S. Kellerman '72, associate director of admissions, said she did not think last year's increase was particularly large. "I was surprised when I heard we had jumped to the top," she said.

Vice President for Financial Operations James J. Culliton felt the College Board's report did not reflect a drastic difference between MIT's tuition and that of other schools. "[Our cost is] comparable to other schools, especially considering that the New England region has a higher cost of living than other areas," he said.

The College Board's *College Cost Book* gives MIT's total cost as \$22,945. This figure differs by \$345 from the \$22,600 that the Financial Aid Office gives as its estimate of total costs. The difference stems from the College Board's inclusion of a \$450 transportation expense, which the FAO does not use in its estimate.

Differences in estimates of the costs of books, supplies, and other items bring the \$450 discrepan-

cy between estimates down to \$345. Two of the board's other estimates are lower than MIT estimates. The board's figure of \$535 for books and materials is \$40 less than the FAO's \$575, and the \$1260 the Board estimates for personal expenses is \$65 short of the \$1325 budgeted by the FAO.

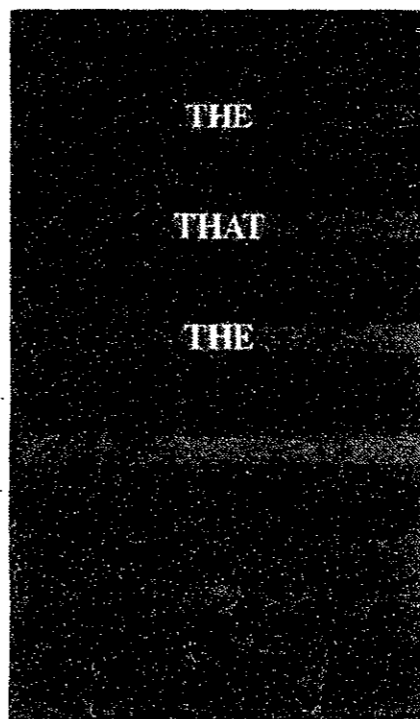
That \$345 substantially affects MIT's rank among the most expensive colleges. An annual cost of \$22,600 would drop the Institute down to fourth, moving be-

hind Yale University (\$22,900), New York University (\$22,775), and Brandeis University (\$22,690).

The rest of the top 10, in order, includes Bennington College, Harvard and Radcliffe, Boston University, Sarah Lawrence College, Columbia University, and Stanford University. Each of these schools costs more than \$22,000.

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MIT professors publish car study



By Karen Kaplan

A five-year, \$5 million study conducted by the MIT International Motor Vehicle Program has concluded that lean production techniques, developed in Japan over the last 40 years, will replace mass production worldwide and revolutionize manufacturing, especially in the automobile industry.

IMVP's director, Professor of Civil Engineering Daniel Roos '61, along with James P. Womack '83, the program's research director, and Daniel T. Jones, European research director, announced the results of their study last week in New York City and presented their book, *The Machine that Changed the World*, which is based on the findings of the study.

On a general level, the purpose of the study was "to examine

what we have called the lean production system, which is a fundamentally different approach than

An interview with IMVP Director Daniel Roos, page 2.

the traditional mass production system," said Roos. More specifically, the researchers studied "the dynamics of change in the automobile industry and . . . what the principal forces of change were."

The objective of lean production is not to make a large number of decent copies of the same product, as with mass production, but to minimize the number of mistakes made during the production process in order to achieve a perfect product the first time.

There are many advantages to lean production, according to Roos. "You can manufacture goods of significantly higher quality with roughly 50 percent of the effort that was previously required."

"You can do it in a far shorter time period (about a third less) and you can do it with about one third of the effort in terms of engineering time, and you can turn out a much broader diversity of product," Roos explained.

Also, lean production workers are more involved in the production process. Rather than performing a specific task over and over, they work in groups and are involved in many stages of production, including engineering. With lean production, "you're pushing responsibility down the

(Please turn to page 14)

Panel condemns discriminatory policy

By Kai Tao

Panel members at Wednesday's colloquium titled "MIT and ROTC: A Future Together?" agreed that it would be a shame if the Reserve Officers' Training Corps were removed from campus, but stressed their determination to change the military's policy of excluding gay men and lesbians.

The colloquium, sponsored by the Undergraduate Association and Defeat Discrimination at MIT (DDMIT), featured Professor of Electrical Engineering Alvin W. Drake '57, chair of MIT's Standing Committee on ROTC, American Civil Liberties Union attorney Bill Rubenstein, Kate Dyer, executive assistant to Rep. Gerry E. Studds (D-MA), and Provost John M. Deutch '61. Under current military policy,

gays and lesbians are not allowed to enlist in ROTC or any other programs. This, many administration officials have said, violates MIT's policy prohibiting discrimination based upon race, sex, creed, or sexual orientation.

The colloquium opened with Drake speaking about the positive aspects of the ROTC program. Giving statistics such as the fact that 80 percent of the nation's commissioned officers are drawn from the ROTC program, Drake talked about the impact ROTC has had on the US military over the years. Therefore, he concluded, it is a shame that ROTC continues to practice a discriminatory policy toward gays.

Emphasizing the importance of remaining "in the game" in order (Please turn to page 14)



Andy Silber/The Tech

Kate Dyer, executive assistant to Rep. Gerry E. Studds (D-MA), addresses a question at Wednesday's colloquium, "MIT and ROTC: a Future Together?" Also pictured are Provost John M. Deutch (left) and ACLU attorney Bill Rubenstein (right).

Memorial services

A memorial service for Younes Borki '92 will be held today at 3 pm in the Vannevar Bush room (10-105). All are welcome.

A memorial service for David G. Moore '91 will be held Friday, Oct. 12 at 5:30 pm in the Senior House courtyard. All are welcome.

Roos: higher quality from half the effort

Interview

By Karen Kaplan

After a five-year, \$5 million study of the automobile industry, the International Motor Vehicle Program at MIT presented its findings in a recently published book titled *The Machine that Changed the World*. [See story, page 1.] The researchers examined what they have come to call the lean production system, a production method fundamentally different from mass production techniques. The program director, Professor of Civil Engineering Daniel Roos '61, discussed the study in an interview on Oct. 2.

Q: What was the focus of this study, and what were you hoping to discover?

A: The focus of the study was both specific and general. From a specific point of view, the focus was to examine the dynamics of change that the automobile industry is undergoing and to understand what the principal forces of change were. From a more general point of view, it was to examine what we have called the lean production system, which is a fundamentally different approach than the traditional mass production system, as it relates to a variety of manufactured goods, not just automobiles, and to understand what the basic principals are in production.

Q: Can you briefly describe how lean production works?

A: Let me begin by giving the characteristics of it. You can manufacture goods of significantly higher quality with roughly 50 percent of the effort that was previously required. You can do it in a far shorter time period, about a third less, and you can do it with about one third of the effort in terms of engineering time. You can turn out a much broader diversity of product. So you're simultaneously getting improvement in productivity and quality with less effort and at a much greater diversity of final product. Those are the characteristics of it.

Lean production combines the best features of craft production and mass production.

The way the system works is that you have a very different objective function than you do with mass production. With mass production, you want to produce lots of copies of the same product. With the lean production system, you have three fundamental objectives. The first is perfect first-time quality. Good enough is not good enough. Second is waste minimization; waste of all kinds, be it human waste, be it equipment waste, be it factory waste. The idea of the final repair area to fix problems is something that is not acceptable in the lean production system. And thirdly, continuous improvement.

How do you do this? The first way is to have a system that forces errors to appear, because if there's an error something's wrong, and it has to be fixed right away so it doesn't happen again. So you will find in all lean production facilities that workers have pull-chords to stop the production line. Now that implies that one has to have intelligent workers, that you can't have workers that just routinely do a task without understanding how this fits into the overall production process. Rather than simply operating as individuals, the workers are organized into teams that cooperate with one another. They share ideas; they share improvements. So you're pushing responsibility down the ladder, from top management to the work floor. It is a systemic set of principals that guide all aspects of the production process.

Q: How did you become involved in this project initially?

A: Actually, this was a follow-up study to one that began about 10 years ago, and let me talk about it from an MIT point of view, because there are two characteristics that are important.

First, the subject matter was such that lots of different groups at MIT could make contributions. It was an exciting project from an interdisciplinary point of view, bringing together the whole community, from the policy and social science community to the management community, to focus on an important set of issues. MIT can go beyond doing traditional research and could focus on problems of major national and international importance. MIT coordinated a network of researchers from throughout the world. In fact, we had 45 researchers from 17 countries. The idea was that we would develop a series of comparative research studies where people in their own countries would all examine the same issues, so we could assemble an international data base.

The second aspect was a series of policy forums where we brought together senior officials from industry, government, organized labor, and the financial community to do two things. First, we examined the results of the research. We were very concerned that this work be realistic with what was actually happening in the industry and therefore should be subject to review by people who knew. And in addition to the verification, to make suggestions for additional research to be carried out. But beyond that, it served as a mechanism to increase international understanding.

So that's why we got into it, and it's continuing because the Alfred P. Sloan Foundation has given us a grant to do an additional three-year research effort focusing on the motor vehicle industry which will build upon the International Motor Vehicle Program.

Q: Did any of the results of your study surprise you?

A: We knew that Japan would have very good plants but what surprised us, and many things surprised us, was the variation in Japanese plants. There were good Japanese plants and there were bad Japanese plants. There were good American plants and bad American plants. The best American plants were better than many of the Japanese plants. What we tended to find was corporate culture was more important than international culture. If a company had good plants in the United States it had good plants in Europe, it had good plants in Mexico, and Japan. And that was very important because one of the principal conclusions of the study was that, yes, there is a new way of making things that we call lean production, and it did originate in Japan, but it is not a function of Japanese culture, it's transferable, and we see the principals now being transferred here in the United States.



Morgan Conn/The Tech

Daniel Roos '61

It also surprised us how badly the European manufacturers did in comparisons of productivity and quality. We differentiated between luxury cars and the so-called production cars. In both cases we found the same phenomenon. As a matter of fact, we found a case where one luxury manufacturer spent more time in the final repair area getting the car up to acceptable quality than one Japanese plant spent assembling the entire car.

Q: Why do you think lean production will be as revolutionary as mass production?

A: It combines the best features of craft production and mass production. In other words, craft production says that you can develop a highly personalized, very diverse range of product, which is something one really needs in today's market, and you can do it at a cost that's competitive with or better than the traditional mass production system. Well that's a dynamite combination, to be able to customize the product and to do it at a lower cost than traditional mass production.

Also, from a social point of view, it's a more challenging, creative system, in terms of stimulating workers, involving people in the process of manufacturing and producing a product. It's a very flexible and adaptable system, which is something that mass production is not, and we're living in a world of uncertainty and change, where the characteristics of flexibility and change are really very important.

Q: Is lean production the biggest advancement since mass production?

A: There certainly have been continual improvements made to mass production, but we view this more as a paradigm shift, a fundamentally different way of thinking about the process as opposed to incremental improvement.

Q: To what extent should lean production be copied in the United States?

A: Each company and each industry is going to have to make a decision. A lot of the techniques have been around for the last five or 10 years in this country. We often find very mixed results when companies implement them, and it's not surprising. Those are simply components of the total system, and unless you have the right framework, those are simply gimmicks. The challenge is to get the framework and the foundation right, and then to start implementing the various components, each of which helps in your overall total objectives.

Q: Have US companies been trying hard enough to adopt lean production techniques or should they go further?

A: We believe they should go further, but they've made a good start. It'll probably take a decade, but companies can turn themselves around in relatively short periods of time if there's sufficient pressure to do it. Companies can be energized, companies can be changed, and we think that's necessary.

Q: Will it be more difficult for lean production to catch on here than in Japan?

A: Lean production was first introduced in Japan after World War II. That was 40 years ago. We don't think it's going to take 40 years for it to be implemented here, but clearly it's going to take some time, and in our sense it's more like a decade.

Q: Will there be a problem with labor unions?

A: Workers will have to be more intelligent, and that's a big plus. What is a real social dilemma is that it's clear that fewer workers are going to be needed, not just because of lean production, but also because of automation. There will be fewer jobs because the automobile industry is not a high-growth industry. If we had expanding markets, that would be one thing, but we don't. The challenge is how can companies downsize themselves and be competitive at the same time that workers are given time to retrain and move into other industries, and who should bear the brunt of that responsibility? Is that a corporate responsibility or is that a social responsibility, in which government should participate?

That's a huge dilemma for the unions, because they want to be cooperative in terms of making sure that they retain jobs, but the unions are democratic and it's very difficult to gain cooperation with management if at the same time brothers are being laid off. Right now, it's an area where the companies are bearing major responsibility and if we do look at a number of public policy options in terms of where the government can play a creative role that certainly is one, to bear more of the responsibility.

It's clear that fewer workers are going to be needed, not just because of lean production, but also because of automation.

Q: What would be the consequences if the United States continued to mass produce?

A: What we're seeing is a very disturbing trend of the United States losing market share in many of its industries. The automobile industry is in transition. Almost 40 percent of cars are made by foreigners or in foreign countries, and that percentage is going up as the Japanese enter new market segments. There's concern that the penetration will continue, and unless the United States is able to re-orient itself in terms of production capabilities, it's going to be very difficult to stay competitive.

Q: Are you going to lobby the government in any way to encourage them to subsidize companies?

A: No, we don't view the role of MIT as a lobbying or an advocacy group. The contribution of MIT is supplying some understanding and knowledge so that appropriate policy can be set. Part of our problem right now is that there are lots of advocates of different ideas all claiming different results and so very frequently we just don't know who to believe. What we can do is provide a consistent data base and analyze different alternatives so that intelligent choices can be made.

Q: In speaking to various groups about your findings, what ideas have you tried hardest to impress upon them?

A: That we're witnessing some fundamental changes that we ought to be aware of, and that those ideas are transferable to the United States. It's important that we as a country move forward if we are not only going to stay competitive but regain a productive edge. We have enormous technological strength, and although we have lost some of our technological strength, we still are superior in many, many areas, and those are just enormous capabilities that should be harnessed in terms of this country's capabilities to compete in the future.

Q: You recently received funding for a new investigation. What will this one be about?

A: It will build upon this program. This program was to identify what constitutes best practice, and it turns out, fortunately that what constitutes best practice can be systematized in terms of what we call the lean production system. We understand that. Now the challenge is to take those concepts and transfer them to industry. We will be continuing some of the research on an international benchmark to better understand the processes of research, product development, and manufacturing.

The second major activity will be to understand how best practice can be broadened to include many of the environmental objectives: How one can be competitive and socially responsible, how a lot of social concerns can be factored into the strategic planning process, and what new types of processes should be set up between the public and private sectors to achieve social objectives. That's a very important objective in regard to both product and process.

A third area of focus is going to be on technology and how companies gain access to new technology. In an era where the rate of technological development and the broadening of technology is increasing so rapidly, no one company or country can gain access to everything, and therefore one needs shared undertakings. We want to look at Europe and the United States and Japan and see how different ventures are being followed.

news roundup

from the associated press wire

World

Bush supports possible arms treaty

President George Bush is praising a tentative agreement to cut arsenals of non-nuclear weapons in Europe. Secretary of State James A. Baker III and his Soviet counterpart Edward Shevardnadze have nailed down all the major points of the treaty, which should be signed next month. Bush says it will clear the way for military changes to match the political changes sweeping Europe.

Bush said the proposed agreement will "re-draw the military map of Europe." He said that despite the recent easing of tensions between East and West, "Europe is still the site of the greatest concentration of armed strength in the world." Twenty-two countries are expected to sign the pact.

Five men escape from Iraq

Officials say three Britons and two Frenchmen were found drifting in a shipping lane in the Persian Gulf yesterday. The Saudi Arabian Coast Guard discovered the men after they had spent two days crossing the gulf. The escapees told the London *Daily Mail* they snuck away from Iraq on Tuesday because it was a religious holiday, and Iraqis were allowed to go fishing.

Soviet presence in Gulf increases; arms sales to Saudis will continue

Two Soviet warships moved through the Suez Canal today to join an international fleet marshaled in the Persian Gulf. The ships double the Soviet naval presence in the area as they join a destroyer and an anti-submarine ship already there.

Also in the region, two senior administration officials say the sale of \$7.3 billion in new weaponry to Saudi Arabia is just one step in creating a Persian Gulf "coalition defense" against Iraq. The officials say there will be more sales to the Saudis and perhaps their neighbors, Bahrain and the United Arab Emirates, as well as new military help for Israel.

Philippine soldiers stage rebellion

Philippine rebels appear to have seized two cities on the island of Mindanao, about 500 miles south of Manila. Witnesses estimate the strength of the group at up to 600 soldiers. The rebels are reportedly marching around the streets of the port city Cagayan de Oro in a virtual "victory parade."

The Philippine military chief of staff has vowed to do "whatever is necessary" to prevent an overthrow of Corazon Aquino's government. The rebels are holding a military installation, but they face pro-government troops still in the garrison.

The Philippine military has been placed on nationwide alert in response to the mutiny. The rebels are led by Aquino's former chief of staff, who has been on the run since a coup attempt in December.

Aquino has survived six coup attempts since taking office in February 1986.

Rubes®

By Leigh Rubin



"Don't stop munching yet... we still have one hundred and seventy five box tops to go before we can send away for the rubber raft."

Germany reunified after 45 years

German television announced "Germany is one again. Germany is sovereign," early Wednesday morning as hundreds of thousands of people celebrated the country's reunification. A replica of the Liberty Bell rang as fireworks exploded over Berlin.

German lawmakers met yesterday in the Reichstag, the first such meeting in nearly 60 years. The ceremonial session involved members of Germany's united parliament. These deputies will serve until elections on Dec. 2.

The Reichstag was gutted by a fire a month after Adolf Hitler became chancellor in 1933, and has not hosted lawmakers since.

Nation

Mapplethorpe trial ending

Closing arguments are expected today in the Cincinnati obscenity trial involving photographs by the late Robert Mapplethorpe. The defense rested its case yesterday. The prosecution has accused Cincinnati's Contemporary Arts Center of pandering obscenity and using children in nudity-related material.

NASA investigating loose beam

The National Aeronautics and Space Administration is forming a new team of investigators to find out how a 70-pound metal beam could have been left to crash around inside the Space Shuttle *Atlantis*, scheduled to be launched next month. NASA also says officials are reviewing *Discovery's* paperwork to make sure there is not a similar problem in that craft. *Discovery* is scheduled for lift-off this weekend.

Justice Department looking into oil prices

The Justice Department wants a good look at the records of major oil companies, marketers, and refiners. It says it has subpoenaed those records as part of its investigation of gasoline price hikes since Iraq invaded Kuwait.

But the oil industry does not seem worried. Mobil Oil Corporation spokesman John Lord and others predict the probe will not find any evidence of price gouging.

Justice Department investigators have interviewed oil company officials about the price hikes. James Rill of the agency says now investigators will be able to determine the accuracy of their explanations by looking at company records.

According to the American Automobile Association, the average price of a gallon of gasoline has jumped by more than 27 cents since the Aug. 2 invasion.

The Justice Department is trying to determine if oil refiners or marketers worked together illegally to raise prices to take advantage of the crisis in the Persian Gulf.

Administration lobbies hard for deficit-reduction bill

President George Bush and congressional leaders are pressing reluctant lawmakers to support the \$500 billion deficit-cutting plan. Backers said they were confident of eventually getting the needed votes; but acknowledged they did not yet have a majority. White House spokesman Marlin Fitzwater said, "We're inching along, but we don't have the votes yet."

Administration officials said they will not call a vote until they are sure the package of taxes and spending cuts will pass. One aide said House Speaker Thomas S. Foley (D-WA) "has been pleading and pleading" with lawmakers to support the plan, but some are afraid of voter backlash.

Perhaps this fear is justified. People driving by the White House saw demonstrators holding signs that read, "Honk if you hate taxes," and many sounded off.

Souter confirmed by huge margin

Newly-confirmed Supreme Court Justice David H. Souter has pledged to return the nation's confidence in him. The New Hampshire judge won Senate confirmation today by a lopsided 90-9 vote. In Concord, Souter said he has been given much, and that much will be expected of him in return.

Souter said he would like to go sightseeing in Washington, DC, but is having trouble. He said he tried to check out the Capitol rotunda as he visited senators after his confirmation, but left because people were staring at him. Now, he says he might have to wear a bag over his head to go out in public.

Souter is expected to be sworn in next week.

Local

Dartmouth paper apologizes for anti-Semitic remark

The trustees of the *Dartmouth Review* apologized in Hanover, NH, yesterday for an anti-Semitic quote that appeared in the off-campus weekly. However, they also criticized the college's president for creating a "lynch-mob mentality on campus."

Meanwhile, students, faculty, and others at the Ivy League school planned to rally in protest of the quote by the conservative paper. President James Freedman and other top administrators planned to speak at the rally.

The newspaper infuriated Jews by printing a quote from Adolf Hitler in its latest edition. The paper said it was a mistake, done by an unknown person, and apologized for the remark. Trustees Dinesh D'Souza and Wendy Stone apologized at today's news conference called by the *Review*. But D'Souza said Freedman and other administrators have ruined the lives of staffers at the *Review*. He said the trustees will contact the Jewish organization B'nai Brith to help investigate the incident.

Movie theater rejects NC-17 movie

A movie theater in Dedham bowed to pressure from two town officials yesterday and cancelled the showing of the first film released with the new NC-17 rating, *Henry and June*. Town selectmen threatened to suspend the theater's license if it showed the movie, which is based on Anais Nin's diaries about her affairs with writer Henry Miller and his wife. The NC-17 rating replaced the X rating on Sep. 26. The rating means no children under the age of 17 can be admitted.

Selectman Frank Geishecker and Selectman Chairman Anthony Taurasi both objected to displaying the film on the grounds that it would violate a license condition that prohibits the theater from showing X-rated movies.

Sports

Red Sox clinch division; fans celebrate wildly

The baseball faithful were out at Fenway Park in the cool morning air yesterday, waiting to buy tickets for the American league playoffs. It went to the last game of the season before the Sox wrapped up the AL East Wednesday night. They clinched the title by beating the Chicago White Sox, 3-1. The victory touched off jubilation in Fenway, which spilled over into nearby Kenmore Square.

The Sox have a few days to ready themselves for the best-of-seven series against the Oakland A's. The Red Sox said they will send Roger Clemens to the mound for the 8:30 pm start of Saturday's game.

The team set an all-time attendance record this season, drawing more than 2.5 million fans to Fenway Park. The stadium is the smallest in Major League Baseball. The 2,528,986 fans who went to the park this season represent 92 percent capacity.

Weather

Mild and dry

Sunny mild days and clear cool nights will be the rule over the next several days as cyclones track well to the northwest of southern New England.

In the Atlantic, tropical storm Klaus is expected to move to the west-northwest, passing the smaller islands of the northeastern Caribbean today and tonight. The storm could reach hurricane intensity later today.

Friday: Mostly sunny with some stratocumulus clouds developing toward late afternoon. High around 70°F (21°C). Winds west-northwest 10-15 mph (17-25 kph).

Friday night: Clearing and cool. Low 55°F (13°C).

Saturday: Partly sunny and mild. High 74°F (23°C). Low 60°F (16°C).

Sunday: Partly sunny and warmer. High 78°F (26°C). Low 63°F (17°C).

Forecast by Michael C. Morgan

Compiled by Brian Rosenberg

opinion

Remember the joys of life

Guest column by Yu Hasegawa

Another friend of ours flew away. Why, we ask? What was going on in his life? What was it that he wanted to escape from? What did he feel at the moment he jumped? What was he thinking? Did he want to be free? Has he become free?

During our lives, we occasionally experience sad or depressing times. Sometimes, these incidents can make us question the meaning of life; sometimes, our inability to find the right answer can make us desperate. I don't know what has made that particular friend choose to fly away from us, and I don't know how many of you have had an experience of being suicidal. But I know someone who survived, and I'm writing to you about her — especially to those of you who have had such feelings.

Before she took a leave of absence from MIT one year ago, she was never happy. Bad things always seemed to happen to her.

Over the course of three years, she had lost her father, her grandfather, and three of her dear friends. Their deaths left her weak and depressed. At the same period of time, her brother and her mother were hospitalized. Her brother was twice misdiagnosed as having leukemia, and her mother had a suspicious tumor removed. Finally, she herself was raped.

To her, it was almost funny that her car was stolen three times and that her insurance was cancelled during the same period of time. It seemed that life was a big joke.

She had a hard time keeping up in her courses. Her poor English ability hindered her work. Her physics professor took her aside one day after class and asked, "What are you doing here?" implying she didn't belong at MIT.

But the saddest thing was the change in her relationship with a professor who was her mentor. Perhaps she disappointed her professor by not realizing her potential or not doing as well as expected, or the professor might have been overwhelmed by her student's problems. Distance grew between them.

Making friends was also difficult for her. After the death of her father, many people expressed their sympathy. But as more of her beloved ones died, and as she remained depressed, she became more isolated (no one enjoys being friends with someone who only talks about problems — often in tears — and who rarely says, "I'm fine.")

There was one more incident that made her utterly desperate.

"Why must I suffer? Why me?" The more she questioned, the more unhappy she became. Life seemed completely meaningless to her.

There had been a few earlier times when she thought of committing suicide. But this time she was actually ready to kill herself. She felt worthless of her being. She started "preparing" to die.

She didn't want to leave anything that might trouble her mother after her death. She cancelled her subscription to *Ms.* magazine. She paid her final phone bill. She transferred the money in her bank account to her brother. And she gave her hibiscus plant away. Then she cleaned her room so that her family would remember her as a neat daughter.

The night she felt she had finished all the tasks of

her life, she sat on the floor by her bed with three bottles full of sleeping pills. "The pills will penetrate my organs, and I will soon be transparent." They looked to her like beautiful white crystals to lead her to the world of comfort.

Surprisingly, she was very calm. All the depression she had felt was gone. The questions about the meaning of life became just memories. She was completely at peace. She wanted to enjoy the peaceful moment a little more, to listen to the melody of silence. She closed her eyes. Soon the tones reverberated in her heart, and she felt as if she were rising into tranquil infinity.

Then she recalled a dream she had the night before. Alone in infinity, she saw a lot of little boxes, white and silver, in a twisted line, suspended in air. She didn't see the beginning or end. She tried to open silver ones, but she couldn't. She tried white ones, and they opened. When she opened one, she saw herself showing her parents the acceptance letter from MIT. She couldn't hear their voices, but they seemed very happy. She opened another one, and there she was giving a speech at an Asian women's conference. Again, she couldn't hear what "she" in the box was saying, but at least "she" looked confident. These white boxes seemed to be filled with happy memories of her life. But she didn't know what was hidden in the silver boxes.

Suddenly, she opened her eyes. She felt she had power. She realized that she now had control over her life: She was killing herself before fate did.

"If I know I'm going to die and since I have control over when I die, why not give myself a little more time just to enjoy myself? Doing only what I want to do for one or two days will not make a difference. Maybe I can let myself be happy for a while," she told herself.

Then she thought of things she wanted to do during the limited time she had decided to live. She wanted to write about her journey to near death. So she wrote. Then she wanted to write about all the bad experiences she had had; so she did. Then she wanted to write more and more — to express herself, to leave a proof of her existence. She wrote, wrote, and wrote. Then she found herself enjoying it.

Writing transformed bad memories into something beautiful, and she was having a peaceful time. She would continue to write, she thought, for writing made her happy; she would keep enjoying this little happiness, she told herself, until she would end her life.

That's why she is still alive, writing. She is no longer a suicidal person. For the first time, she is having a happy semester at MIT. She noticed that, once she stopped being depressed, her relationships with people brought her laughter. She doesn't want to die until she allows herself more happy times. If you happen to meet her, ask her how she's doing. I know she will honestly say, "I'm fine."

Above all, is she not lucky that she can decide to live?

Yu Hasegawa '89 is in the Department of Mathematics and the Program in Women's Studies.



The Tech

Volume 110, Number 40 Friday, October 5, 1990

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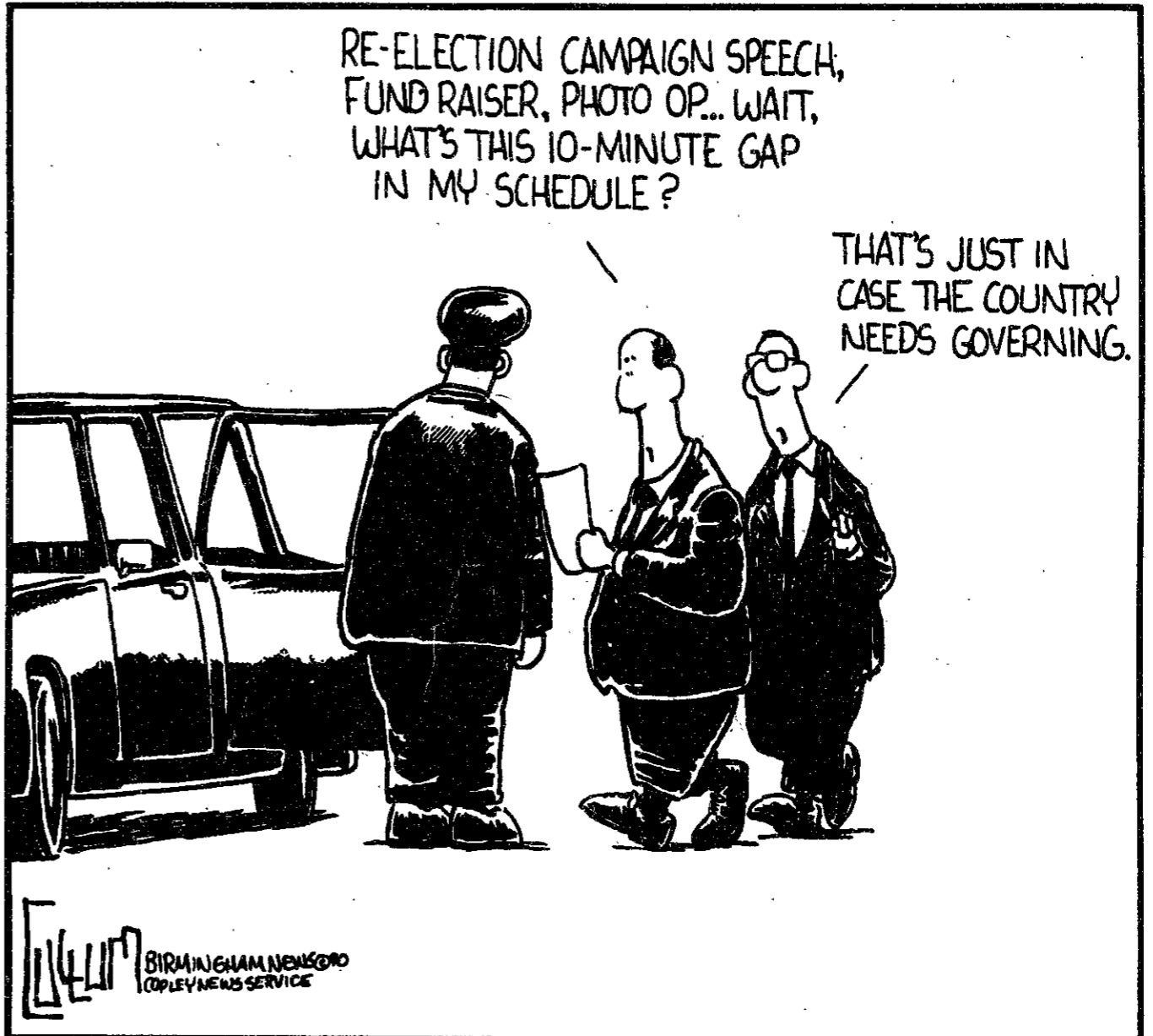
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opinion

LETTERS TO THE EDITOR



TABLE SCRAPS

Survival of IAP depends upon increased student participation

It is already time to look forward to Independent Activities Period. Dean for Undergraduate Education Margaret L. A. MacVicar '65 and the IAP Policy Committee are currently reviewing IAP, and they are concerned about the program's educational value.

This concern has arisen from a low rate of involvement by all facets of the MIT community. This year's IAP was to have been the last one, but a two-year extension is allowing the program to continue through January 1993.

Where IAP goes from here is up to all of us. If the administration continues to see a lack of involvement, this extension could very well be the last chance IAP receives.

Undergraduates, graduates, and faculty all need to take an active role in the program. The more people become involved, the greater the chance that IAP will succeed in being a part of the curriculum through the 1990s.

IAP is the one opportunity that MIT students have to create classes. Students are encouraged to sponsor events that appeal to them. Faculty are encouraged to teach that one class that the department head would never allow. The opportunity to explore new research projects without the pressure of competing classes should exist, and does, during IAP.

IAP might seem like a long ways away, but this is the time to plan events. The IAP preview guide, released recently, lists many activities you may want to pursue, but many more will be added before the completed guide appears in December.

Organizing an event is simple and easy; just fill out a form in the IAP office, and you will be officially listed in the forthcoming guide. If you need funding, you can pursue it through an academic department or the IAP office. The deadline for submission

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is Oct. 25.

Now is the time to plan on being in Cambridge in January, without the hassles of 6.001, lab reports, and that one annoying class that eats up all of your free time. IAP is the time to see MIT at its best.

Christian Klein '91

Jim is more than just OK

(Editor's note: The Tech received a copy of this letter addressed to "Jim.")

Ever since I began working at MIT last year, I've meant to write and tell you how much I enjoy your strip, although I'm not sure why.

Georgia Taylor
Department of Civil Engineering

Israel's defensive efforts are justified

Ennis Rimawi '91 and Adeeb W. Shanaa '93's attack on Andrew D. Yablon '92's column concerning Saddam Hussein and the West Bank is littered with inaccuracies and distortions ["No basis for Israeli claims to territory in West Bank," Sep. 5].

These two writers would have you believe that the Palestinians welcomed with open arms the Jews who were returning to their homeland. Attacks on Jewish settlements took place throughout the early 1900s.

In fact, Jews fleeing Nazi Europe during the early 1940s were turned back from landing in what is now Israel by the British rulers who were under intense Arab pressure. Many of these people were forced to return to Europe and were sent to the gas chambers.

They erroneously claim that prior to Jewish immigration, "the whole area was already a Palestinian state." This would probably come as news to the British (who controlled the land from 1918 to 1948) and to the Turks, who ruled it for the previous 400 years.

The column states that the Zionists unilaterally declared this area a Jewish state. On the contrary, the United Nations partitioned the area (after the British first gave two-thirds of the territory to the Arabs to form Jordan, whose population is now 70 percent Palestinian) into an Arab and Jewish area.

The Jews merely proclaimed a state in the area provided for them by the United Nations. Had the Palestinians accepted this settlement peacefully, they could have had a real state of their own.

The threat to Israeli security is not a myth. After four wars in which Israel's very survival was at stake, and after hundreds of terrorist attacks, security becomes a very serious, and a very real, issue.

The terrain of the West Bank limits the routes of attack on Israel to only four areas. This significantly adds to the defense of an outnumbered and surrounded Israel. Israel proper has no such geographic border and thus requires large defensive contingents along its entire frontier. Also, considering that pre-1967 Israel is only eight miles wide at points, the West Bank provides essential space for defense.

As Yablon stated in the original article, Israel's attack in the 1967 war was purely in self-defense. Egypt's Gamal Abdel Nasser had ordered UN troops out of the border area between Egypt and Israel and massed a large number of troops there.

Other Arab nations followed suit, and soon Israel found itself surrounded by 250,000 troops. These countries were taken by surprise by the Israeli first strike, since they were expecting to attack and to determine when the fighting would start. Just because they were caught by surprise does not mean they were not preparing for war.

Those 250,000 troops were not sent to the border so they could have a picnic. Rimawi and Shanaa conveniently neglected to mention anything about the Arab-launched wars in 1948, 1956 and 1973, the last one beginning on the holiest day of the Jewish calendar.

The writers would have us believe that the Palestine Liberation

Organization has suddenly turned into a peace-loving group. Considering its refusal to condemn a recent Palestinian attempt at a terrorist attack on an Israeli beach, and considering the PLO's violent past, you'll have to excuse me if I'm just a little bit skeptical.

The column lists several figures about Israeli-caused casualties that the authors hope readers will take at face value. Their figures are highly inflated.

Additionally, casualties partly resulted from Palestinian terrorists often setting up their headquarters next to schools and refugee camps. This way, even precision attacks on the terrorists ultimately result in civilian casualties.

As for the intifada, more Palestinians were killed in July by other Palestinians (because they were suspected of working with the Israelis) than by Israeli soldiers. Recently, Palestinians in the Gaza Strip stoned and burned to death an Israeli.

These two writers made reference to the refugee camp massacres. It must be made clear that the Lebanese Phalangists, and not the Israelis, did the killing.

In response to the fact that Israeli soldiers were in the area, over 300,000 Israelis (over one-tenth of the population) marched in Tel Aviv to demand an investigation of the matter.

Furthermore, the authors refer to the assassination of an Arab-American and wonder about "the implications if an extremist Palestinian group assassinated a Jewish-American." You mean like when wheelchair-bound Leon Klinghoffer was thrown off the *Achille Lauro* by Palestinian terrorists?

Jews across the world have been victims of Palestinian terrorism. Currently, the cantor of my temple at home is in Sweden assisting a Jewish community there. He writes that the synagogue has a security entrance and a 24-hour guard. If the Jews in Sweden cannot feel safe from Palestinian terrorism, how are the Israeli Jews supposed to feel secure?

The answer is that they must prepare a strong defense in order to prevent further terrorist attacks or even a fifth war. The West Bank plays an influential part in this defense. Recent events have shown that strength, not appeasement, provides secure borders in that area of the world.

Steven Lustig '93

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Dissests, marked as such and printed in a distinctive format, are the opinions of the undersigned members of the editorial board choosing to publish their disagreement with the editorial.

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Letters to the editor are welcome. They must be typed double spaced and addressed to *The Tech*, PO Box 29, MIT Branch, Cambridge, MA 02139, or by interdepartmental mail to Room W 20-483. Electronic submissions may be mailed to tech@athena.

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.

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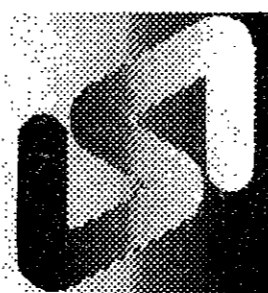
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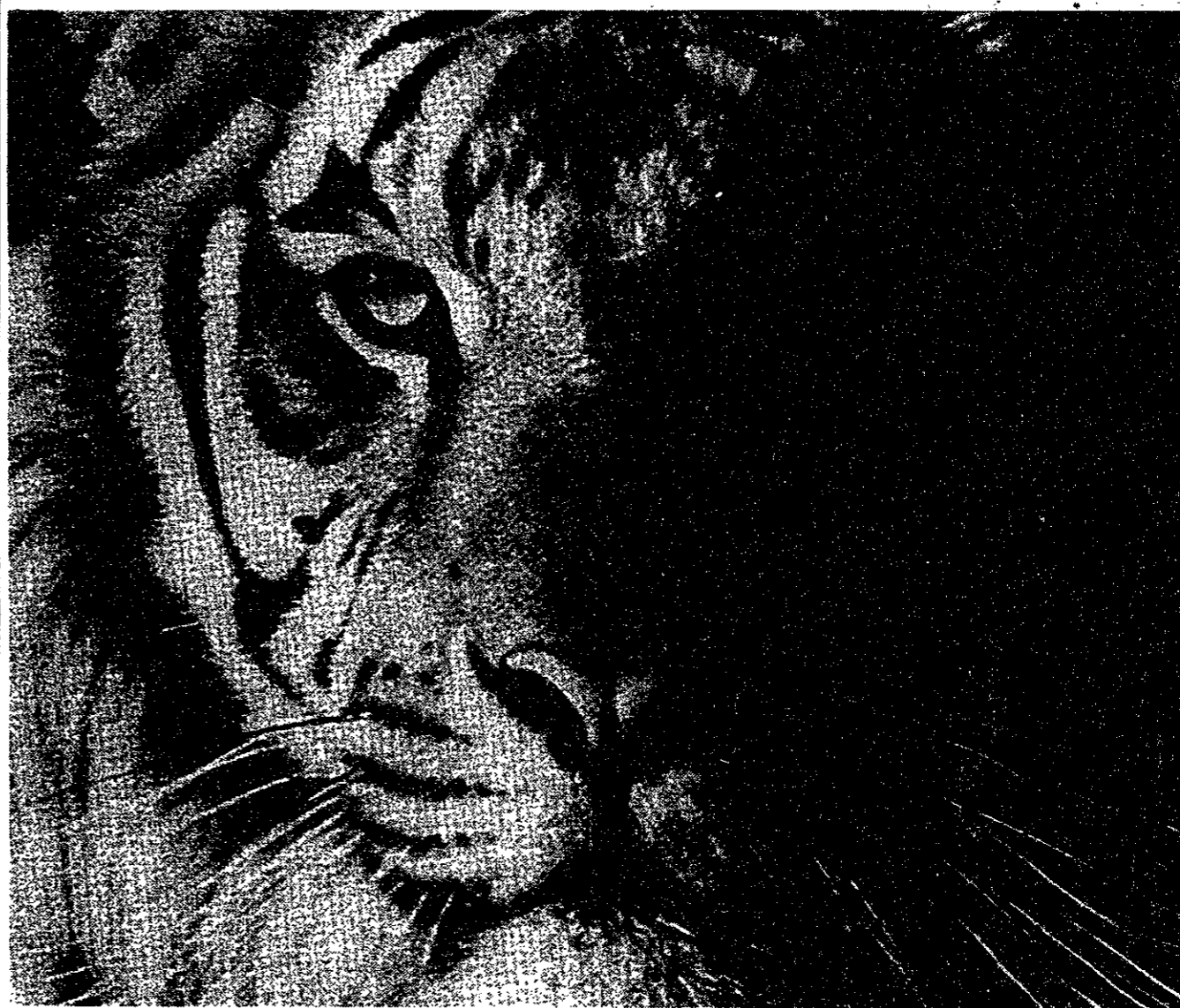
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opinion



"EVEN IF I COULD AFFORD ONE OF THOSE THINGS, I DON'T KNOW HOW I'D EVER TRAIN MY MULE TO OPERATE IT."

LETTERS TO THE EDITOR

Pro-Life requests partial insurance refund

(Editor's note: The Tech received a copy of this letter addressed to Arnold N. Weinberg, medical director and head of the MIT Medical Department.)

As recently noted in the campus press, MIT Pro-Life would like the Medical Department to review its policy on abortion coverage under the Student Health Insurance plan ["Pro-Life protests health insurance," Sep. 11].

Currently, the Institute's insurance provides abortion coverage for all enrolled, and thus uses funds from all students in the plan to finance abortions. MIT Pro-Life would like this coverage to be made optional for those students who have strong moral objections to sharing the cost of elective abortions.

Considering how divisive the abortion issue has become, it seems only reasonable that MIT, which prides itself on having an atmosphere of tolerance and diversity, recognize the need to respect the moral convictions of part of the student body. Other schools have already done so. Harvard University, for example, has been allowing students to obtain abortion coverage rebates for years.

As you probably are aware, MIT Pro-Life first made its request for refunds this past February. On that occasion, our request was denied by Linda L. Rounds, executive director of the Medical Department.

Rounds apparently believes that providing refunds to students with moral objections to abortion would "instigate a chaotic system with different people wanting refunds for different reasons."

This line of reasoning is suspect in view of the following facts: (1) As mentioned above, abortion coverage rebates are already being provided at other universities without inducing "chaos." There is no reason to believe that MIT's experience would be any different. (2) There is no other medical procedure covered by MIT insurance which is considered by anyone to be the taking of an innocent human life.

The examples of other potentially objectionable procedures which Rounds has described simply do not raise an ethical dilemma on the scale of abortion. She suggested that people might oppose paying for the treatment of illnesses caused by habits such as abusing drugs or for procedures like blood transfusions.

But who in the world has mor-

al objections to drug rehabilitation care? And though Jehovah's Witnesses oppose blood transfusions when performed on themselves, they do not stop others from receiving them. Furthermore, they do not believe blood transfusions constitute murder.

Perhaps Rounds thinks that the number of students with strong moral objections to abortion is not sufficient to justify making optional MIT's abortion coverage. Indeed, according to the article in *The Tech*, Rounds "will still consider the issue" of abortion funding if student concern is substantial."

To give you one idea of the level of concern in the MIT community, we have enclosed the signatures of over 100 MIT students, parents and staff who support this option. Note that we were able to collect these petitions without any major campaign effort (in fact, it only took two people and a few hours).

It is also possible that Rounds does not believe that the moral objections of these MIT students should be respected, because they are the views of (to use her words) "a special interest group."

But considering how divided the country is on this issue (as evidenced by political contests throughout the nation as well as by the recent controversy over the Supreme Court confirmation hearings), we think it inaccurate to suggest that either side of this debate is merely a "special inter-

est group."

Lastly and most importantly, we feel obliged to let you know that we believe that a refusal on the part of MIT to make elective abortion coverage optional would be a flagrant infringement of a person's First Amendment right not to associate with activities of which one disapproves.

In the 1977 case of *Abood vs. Detroit Board of Education*, the Supreme Court approved the withholding of union dues notwithstanding their mandatory nature, where "the moral or religious views about the desirability of abortion may not square with the union's policy in negotiating a medical benefits plan." Under the Massachusetts Civil Rights statute, even private interference with constitutional rights is illegal.

In the above case, it should be noted, the Supreme Court suggested that an appropriate remedy to the unconstitutional exaction would be (1) a refund of the proportion objected to; and (2) the reduction of future charges by the same proportion.

MIT Pro-Life is currently in contact with an attorney to take possible legal action against MIT if students are not allowed to waive abortion coverage.

Margaret F. Keady '93

President

Juan A. Latasa '91

Insurance Liaison

MIT Pro-Life

and 110 others

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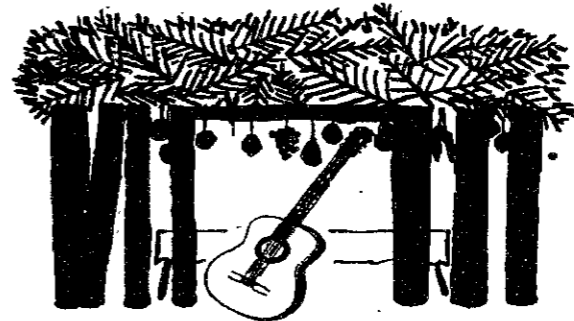
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Lewis follows up hilarious Cane Toads with Wonderful Dogs

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By MANAVENDRA K. THAKUR

HERE ARE SOME FINAL reviews of films shown at the recently concluded Toronto International Film Festival.

THE WONDERFUL WORLD OF DOGS

Directed by Mark Lewis.
Australia, 1990.

In a hilarious follow-up to his equally delightful *Cane Toads — An Unnatural History*, Australian director Mark Lewis' new pseudo-documentary film explores *The Wonderful World of Dogs*. This 52-minute film, which identifies and immortalizes certain myths about dogs, is filled with amusing anecdotes about how dog owners love their pets. In one sequence, a woman cries her heart out as she recalls how her pet saved her family and guests from food poisoning by keeling over after tasting the food that had been prepared for dinner. In another sequence, Lewis recreates what it would be like for a small dog to be carried off by a hungry pelican. None of this is real, of course — the woman is a paid actor hired by Lewis, and the close-ups of the dog inside the pelican's pouch are obviously faked — but the results are hilarious. While some purists might legitimately look askance at the truth-stretching endemic in Lewis' films, it's equally difficult to resist the charms of a film that touts the development of a "dog-cam" as one of its major accomplishments.

DAS SCHRECKLICHE MADCHEN [THE NASTY GIRL]

Directed by Michael Verhoeven.
West Germany, 1990.

In what is sure to be a huge hit, director Michael Verhoeven has crafted a crowd-pleasing black comedy about what happens when a young girl named Sonja (Lena Stolze) living in a small Bavarian town decides to write an essay on "My Town During the Third Reich." Laced with wit, the film portrays how the conservative forces in the town try to keep the past buried by thwarting Sonja's efforts. Years later, Sonja gets married and has children, but she's still determined to get to the truth, and the townsfolk who supported her once are equally determined to keep her from uncovering too much.

Verhoeven makes a noble attempt to satirize attitudes that lead people to repress unpleasant truths and underlying realities. Unfortunately, while milking much humor from the situation, Verhoeven torpedoes any attempts at emotional depth in the film. The director whitewashes any emotional fallout: in what is perhaps the film's most unforgivable moment, Verhoeven has his heroine first voice and then dismiss any second thoughts she might have in a mere ten-second sequence.

Certainly, Verhoeven has a right to satirize whatever he sees fit. However, his parody backfires because his satire is neither incisive nor outrageous enough to survive the onslaught of humor that he packs in his film. The film fails to induce its viewers to think or even feel any genuine emotions about the issues and topics that Verhoeven raises. When cultural and historical concerns of monumental importance get overshadowed by slapstick humor, it is safe to say that the satirist has squandered his responsibility.

RIO NEGRO

Directed by Atahualpa Lichy.
Venezuela, 1990.

Most film adaptations of Gabriel Garcia Márquez stories have been woefully inade-



The Wonderful World of Dogs (1990, Mark Lewis, Australia)

quate. This film is perhaps the first one seen by international audiences to truly capture Garcia Márquez' landscape — a noteworthy feat considering that this film is *not* based on any Márquez story.

The scene is 1912 as a new governor arrives in the Venezuelan Amazon. Initially humiliated by vigilante groups and pestered by his French wife, who cannot bear the thought of living in the jungle, the governor asserts his control and consolidates his power after eliminating the opposition. A new order reigns as the governor autocratically imposes taxes on all goods that pass through the river trading town. To raise even more money (as well as political support), the governor imports several French whores to entertain the local businessmen. Other nefarious schemes of one type or another unroll as the local peasants suffer mightily under the governor's rule.

Then comes another coup, with lots of violence and destruction, after a man clad

in black defeats the governor in a vicious cockfight. Gone are the rollicking good times with the classy prostitutes, and once again a new order reigns — this one even crueler than the one that preceded it. Laden with tension and melodrama, director Atahualpa Lichy's debut film is immensely satisfying drama about the Latin American legacy of violent overthrow of jungle despots. With his keen eye for dramatic backdrops and with a filmmaking style as incisive as a stiletto, Lichy has instantly proved — in his first feature film, no less — that he is an exciting new presence in Latin American cinema.

MISTER JOHNSON

Directed by Bruce Beresford.
United States, 1990.

Fresh after the commercial success of his Oscar-winning *Driving Miss Daisy*, Bruce Beresford's utterly revolting new film *Mis-*
(Please turn to page 11)

AMAZING SUBSCRIPTION OFFER!

The Pro Arte Chamber Orchestra has made available to the MIT community several subscriptions for its fall and winter concerts. Join Pro Arte for their 13th season of wonderful performances. Subscriptions include tickets to their October, November, and January concerts. And best of all, you get seats worth \$45 for the special price of only \$17!

The concerts for which you will receive tickets are:

October 21: Principal Guest Conductor Gunther Schuller leads the orchestra in Mozart's *Concerto No. 19 for piano and orchestra in F, K.459*; Liszt's "Malediction" with Benjamin Pasternack, piano; Delius' "On Hearing the First Cuckoo in Spring" and "Summer Night on the River"; and Honneger's *Pastorale d'Été*. There will also be a world premiere of *Before Sleeping*, a new work by Scott Wheeler based on the music of Virgil Thompson.

Concert at 3 pm in Sanders Theater.

November 18: Pro Arte's long tradition of performances with the Back Bay Chorale continues as conductor Beverly Taylor directs an evening of Mozart and Mozart-related themes. Before *Amadeus*, there was *Mozart and Salieri*, and Pro Arte will present Rimsky-Korsakov's one-act opera tonight. Other works: Mozart's *Mass in C*, "Coronation," K.317, featuring soprano Nancy Armstrong, alto Katharine Emory, tenor Gregory Mercer, and baritone James Maddalena; and the *Overture to "Lucio Silla,"* K.135.

Concert at 8 pm in Sanders Theater.

January 12: A concert for the whole family! If you can't afford tickets to *Phantom of the Opera*, you can still see the Boston premiere of *The Phantom of the Orchestra*, or "The Dark Side of the Symphony." Script by Justin Locke and music by Mozart, Beethoven, et al. If you liked Pro Arte's presentation of *Peter vs. the Wolf* last year, you'll love *The Phantom of the Orchestra*. To be conducted by Max Hobart.

Concert at 2 pm in Sanders Theater.

If you would like a subscription to Pro Arte's magical fall performances, or even if you would just like more information about them, please contact Deborah Levinson at *The Tech*, x3-1541. (Please pay by cash or with a check.) You may pick up tickets for all three concerts at the Sanders Theater Box Office the night of Sunday, October 21.

Offer closes on Friday, October 12, so act now to get your subscriptions!

Journal of IHTFP a joyful account of MIT hacks

THE JOURNAL OF THE INSTITUTE FOR HACKS, TOMFOOLERY, AND PRANKS AT MIT.

By Brian M. Leibowitz '82.
The MIT Museum, 158 pp., \$19.95.

By PRABHAT MEHTA

MY BRIEF CAREER IN HACKING began and ended during Residence/Orientation Week my freshman year. One night, towards the end of rush, I embarked upon a surreal journey of sorts — the spelunkers' tour. Under cover of the night, I joined about 20 other wide-eyed freshmen and a couple of guides to criss-cross the forbidden catacombs and roofs of the Institute. We would all later be rounded up by Campus Police officers while on top of the Great Dome over Lobby 10.

Sleepy, with stuff still in the corners of my eyes, I showed up at the Campus Police station the next morning at 7 am to pick up my ID. I was slapped on the wrist; told that if I got into any more "trouble," I would actually have to pay the requisite \$50 fine; and sent back to consider the ramifications of my delinquency. At the time, I was worried that my record would be tarnished. Needless to say, my hacking days were behind me.

But my will proved indefatigable, and as the atmosphere of MIT began to penetrate my soul later that year, I gladly took a job which my advisor, MIT Museum Director Warren A. Seamans 'HM, offered me in the collections department. My mission: to organize the piles of information the museum had collected over the years on hacking at MIT. The information, I was told, would be used for slide presentations and, possibly, a book. For the next four months, I sifted through piles of photographs depicting everything from coed streakers running across Kresge Oval to mischievous Senior House residents brewing their own spirits during the darkest days of Prohibition.

And so when Brian M. Leibowitz '82 came by *The Tech* a couple weeks ago with the final version of his hack book before it was to be printed, I took an eager preview, and anxiously awaited the arrival of the review copy. I wasn't disappointed. From beginning to end, *The Journal of the Institute for Hacks, TomFoolery, and Pranks at MIT* (IHTFP!) proves to be a joyful ride through our school's rich history of good, clean fun. It moves thematically through the biggest capers of MIT's only real tradition (the first recorded hack took place in the mid-1870s, Leibowitz notes in the introduction), with an emphasis on showing the reader what actually



"George" peeks out over the MIT campus in 1972.

happened with big, truly memorable photographs.

It is perhaps with the photographs that this book marks its greatest success. Pho-

tographs of hacks are generally of poor quality. This, Leibowitz says, is because of the "clandestine" nature of the activity. (Please turn to page 10)

The Tech Performing Arts Series announces

MOSCOW SOLOISTS

Violist Yuri Bashmet and his virtuoso colleagues embark on their premiere American tour. Program: Schubert-Mahler, *Death and the Maiden*; Britten, "*Lachrymae*" for viola and string orchestra; Schnittke, *Trio Sonata*. A Bank of Boston Celebrity Series event.

Symphony Hall, October 17 at 8 pm.

MIT price: \$6.

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Symphony Hall, October 19 at 8 pm.

MIT price: \$6.

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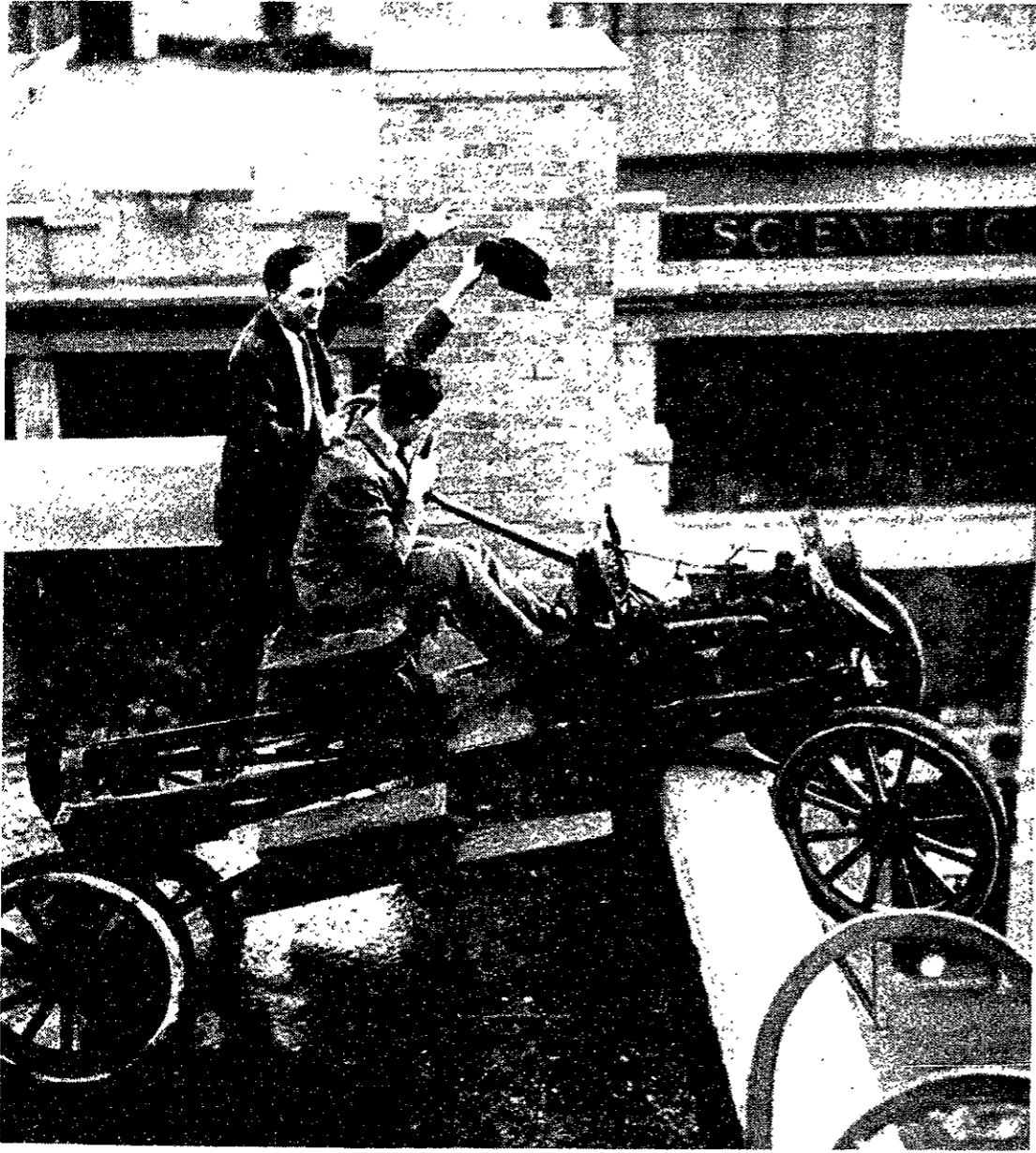
*The \$59 Youth Fare is valid Monday-Friday 10:30 AM-2:30 PM and 7:30 PM-9:30 PM, and Sunday 3:30 PM-9:30 PM. A \$49 Youth Fare is available all day Saturday and until 2:30 PM on Sunday. Fares and schedule subject to change without notice. A \$1 surcharge applies for flights departing Boston. Youth fare is valid for passengers 12-24 years of age with proper ID.

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PAN AM SHUTTLE

THE CORPORATE JET

Journal of IHTFP a delightful record of hacking at MIT



Many believe the man seated is the late James R. Killian Jr. '26.

(Continued from page 9)

But the photographs used in this book have been carefully chosen from the museum's collection, which contains many third-hand reproductions. The cover photograph of the "Great Pumpkin" hack — in which the Great Dome was dressed up to represent the Jack-O-Lantern of *Peanuts* character Linus' dreams — was masterfully retouched by an artist who poured the appropriate color of paint into each crack. The result is a beautiful red-orange depiction of the Institute coming to life on Halloween night, 1962.

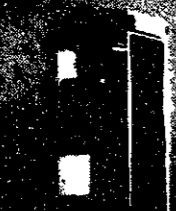
The "Great Pumpkin" hack is just one of the wonderful photographs in the "Buildings" chapter, which I consider to be the best. Like the pumpkin, other hacks on MIT buildings have attempted to give them personalities or alternate purposes. My favorites include the 1972 "George" hack on the Small Dome — in which the entire structure was covered by black polyethylene sheeting. Two eyes are painted to give the impression of a scared little giant peering over the 77 Massachusetts Ave. entrance to the Institute. Others might prefer the "nipple" hacks — in which structures were placed on the tops of the domes to depict "Mamma Maxima Scientiae" (Great Breast of Knowledge) — but I found it to be uncomfortably realistic. (Imagine the Institute as your mother. . . .) Of course, building hacks have not been limited to the domes. One classic caper which took place in the Infinite Corridor was the 1985 "Massachusetts Tool-pike," which included road signs, yellow lines, and even a car parked in Lobby 10.

Other sections of this book cover the freshman picnic, Hahvahd, and the now nearly defunct humor magazine *Voo Doo*. The Hahvahd chapter includes the infamous Harvard-Yale game hack of 1982. Leibowitz interestingly points out that the media attention focused on Delta Kappa Epsilon's balloon hack neglected two other MIT hacks that day. The MIT marching band managed to get onto the field and spell the letters "MIT," and placards that unknowing Harvard fans raised in hopes of spelling "BEAT YALE" in the fourth quarter in fact spelled out "MIT." There can be no doubt who really won that game.

There is so much more to be said about this book, so many moments of sheer MIT brilliance to discuss. But I have neither the space nor desire to keep telling you about them. You'll just have to go out to the museum or the MIT Museum Shop on the first floor of the Stratton Student Center and buy the book for yourself. Flipping through one last time as write this review, though, I can't help but tell one final story. "As you read *The Journal* . . . you will see that even the president of this august institution is not immune from the hacker's thrust," writes President Paul E. Gray '54 in the "nextword."

I wondered what he meant for a while until I reached a photograph on page 71 of two young men on one of the roofs of East Campus. Nothing special, except that both are on a car, and one would go on to become the 10th president of MIT. He was the late James R. Killian Jr. '26, hacker extraordinaire.

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Portuguese cinema in the 1980s showcased at Toronto Film Festival

**FESTIVAL OF FESTIVALS:
PORTUGUESE RETROSPECTIVES**
Sep. 6-15.

By MANAVENDRA K. THAKUR

EACH YEAR THE Toronto Film Festival picks a country whose films are little known in North America and then shows a selection of films representative of the spectrum of that country's cinematic history and heritage. This year it was Portugal's turn.

In fact, the festival organized two Portuguese retrospectives this year because the works of one great filmmaker — Manoel de Oliveira — have practically defined international conceptions of Portuguese cinema for the last several decades.

His first feature film, *Akini-Bobbò* (roughly translated as *Abacadabra*), is a delightful and very funny film about a group of children on the streets of a city called Porto on the banks of the Douro River. The film is told with narrative wit,

poetic realism, and cinematic beauty. De Oliveira's direction is totally uncluttered and the story unfolds with eminently believable logic.

His next film was *O Acto da Primavera* (*Act of Spring, or The Passion of Jesus*), a fairly straightforward production of the Passion Play that suddenly ends with a furious montage of images that parallel the wars of modern history with the crucifixion of Jesus. This ending creates a moment of interest in an otherwise conventional film.

Passado E O Presente (*Past and Present*), made nearly a decade later, was considerably more successful. It's a scathing and satirical film about a woman named Vanda (played by Maria de Saisset) who continually abuses and insults her second husband. Her friends are all self-absorbed society snobs. The mannerisms, conversations, and decadence of the idle rich are relentlessly satirized by de Oliveira and his camera.

In the 1980s, de Oliveira became more interested in both history and theater. An

example is *Le Soulier de Satin* (*The Satin Slipper*), a seven-hour film made for television in 1985 that was edited to 169 minutes for theatrical release. The film documents a production of Paul Claudel's play about a Spanish conquistador who is unable to consummate his love for a noblewoman and who eventually overcomes his earthly desires by finding spiritual salvation.

Because this is a filmed record of a theatrical performance, it represents reality twice removed, and de Oliveira's merging of cinematic and theatrical techniques points out the artifice inherent in both stage and film. The film's exploration of Catholic philosophy is also interesting, but nothing warrants the extremely long running time.

Much more palatable is de Oliveira's newest film, *Non — Ou a Vã Glória de Mandar* (*Non — Or the Vain Glory of Command*), which was completed in 1989 and concerns a group of Portuguese soldiers being transported on a truck during the Angolan war. The men begin wondering about why they are still fighting colonial wars in modern times, and soon one officer begins telling them fascinating stories about famous battles waged by Portuguese explorers in the 15th century that led to the establishment of the Portuguese empire.

Effortlessly cutting back and forth between past and present, de Oliveira explores how these historical events influenced and shaped current reality, and the final sequences of the film powerfully portray how the single-minded pursuit of glory can victimize entire peoples.

De Oliveira is respected throughout Europe as the father of Portuguese cinema. His long, illustrious career, and particularly his steadfast refusal to compromise his art in any way, inspired a whole new generation of Portuguese directors. In Europe, de Oliveira is revered as a cultural treasure, and the introduction to North American audiences provided by this retrospective is long overdue.

In one of the great ironies of international cinema, the films of de Oliveira and other Portuguese directors have, as a whole, been generally ignored by popular audiences within Portugal itself. However, since the 1974 revolution, the central government and other organizations have supported film production as a cultural imperative. As a result, Portuguese directors have largely remained free from commercial pressures and have been able to pursue their own interests.

One excellent example is Pedro Costa's 1984 film *O Sangue* (*The Blood*). The film tells an elliptical story of young Nino and his older brother Vicente attempting to bond together after their father mysteriously dies. Their world is shattered when the brothers' uncle forcibly takes Nino away to adopt him. The bulk of the film is devoted to increasingly eerie encounters as the two brothers try to reunite with one another. Primarily achieving his desired effects through high-contrast black-and-white photography, Costa demonstrates his tremendous talent for shaping cinema to his will. Without a doubt, this is one director whose future works should be awaited eagerly.

Another example of how Portuguese directors have pursued their individual visions is João Botelho's 1985 film *Um adeus Portugues* (*A Portuguese Farewell*). The film movingly reflects the efforts of a family to come to terms with the death of the oldest son Augusto, who was killed while fighting in Angola 12 years earlier. A mood of sadness permeates almost each scene in the film, in many ways analogous to the cathartic experience of American families who find solace at the Vietnam Veterans Memorial in Washington, DC.

Other Portuguese films were featured in the Toronto retrospective, but these two films were perhaps the most notable. As the retrospective made clear, Portuguese cinema is well on its way toward establishing its international reputation.

Beresford's Mister Johnson lacks conviction and authenticity

(Continued from page 8)

ter Johnson had its world premiere at the Toronto festival. Beresford has gone from making films that directed themselves to films that seem directed by a tourist. Set in Nigeria in the 1920s, the film tells the story of an inexperienced, naive white British officer (Pierce Brosnan) and his black aide-de-camp Mister Johnson (Maynard Eziashi) as they bend the rules to finish a highway that will link up northern and southern Nigeria.

Not a single frame conveys any conviction or sense of authenticity. Beresford doesn't even have the guts to explore any of the issues that he brushes up against. For example, Mister Johnson is a classic case of a minority who has wholly swal-

lowed the racist notion that whites and Anglo-Saxon civilization are superior to native cultures. He constantly refers to himself as "a proper English gentleman" and declares England to be his true home. Rather than explore how and why Mister Johnson so readily accepts his white masters' propaganda — which is a sobering legacy of British colonialism — Beresford instead chooses to repeatedly show scenes of the wild parties that Mister Johnson likes to throw.

Hollywood has yet to make a film that does any significant measure of justice to the peoples who inhabit the African continent, and it is clear in the case of *Mister Johnson* that Beresford is completely out of his native element.

Harry S. Truman Scholarships

The annual Harry S. Truman Scholarship Awards will be made to current juniors interested in a career in government and related public service at the federal, state, and local level who are U.S. citizens or nationals. MIT can nominate up to four juniors for the 1991 Truman Scholarship competition held nationally.

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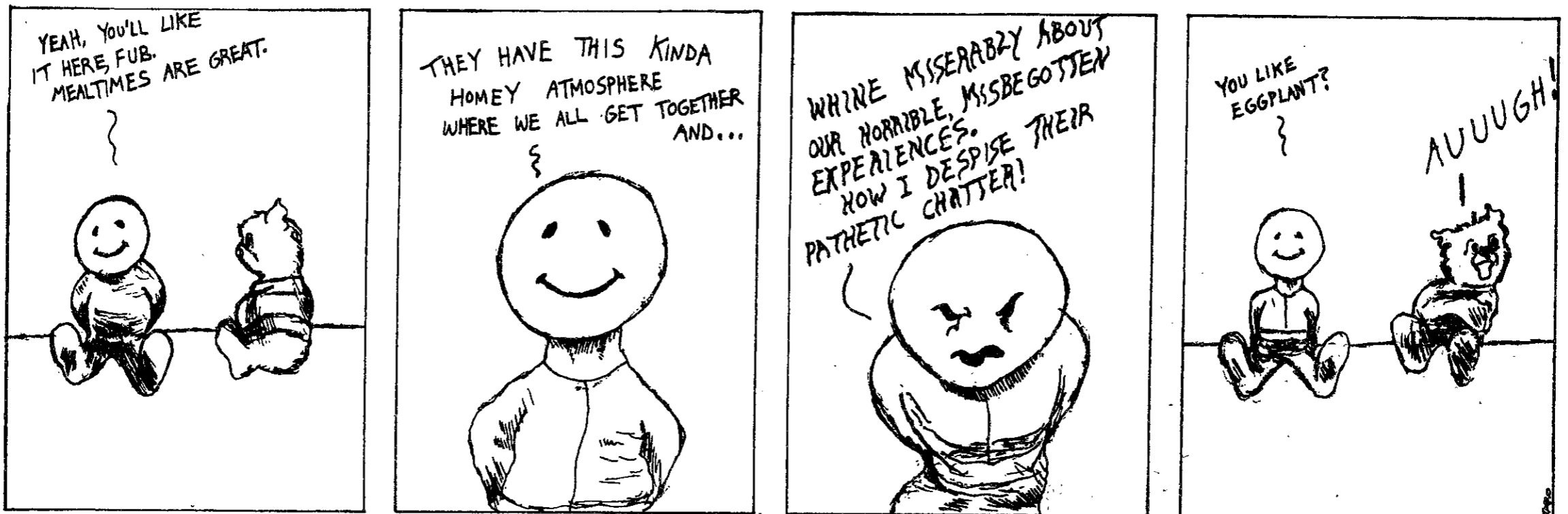
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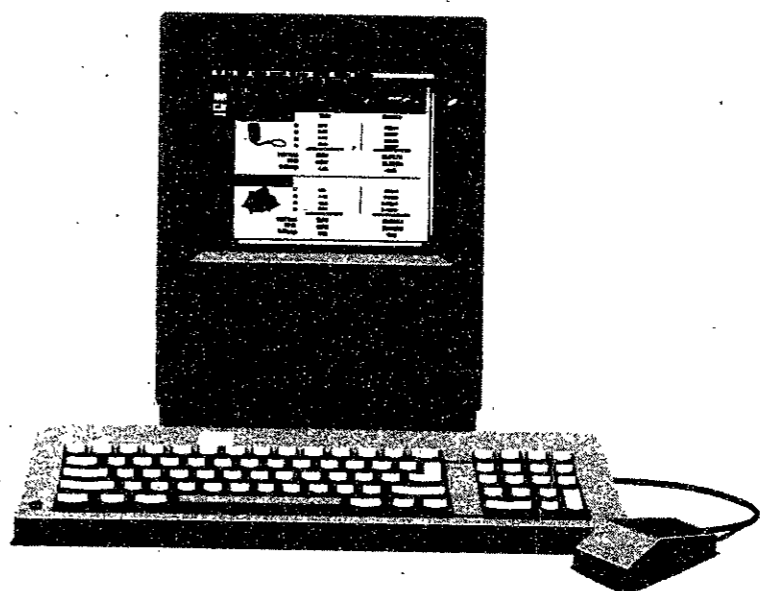
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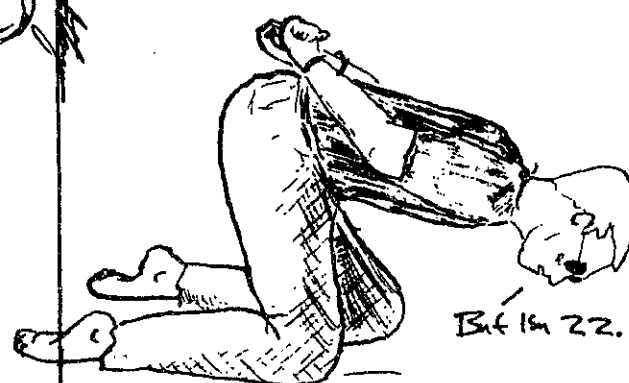
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Panel debates ROTC future

(Continued from page 1)
to bring about change, Drake suggested that MIT lobby for the elimination of the discriminatory policy. He hoped other universities would follow MIT's lead.

Rubenstein took a stronger view and urged MIT to set a date to remove the ROTC program if the policy is not changed. Contrasting sharply with Drake's suggestion, Rubenstein stressed the

importance of working from outside the system to lobby for change. Only then, he said, would the Department of Defense pay attention to the seriousness of MIT's intentions.

Deutch, commenting on his efforts from within the system, discussed his April 1990 letter to Secretary of Defense Dick Cheney denouncing the ROTC policy. Deutch said he never expected

the amount of publicity the letter generated. At the colloquium he recounted tales of friends and colleagues who were shocked that he took such a bold stance against such a "touchy" subject.

The surprise stemmed from the fact that the issue was not raised by a "radical," but by the provost of a major university with strong ties to the DOD.

Deutch said the DOD was uncomfortable over his use of the phrase "discrimination based upon sexual preference" since policy-makers in the DOD felt that barring homosexuals was morally correct.

Dyer joined the provost's outcry against the ROTC policy. As a lesbian and the daughter of an MIT graduate who was in Navy ROTC, Dyer said both she and her father found it absurd that she cannot serve her country just because she is gay.

Dyer proclaimed that the battle she is fighting is not against ROTC, but rather a battle toward ending all forms of discrimination.

Pointing out that if ROTC discriminated based on race or gender today, the public would not tolerate it, Dyer found it outrageous that the same standards are not applied to discrimination against homosexuals.

Dyer continued by declaring that the present policy exists only for the "vocal minority," which clamors constantly against the change, while the silent majority sits and watches, she said.

"Though there are many gay rights sympathizers in Congress," Dyer said, "a measure eliminating discrimination against gays would only pass today if the vote were secret, a course that is clearly impossible given the controversy over the issue."

"Even if Cheney were to change the policy today, Congress might pass a law restoring the discriminatory policy against homosexuals," she said.

Lean production is wave of the future

(Continued from page 1)
ladder, from top management to the work floor," Roos said.

The researchers concluded that lean production is the wave of the future, and that industries which fail to convert to the lean production method will find themselves falling behind in the coming decades.

Lean production methods originated in Japan

Not surprisingly, the study found that the most efficient automobile manufacturers are Japanese. However, the researchers were surprised to learn that the Japanese plants varied greatly in terms of efficiency. "There are good Japanese plants, and there are bad Japanese plants," said Roos.

Also surprising was the fact that the most efficient American plants — which have adopted lean production methods — were better than the average Japanese plants.

Roos and his colleagues found this encouraging. "Lean production originated in Japan, but it is not a function of Japanese culture," Roos explained.

"We see the principals of lean production being transferred here in the United States," Roos said. He predicted that it will take about a decade for American

companies to complete the transition from mass production to lean production. If they fail to make the change, they risk losing an even greater market share to foreign auto producers.

Although lean production has many advantages, its implementation in America will not be totally painless. Fewer workers will be needed at each plant, and since the auto industry is not a growing one, many of the displaced workers will have nowhere to go. The workers that do remain will have to be more intelligent and better trained.

"The challenge is how can companies downsize themselves and be competitive at the same time that workers are given time to retrain and transfer into other industries," said Roos. So far, companies have been bearing most of the brunt of that responsibility, but Roos said he saw room for the government to help.

In July, Roos received another grant from the Alfred P. Sloan Foundation "to build upon this program," he said. One of the primary focuses of his new project will be to study how the concepts associated with lean production can be realistically transferred to industry. He will also study how to broaden the concept of "best practice" to include social and environmental concerns.

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Time: 11:00 AM - 8:00 PM
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Interview Date: Friday, October 12
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Seminars to educate pledges

(Continued from page 1)

know about," Dorow said. AIDS Response at MIT (ARMIT) is sponsoring the presentation on AIDS, and Student Assistant Services, the Office of Minority Education, and the Campus Activities Office will collaborate on "Understanding Multiculturalism."

The MIT Medical Department will present the remaining two

seminars — date rape and sexual abuse, and alcohol education.

Anne L. Gilligan, MIT student health educator, has spoken to 45-50 percent of the ILGs at MIT on those and other issues, she said. But this is the first time a large-scale education effort has been targeted specifically for freshmen, she said.

Although fraternity members and the Dean's Office have ex-

pressed wholehearted enthusiasm for Pledge 101, some pledge educators said it will require some extra efforts to convince pledges to attend, and not all fraternities are making attendance mandatory for their pledges.

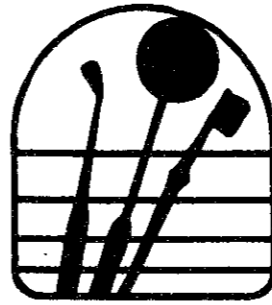
Daniel J. Rothman '91, pledge educator at Sigma Phi Epsilon, said, "With a little work [the series will] be successful. It's something new, and it's a change, and it always takes a little extra pushing" to get people to attend.

"I'm looking forward to it becoming a new standard for pledges at MIT," Rothman added. His fraternity made attendance for pledges mandatory. Ting's fraternity, Phi Kappa Theta, has also required attendance.

Chi Phi, however, is not requiring its pledges to attend the seminar series, according to Ariel Warszawski '90, pledge educator. He felt that "overall the idea is very good," but that attendance should not be required.

Warszawski said that "the main problem, as is always a problem at MIT, [is that] people have a lot of time constraints."

Sigma Kappa President Arlene R. Yang '91, said it is "highly recommended," but not mandatory, for Sigma Kappa pledges to attend the seminars. She said that Sigma Kappa has held independent educational seminars on subjects such as eating disorders and alcohol awareness.



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Media Lab holds birthday fete

(Continued from page 1)

its doors, the vision of the Media Lab had "a lot to do with the intersection of television, computers, and publication." In fact, according to the anniversary booklet, the "worlds of publishing, cinema, and computers... have been called the Laboratory's 'teething rings'."

And now, Negroponte said, "The transition will be toward content and image understanding, common sense, [and] semantic information processing in general."

"[The Media Lab's] charter is to invent and creatively exploit

Board's cost estimate differs from FAO tally

(Continued from page 1)

Stanley G. Hudson, associate director of the Financial Aid Office felt the numbers were misleading. "What you're getting is basically the sticker price, which very few people actually pay," he said. "It disturbs me that so little information is published on the amount of financial aid available to students." Hudson noted 56 percent of MIT students receive some financial aid.

Culliton said that MIT's higher cost includes fees other colleges omit. "Other schools often rely on outside fees [such as lab fees], while our figures are all-inclusive," he said.

Hudson said that the numbers the board publishes are estimates, and may differ from actual costs. "The survey is passed out in December and January, and most schools don't have their budgets nailed down yet," he said. "If you looked at the actual budgets, they'd be similar, but the numbers wouldn't be the same."

The administration will likely take up the issue of rising costs at MIT with the FAO, Culliton said. Tuition alone is \$15,600 this year.

This is the first year MIT has been ranked the most expensive school since the 1984-85 school year. Bennington College has been in first place since then.

new media for human well-being and individual satisfaction without regard for present-day constraints," according to the booklet.

The lab is composed of 12 groups: epistemology and learning, music and cognition, vision and modeling, spatial imaging, interactive cinema, movies of the future, television of tomorrow, electronic publishing, graphics and design, computer graphics and animation, advanced human interface, and speech research.

Approximately 1800 people — industrial sponsors of the Media Lab as well as members of the MIT community and other invitees — flowed through the events on Sunday night, Monday and Tuesday, Negroponte said.

"There was a two-day symposium, on the future of communications and the future of media, and essentially on what it is the media lab does," said V. Michael

Bove '83, assistant professor of media arts and sciences.

Events Monday consisted of lectures from Negroponte, as well as Associate Director of the Media Lab Andrew B. Lippman '71, Professor of Electrical Engineering and Computer Science Marvin L. Minsky, Visiting Lecturer in Media Arts and Sciences Alan C. Kay, and several others.

Many of the lab's industrial sponsors were part of the 230 people who attended a black-tie dinner Sunday night, "including such interesting ones as PAWS [the company that owns Garfield], Lego [toys], Warner Brothers, and Nintendo," Negroponte said.

On Monday, people clustered in front of television monitors in Lobby 7, Lobby 10, and the Media Lab to watch the lectures taking place inside Kresge Auditorium, which was filled to capacity on both days.

12th Annual Career Fair and Banquet

Banquet

Friday, October 12

Reception -- 6 pm

Dinner -- 7 pm

at the Cambridge Hyatt Regency

Members FREE, Guests, \$20.00

Career Fair

Noon -- 5 pm

Saturday, October 13

in the Sala de Puerto Rico,

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Banquet tickets on sale in Lobby 10

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sports

Tennis defeats Babson

By Jennifer M. Moore

An exceptionally large number of fans showed up to cheer the women's tennis team to an 8-1 victory over Babson, which raised MIT's season record to 4-4. MIT swept the singles matches, winning each of the six contests in the minimum two sets. The doubles matches were closer, and MIT took its only loss in second doubles, 6-0, 6-4.

Although MIT played a good match, Babson's team is weaker than usual this year, said MIT coach Candy Royer. Royer was pleased that the MIT team did not come down to the level of their weaker opponents. Everyone played her usual game, despite the tendency to slack off in the face of a relatively simple task, she said.

Despite MIT's obvious domination in the match, all the games were extremely friendly, as each player commented on strong

plays and accurate shots made by her opponent.

Captain Fiona Tan '91 never stopped smiling as she beat Babson's Meg Hennessey in first singles, 6-0, 6-2. Tan used the net well, scoring more than once on net balls. Both Tan and Hennessey executed strong strokes; one of Tan's serves was strong enough to break Hennessey's racket string. Because of this, the most common mistake of both was the long ball.

Fiona's sister Valerie Tan '94, in second singles against Babson's Jo Saunders, had one of the closer matches, winning 6-4, 6-1. Tan trailed at first, 3-2, but strengthened her game, executing excellent diving saves and volleys.

In the fifth singles, MIT's Jackie Nerney '94 against Babson's Kris Roberts was the only other close match. Both Nerney and Roberts started out weakly, but eventually regained their fo-

cus and played a strong game. Both had strong strokes, but had trouble with height, repeatedly hitting the ball directly into the net. In the second set, Nerney made several excellent shots down the line and into the corner, and scored on quite a few well-placed volleys.

Especially notable was the first doubles team of Pratima Rao '92 and Nicole Mitchell '94. Playing Babson's Hennessey and Anna Newbern in Rao and Mitchell's first doubles match ever, they played the closest match of the day, coming out on top, 7-6, 7-5. Royer proclaimed this match the highlight of the afternoon.

Other winners on Tuesday afternoon were Seema Jayachandran '93 over Newbern, 6-2, 6-2 in the No. 3 singles; Sue Bach '93 over Tracy Demaire, 6-2, 6-0 in the No. 4 spot; and Janet Chen '94 over Alex Diteso, 6-0, 6-0 in the No. 6 singles.



Tech file photo
Yvonne M. Grierson G, recipient of the Honda-Broderick Athlete of the Year Award.

Sports Update

MIT is hosting the Rolex New England Div. III Men' Collegiate Tennis Championships this weekend (Friday to Sunday). The championships are one of 60 men's and women's regional events that make up the Rolex Small College Regional Championships, which culminate in a "Super Bowl" in Corpus Christi, TX, on Oct. 21.

Among the local schools represented at the championships will be MIT, Worcester Polytechnic Institute, the US Coast Guard Academy, Brandeis University, Babson College and Amherst College.

Scores

The volleyball team defeated Brandeis University, 3-0, on Tuesday evening. . . . Women's soccer continued its slide, losing to Wellesley College, 2-0. . . . Men's tennis split a pair of matches Tuesday, beating Babson College, 6-0, while losing to Brandeis, 7-2.

Compiled by David Rothstein and the Sports Information Office

Record-smashing swimmer honored

By David Rothstein

Yvonne M. Grierson G, a four-time national Division III champion and the 1990 National Collegiate Athletic Association Division III co-Swimmer of the Year, was named yesterday as the recipient of the Honda-Broderick Division III Athlete of the Year award. This is the highest award ever given to an MIT athlete.

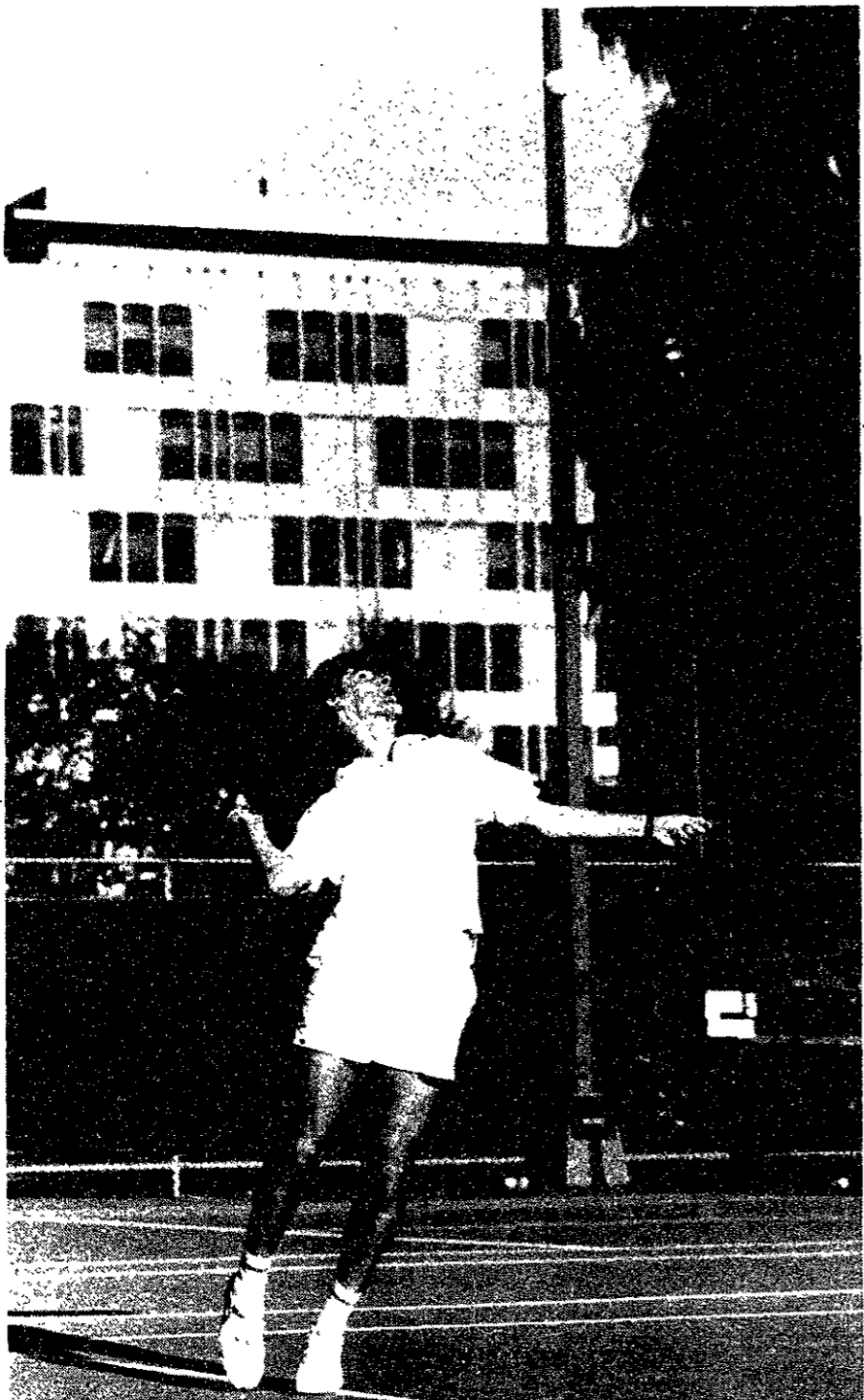
Grierson, now a graduate student in the Department of Mechanical Engineering, swam for four years with the MIT swimming team during her years as an undergraduate student. She holds 11 MIT records, three of which — the 100-yard freestyle, the 50 butterfly, and the 100 fly — are also New England Conference records. Her 56.18-second time in the 100 fly set an NCAA Division III record.

"Winning this [award] is like icing on the cake," said Grierson in a telephone interview last night from her Somerville residence.

She said that throughout college she had been more interested in recording fast times, but was pleased with the Honda award.

Grierson began swimming at the age of six years, but stopped later on and indeed had not intended to swim at MIT. But the "team was fun" at MIT, and Grierson joined in her freshman year, beginning one of the most successful sports careers of any MIT athlete. Grierson will be flown to Nashville on Jan. 9 to attend a presentations banquet.

Along with her four national titles (three times in the 100 fly, once in the 100 freestyle), Grierson has to her name many MIT and other national honors. These include: 1987 MIT Freshman Athlete of the Year; 1988, 1989 and 1990 MIT Female Athlete of the Year; 1989 New England College Athletic Conference Division III Female Athlete of the Year; and 11 NCAA Division III All-America awards.



William Chu/The Tech
Kevin Walpole '94 serves against Harvard yesterday.

Upcoming Home Events

Friday, October 5

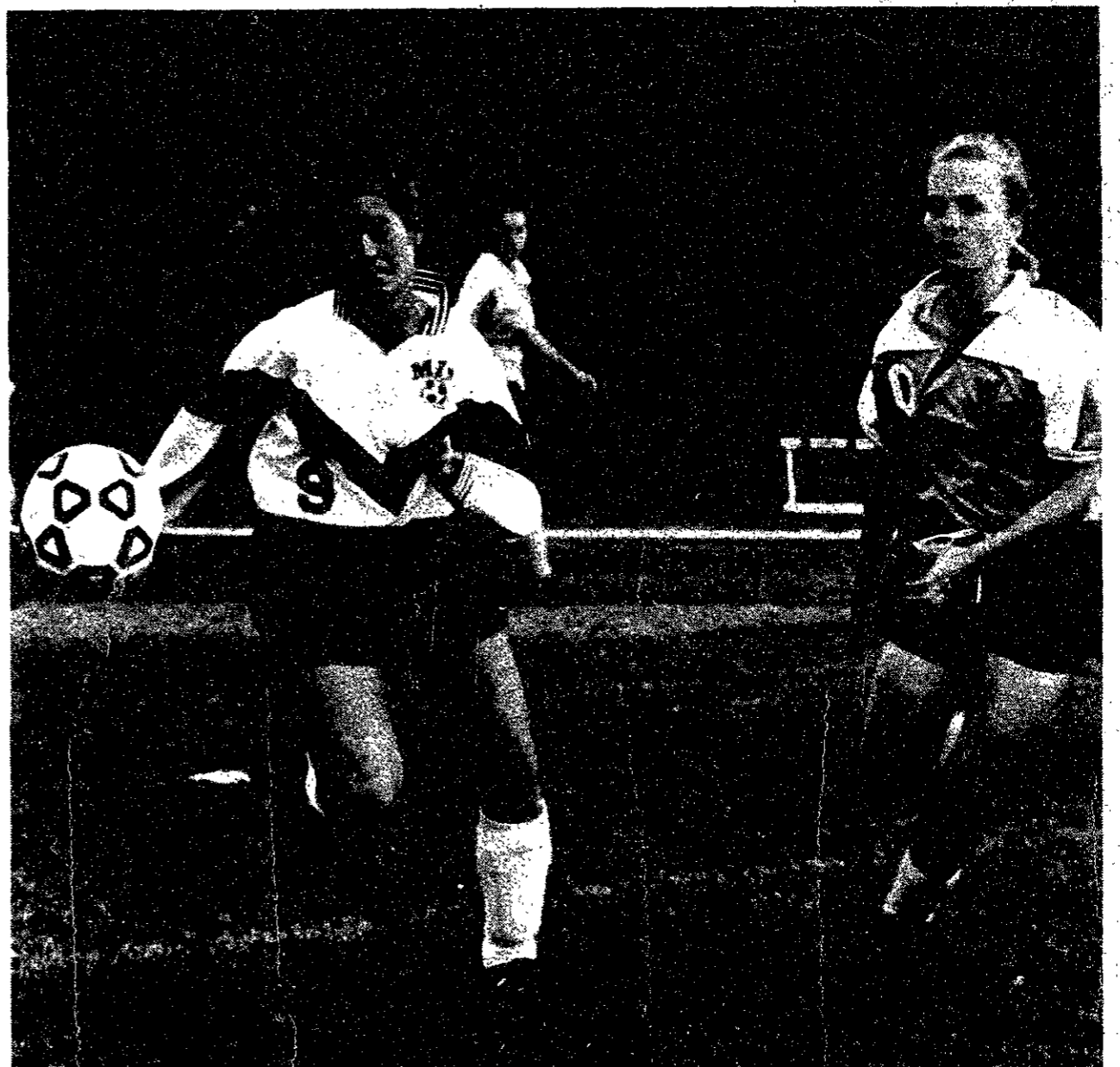
TBA Women's Volleyball at MIT Tournament

Saturday, October 6

1:00 Field Hockey vs. Smith
1:00 Men's Soccer vs. Norwich
TBA Men's Sailing at Smith Trophy
TBA Women's Volleyball at MIT Tournament

Sunday, October 7

TBA Men's Sailing at MIT Invitational



Lawrence S. Schwartz
MIT player Dione Chapman '94 sprints to maintain control of the ball in Tuesday's game against Wellesley. MIT lost, 0-2.