

Dickson explains arrests

By the Tech staff

The MIT administration has begun to explain its demolition of Alexandra Township, which resulted in the arrests of eight members of the MIT Coalition Against Apartheid four days ago.

Senior Vice President William R. Dickson '56 said that his office acted when it learned of a number of threats on the shantytown made by other student groups. His office acted in part to avoid a student-to-student confrontation, he said.

"Quite frankly we were concerned that if we didn't remove them, that others on the campus might choose to do it," he said. "There is no one here that wanted to see open conflict between the two groups of students."

Associate Dean for Student Affairs Robert A. Sherwood confirmed that his office and others had received telephone calls, personal visits and petitions from a diverse set of students threatening to remove the shanties.

Dickson also said, "I think that when the referendum passed, we thought that [the shantytown] had served the purpose that was originally intended, and that the space really should be made available to other, greater community use."

"We did not tell [the protesters] exactly when [the physical plant workers] were coming to take [the shanties] down, but they knew full well that they would be down in that time frame," he said.

The protesters "knew our position: that basically we would have permitted their erection under those terms [that the shanties would be taken down by March 13]," Dickson said. "When they went ahead and erected the struc-

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Tech photo by Steve Kishi

Campus Police officers arrest Stephen P. Fernandez '86.

Brammer: food service workers have security

By Thomas T. Huang

MIT Food Service workers will keep their jobs with no pay reductions should the Institute replace its dining service with an outside management company, according to Gene Brammer, director of housing and food services.

MIT would require the supervising company to take the current union contract, Brammer said. The company would be required to keep all 100 union employees in their current positions at the same wages.

This requirement would last at least as long as the union contract remained valid. The union contract will expire in one year, Brammer said. Renegotiations will take place at that time, he said.

"The dining workers would come out whole," he said. The company would also retain all support staff, including cashiers, receivers and clerks, he said. The management staff members of MIT Food Services would not be guaranteed positions. Rather, the outside company would give them interviews for any open positions.

James J. Fandel, manager of labor relations in the MIT Personnel Office, hinted last week that the union contract contained a "successor clause." If an outside company replaced MIT Food Services and took the union contract, that clause could require the company to maintain wages, benefits and working conditions.

MIT is currently discussing

Five houses to host Athena

By Robie Silbergleit

Project Athena has selected five living groups to receive computer workstation clusters in the pilot phase of the Project Athena living group experiment, according to a release made last month.

In the release, Project Athena Director Steven R. Lerman '72 and Deployment Manager Alana Erickson announced that Delta Upsilon (DU), Zeta Beta Tau, Theta Delta Chi, pika, and Next House have been selected as workstation host sites.

These living groups were chosen from among the twenty living groups that participated in the proposal process conducted by

Project Athena last fall.

The groups were selected because of their diversity, which will allow Athena to experiment with different types of workstation sites, stated the release. The chosen groups are geographically spread between Boston, Brookline, suburban Cambridge, and the MIT campus.

Proposals from living groups short on space or otherwise requiring substantial construction to prepare for computer installation, including most dormitories, were deferred from the pilot project, according to the release.

Installation will begin this summer, Erickson said. Optimis-

tically, at least one living group cluster will be up by September 1, she said. More realistically, however, all the living groups will probably be connected during the fall, she continued.

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Few students default on loans

By Heather M. Huber

The MIT default rate on student loans is considerably lower than the national average, according to Assistant Bursar Ann S. McCormick. In 1982 the national default rate on National Direct Students Loans (NDSL)

was 10.4 percent, while the MIT rate was only 2.69 percent.

The default rate at MIT has been declining steadily since 1977, when the default rate was 14.97 percent on the NDSL, and 10.9 percent on the Guaranteed Student Loans (GSL), McCormick said. She attributed this decline to the Student Loans Collection Department (SLCD), which was added to the Bursar's Office in 1977.

The Bursar's Office tries to keep in close contact with students by telephone and mailings to avoid default, McCormick said. If attempts to negotiate repayment fail and the student neglects to make a payment within six months, the loan is declared in default.

McCormick said that inability to locate students is a major problem leading to defaults. As a result, the SLCD has made increased efforts to maintain good communication with students who have outstanding loans, she said. The office has placed a great deal of emphasis on exit interviews with the students, she said. In these interviews, SLCD members meet with seniors to remind them of their loan obligations and to gather information on close relatives who will know of the students' whereabouts, McCormick said.

The Financial Aid Office grants the NDSL and the GSL based on eligibility requirements determined by the federal government,

he said. MIT can currently house only 26 percent of them. With the graduate student population rising steadily, Brown expects this to worsen.

The problem is particularly serious for foreign students, Brown said, since those that are refused MIT housing must look for a place to live even as they adjust to a completely new environment.

Another problem off-campus graduate students face is the high incidence of crime in off-campus localities. The GSC survey held on Registration Day revealed that out of 1000 respondents living off-campus, 300 had been the victims of some crime, Brown said.

"The GSC is looking into a number of solutions to the housing problem," said Allen G. Fox G, chairman of the GSC housing committee. The only feasible

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Tech photo by Sue Fatur

Prof. Leo Marx, chair of the Integrated Education Committee, and Margaret L. A. MacVicar, chair of the Committee on the Undergraduate Program, answer questions at yesterday's Undergraduate Association forum on Educational Policy Reform. The panel allowed students to discuss reforms with several of the leading figures involved in MIT's educational process.

inside

Thomas M. Gallagher: candidate for the Eighth Congressional District seat. **Page 2.**

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Battle of the Bands: a photo essay. **Pages 13, 14.**

Gallagher competes for 8th CD seat

★★★ Campaign '86 ★★★

By Julian West

Interview

Second in a series.

State Representative Thomas M. Gallagher (D-Allston) is one of ten candidates seeking the Democratic nomination to succeed Thomas P. O'Neill as representative from the Massachusetts Eighth Congressional District. Gallagher has been a political activist since he was a student at Boston College, where he earned a bachelor's degree in 1970. He has been a member of the Massachusetts House since 1981.

Q: This is a race which has attracted a lot of national attention. Is it also one which has national importance?

A: I think it does, if for no other reason than that, because of the national attention which has been focused on it already, the person who gets the seat will start off with a bit of a leg up. I also think that this is a district that is capable of sending someone to Congress who will raise issues that other people wouldn't because they would be afraid to in their district.



Tech photo by Kyle G. Peltonen

Q: At this point you don't have as much name recognition as some of the other candidates.

A: Look, I'm not interested in talking about that. I'm interested in talking about what my race is all about. There are so many people who have been spending all of their time talking about how they're the best candidate because they think they're electable, rather than what it is they're all about. By the force of your issues and your organization you force recognition and you force people to decide that you are the right candidate.

Q: Let's talk about some issues that might set you apart from the others. There's renewed fear that the Watertown Arsenal is going to be shut down. How do you feel about that?

A: As far as I can see, it's a politically motivated move by the Reagan administration to embarrass Tip O'Neill, to embarrass the Democratic party, to say "Hey, if you're for cuts in military expenditures, let's start in your leader's district." I don't think it represents much more than that.

All of our talk about our economic competitor nations — Western Europe, Japan — we ignore the fact that they have built social systems such that if a person is forced out of a job due to technological change . . . they have made it much easier than we have here.

Q: But since you are in favor of military cutbacks, how would you feel if there had to be cutbacks in your district?

A: Clearly I do feel that there has to be less military expenditure. What I think needs to go along with that is plans for figuring out what to do with the workforce and redirecting our budget priorities. You can drive to the Watertown Arsenal and go over roads that'll break your axle. It's not as if there aren't other priorities that aren't being met. But we have a great deal of difficulty in figuring out how to transfer the people and funds from one of those things to the other.

There is a bill in Congress sponsored by Ted Weiss from New York which says that any defense contractor that gets a contract of a certain size would also have to submit a proposal for what else they might reasonably produce in their facility if the government decided they no longer wanted the weapons system. One of the problems we have here is a lot of the technical and scientific talent in the country that might be thinking of innovative new technologies that are not military are being sucked into

the military-industrial complex because that's where the advanced research is going on.

I'll give you another example, which is rarely raised in that context, which is the lack of a national health care system. All of our talk about our economic competitor nations — Western Europe, Japan — we ignore the fact that they have built social systems such that if a person is forced out of a job due to technological change, it's never easy, but they have made it much easier than we have here. In America, one of the things that holds back technological advancement is that people are going to fight harder against that kind of change when they know that if they lose their job, in many cases they'll have no health coverage whatsoever, because it came with the job.

Q: Do you see any other technologies that could be developed, other than defense technologies?

A: Well, certainly. It's interesting that a lot of our technological development has come as a result of side products of military projects: photovoltaics, most of it has come in military contracting, which might as well have a good effect. We could move forward a lot more quickly on that, for one example. If you've ever had the opportunity to

travel in most European major cities you can see that they very clearly put a lot more emphasis into mass transportation, the trains are cleaner, they move quieter, the buses are nicer, etc.

I think that trains make an awful lot of sense — they are at least arguably superior to planes up to a certain distance, which is farther than people think because of the access question.

Q: A few more questions about research. One of the things you did in the legislature here is to do with regulating nerve gas testing.

A: Arthur D. Little was testing nerve gas detoxification in Cambridge, and it came to the attention of the people in the city. They decided to ban it and it became a question as to whether the city had the authority to do it. That's when I filed a bill here to do it if the courts ruled against Cambridge. The court ruled in Cambridge's favor, so what we've done since then is we've had a task force set up here as a result of the bill, and we've made overall recommendations for what the state's role should be. In the question of supertoxic substances, the state ought to be licensing facilities, essentially. They ought to be saying, first of all, "Is the technology in this place up to the task?" and they're really not doing that at this point.

I think, nationally, if this type of work has to be done, and here we are talking about detoxifying, that type of research it seems to me you do in the desert or on the mountaintop, or on a ship at sea for that matter.

Q: How about some international issues. South Africa?

A: I think fundamentally it is within the power of the United States to bring about majority rule in South Africa, much more quickly than it would otherwise happen. I think it's inevitable that the majority's going to rule. For some reason our government's managed to consider the Republic of South Africa one of the bastions of the free world when 15-20 percent of the people have ever been allowed to vote. I believe that by imposing really tough economic sanctions, starting by banning investment by American corporations over there, that we can keep the Botha government from dragging its heels. And I don't think it's likely to happen unless they realize their number is up in the rest of the world. If it were to happen in that way, I think it would happen sooner rather than later. I think it would happen in a less violent fashion, because one day somehow the majority in that country is going to get enough weapons in its hands to overthrow the government, and that's not going to be a pretty sight.

I think that the Democrats have to contest the notion that the Republicans are the party of national security.

Q: How about Central America? You've said that you feel the government of Nicaragua is doing a better job than the government of El Salvador. Is that true, and what position should the United States have?

A: The case of our history in Nicaragua is actually the one that I use to make my overall point about American foreign policy. I think that the Democrats have to contest the notion that the Republicans are the party of national security and argue that the Republicans are undermining national security. I use the case of Nicaragua as an example, taking the vantage point of a hypothetical observer trying to judge on the basis of our actions what the United States was all about, whether they should be friendly or hostile to us.

We supported the Somoza family dictatorship for 50 years. They obviously didn't hold elections; the United States didn't show a great deal of concern about that. Land was concentrated in the hands of a few families. The all too familiar story of the third world was there: poverty, illiteracy, not much hope that your children's lives would be better than yours, etc. They were overthrown by a movement which claimed its goals were land reform, literacy, elections. The United States all of a sudden comes to life at this point, saying, "Wait a minute, you can't take over by force of arms. Where's your election? We're concerned."

An election is held. Observers come from around the world. They by and large say it's a reasonable election. The United States, however, says your election isn't good enough, and we're now going to be in the process of trying to overthrow you — in any way that the president can get away with. We're backing the group that is by and large composed of supporters of the prior dictatorship. We're going to try to fund them, either militarily, if the president can get away with it in the next budget, or through so-called humanitarian aid, which amounts to support for them. And why? Because the election isn't good enough.

What I think needs to go along with [reduced military expenditure] is plans for figuring out what to do with the workforce and redirecting our budget priorities.

Well, what would our observer in that part of the world say? The point isn't that that election was perfect or that that government is beyond criticism. But where does the United States come from in the eyes of this observer, saying the election isn't good enough — and it's so bad that it has the right to try to overthrow that government? It's not as good as the election that Somoza never held, and that didn't bother the United States. It's not as good as the elections in South Africa, where only 15 to 20 percent of the population is ever allowed to vote, and we've always maintained friendly relations with that country. It's not as good as the election that Pinochet has never held in Chile, after he overthrew, with the use of American arms, a legally elected government.

That's dangerous. It's not only wrong, which is enough in itself, but we won't build national security by making friends of thousands and enemies of millions. You can't keep it up forever. It's one of the reasons why we're becoming, I think, in Washington so nuclear-minded, just because of the isolation that we're facing in the world, alienating people that we ought not to. We could have had a positive effect on the Nicaragua government.

Q: Last regional issue. How about the Middle East?

A: I think we have a situation there of two sides whose policy it is to try to make the other disappear — and neither of them is ever going to get that. The Israeli people at this point are not going to leave that part of the world. They are there. Neither are the Palestinians going to go away as an issue. I think that ultimately we are going to have to deal with the question of a Palestinian entity.

Q: Why don't we get on to the nuclear issue. There's an arms proposal on the table now from the United States; there's one from the Soviet Union. Do you think they can be reconciled?

A: I suspect they can be reconciled, but there is more that can be done. There is a unilateral test ban in existence right now. It's not ours — it's the Soviet Union's. I was the first person to raise this issue in this race. It has not been raised, to my knowledge, in Congress. They have extended their offer to April 6th. We can right now make that bilateral and permanent; they've announced that they will continue indefinitely. That is an opportunity that ought to be taken immediately, and that's what the Democrats ought to be yelling about, but they're afraid to because they don't want to be associated with anything that comes from the other side. That kind of timidity just is not going to make any breakthrough. What this would do would be to keep qualitative improvements in the destructive power of nuclear weapons from being very possible, because that's what you need underground testing for.

Q: How about SDI?

A: I think it is impossible in principle. I don't think that that system can ever work. I think it is an advanced Rube Goldberg device. I also think there are probably offensive capabilities to it, from the laser beams in orbit which can be used against land targets, against cities. If that's so, of course, that makes the whole thing not what it's supposed to be at all, which is a defensive weapon. I think it's used as a dodge for serious talks.

news roundup

from the associated press wire

World

French right gets slim majority

The French conservative parties gained control of the National Assembly from the Socialists in elections which went to the wire on Sunday. For the first time in the 28-year history of the Fifth Republic, a president will face an opposition-controlled parliament. Socialist President Francois Mitterrand said he will name a premier from the conservative coalition, and most conservatives have said they plan to work with President Mitterrand.

The neo-Gaulist Rassemblement pour la République and the centrist Union pour la Démocratie Française, along with smaller conservative allies, captured 289 of the assembly's 577 seats — the minimum number required for an absolute majority.

The unified right nevertheless holds a substantial majority over the parties of the left, who ended with a total of 246 assembly seats, with 210 projected for Mitterrand's Socialist party, and 36 for the Communists, with whom they have governed in the past. About nine seats were projected for minor parties. The Communists have lost half of their seats in the past eight years.

The balance is held by the extreme-right National Front, who garnered 9.8 percent of the vote, and earned their first 33 seats in parliament. Leaders of the RPR/UDF alliance reaffirmed that they would not govern with the National Front. The new composition of the parliament reflected the controversial change to modified proportional representation introduced last year by Mitterrand.

Because the vote was so close, analysts waited expectantly for results from French overseas possessions, including French Guiana, French Polynesia, Wallis and Futuna, Martinique, and St. Pierre et Miquelon. These are considered to be overseas departments of France, and are accorded the same parliamentary representation as mainland departments.

The French Constitution was written with the expectation that the president and parliament would be of the same party. It requires that the president sign all new laws, but does not give him a veto. Mitterrand has two more years to serve as president, but he has not ruled out an early resignation. *(The Boston Globe)*

Swiss opt to remain out of UN

Swiss voters strongly rejected a government-sponsored proposal to join the United Nations as a full member. The tally in the Sunday ballot was 75.7 percent against seeking UN membership, with an above-average voter turnout of 2.1 million, just over 50 percent. All 26 cantons rejected the proposal. Under Switzerland's system of direct democracy, the measure had to be approved by both a majority of the popular vote and a majority of the cantons.

Foreign Minister Pierre Aubert, an outspoken supporter of UN membership, said the government was disappointed with the result, but it would not change foreign policy. Switzerland will remain an observer in the General Assembly and a full member of all UN specialized agencies. Many UN agencies are headquartered in Geneva. *(The Boston Globe)*

Swedish authorities hold suspect

The chief prosecutor of Sweden yesterday requested permission to continue holding a suspect in the assassination of Prime Minister Olof Palme. The police say the suspect, who was arrested last week, was behaving suspiciously at the scene of the murder. *(AP)*

Japan unveils humanist research plan

Japan plans to use May's economic summit in Tokyo to launch a giant research program into "human science" to rival the US space defense project. Prime Minister Yasuhiro Nakasone's "Human Frontier Program" would be the second biggest international research project ever launched, after SDI. The idea behind the project is that large amounts of money should be spent on basic research designed to improve the lives of people throughout the world.

The research is expected to cover subjects such as the depletion of resources, ageing, overpopulation and pollution. It will study the human body and use its systems as a model of efficiency to be emulated by technology. *(The Observer of London)*

OPEC tries to stop falling oil prices

The Organization of Petroleum Exporting Countries (OPEC) yesterday failed to agree on a plan to halt falling oil prices after a three-hour morning session. OPEC President Arturo Hernandez Grisanti said he expects the oil ministers to continue discussions today to hear a report from a panel of oil market experts. The Dow Jones News Service said the cartel is nearing an agreement designed to keep oil prices at 15 to 20 dollars-per-barrel.

Exxon Chairman Clifton Garvin said falling world oil prices will put OPEC "back in the driver's seat," as exploration for new petroleum reserves yields decreasing returns. Garvin added, however, that prices will continue to spiral downward if OPEC cannot agree to a pricing plan. *(AP)*

Ulster unionists to run on mainland

Ulster Unionists plan to contest 10 seats on the British mainland at the next general election. They will base their campaigns on opposition to the recent Anglo-Irish accords. John Taylor, MP, the architect of the plan, said Saturday that "we will get publicity and the Ulster issue will become a matter of public debate in Britain." The ten seats include five in Scotland and five in England. Most of the seats are in areas with large Northern Irish populations, but the Unionists also plan to run against Tom King, the new Northern Ireland Secretary. *(The Observer)*

Train explosion injures ten

A bomb explosion injured ten passengers on a high-speed train leaving Paris for Lyons yesterday. The injured passengers suffered from smoke inhalation, and three of the ten injured were hospitalized. The French authorities have made no arrests, and no one has claimed responsibility for the incident. *(AP)*

Nation

Reagan speaks out for contras

President Reagan attacked the Sandinista government of Nicaragua on national television last night, calling them a "cancer" that poses a direct threat to the United States. The 20-minute speech was designed to help rally support for military aid to the counterrevolutionaries, whom Reagan likened to fighters in the French resistance. A White House official estimated that Reagan needs to win the support of "ten or 12" further members to win Thursday's vote in the House of Representatives.

Reagan said, in part, "I am speaking of Nicaragua, a Soviet ally on the American mainland only two hours' flying time from our own borders.

"Using Nicaragua as a base, the Soviets and Cubans can become the dominant power in the crucial corridor between North and South America. Established there, they will be in a position to threaten the Panama Canal, . . . and ultimately move against Mexico. Should that happen, desperate Latin peoples by the millions will begin fleeing north into the cities of the southern United States.

"Gathered in Nicaragua already are thousands of Cuban military advisers. . . and all the elements of international terror — from the PLO to Italy's Red Brigades.

"Like Communist governments everywhere, the Sandinistas have launched assaults against ethnic and religious groups.

"Ask yourselves, what . . . are Soviets, East Germans, Bulgarians, North Koreans, Cubans . . . doing in our hemisphere, camped on our doorstep? Is that for peace?" *(The New York Times)*

Reagan rebutted on drug charges

In Reagan's speech Saturday night, he charged top Nicaraguan government officials with drug trafficking. US drug enforcement officials, however, say they have turned up evidence against only one official. Meanwhile, there is a report that the contras, the Nicaraguan rebels Reagan supports, are themselves using proceeds from cocaine sales to finance their battle. Yesterday's *San Francisco Examiner* quotes two convicted drug dealers as saying they donated profits to the contras. *(AP)*

Compiled by Mike Garrison and Julian West

Navy tries to rescue solid booster

The Navy tried to lift a 500-pound chunk of the space shuttle Challenger from the floor of the Atlantic Ocean. Strong currents forced Navy workers to stop shortly after they started. NASA suspects that the piece is from the Challenger's right-hand solid rocket booster, the key suspect in the Jan. 28 of the shuttle. *(AP)*

Talks resume at General Electric

Striking workers at three General Electric plants in Massachusetts continued negotiations with GE yesterday after a four-day recess. Approximately 7400 workers at plants in Lynn, Medford, and Everett went on strike three weeks ago over the company's grievance procedures.

US judge opens Marcos records

A New York federal judge yesterday ruled that the new Philippine government can access the financial records of deposed president Ferdinand Marcos. Two Marcos aides had attempted to stop the release of Marcos' personal finances. *(AP)*

Sports

NCAA "Sweet Sixteen" to clash on Thursday, Friday

The 16 surviving teams in the NCAA basketball tournament continue play on Thursday and Friday.

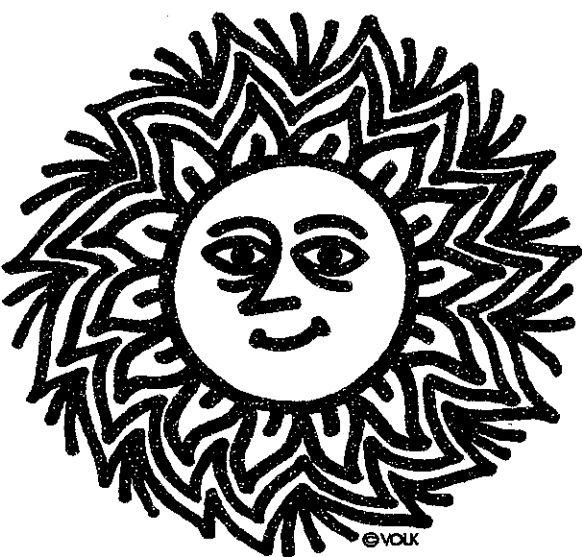
DePaul (18-12) faces top-ranked Duke (34-2) Friday in the first East regional semi-final game, played at East Rutherford. Surprising Cleveland State (28-3) goes against powerful Navy (29-4) in the second game.

SEC champion Kentucky (31-3) battles SEC runner-up Alabama (24-8) in the Southeast regional game in Atlanta. Georgia Tech (27-6) is heavily favored to beat LSU (24-11) in the nightcap.

Second-ranked Kansas (33-3), king of the Big Eight, plays against sharpshooting Michigan State (23-7), the lone survivor from the Big Ten in the Midwest regional. North Carolina State (20-12) fights Johnny Orr's Iowa State squad (22-10) in the other game at Kansas City.

In the West regional at Houston, Auburn (21-10) faces its toughest game against the University of Nevada at Las Vegas (33-4). Louisville (28-7), the 1980 NCAA champ, will play 1982 champion North Carolina (28-5) in the other semi-final game. *(AP)*

Weather



Spring for a day

With a high pressure system situated right over our region, we can expect a very nice day today, weather-wise. But it will be shortlived. A low pressure system over the midwest looks to grab a fair amount of moisture from the Gulf of Mexico as it moves Northeastward during the next day or so. This could mean a lot of rain Wednesday.

Tuesday: A beauty. Skies will be mostly sunny as temperatures rise to near 50°F (10°C). Winds will be westerly and light.

Tuesday night: Increasing cloudiness with rain beginning by morning. Lows in the upper 30s (2-4°C) while winds become stong out of the southwest.

Wednesday: Rain, possibly heavy at times. Highs in the low 50s (10-12°C) with a strong southerly flow. More rain at night.

Thursday: Partial clearing along with cooler temperatures. Highs in the 40s (5-10°C).

Forecast by Robert X. Black

opinion

Editorial

MIT, protesters need discourse

MIT dismantled Alexandra Township last Friday when it decided that the MIT Coalition Against Apartheid's occupation of Kresge Oval had lasted longer than was reasonable.

In this action, MIT, an institution of high educational standards, should have placed more importance on patience and rational discourse than on quick solutions.

The administration had some valid reasons to dismantle the shanties: the apparent threat of student attack on the shanties and the coalition's widely announced intention to remain on the Oval indefinitely.

The shanties could not remain on the Oval indefinitely. The Oval is a highly-used area during the spring. Other groups who support the anti-apartheid movement should not be pressured to give up their right to full use of the Oval.

In addition, although MIT has a responsibility to protect free expression on campus, one cannot reasonably expect the Campus Police to protect the shanties for an indefinite period of time.

But the MIT administration did not make a good faith effort in maintaining open lines of communication. The past two weeks were marked by silence where there should have been direct discourse among the leaders of the coalition, concerned faculty, and administrators.

MIT should have a stated public policy on protests and MIT's method of handling them. Students should define the goals of their protests and conclude them when their goals are met.

Friday's action builds a wall between the students and those who should be working closely with them. An educational institution should not be run this way.



Column/Scott Saleska

MIT's action disappointing

Last Friday morning at 7 am, before most students were awake, Senior Vice President William R. Dickson '56 ordered the arrest of eight MIT students. The students, many of them friends of mine, intended to prevent non-violently the destruction of Township Alexandra, MIT's own symbolic South African shantytown.

Now, I am sitting at my desk, and I'm not sure where to go from here with my words. My feelings are mixed: outrage, anger, and disgust — but also disappointment and sorrow.

As a member of the Coalition, I am angry.

I cannot help but see this action as anything but a particularly blatant example of the administration's ongoing refusal to deal openly and in a straightforward way with the divestment movement on this campus. I see a majority of students on this campus vote for divestment — and then I see what some would conclude was the administration response: a crackdown.

It took a gang of right-wing thugs to bring down the shantytown at Dartmouth College; here at MIT, it only took our own administration.

As a member of the Coalition, I am disappointed.

There were those of us within the Coalition who felt that the shanties had served their purpose — that it was time for us to successfully conclude this phase of our protest by taking them down ourselves. I had hoped that we would be given another chance to make our arguments.

"Just give us the weekend," I had asked of West Plaza Director of Operations Stephen R. Immerman — but the administration could not even do that.

I speak not only as a member of the Coalition, but as a student, as well. As a student, I feel that it is more than just the divestment issue, and it is more than just the particular pile of wood and tarpaper that was Township Alexandra. It is about our worth as students in the eyes of this administration. When I think about it in these terms, the administration's actions last Friday bother me much more.

For, in spite of all my anger about MIT's South Africa-related investments, and about all the Star Wars contracts, and about a governing body that virtually ignores the wishes of its students

and faculty, and in spite of any other complaint I might have about the Institute, I continued to recognize that MIT was a relatively tolerant institution.

During the tumultuous years of the anti-Vietnam War protests, many colleges and universities throughout this country invited the local police forces onto their campuses to beat up students and break up demonstrations.

But at MIT, through all the building take-overs and office occupations, the Cambridge police were not brought on campus to take away students.

Yet there they were, last Friday morning, not 20 yards from the Kresge Oval: the Cambridge Police and paddy-wagon which took eight MIT students off their own campus for trespassing.

And that is only the most blatant and most recent incident. Last week President Paul E. Gray '54 was seen walking around with a bodyguard, and in response to the March 6th evening rally, a SWAT team and K-9 unit were put under alert.

What is going on here?

Has this Institute become so small and shallow, so insecure and unsure of itself, and so out of touch with its own students that it cannot tolerate protesting marchers and a few shacks of wood without resorting to police-state measures?

Is this an open community where people can freely exercise their right of symbolic speech, or not?

Is this place an institution of higher learning, with all the attendant attributes of academic freedom, tolerance of dissent, and encouragement of the critical spirit — or is it just another corporate factory designed for churning out engineering automotons in the most cost-efficient method possible?

The question is central, for its answer determines where our values lie. If we are an institution of learning, the protest and criticism will not only be tolerated, but welcomed. If, on the other hand, we are primarily a degree factory concerned with maintaining its balance sheets, such dissenting activities are only a nuisance to be removed, and students are little more than problem set solvers.

In this respect, the actions last Friday say something about the administration's attitude toward each and every student on this

campus, not only toward the eight arrested.

And each student will have to decide what those actions say to him or her.

To me, those actions say, "We don't care." Those actions say, "Ignore all our eloquent words about the high ideals of an educational institution, because it is our actions that matter."

The current round of curriculum reforms seems to have stimulated a particularly strong stream of eloquent words, many of them expressing MIT's desire to educate "leaders" with a sense of "social responsibility." Dean of Undergraduate Education Margaret L. A. MacVicar recently [*Tech Talk*, Feb. 5] said that the goal of the new curriculum would be to help students develop "a critical view of their world."

"I want our undergraduates to serve well their citizenship in [our] complex, sophisticated, delicately balanced world," she said. "It is uniquely MIT's opportunity . . . to prepare the world's arguably brightest talents to serve well in both technical excellence and in humaneness and basic decency."

Well, last Friday, Bill Dickson gave the lesson of the week on how MIT's "leaders" deal with this "complex, sophisticated, delicately balanced world" of ours. Thanks, Bill — now we know what the administration is talking about. Next time we try to work for a little more "humaneness and basic decency" in this world, we will remember MIT's lesson.

* * * *

It's getting late, I'm tired, and I have work to do. But to those who are surprised or confused at our anger and disappointment, remember that one is often most disappointed by those who are looked up to the most, and that one can be most saddened and angered by the failure of those whose principles are held the highest.

That, in the last analysis, is why I think I was out there on the Kresge Oval: because I want MIT to care; I want MIT to be true to the noble goals and standards which it sets for itself. If I am angry, it is because the contradiction between those standards and the reality seems so great.

The events of last Friday made that contradiction all the more painfully evident.

The Tech

Volume 106, Number 13 Tuesday, March 18, 1986

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opinion

Column/Simson L. Garfinkel MIT honor-bound to accept protests

Spring has finally arrived. The grass is growing, and the sun is shining. And the Campus Police are arresting MIT students for trespassing on Kresge Oval.

Education is a package deal. When we buy an education, we purchase not only facts, techniques and the sponsorship of our teachers, but we also purchase the philosophy upon which our education is founded. The decision to adopt this philosophy is ultimately our own, but this philosophy undeniably determines the content, orientation and effects of our educational experience.

Part of this educational philosophy is that students are supposed to protest. We think back to Vietnam and idolize the student movements of that era.

Today, some students are protesting against apartheid while others are lobbying for SDI. We live in a world with no lack of issues for a student to protest, regardless of one's political orientation.

In 1963, James Baldwin wrote in "A Talk to Teachers," published in *The Saturday Review*:

The purpose of education, finally, is to create in a person the ability to look at the world for himself, to make his own decisions, to say to himself that this is black or this is white. . . . But societies really, ideally, want a citizenry which will simply obey the rules of society. . . . One of the paradoxes of education [is] that precisely at the point when you begin to develop a conscience, you must find yourself at war with your society. It is your responsibility to change society if you think of yourself as an educated person.

The process of discussions, political demonstrations and protests define for us, as a society, what our beliefs are. The thrashing out of ideas and political drama which results from these actions clarify and define our stands. Indeed, in many cases we are not even aware of the issues until they have been brought to light by protest.

Universities are a safer place for protests and political demonstrations than society at large. Universities can tolerate levels of protest which governments would find mortally threatening, because the infrastructure of power and claim to legitimacy in a university is much more evident than that of government. We pay our teachers to teach us — we openly admit that they know more than we do and are qualified to guide and teach us. Members of government can make no such claim.

The university administration is honor-bound to accept protest on campus. The university is free to acquiesce or not to the demands of the protesters as it feels justified, but the students' right to protest cannot be denied. Protest has become an essential part of the university experience.

Because of Senior Vice President William R. Dickson's order to tear down the shanties, the Institute is now dangerously close to irrevocably opposing itself to the Coalition and the majority of student opinion on the issue of divestment.

If one of the purposes of the MIT education is to force students to confront issues of right and wrong, then MIT should not stamp out protests on campus by having protesters arrested. MIT violated its educational philosophy when it had the eight shantytown protesters arrested last Friday.



Column/Joe Shipman

Tenure must include teaching

The Mathematics Department's decision to deny Frank E. Morgan '74 tenure has struck a nerve in the MIT community.

The first three finishers in the Big Screw contest this year were Math Department Head Arthur P. Mattuck, the Math Department tenured faculty, and the Institute Tenure Policy Committee. They received more votes than all other candidates combined.

It is ironic that Mattuck should be the designated target of all this sentiment, because his own commitment to excellence in teaching is very strong. Since I came to MIT in 1978, the only teacher I have seen who lectures calculus better than Mattuck is Morgan.

However, Arthur brought this on himself with his letter ["Tenure depends on finances," Feb. 11]. In defending the Math Department's decision to deny Frank tenure, he revealed that teaching is not given the importance most students think it should be. I quote:

"Moreover, appearances notwithstanding, teaching and service are important considerations in tenure cases; in our Department, there have been tenure decisions in which teaching and service were probably what tipped the scale (both positively and negatively)."

We all know what this language means. What MIT student has not been told that in borderline cases, performance on home-

work is what "tips the scales" between a pass and a fail? This means no more and no less than that it is the last and least important thing considered. In a truly borderline case, anything with nonzero importance can make the difference.

What justification is given for denying Frank tenure? Mattuck admits that Morgan's research is significant and highly respected, and we have seen many testimonials about Morgan's excellence as a teacher in the last few weeks. Mattuck stresses that due to few retirements and tight budgets, the Math Department can only give tenure to a "tiny handful of people" over the next ten years. This is true, and the recent cuts in funding of mathematics are deplorable; but why shouldn't Morgan be in this handful?

The only indication he gives is the following: "Mathematics changes rapidly, but tenure is forever. These few new appointments have to be our principal way of keeping up with newly emerging fields."

In other words, Morgan's research is good, but his field isn't trendy enough.

I think that students recognize that it is very important for MIT to have first-rate researchers in its departments, and not just good teachers. But when an extraordinarily respected teacher is denied tenure for the much more nebulous reason that someone may come along who is not only an

excellent researcher but in a "newly emerging field" to boot, one has to question the department's commitment to undergraduate education.

It is folly to reject the excellent while waiting for the perfect. Even if giving Morgan tenure were to rule out tenuring anybody else for a few years (which it won't, unless "a tiny handful" means exactly one), it is doubtful that any candidate will come along who will even approach Morgan's popularity, enthusiasm, and impact. If there was ever a place to demonstrate that the students are not the Math Department's least important concern, this is it.

One other consideration, which tenure committees probably do not completely ignore, is the personal. For many of us, Morgan is not only a great teacher but a wonderful human being. Morgan's directness and conscientiousness have been an inspiration to me; it was his gentle prodding which first persuaded me to write for *The Tech* a couple of years ago.

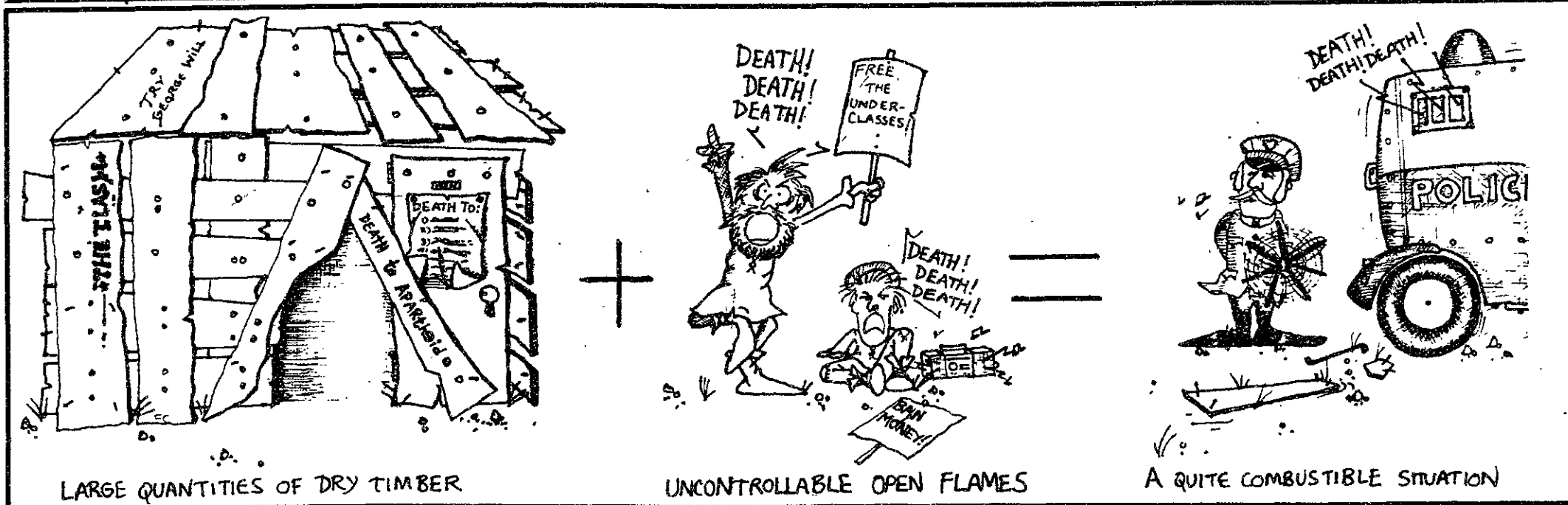
Mattuck says part of the solution is for MIT to receive more money from its alumni. But if Morgan's case is not reconsidered, I think a lot of students will decide that MIT does not care about giving them their money's worth while they are here, and will be less likely to contribute more money after they leave.

Editorials, marked as such and printed in a distinctive format, are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of the chairman, editor in chief, managing editor, executive editor, news editors, and opinion editors.

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Letters to the Editor are welcome. They should be addressed to *The Tech*, PO Box 29, MIT Branch, Cambridge MA 02139, or by interdepartmental mail to Room W20-483. Letters should be typed and bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters. We regret we cannot publish all of the letters we receive.



opinion

Guest Column/Alex B. Rosen

Videos increase isolation

The pop song said: "Video killed the radio star," but it didn't tell us who was supposed to kill video. It's time we start considering what to do.

Video monitors pervade our society. For example, Twenty Chimneys now has a video jukebox. Its small screen regularly entrances almost half of the patrons. Video monitors have become an essential part of what is now considered a pleasant social atmosphere. Virtually every disco has some sort of video system. Bars often show music videos while playing completely unrelated songs.

It surprises me that, in a crowded bar, so many people concentrate on a 21" screen. Wouldn't it be interesting if those gathered at such a place actually talked to each other?

Most people enjoy watching fast-moving video sequences more than watching the continuum of life in the area around them. They don't even realize that the people who create video know exactly how to paralyze real thought. By changing shots every three to four seconds, well-edited videos (including commercials) can mindlessly entertain someone who might enjoy another activity more. Just one

peek at the screen can demotivate most people.

I do not strongly object to Joe Sixpack and his buddies praying to a television every Sunday during football season. The thing that upsets me is seeing MIT students and other reasonably intelligent people gathered around a television without sound in the middle of a dance party.

I witnessed a scene like this at an East Campus party last Friday night. The poster for this party said: "Bored to death? Dance in Hell." If we weren't supposed to be bored, they shouldn't have brought out a television set. Maybe distributing hallucinogens would have been more appropriate.

Most people don't seem to think it is significant that video screens are mesmerizing a large number of people in social situations.

I strongly disagree with them. People staring at video monitors is a symptom of a larger problem in our society. Everyone seems to have stopped caring about the big picture. I'm not talking about large screen televisions. I mean the planet that we live on.

One of the most serious problems that the human-race faces is the lack of understanding of other people. Unfortunately, it is not

likely that we will gain the necessary understanding from music videos. People just don't care about what is really happening — most of them are too busy paying attention to a video screen while ignoring everything else in the environment. They would rather be trapped in some contrived video world than take a look at the real world. Maybe they are scared of what they might see if the TV turned off.

While television is billed as a great communication device, it is mostly being used to convey useless information. It has been very effective in minimizing the communication of important ideas that might help us all live together peacefully.

I don't think there is much that can be done to get rid of television everywhere. I do not even advocate that. Television is not totally bad. It is the pervasive presence of video monitors in social situations that are unacceptable. We might be able to do something about this.

Maybe you're not ready to start smashing video jukeboxes and televisions at parties, but you should at least consider not watching them. Instead, talk to your friends or meet some new people. You might even learn something interesting.

The Tech

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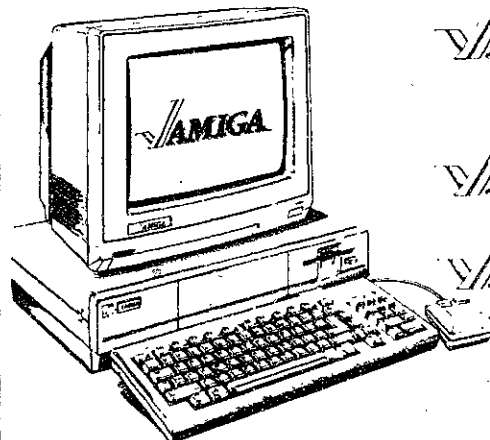


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opinion

feedback

Students in shanties were not forewarned

To the Editor:

I was one of the eight MIT students arrested at the Shantytown last Friday, and I would like to explain exactly how and why these arrests occurred.

We were arrested defending our right to protest in a non-violent manner that disturbed very few people. Although Hillel had an event scheduled for Sunday on the Oval, we had agreed with them to work in a spirit of cooperation and good faith. The shanties may have seemed barren at the time, but revitalization was planned that would have turned Alexandra into a cultural and political meeting place. This was the ideal for which I was arrested.

We were never told exactly when the shanties were to be taken down. West Plaza Director of Operation Stephen D. Immerman hinted Thursday that they would be removed as soon as the weather turned nice. This is not sufficient warning. If he had told us that they must be removed by 7 am Friday morning or they would be ripped down, we could have called a Coalition meeting to discuss our response. As it was, students acted individually without the consensus of the entire Coalition.

Three students were in the shanty when Senior Vice President William R. Dickson '56 informed us we had five minutes to remove our possessions or they would be confiscated. We proceeded to do this. Then two of us and another student who had just arrived climbed up onto the roof of the remaining shanty. Shortly after, more students arrived, and the physical plant workers began removing the walls of this shanty. A wall was removed from underneath me, and the roof nearly collapsed. Clearly my safety was threatened by their actions.

After this, they regrouped, and our five minute warning was given. Another student arrived and climbed up onto the roof. At this point in time, five students were

on the roof, one was taking pictures on the ground, another was merely shouting, and the eighth was nailing boards back into the shanty. All of a sudden, a Cambridge police van arrived and arrests began without warning.

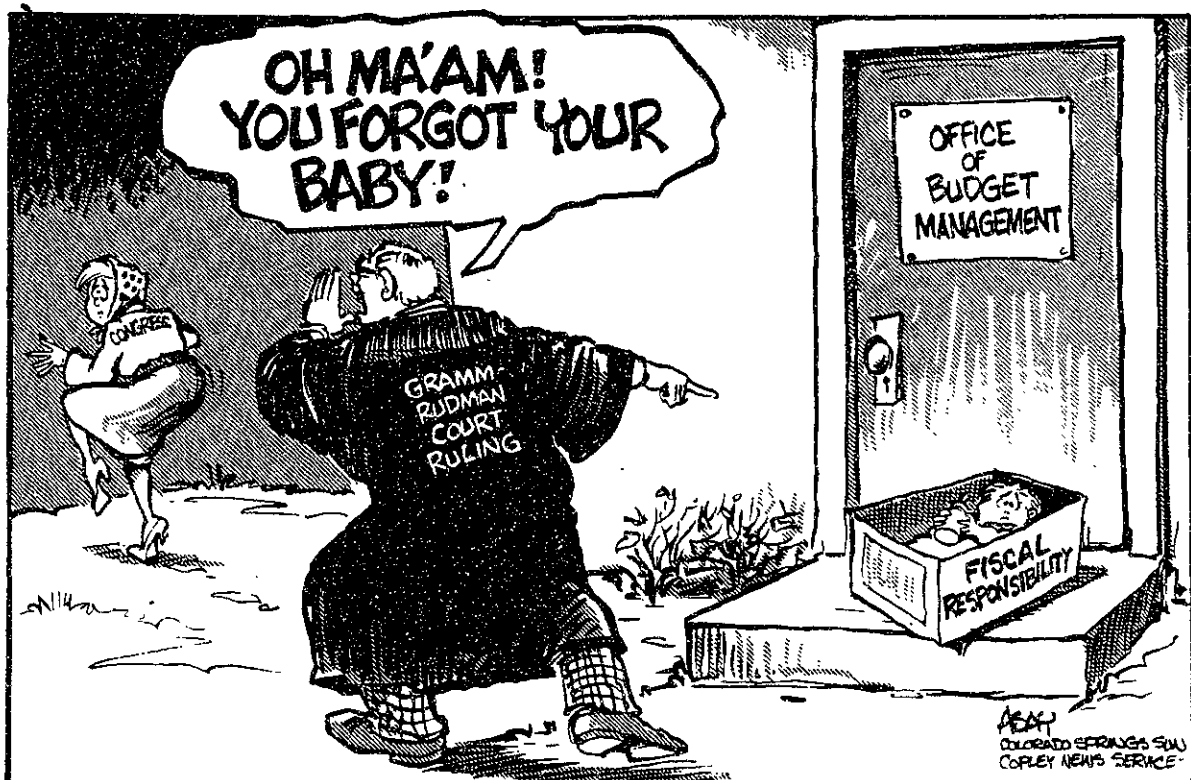
Our photographer, who never disobeyed the commands of the police, was the first one arrested. The police were so eager to make the arrest that two different sets of cuffs were slapped on him at the same time. The Tech photographer, who was engaged in the same activity, was not arrested.

The other students on the ground were also arrested, and then we were thrown or dragged off the roof, handcuffed, and placed in the custody of the Cambridge police in the paddy wagon. Why were the Cambridge police involved? Surely this was an internal affair. The CPs could merely have removed and detained us until the shanty was apart. The arrests were made in order to intimidate us out of further political activity.

I chose the continuance without finding verdict because the judge made it clear that any trial would not consider the political reasons behind the arrest. After we admitted sufficient facts to warrant a guilty charge, James McNulty, a sergeant for the Campus Police, testified incorrectly that we had been given a second notice immediately prior to the arrests. The judge told us it didn't matter that we disagreed with McNulty's testimony.

I believe that MIT handled this situation in a manner which was completely inappropriate. It was not necessary to arrest this many students, or even any at all. The MIT Coalition Against Apartheid calls on members of the MIT community to sign our petition condemning the arrests. The petition will be presented to the MIT administration after a rally Wednesday at noon on the Kresge Oval. Thank you.

Michael Levine '87



feedback

Kresge scene a nightmare

To the Editor:

I am awakened out of a dream early Friday morning by sounds of trucks and the flashing lights of police cars — and screaming. Peeking out of my window I see

policemen handcuff a few men. For a moment I believe I see smoke rising from the settlement, and hear a baby's crying echoing through the air. Are those men with the machine guns firing plas-

tic bullets at children while their mothers weep in despair?

As I wipe my eyes, the smoke disappears and the scene rearranges itself; now I see a crew of physical plant workers and some campus policemen, dismantling the shanties on Kresge Oval, and arresting a few protestors who are shouting "MIT out of South Africa!"

I am relieved as I lift out of my hallucination — but I begin to tremble peering out of my window in the cool morning air. I think of the mothers in South Africa, cowering in the shadows as police take away their husbands and children, whom they may not see for months, if ever again. I know my classmates will be let out later in the day, but deep inside I feel a small tinge of the terror that those in South Africa must feel while watching their families being taken away.

I try to go back to sleep, but I can't.

Greg Makoff '86

Students' constitutional rights were violated

To the Editor:

I am outraged at the destruction of the shantytown in Kresge Oval last Friday, and the arrest of eight students. MIT may have justification in the letter of the law: the students were on MIT property and refused to leave. But the fundamental spirit of American law has been violated: those students were exercising their right to peaceably assemble and protest.

Senior Vice President William R. Dickson's statement that the shanties were removed because of MIT's deep concern for the rights of others to use the Oval is simply absurd; even MIT Hillel, the group whose plans were most affected by the shanties, had apparently worked out an agree-

ment to share the space with the anti-apartheid protestors. The shanties were removed because the MIT administration disapproved of them, and thought they reflected badly on MIT's image. These are simply not legitimate reasons for forcibly terminating a political protest.

Everyone who cares about constitutional rights should join in condemning this authoritarian act, and asking that the charges against the students be dropped, no matter what their views on apartheid, the shanties, or the particular individuals involved. But more: the rights of the entire MIT community have been violated, and I think the community deserves an apology.

Matthew Bunn '83

Draper Labs should not work on the Trident II

(Editor's note: The Tech received a copy of this letter addressed to members of the board of directors of Charles Stark Draper Laboratory.)

To the Board of Directors:

We note that as a member of the Board of Directors of the Charles Stark Draper Laboratory you have accepted a 21 million dollar contract with the Department of Defense to develop and perfect the inertial guidance systems or the Trident 2 missile.

We also note that the extreme accuracy which this guidance system gives the Trident 2 is not required for deterrence but it is necessary for first strike weapons.

We also note that the launching platform afforded by submarines in seas on the periphery of the Soviet Union give Trident 2 an extremely short delivery time.

We also note that as they are aimed at missile silos, our projected Trident 2 force must give the Soviets a sense that they have no other choice but to adopt a launch on warning policy.

Such a policy greatly increases the chances of nuclear holocaust by mistake, if through a computer error the Soviets launch their

missile force at us falsely supposing that we have already launched an attack on them.

In time of diplomatic crisis our first strike capability might greatly increase the Soviet temptation to launch a pre-emptive first strike lest their land-based missiles be destroyed in their silos.

In view of these facts it seems to us that:

Our Trident 2 force is not being designed as a deterrent but as a first strike weapon.

Our Trident 2 force will not enhance our security but decrease it.

Our Trident 2 force will not keep the peace but will make the destruction of all civilized life, of all that we love and hope for, more and not less likely.

Unless you can persuade us that our interpretation of these facts is mistaken, we call on you, in the name of God and for the sake of all the world's people and all generations yet unborn to cancel your contract for Trident 2 and end Draper's involvement in the development of that weapon.

Rev. Scott Paradise
MIT Religious Counselor
for The Members of Ailanthus

MIT needs Coop presence

(Editor's note: The Tech received this letter addressed to Barbara M. Fienman, campus activities advisor.)

Dear Ms. Fienman:

I have read *The Tech's* coverage of the Coop's probable departure from the MIT Student Center, and of the student Coop Committee that has been meeting to consider reuse of the space. I have several observations that I ask you to share with the committee:

- An attempt should be made to convince the Coop to maintain part of its presence in the Student Center. The Lobby Shop, Optician, Barber Shop, Text Books, and Personal Care Departments are all services that the MIT community needs in a location more central than Kendall Square.

- If the Coop does not wish to continue selling text books in the Student Center, an attempt could be made to find another outfit that would be willing to. The Boston University Bookstore comes to mind as one outfit that might be interested in opening a branch at MIT and has qualifications in selling text books. Their advertising in *The Tech* is an indication of possible interest.

- MIT offices that have a substantial numbers of customers should be moved into the space the Coop may vacate along with other retail stores. This will increase activity for both, and make it easier for MIT community members to run their errands. Examples include: Technology Community Association, MIT Activities Committee, and the

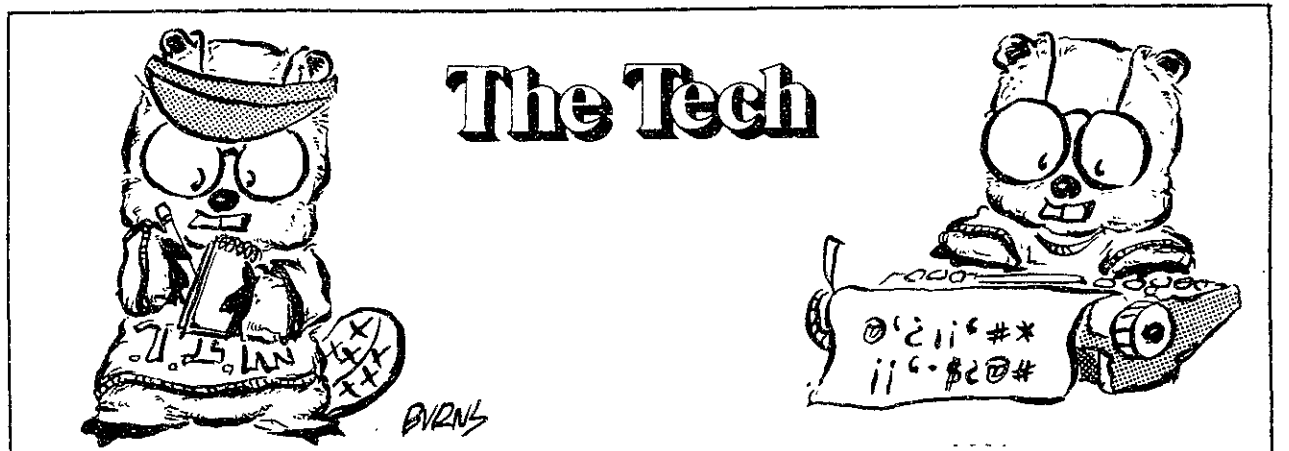
MIT Press Bookstore.

- An exhibit/multi-use area should also be included on the first floor. Alpha Phi Omega book sales, and the various crafts sales could all use this space and leave their "wares" set up in a locked area for multi-day events. Again, it will increase traffic for all services in the Student Center.

- I have seen no mention of the basement storage space that the Coop utilizes. It's a lot of space, and the community should be aware of the additional possibilities it opens up.

- If the present food services in the Student Center are really closed down: Where will banquets be held? Might the Ash-down Dining Hall be reopened?

Leonard H. Tower Jr. '71



opinion

feedback

ACSR ignores student input

To the Editor:

On Friday, March 7, I took an elevator to the sixth floor of the Sloan building and watched a Campus Police officer suddenly attack an apartheid protester who was standing by a phone booth. The man's screams were loud, desperate, and prolonged, and those who heard them may have realized instantly something was wrong at the heart of MIT.

As repression has mounted in South Africa during the last year, the public pressure on MIT to withdraw its \$160 million invested in companies doing business there has intensified. Student protests and position papers, many letters in *The Tech*, and even an assembly of the normally conservative faculty have called on the MIT Corporation to act with speed and justice on the issue.

The MIT Coalition Against Apartheid was offered a chance to influence the Advisory Committee on Shareholder Responsibility (ACSR) — a chance which never materialized. [See Gretchen Ritter's guest column in the *The Tech*, March 14.] By Feb. 21, the ACSR had stepped out of the decision making process and the Coalition began asking to present its case directly to the Corporation.

All these efforts have met a stone wall. The Corporation is insulated from the MIT community by the ACSR, and the ACSR has contrived to keep the student opposition at arm's length. Sheltered from the debate, the administration's position — that its South African investments are a positive force for change — grows increasingly stale and implausible.

Meanwhile, students grow restless with the hypocrisy of an institution which claims to aid the betterment of humanity through scientific and technical education while it profits from a brutally racist regime. Shut out of effective channels of lobbying the MIT hierarchy, even the most patient of the student opposition have become exasperated, angry, and more interested in highly visible protests. The less patient have grown even angrier. Emotional crowds and outnumbered police do not make a stable mixture, but that is only part of the story.

In response to the construction of a shantytown and the protests outside the Corporation meetings at his home, President Paul E. Gray '54 has called for a show of force by the police. The MIT community has been treated to a constant police presence at Gray's house, a phalanx of uniformed police protecting the administrators from their students at Gray's unofficial press conference that Friday, and even an ambulance parked ominously on the sidewalk outside the Hermann Building later that afternoon. The police seemed to have been mobilized beyond the limits of what their training and experience has prepared them for. They are tight-lipped, fearful, jumpy. The students are upset and the administration seems to have given the police the job of pacifying them.

And what do the students want? For three weeks, their persistent demand has been to send three representatives to address the Corporation, at the latter's convenience. If this demand has begun to sound angry and accusatory, it is because the students have lost faith in the effectiveness of polite gestures.

The Corporation gathers at MIT only once every three months, so its physical presence on campus for a few days in March was a rare and valuable opportunity for the apartheid protesters. Before March 7, most members of the Corporation probably did not even know that student representatives had wanted to address them. So when the Corporation members left Gray's house for lunch at the Faculty Club, 100 students trailed them to Sloan. The police guarding the passageways there treated the students like they were thieves trying to steal the Crown jewels; maybe their employers had not bothered to tell them why the protesters had come. Under these circumstances, the police's use of excessive force in confronting students on the main stairwell was predictable if not excusable.

Police were also in the lobby outside the elevators, but they did not try to stop three of us from taking one to the Faculty Club on the sixth floor. There, we were met by a uniformed police officer who first said we were

not allowed there and then seemed uncertain. When one of us, Phil Katz, walked to the telephone booth on the side of the lobby away from the Club entrance, a burly man wearing a tan suit jacket sprinted from the other side and attacked Phil from behind. The man said nothing about who he was or what he wanted; the Campus Police later told us that the assailant was one of their lieutenants.

The lieutenant twisted Phil's arm behind his back and leaned heavily on him against the radiator and window while his uniformed colleagues stood by for at least a full minute, watching and telling us that they could not see what was going on. Phil screamed repeatedly: "Why are you doing this? I wasn't doing anything!"

The police ordered us to leave but we wouldn't without Phil. Maybe because the screams were attracting the attention of passers by, a uniformed officer finally stepped in and helped drag Phil to the elevator. When we asked for an explanation, the police said nothing. The lieutenant in the lobby smirked at Phil, who was still lying on his back, while the elevator doors closed.

Emerging from these events are some ugly facts about the relationship between the MIT administration and the rest of the MIT community: the Corporation's leaders would rather shield it from opposing views than allow it to engage in reasoned debate, and when duplicity does not work, they prefer a combination of police intimidation and violence. MIT's hypocrisy deepens: it claims to be a progressive institution, yet it supports the South African regime; it claims to be an educational institution, yet it does not like to hear its students; and it sees itself as a rational decision-making body, yet it is comfortable hiding behind the threatening barriers of the police.

Is this vision of MIT something that we are willing to tolerate? Can we support progress while also supporting racism, cultivate learning in an institution lead by the willfully deaf, or have confidence in a leadership that is capable of directing an unprovoked attack on a protester?

Roger Karapin G

US also mistreats minorities

To the Editor:

I would like to offer a comment on the letter of Stephen E. Lincoln '87 ["Anti-apartheid activists should stick to one issue," March 7] on the subject of a confusion of issues in the apartheid activism on campus.

I agree that using divestment as a rallying point for other political concerns can jeopardize an important struggle. There is another closely related issue, however, which nobody is talking about, and that is the apartheid which is produced in this country under a law passed by our own legislature, in the mass relocation of Navaho and Hopi Indians in the Southwest. Let me point out some of the parallels which are taken from an article *Showdown at Big Mountain*, by Richard Lawrence, in the Feb. 26 to March 11 issue of *In These Times*. (I quote liberally.)

In both cases, population removal is resisted by native people and imposed by a white govern-

ment, leaving the government and corporation in control of the mineral resources. Not surprisingly, several corporations which dominate the Navaho and Hopi economies are also major corporate actors in South Africa.

The US reservation system, like the South African "homelands," is a refinement of a "reserve" system left over from the 1880s when the governments "set aside" lands for native populations. Apartheid was institutionalized in South Africa in 1948 when the National Party came into power. In the United States, Indian "self-government" was institutionalized in 1934 under the Indian Reorganization Act (IRA). The IRA liquidated indigenous forms of self-government and installed "elected" tribal chairmen who signed away mineral and water rights.

There is some urgency to this issue since there is a possibility of a military confrontation in the Four Corners region of the

American southwest between now and July 7, by which time the government plans to have removed 10,000 traditional Dinah (Navaho) Indian inhabitants from a one million acre, mineral rich area of the Colorado Plateau.

If the removal is carried out, it will be the largest peacetime forcible eviction since the Trail of Tears death march of the Cherokee in the 1830s, in which thousands died. International relocation experts say that to uproot such traditional land-based people is so devastating that, in similar displacements, some 25 percent of the adult population died within a few years.

To sum up, though I agree that confusing the issues dilutes the effectiveness of a protest, this is one particular issue which I would like to see included in the agendas of those who are protesting apartheid in other parts of the world.

Elisabeth King '51

LIVE AND STUDY AT WELLESLEY COLLEGE 1986-87

Applications for the Wellesley-MIT Residence Exchange are available in the Wellesley-MIT Exchange Office, 7-108, x3-1668.

Deadline for applications is **MONDAY, MARCH 31.**

Questions about the Residence Exchange?

Come to an informal session on **WEDNESDAY, MARCH 19, 4:00 pm, 6-321 (Moore Room).** MIT students currently living at Wellesley will talk.

Refreshments will be served.

COME MEET DOC EDGERTON

Receive a free, autographed copy of his book, *"Electronic Flash, Strobe"*

Thursday March 20, 1986



**2-5pm
E15-205**

**Council for the Arts at MIT
253-4003**

Doc will give away 150 copies of *"Electronic Flash, Strobe"* Available on a first come, first served basis Student ID required

Are You Getting Educated?

How would you improve the Engineering Curriculum?

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**Tuesday, March 18th 7-9pm
McCormick Brown Living Room**

Sponsored by Tau Beta Pi and the Undergraduate Association

ATTENTION SENIORS POSITION AVAILABLE IN THE ADMISSIONS OFFICE AS AN ADMISSIONS COUNSELOR

The Office of Admissions is now accepting applications for the position of Admissions Counselor. This is a one year full-time position beginning in July, 1986 (some flexibility is possible). Duties will include:

- conducting questions and answer sessions
- interviewing prospective applicants
- visiting secondary schools
- coordinating MIT student involvement in admissions
- reading applications
- participating in admissions committee decisions

Applications for this position are available from Lynne Gemma in the Admissions Office (3-108) and should be returned to her no later than April 4, 1986.

Commission on Engineering Undergraduate Education report

(Editor's note: The following interim report was issued by Jack L. Kerrebrock, chairman of the Commission on Engineering Undergraduate Education.)

A Status Report to the Engineering Student Body

The Commission was established in September 1985, with overall responsibility for conduct for review of the MIT program of undergraduate engineering education, close collaboration with the parallel reviews being conducted in the Schools of Science and Humanities, Arts and Social Sciences. We are charged with stimulation of discussion of creative alternatives to the present undergraduate program including its goals, methodology and structure.

Consisting of Professor Hermann Haus, Lawrence Lidsky, Boro Mikic and me, the Commission is extended by a set of three subgroups:

- Subgroup on the Institute Core; Haus Chairman
- Subgroup on the Engineering Curriculum; Lidsky Chairman
- Subgroup on Special Issues; Mikic Chairman

We established as a first objective the enunciation of a set of goals for engineering education at MIT, against which suggestions for change can be tested. Working closely with Engineering Council, with faculty and student groups in each of the engineering departments, and with the Committee on the Undergraduate Program chaired by Dean MacVicar, we have evolved the following statement of goals at two levels of detail.

First the Commission offers an overall statement of the purpose of engineering education at MIT, to wit:

Undergraduate education in engineering at MIT should prepare its graduates for leadership in technology and for professional excellence, through an education in science and engineering, with an emphasis on fundamentals, in essential partnership with the social sciences and the humanities, for the advancement of engineering and the betterment of society.

At a higher level of specificity, the objectives which should be held for engineering undergraduate education at MIT are that all graduates should:

a) **Have obtained a firm foundation in the sciences basic to their technical field:**

The graduates of the engineering school must possess a firm grounding in the sciences on which the engineering fields are based. This is the only way to insure that they will be able to keep up with the rapidly changing technical fields and will be able to learn the new evolving disciplines. The basic sciences must be taught by the science faculty of MIT, in part because they can best convey the thought processes and describe the experiments on which the scientific concepts are founded; in part, because the engineering students must learn the method of thought and inquiry of the scientist. This is a necessary preparation of an engineer so that he can communicate with scientists and can promote the rapid utilization of scientific discovery for technical developments.

b) **Have begun to acquire a working knowledge of current technology in their area of interest.**

The words "begun to acquire" are used advisedly. We do not expect to impart to our engineering students all the knowledge and skills required to function as an accomplished professional upon leaving the Institute with a Bachelor's degree. From his technical education, the student is to acquire concepts, methods of problem formulation and problem solution, and the vocabu-

lary relevant to his technical field. The large amount of detailed information required to function effectively as a professional cannot be imparted within four years. With the conceptual framework and the vocabulary acquired from his undergraduate education, the graduate must be able to acquire the additional information on his own, in interaction with his colleagues and/or in job training courses. In the acquisition of new knowledge, the graduate will be helped by his exposure to the rigor of scientific thought within his science curriculum, and the habits of self-study fostered by an MIT education (point c).

c) **Have acquired the skills and motivation for continued self-education:**

With the rapid and accelerating advance of technology and the increasing complexity of its political and social interactions, it is not realistic to think of an engineer as educated for a life-long productive career by any formal degree program, and certainly not by a baccalaureate. The desire and ability for self-education are thus among the most important traits of our engineering graduates. These characteristics must be developed and nurtured by practice within the undergraduate program.

d) **Have had an opportunity to exercise ingenuity and inventiveness on a research project:**

The satisfaction of arriving at an ingenious resolution to a complex problem is one of the inherent rewards of engineering. The opportunities for such satisfaction are highest when even the definition of the problem and the outlining of the universe of possible solutions must be determined by the engineer; these requirements differentiate research from design. The attitudes, techniques and skills required for working in such an unstructured environment are best taught by example and learned by experience. In research, judgment plays a role every bit as important as depth and breadth of knowledge. Highly developed research productivity is a hallmark of MIT's faculty and a basis for its high reputation. Although engineering does not always include "research" we owe our students an opportunity to develop their skills in an area in which MIT excels.

e) **Have had an opportunity for engineering synthesis on a design project:**

Synthesis, the creative assembly of a set of ideas, concepts and facts to yield a device or system to meet some set of needs, is the essence of engineering. Being a not entirely logical process, it relies in part on native ingenuity, but can be taught by example. It is a skill which must be practiced. Synthesis in the context of a design effort has the added value of providing motivation to the student for acquisition of the knowledge and skills which are essential for a successful engineer. It brings together, in a coherent pattern, information which is otherwise likely to appear disjointed and not useful.

f) **Have developed oral and written communications skills:**

The degree to which our graduates will have opportunities to exercise their professional skills and lead in their technical fields depends very strongly on their ability to communicate well. Whereas the acquisition and refinement of communication skills is a life-long process, the respect for language and its powers, the discipline and the care with which it should be used, the awareness and appreciation for its richness and beauty should be developed through our undergraduate programs. Our graduates must be able to express well their ideas and their technical contributions. This includes the ability to structure and present effectively, through writing and through speech, major components of a technical project.

g) **Have begun to understand and respect the economic, political, social and environmental issues surrounding technical developments:**

It is becoming increasingly apparent that leadership in engineering requires an awareness of the interaction of technology with its societal context. Technological capabilities are so extensive it is no longer true that what can be done, in a technical sense, necessarily should or will be done. If engineers are to play an important role in society's decision making processes, they must develop an understanding of the economic, political, social and environmental issues, and of the mechanisms by which they are adjudicated.

h) **Have begun to understand the diverse nature and history of human societies, as well as their literary, philosophical and artistic traditions:**

It is essential that engineering undergraduates receive a broad foundation in the humanities, arts and social sciences, to lay a basis for a lifetime of learning, to help students live more richly and reflectively, and to share in the pleasure of enquiries beyond their professional spheres. They must become familiar and comfortable with modes of thought and discourse that are less quantitative and logical than contextual, ethical and aesthetic. We should motivate our students through educational programs and by encouragement of their participation in the cultural, intellectual and social life of the Institute, toward a life-long effort directed at continued enrichment and enhancement of these aspects of their lives.

There is reasonable concurrence amongst the faculty of the School of Engineering with the importance of each of these goals, with the science base and communications skills valued especially highly, but only the goal of scientific preparation is judged by most faculty to have been met adequately.

We know less about the views of the student body, whether your expectations for your education at MIT are congruent with those of the faculty, or widely different. As the Commission proceeds to the next of its charges, examining the methodology and structure of our program and drawing out creative alternatives, we badly need to understand student views of both the goals of MIT education and the means to attain them.

Our present sense is that there are many opportunities for improvement in the education process; leading to more fruitful interaction between students and faculty, to a less stressful environment, and a richer educational experience.

We seek your views on these matters. The Undergraduate Association has organized a series of forums at which we can both listen and respond to your ideas and concerns. The first of these, on March 3, was reported in *The Tech* on March 7. Though attendance was light, the Commission found this forum very informative. We hope more will attend later forums, which are scheduled as follows:

- March 18, 7-9 pm
- April 9, 7-9 pm
- May 1, 7-9 pm

Please watch *The Tech* and bulletin boards for announcements of locations of these meetings.

Whether you are able to attend the forums or not, please make your views known, to one of the Commission members listed above, or to any engineering faculty member. This is a time of potentially important change. Let's all work together to keep MIT the leader in engineering education for the future.

UA NEWS AND WORLD REPORT

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McCormick Brown Living Room**

Sponsored by Tau Beta Pi and the Undergraduate Association

Would you like to help next year's freshmen select their courses and make the adjustment to MIT? The UASO is now recruiting undergraduate students to be **ASSOCIATE ADVISORS** for next year. Responsibilities include meeting with your advisor and advisees during R/O Week and offering guidance throughout the year. You can work with someone you know (your current advisor or another faculty or staff member) or you can be assigned to someone who needs an associate. Stop by the UASO, Room 7-104, to find out more and to fill out an application form. Please apply by April 1 to have a better chance of being matched with an advisor of your choice.

Class of '87 Notes

You are all cordially invited to a class study break at "Cafe Français" on Tuesday, March 18, in the West Lounge from 8-10pm. Come try the Delicious French pastries and meet your new officers!

* * * *

We are presently taking applications for class Newsletter/Publicity Manager, Senior Gift Coordinator, Senior Week Coordinator, Commencement Speaker Coordinator, '87 UA Representative, and '87 Class Council members. Descriptions and Applications are available in the UA office and are due by Friday, March 21.

Grassmannians and the California coast

MATHEMATICAL PEOPLE

Edited by
Donald J. Albers and G. L.
Alexanderson.
Birkhauser, \$24.95.

By FRANK E. MORGAN

UNLESS YOUR NEXT-DOOR neighbor happens to be a mathematician, you won't find a more human introduction to mathematics than *Mathematical People*, edited by Albers and Alexanderson. The book relies on short, lively interviews instead of scholarly biography to dramatize the daily lives, work, and hopes of some 20 modern mathematicians. This technique works especially well since mathematicians are notorious even among themselves for turning a bright conversation into unrecognizable scholarly prose once they put their ideas on paper.

Harvard mathematician Garrett Birkhoff seems to sound the mathematician's motto with his opening remark: "I was always interested in everything." All the mathematicians in these pages reveal the vigor and variety of their interests, which range from magic to writing and music.

Persi Diaconis, Stanford statistician and MacArthur fellow, talks about the open-minded searching he has had to do to become a national clearinghouse for solving problems in many different fields. Now he has "a stream of people from all walks of life — psychologists, biologists, mathematicians — coming in saying: 'Hey, do you know about this?'"

As you get to know Diaconis better, you realize that he takes such an active interest in so many fields not just because it is his vocation but because it is his nature. He began studying violin at Juilliard at age five, practicing after school and on weekends. At age 14 he left home with two days' notice to follow the great magician

Dai Vernon, and he spent the next ten years on the road practicing magic before deciding to pursue mathematics.

Ronald Graham, head of Bell Labs' Mathematical Studies Center, also attests to the breadth of many mathematicians' interests. Graham is a pianist, bowler (with a couple of perfect 300 games), boomerang thrower, ping-pong player, parachute jumper, trampolinist, and juggler (past president of the International Jugglers Association). He received the prestigious Polya Prize for his work in Ramsey theory, a branch of mathematics dealing with large combinations of objects.

Here is an example of the kinds of problems he thinks about. It sounds easy at first but no one has been able to answer it yet. We know that in any group of six people, either some three of them all know one another or some three are all strangers. No matter what the nationalities and histories of the six people, one of those alternatives has to hold. The unsolved question is: How big a group of people is required so that either some five all know one another or some five are all strangers?

Again, you must find a number, doubtless much higher than six, for which one of the alternatives has to hold regardless of the circumstances of the individuals. If you can find the answer, you'll probably appear in the next edition of *Mathematical People*.

Solving such problems requires tremendous energy and resilience, because most ideas lead down blind alleys and most efforts prove fruitless. Herbert Robbins, a statistician at Columbia University and coauthor of the marvellous book *What is Mathematics?*, describes a disquieting question that mathematicians often confront: "What did I do today? I talked to a few people. I tried to think about something and it came to nothing. Finally, I found that I was just repeating what some other researcher had already done."

Almost anyone who has taken a mathematics course can appreciate this struggle. However, when the light dawns, the satisfaction can be immense. David Blackwell, a statistician at the University of California at Berkeley, calls the search for such understanding, above his interest for any applications, his reason for doing statistics.

Indeed, Paul Halmos of Indiana University, editor of the *American Mathematical Monthly*, defines mathematics as "Truth. Beauty. Insight. Structure," with "everything new the mathematician hears eventually sounding like something else that he doesn't know." He predicts that if all men and women would understand some mathematics, "They would enjoy life more, they would understand life more, they would have greater insight."

The joy of pursuing such insight, and the meaning it gives to other aspects of life, is illustrated by a recent trip I made to Los Angeles, a realm unfamiliar to me. A friend met me at the airport, and we drove a few miles up the Pacific coast. As we neared Santa Monica, the traffic became heavier and livelier. People clad in Op shirts, swimming suits, and flip-flops walked from side streets, corner shops, and little parking lots toward the beach. I began to feel the mounting anticipation of a crowd gathering for a space launch or a historic speech.

My friend and I parked and joined the movement ourselves. We soon caught our first glimpse of the bright blue Pacific Ocean glimmering in the afternoon sun. We took off our shoes, rolled up our pants, and walked barefoot down the great Santa Monica beach. I can still feel the keen pleasure of the sight: the huge expanse of the ocean reflecting the dazzling glow of the descending Western sun and decorated with hundreds of glorious white sailboats.

Interestingly enough, rather than look-

ing dull by comparison, Boston looked more beautiful than ever when I returned home. As I rounded a curve on Storrow Drive, the broad expanse of the Charles River basin, with its graceful sailboats and windsurfers set against the imposing backdrop of MIT's great dome, especially caught my attention. My California vision had widened my view of these reassuringly familiar landmarks and given them a more significant context.

Mathematics is somehow similar. My recent study of invariant forms on Grassmannians, with its new scenery and perspectives, makes my other research and teaching more interesting. When I have just gained some new insight, I find more meaning in everything. As I am walking home, I notice the linden trees overhanging the sidewalk and the sparrows fluttering in the bushes.

In *Mathematical People*, Donald Knuth, a Stanford computer scientist and recipient of the National Medal of Science, describes the wonderful time he had writing *Surreal Numbers* — a novelette based on mathematics. Efforts to write other works had cost him much time and struggle, but Knuth found himself completing *Surreal Numbers* with relative ease. He rented a hotel room in downtown Oslo, near where Ibsen wrote his plays, and followed an idyllic pattern each day. He ate a leisurely breakfast, wrote for a few hours until he came to an impasse, took a two-hour walk until a solution dawned on him, wrote for a couple more hours, ate a nice dinner, watched a little TV, did some more writing, and went off to bed. The book was finished in six days.

Knuth describes that final day: "There was a hoar frost on all of the trees, more than an inch thick. I walked around in the gardens of the king's palace. . . The midnight sky was a perfect, deep blue."

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The Tech Performing Arts Series presents. . .

HUNTINGTON THEATRE

Saint Joan

The Huntington Theatre Company will perform Bernard Shaw's touching and comic telling of the Saint Joan story.
Huntington Theatre, 264 Huntington Avenue, Boston,
Mar. 18 at 8 pm. MIT price: \$6.

COLLAGE

With Concert Dance Company

Collage and the Concert Dance Company of Boston will perform a joint program featuring the premiere of choreography by Terese Freedman and Jim Coleman to John Cage's *Three Dances*, as well as the world premiere of a piece by Mario Davidovsky and three works by Aaron Copland in honor of his 85th birthday.
Boston Shakespeare Company Theatre,
March 23 at 8pm. MIT price: \$4.

ISAAC STERN

Soloist with the Montreal Symphony Orchestra

Isaac Stern will play solo in the US premiere of Dutilleux' *Violin Concerto*. The Montreal Symphony Orchestra, conductor Charles Dutoit, will also perform Debussy's *Ibéria* and Ravel's *Daphnis and Chloé*.
Symphony Hall, March 23 at 8pm. MIT price: \$6.

MUSEUM OF FINE ARTS

Museum joins Performing Arts Series

We are delighted to announce that the Museum of Fine Arts has become a participant in *The Tech Performing Arts Series*. The Sunday concerts provide a great opportunity to spend time wandering the Museum's galleries and take in an afternoon of music too. Tickets will also be available for Thursday evening events.

All-Mozart Concert

John Gibbons, Boston's most original interpreter of the harpsichord repertoire has a special way of looking at Mozart, too. This concert will feature Gibbons playing Mozart on a fortepiano similar to the instruments the composer would have used. The resonance time is shorter, clarity greater: Try it! Museum of Fine Arts, Remis Auditorium, March 23 at 3pm. MIT price: \$6.

American Originals

Nancy Armstrong, Daniel Stepner, and Stephen Drury present music of Charles Ives and others. Museum of Fine Arts, Remis Auditorium, April 6 at 3pm. MIT price: \$6.

Tapestry

Rella Lossy, Laurette Goldberg, Judith Nelson, and Anna Carol Dudley in a dramatic presentation featuring music of Bach, Handel, Mozart, and Haydn. Museum of Fine Arts, Remis Auditorium, April 17 at 8pm. MIT price: \$6.

Boston Museum Trio

The Museum of Fine Arts' resident trio, the Boston Museum Trio — Daniel Stepner, baroque violin, John Gibbons, harpsichord, and Laura Jeppesen, viola da gamba — present a program of music from the French baroque with tenor Frank Kelly. Museum of Fine Arts, Remis Auditorium. May 4 at 3pm. MIT price: \$6.

Tickets will be sold by the Technology Community Association, W20-450 in the Student Center. As opening hours are currently a bit sporadic, please call before you come. If nobody is in, please leave your order and your phone number on the TCA answering machine at 253-4885. You will be called back as soon as possible.

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

Get Out on the Town with The Tech Performing Arts Series. . .!

ARTS

Sinfonova — originality in new works / The Devil to Pay at MFA

SINFONOVA

Conducted by Aram Gharabekian.
With violin soloist Stephanie Chase.
Jordan Hall, March 14.
Event in The Tech Performing Arts Series.

THE DEVIL TO PAY

Balad opera performed by
The Friends of Dr. Burney,
Charlotte Kaufman, Director.
Museum of Fine Arts, March 16 at 3pm,
Repeats on March 19 at 8pm.

By JONATHAN RICHMOND

SINFONOVA opened the last concert of their 1985-86 season with a rich performance of Warlock's *Capriol Suite*. The Suite is based on tunes from Arbeau's *Orchésographie* of 1589, but — reflecting Warlock's heritage — is very English. Conductor Aram Gharabekian drew a full-bodied sound from the orchestra, one that was incisive, yet lyrical. The *Pavane* was elegant but deeply drawn, the chirpy dancing *Tordion* had delightful pizzicato. Wonderful cello drone-effects and bright, vibrant playing all-around guaranteed an exciting closing *Mattachins*.

William Thomas McKinley's new work, *Sinfonova*, composed for Gharabekian's orchestra, goes directly to the music of Bach and Vivaldi, writes the composer in a program note. "I then planned a string symphony cast in two-movement form (slow — fast) which was to evoke what I consider to be two of the most important characteristics of the baroque: monolithic structure and homogeneous texture." *Sinfonova* maintained a consistently concentrated texture; in the first movement we heard electric plucking on cellos and basses, with continuity maintained all the

time on violins.

The second movement, *Allegro magico*, saw formalized cross-currents developed between the string sections; reminiscent, indeed of Bach. Finesse of vibrato, depth of tone, iron-clad discipline: all were to be had from this unusually talented ensemble.

Vivaldi's *Four Seasons* is so well known that it is easy for performances to lapse into complacency. But it would be out of line for Aram Gharabekian to treat a well-known work any differently from a new one, and the result was a fresh and original performance. It had much more to say about Vivaldi and about music than The English Concert's rather dry recent performance of these famous concertos in Jordan Hall. And it said it with a special piquancy due to the brilliance produced from strings that seized and built on each tension, and that were crowned with a thrilling but warmly-human lead from soloist Stephanie Chase.

Chase had a close relationship with the orchestra, foraying out on exploratory excursions from a home base well-integrated into its textures. Her solo in the opening movement of "Summer" was one of several examples of extraordinary virtuosity. Tensions developed by cellist Ronald Lowry were pirouetted back by Chase; building up to a fiery crescendo, she showed remarkable agility. In the *Adagio*, Chase's passionate *legato* was placed in transfixing balance with the storm developing in the *tutti*. The excitement of the concerto's concluding *Tempo impetuoso d'estate* was vividly dramatic.

"Autumn" began crisply, but Gharabekian illuminated the mysteries of the *Adagio* — the meat of this concerto sandwich — with imagination and subtlety. One could almost feel autumnal breezes blow-

ing against one's smoothly-propelled gondola, gliding down softly-lit Venetian waterways.

The facility of Chase's technique endured into the last, details jumping out of Vivaldi's fabric, portrayed with a sharp clarity of outer form, but inner-depth of meaning. The skill of Gharabekian was in his structuring of the "whole," so that at all seasons Vivaldi's music was riveting, pleasing in aesthetic, inquisitive in intellect.

YOU HAVE NO CHOICE tomorrow night but to go down to the Museum of Fine Arts and enjoy Charlotte Kaufman's latest side-splitting ballad opera production, *The Devil to Pay, or The Wives Metamorphos'd*.

Kaufman's unlikely finds are keenly anticipated by MFA cognoscenti, for she has a special talent at bringing to life material that is little known but — at her hands — fresh, entertaining, and musically interesting to boot. The ballad opera — a spoken play with songs, a genre which began with Gay and Pepusch's *Beggar's Opera* — is one of Kaufman's specialties, and her talented company, The Friends of Dr. Burney, guarantee a lively performance.

The Devil to Pay was a full-length play with 42 airs, but was a failure. Later editions were much shorter: there were only 16 songs — with basslines attributed to a Mr. Seedo, resident composer at the Drury Lane Theatre — in the third edition. For some of the 18 songs Kaufman has restored for the Boston Museum audience, alternative contemporary settings are used; Kaufman has provided her own "newly composed" basslines for the rest.

The story is classically bawdy: There are two couples, one with a wife-beating mon-

ster of a husband, the other with an ogress of a wife. A magician catalyzes a solution by making the wives exchange bodies — the ogress then appears to be the wife-beater's spouse, and is beaten into civility, while the abused-wife takes the place of the ogress, shocking the latter's hen-pecked husband with her warmth. All, needless to say, ends well.

Kaufman's cast have unusually clear and characterful voices; and they act as well as sing dramatically. The result is captivating.

David Ripley sang Jobson, the wife-beating cobbler, singing with an ascerbicly crusty tongue, and matching it with cartoon characterization in action. Sue Ellen Kuzma sang Nell, Jobson's wife, "an innocent country girl." Her voice was sweet and lyrical.

Nancy Armstrong kept the laughs going as Lady Loverule, projecting her bullying image in pointed (but attractive) singing as well as in flexible dramatic action. Sanford Sylvan's flexible baritone colored in the character of the sat-upon Sir John.

Lynn Torgrove and Rockland Osgood sang in a particularly delightful entr'acte number, "The Stocking," in addition to their roles in the main drama. This comic cantata was done with a fine, conspiratorial sense of humor, aided and abetted by the delicious recorder playing of Maria Diez-Canedo.

For the main event, there were three instrumentalists, and they made the music sparkle. Judith Gerratt's baroque violin playing was especially expressive, suggestively spiriting along the plot. Kaufman's harpsichord playing was pert and alert, while Jane Hershey provided an attractive gamba accompaniment. All in all, this is a rare treat: There'll be the devil to pay if you miss tomorrow night's repeat performance.

Dramashop stages student scripts

DRAMASHOP

Staged reading of student scripts.
Kresge Little Theatre, March 14 & 15.

By JULIAN WEST

DRAMASHOP'S PERFORMANCE of student plays developed into Incest Night at Kresge Little Theatre. In three plays, we were presented with lusty roommates, a frustrated father, and kissing cousins. As Dramashop mentor Bob Scanlan '70 observed, these plays were written by MIT students, and "we all know what's on their minds."

To start with strength, the opening piece was also the most entertaining. Essentially a crystallized improvisation, *Movin' in* was a collaborative effort of the four actors, Dorothy Dartland '86, Gregory Greeley '86, Wayne Heller '86 and Kerry O'Neill '86. An unapologetic sitcom, it left the audience in stitches.

The play was dedicated to David Mamet and, Mamet-like, dealt with the everyday love troubles of ordinary young people. Carol (played by Dartland) is movin' in with George (Heller), and he is movin' in on her. She is happy to receive his advances, so all would be well except for the disturbing presence of their mutual friend Eddie. Eddie is an irrepressible schemer ready to sell out his friends for two tickets to the Lakers game. But, just as he con-

vinces others that dishonesty is the best polity, he convinces himself that he is acting for the best.

Eddie's hilarious explanations of his job as keeping produce until "the good stuff goes bad" provided an apt metaphor for the play. It developed from an opening scene written and performed by Heller, which was not so much a monologue as an impassioned address to his toaster. As soon as the curtain went up, we could see that he was in his element. He was even better with Dartland than with his toaster, and she rose to it. Greeley made a wonderful schemer. Less impressive was Kelly P. O'Neill '88, who stormed in at the end playing an unconvincingly fiery Latin. But she was not afraid to put her back, and her handbag, into the performance.

O'Neill's skills came across better in her direction. Her final, wild, scene with Eddie made a nice counterpoint to the furtive glances which George and Carol were stealing across the room. The rest was equally well blocked: the characters were relaxed when they were alone and nervous together.

Mockingbird was the one dramatic piece of the night. Well written by Julia White '87, it was less well realized than the comedies, which are perhaps what Dramashop does best. White has produced a play which is reminiscent of Tennessee Wil-

liams: two kids about to get married, who could be Southerners but are actually from Oklahoma; an unresolved father-daughter relationship; a cat called Esther. The play makes some nice social points. The couple has tried running away to California, but that is no longer far enough; they plan to go to Alaska, while Evie's father heads for the Virgin Islands. Esther predictably dies, maintaining a Dramashop tradition of sacrificing small animals.

The acting, however, did not do the play justice. Stephanie Taddy '88, playing the central character, was the stand out, but she could not bring to the play the subsumed sexual tension which Evie, like Maggie the Cat, requires. The director, Anna Lisa Fear, seemed to have missed the point that it is the father, not the bridegroom, with whom Evie feels comfortable. Evie is obsessed with filling the place left by her dead mother, and there is a heavy scene in which her father places a wedding ring on her finger, leaving us no doubt that this is the couple who could be happy. But the cast was unable to translate this into sexual terms, and that tension missing, the play dragged.

Social Security, a politically-motivated farce, did nothing for me and was mercifully short. But the audience did enjoy seeing just how silly two people can act on stage. The play will go down in the books

as the piece in which Brian Linden '88 achieved the ultimate moustache.

The evening returned to comedy with the final entry, *Death in the Family* by Andrew Borthwick-Leslie '86. Actually the middle act of a complete play, it is a pitch-black comedy about two cousins, a nymphomaniac Montréaler and a Kansas virgin, who don't quite get it off in the mortuary while attending their grandfather's funeral.

Borthwick's script was strong on character development, and contained some clever dialogue as well. Some sample one-liners: "I don't think you should start smoking dope until you've got a different teacher for every subject," "If your father wasn't Catholic, you wouldn't have to be here at all."

David Altshuler '86 and Ingrid Olson W'87 did a fine job, under the direction of Julie Theriot '88, as the kissing-to-be-clever cousins. Altshuler hobbled gamely through the play on physical crutches, and both relied on scripts as crutches as well, but these were easy to overlook in light of the performances. Patti Zeitler '88 also did a nice walk-on performance as the boy's mother.

The sets were simple, but carried a visual theme throughout the evening, all being arranged with sparse furniture and a single flat. And the costuming for the night, all done by one person, was uniformly good.

Bruce Wells' characterful choreography (at Boston Ballet)

A MIDSUMMER NIGHT'S DREAM

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Set to Mendelssohn's *Incidental Music*.
The Boston Ballet at the Wang Center.
March 5-9.

By ERIC SVEN RISTAD

BRUCE WELLS transports us from the complication of the mortal world deep into the Athenian forest, where the magic of his newly-choreographed ballet, *A Midsummer Night's Dream*, firmly takes hold. Fairies, sprites, and elves dart across the stage, first in clumps of twos and threes,

building fitfully to long sparkling chains of pinks, greens, reds, blues, and whites.

Puck, the most mischievous of the fairies, chases butterflies in the midst of this excitement of color. The visual cascade freezes upon the separate arrivals of Titania and Oberon, King and Queen of Fairies, and their courts.

Wells has created a pure representation of Shakespeare's great comedy — all the twists and tangles of true love are strikingly depicted using a witty combination of crisp mime and stirring dance.

The great choreographic accomplishment of the ballet is its use of young children. The youths provide an inexhaustible fountain of color, magic, and dramatic focus. Even when sitting still on the periphery of an active scene, the children magni-

fy intensity and make the darkest recesses of the stage come alive.

The production is gloriously costumed, with two exceptions. Puck wears a leafy green leotard reminiscent of a comic-book Tarzan, and Oberon enters with a fey pair of wings and an effeminate flowing golden train, although he casts off the emasculating wings and train soon enough.

Karl Condon's Puck bursts with enthusiasm, good cheer, and mercurial energy. Condon is magical, seemingly unbound by earthly constraint and quite capable of putting a girdle around the earth in forty seconds. Devon Carney is a supremely arrogant Oberon.

The most memorable dance of the evening is between Titania and Oberon, a moving depiction of physical love follow-

ing reconciliation. Marie-Christine Mouis is graceful and exotic as Titania. Doubts about Carney's presence and power melted as they made love — the dance is measured, tender, and gloriously erotic.

Puck and Oberon have set all to right in the world of mortal lovers. Lysander marries Hermia and Demetrius, Helena. Their long, intriguingly dispassionate dance contrasts sharply with the desperate lust and violence of the early lovers' plot.

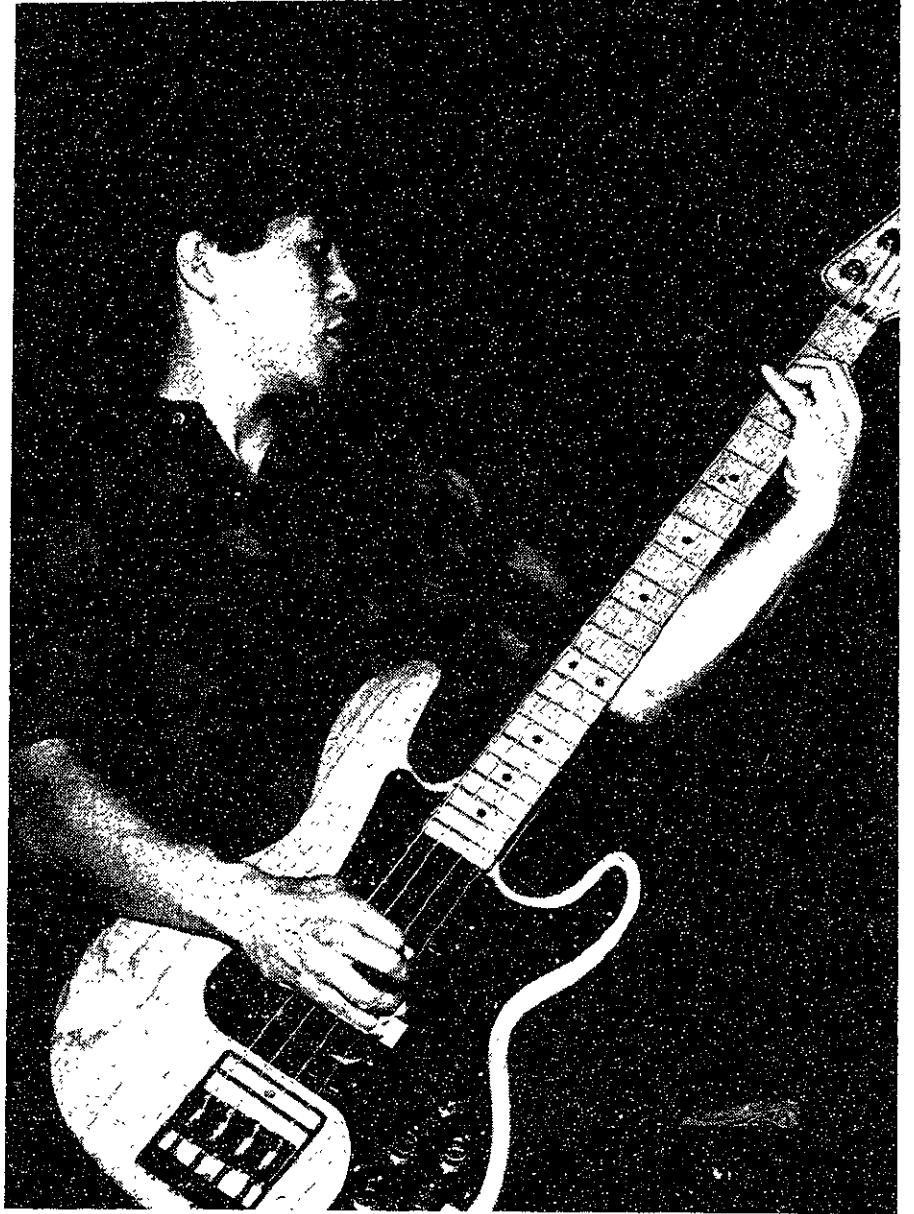
Subsequently, a much cooled Titania and Oberon marry in a similarly clinical style. The ballet suggests that only marriage remains after love of such intensity.

Shakespeare's *Midsummer Night's Dream* is a play about love's many forms, and the Boston Ballet has captured all in one form. Bravo!

Battle of the Bands

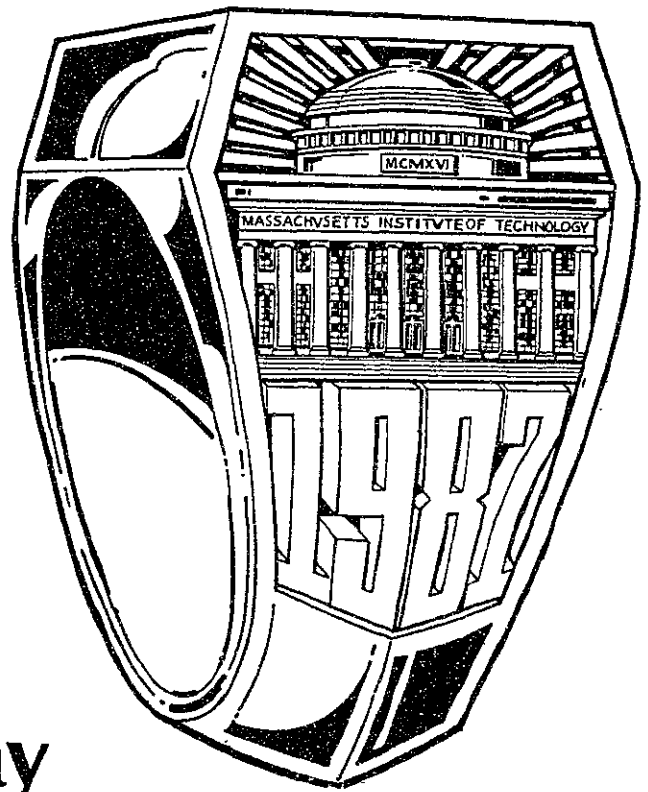
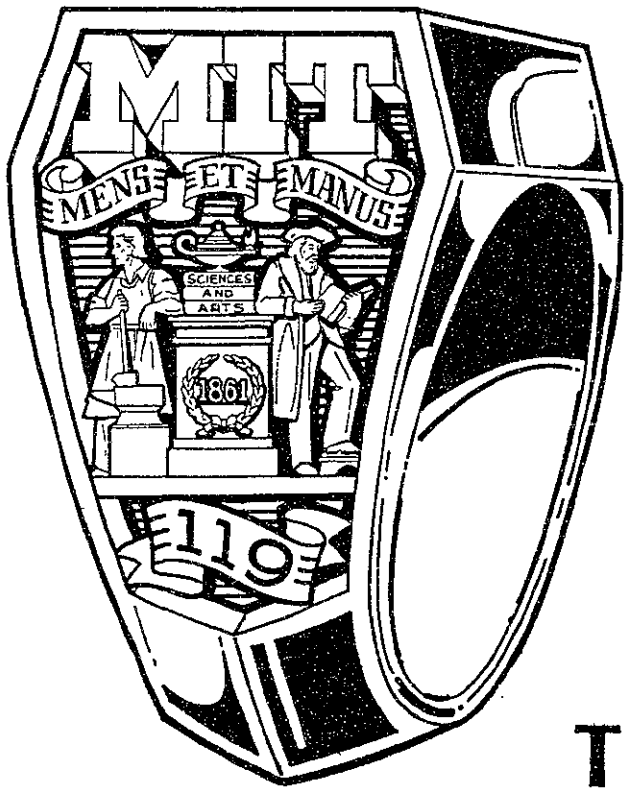


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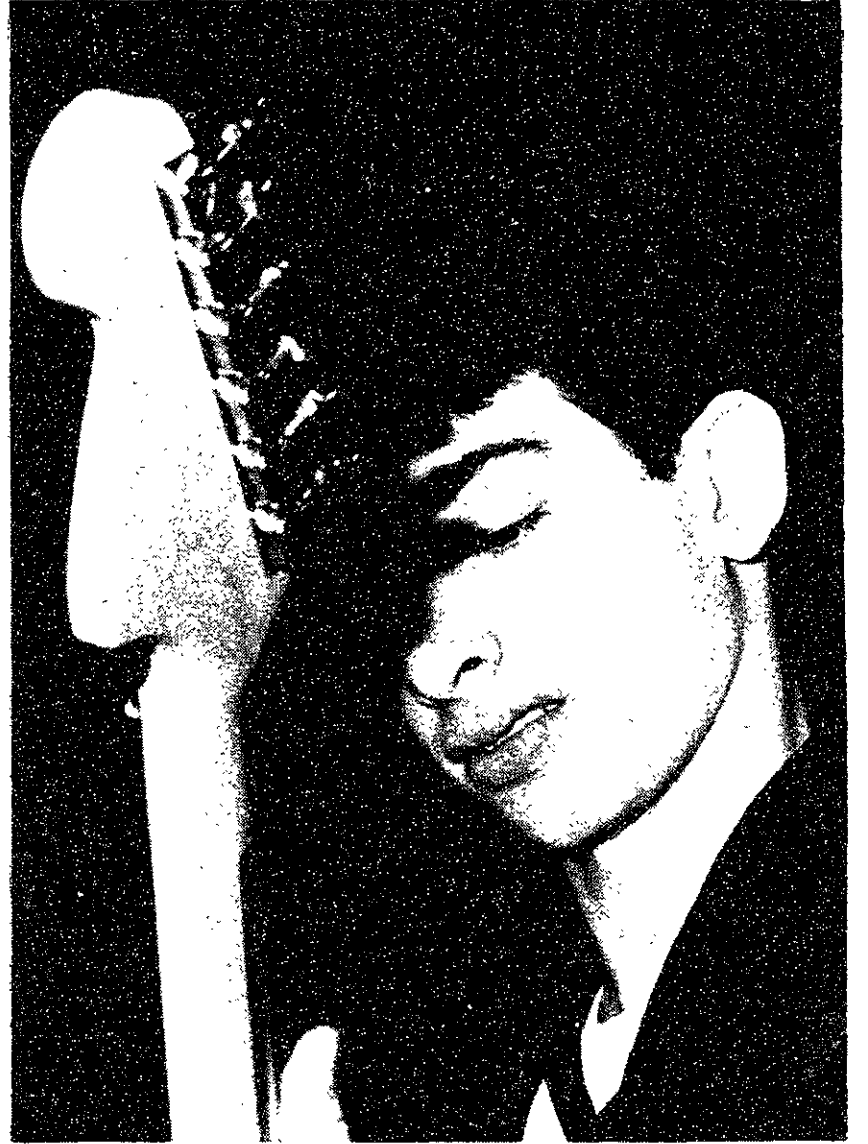


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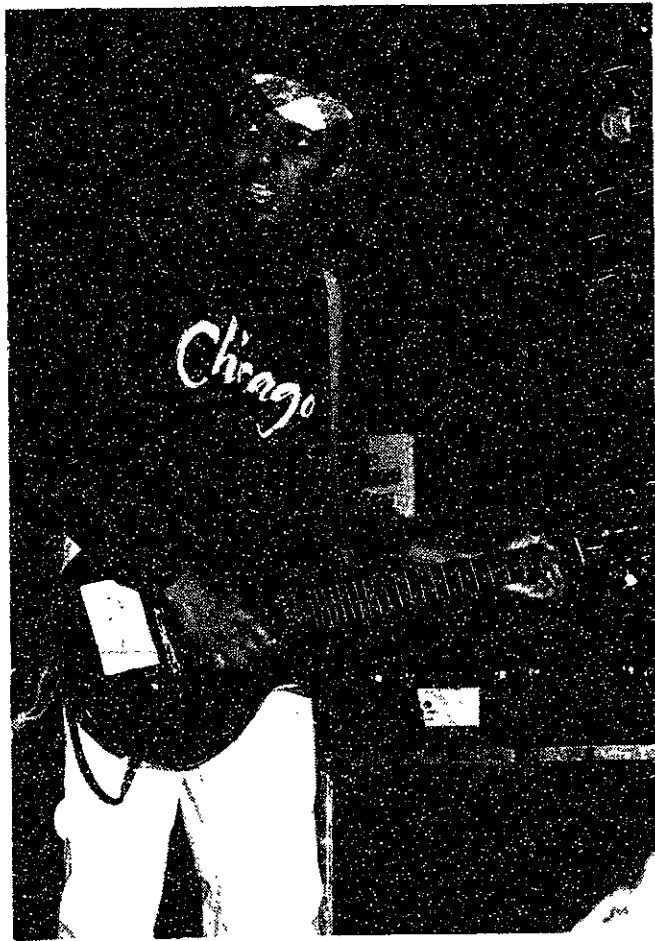
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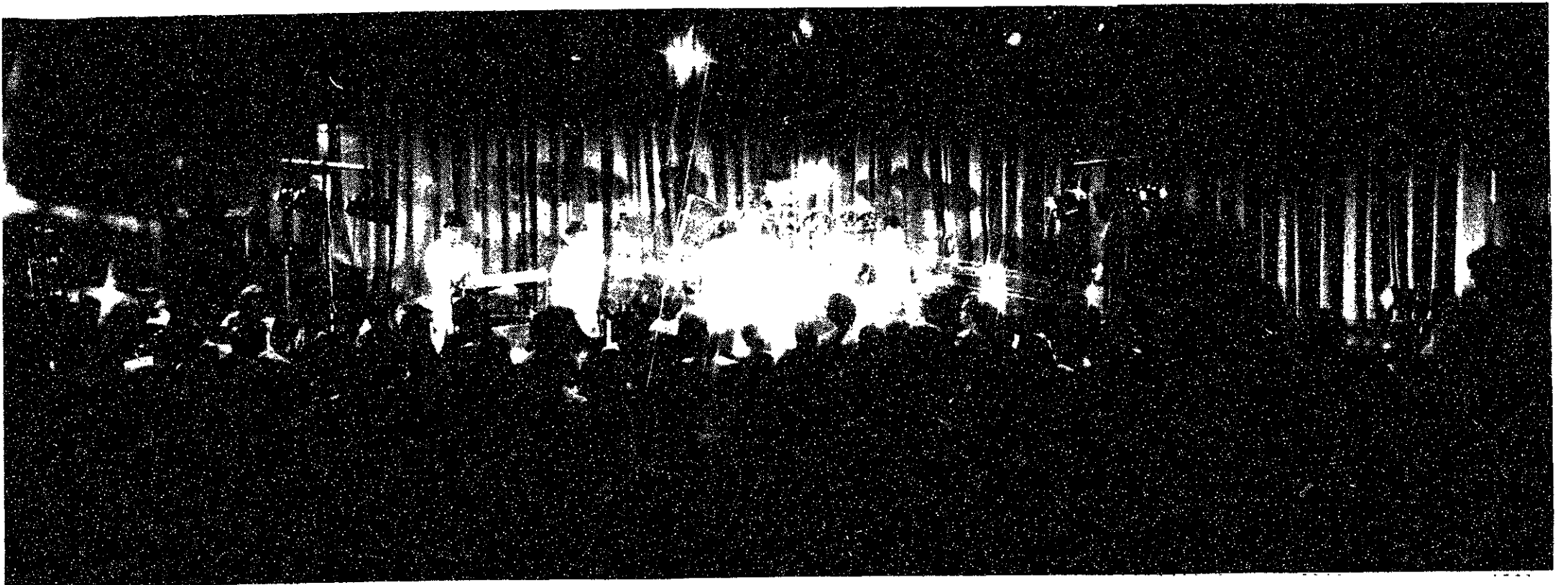
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Dickson explains removal of shantytown

tures without agreeing to those terms, we elected to let [the shanties] stand as long as [the protesters] were reasonably consistent in their actions with" those terms.

The coalition is now calling for MIT to drop the charges on the eight students who interfered with the take-down of the shanties.

The coalition's petition states, in part: "We the undersigned members of the MIT community, . . . valuing the special role of academic institutions as places where dissent and unofficial viewpoints should be able to be freely expressed and communicated, demand that MIT publicly recognize that the arrest of non-violent protesters is unacceptable in an academic setting, that MIT advise the district attorney that it no longer considers that the eight students arrested were trespassing, and that the Institute reimburse those arrested for any court costs and fees incurred as a result of their arrest."

But MIT can no longer drop the charges against the six students who admitted to sufficient facts for the court to impose costs and were granted continuances.

MIT could only have recommended that charges be dropped when the judge was viewing the case, according to John Rhinestein, legal director for the American Civil Liberties Union of Massachusetts. When the students accepted the continuance, the judge's decision was entered with their consent, he explained.

The students arrested include:

Kevin T. Christopher '88; Arnold Contreras '86; Jonathon A. Garen '88; Seth D. Goldstein '86; Michael Levine '87; Lawrence K. Kolodney G; and Alex B. Rosen '88. Stephen P. Fernandez '86 was also arrested, but did not register as a student this term.

A funeral

Nearly fifty members of coalition gathered yesterday in Kresge Oval to hold a symbolic funeral marking the demise of Alexandra Township.

The protesters placed six tombstones on the green, bearing such messages as "179 dead, 1200 wounded: Soweto, 16-24 June 1976," and "The shanties are gone, but apartheid persists: we will be heard."

Steven D. Penn G led the ceremony, speaking on the death of "the idea that students are free to express their opinions without being badgered by the administration."

"The administration does not share this idea," Penn said. "They see people as products who will learn science and engineering and go out to be efficient. But we are not efficient when we protest."

End of the shantytown

With crowbars and three dumptrucks, approximately 20 physical plant workers began to tear down Alexandra Township under Institute orders early Friday. The coalition had built the shantytown on March 2 to protest apartheid and MIT's investment policies in South Africa.

Dickson issued this statement Friday: "The MIT administration

supports, without reservation, the right of the Coalition Against Apartheid to freely express its views.

"The Coalition Against Apartheid, however, has been the sole occupant for 12 days of one of the most heavily used public spaces on the MIT campus. MIT removed the shanties today, Friday, March 14, to ensure that other groups and individuals can also continue to have full access to Kresge plaza."

At approximately 6:40 am, the physical plant workers began removing the wooden planks and iron nails of the construction. By 7 am, only one shanty stood on the lawn. Six students then climbed on top of the remaining structure.

Dickson walked up to the coalition members and stated: "You have been asked to leave this site. You have five minutes to get off or you will be trespassing and subject to arrest."

Soon afterwards, three Campus Police officers restrained Contreras. After a short struggle, the officers put handcuffs on him and led him toward a waiting Cambridge Police Department truck.

A few officers then climbed up onto the roof and began arresting the protesters. The demonstrators were led in handcuffs into the police van.

The police took the demonstrators to the Cambridge City Jail and placed them in two cells for about three and a half hours, Goldstein said.

Judge Arthur Sherman tried the students that afternoon at the Middlesex County Courthouse in East Cambridge. Thomas Bagley, the Clerk of the Courts, said that all were charged with the crime of "trespass after notice." Since they were charged with violating a state law, the Commonwealth of Massachusetts was the moving party in the case.

Two students, Contreras and Kolodney, had their cases voluntarily continued for trial April 21. They will return to court on that day.

The other six admitted to sufficient facts for the court to impose costs. The cases of five students were continued without a finding of guilt until May, 1987. Goldstein, a senior, will have his case continued only until this May.

The judge offered to grant a continuance without finding, Rosen said. "They wanted us to confirm there was enough evidence" to prove guilt, he explained.

"Not all of us chose this deal," Rosen added. "Not all of us are students, [Fernandez is not registered this term] . . . and our cases had very different circumstances."

"It was not my intention to get arrested," Kolodney said. He was at the Oval to take pictures of the



Tech photo by Steve Kishi
A Physical Plant employee dismantles the shanties Friday.

removal of the shanties, he said. "I was just going to record it. . . . I made sure I did not disobey any orders of the Campus Police."

Although the students have not been found guilty, they are on a type of informal probation until that time.

The judge originally told the group that they could face up to 30 days in prison and a \$100 fine if the court found them guilty, Rosen said. "After our few hours in prison, we realized that that [would not be] such a great thing to happen to us," he said.

The judge also informed the

students that if they were arrested again before their probationary period had ended, he would sentence them to ten days mandatory in a correctional institution, Rosen said.

The court imposed court costs in the amount of \$72 per defendant, and a further victim witness fee of \$15. At the end of the probationary period, the records will be wiped clean, according to Rosen.

(Editor's note: Ronald E. Becker, Andrew L. Fish, Michael J. Garrison, David P. Hamilton, Thomas T. Huang, Harold A. Stern and Julian West contributed to the research of this report.)



Tech photo by Steve Kishi
Campus Police Sgt. Edward McNulty (front, left) and Senior Vice President William R. Dickson '56 (center) look on as the shanties are removed.

Athena to enter living groups

(Continued from page 1)

If the experiment works, a second round of proposals may be entertained next year, Erickson said. "We will have to see how this one goes," she continued. Living groups in the second round would be targeted for installation in the summer of 1987, "but like all other targets, these may slip," she emphasized.

Athena will provide workstation clusters of either DEC VS2's or IBM PC/RT's, depending on the needs of the living groups, Erickson said. Athena expects the living groups to provide a finished space for the machines, no warmer than 85 degrees during summer and able to provide the four or five amps that a workstation cluster can draw, she said.

The two on-campus living groups will be connected directly to the Athena network, while the

other three living groups will be networked by telephone, Erickson said. Additionally, there is a possibility of later connecting the DU cluster directly via laser because of their location directly across the Charles River, Erickson said.

The living groups linked by telephone will be expected to pay their own phone bills up to two dollars per person per month, Erickson continued. Charges in excess of that limit will be covered by Project Athena, she added.

Although administrative concerns were among the issues addressed by the proposals submitted last fall, they were not a decisive factor in the living group selection, Erickson said.

Normal maintenance for the machines will be covered under a

standard warranty for the life of Athena, or about two and a half years, Erickson continued. After that time, living groups will either have to return the machines or decide on a method of paying for maintenance, she said.

The machines will be Institute property and will be covered by a standard Institute liability policy. "Students will not be extremely liable," Erickson said.

Eventually, Athena plans to connect every living group that wants to be connected by the end of Project Athena in 1988, Erickson said.

Even if Athena doesn't meet that goal, the project will provide a blueprint that will allow MIT to continue to install computers in the living groups. "It will happen before 1990," Erickson predicted.

Successor clause will protect food employees

(Continued from page 1)

with the local union of the AFL-CIO the details concerning employee benefits, such as sick leave wages and health plans, Brammer said.

Two weeks ago, food service employees had distributed petitions in the dining system asking the MIT community to support their job security.

At that time, Fandel said that national labor regulations prohibited employee petitions in the workplace.

Petitioning is "like soliciting to take an action," he said. National labor regulations state that "soliciting" should not occur in the work area during working hours, he said.

Instead, to settle disputes between employees and employers, the union contract provides for a grievance procedure, in which a neutral arbiter could review any dissatisfactions the parties might have.

But he said that he could understand the employees' concerns. He noted that the Harvard Business School had contracted out its workers almost two years ago, and that this had concerned the local union.

The union and MIT labor relations then renegotiated a new contract in the spring of 1985, which stipulated that MIT would have to give eight weeks notice if it ever decided to contract out its food service employees.



Tech photo by Steve Kishi
Campus Police attempt to restrain a protester.

MIT has few GSL defaulters

(Continued from page 1)
1982, the rate for MIT loans was only 1.8 percent.

When a student defaults on a GSL, the lending bank files an in-

surance claim with the Massachusetts Higher Education Assistance Corporation (MHEA) and will receive full payment of the loan.

MHEA proceeds to collect payment and reports the student's failure to repay to major credit bureaus and the student's future credit rating is impaired. After two years of non-payment the loan is delinquent and the federal government assumes collection responsibility because the GSL is federally insured.

The NDSL comes directly from the federal government, McCormick explained. If a student defaults, the federal government takes the loss, she said.

The Bursar's Office is very willing to negotiate and will make every attempt to prevent default, McCormick said. Out of the \$32.3 million loaned out, only \$750,000 has ever been referred to the federal government for collection since the Student Loan Program at MIT began in 1964, she continued.

The MIT default rate has always been considerably lower than the national average. Even when the MIT default rate reached its peak in 1977, it was still only half of the national average default rate, McCormick said.



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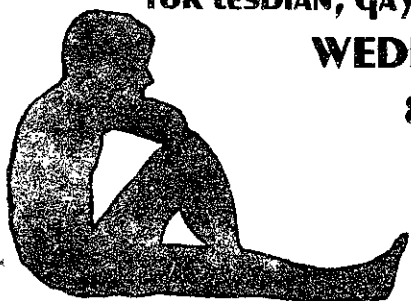
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GSC sponsors housing drive

(Continued from page 1)

long-term solution is to build more on-campus housing, he added.

New housing should be on the scale of Tang Hall, because 40-person dorms like Green Hall are practically useless for reversing the trend of decreasing availability of graduate housing, Fox explained.

Currently the funding for new housing comes from the difference in rents and costs of the graduate dorms, Fox said. "But this fund is growing so slowly that it will be decades before enough money accumulates," he added.

A short-term solution to this problem could be increasing dorm rents from their present 77 percent of market value to 90 percent, Fox suggested. This would generate considerable revenue which could be a first step towards building more housing, he said.

Some rooms in Ashdown could be interim rooms where international students would stay for possibly a semester or a perhaps a year, Fox suggested. He added, however, that the tenure policy for current residents would not be changed.

Under the present regulations a student is allowed to stay in a room as long as he or she may wish. The interim rooms, Fox explained, would allow foreign students a period of orientation be-

fore they tried to hunt for housing outside of MIT.

The final and crucial step, Fox said, "would be the addition of a new graduate dorm to the Institute's wish list." The petition addresses this issue and the GSC intends to give the Institute concrete proof for the desire of graduate students for on-campus housing, Fox said. This desire has always been evident in the long waiting lists for all three of the graduate dorms, he explained.

"Last year at a GSC meeting President Gray said . . . graduate student housing was not a priority," said Brown, "but now they are beginning to realize it is a problem." The Faculty Policy Committee has formed a graduate student housing subcommittee to look at the issues involved, he said.

The subcommittee is currently acquainting itself with the issues involved. It is also waiting for the results of the GSC Registration Day survey which had several questions on housing. Eventually, said Brown, the committee could present a report to the faculty or even formally issue a proposal to the Institute. He cited all of this as an indication of the MIT community's growing awareness of this problem.

Fox added that the administration may be taking action: "Sen-

ior Vice-President William Dickson said that they were looking for a site on-campus," he said. There is space on the campus for new housing, Fox said. He added that Eastgate was initially planned to be a double tower, which would have solved a lot of the problems currently facing the graduate student body.

Fox considered the possibility that MIT may decide that there was no room on campus. Even then, he said, many graduate students would still prefer official MIT housing to living in a rented apartment. Therefore, Fox said, even an acquisition like that of Random Hall, which MIT bought from the Cambridge Inn, would be acceptable.

Brown suggested that a possible reason behind the administration's growing concerns might be results from a survey taken by the Admissions Office. In that survey, he explained, the office asked applicants who turned down MIT's offer of admission the reasons for their doing so.

A significant proportion of the applicants cited lack of housing at MIT and high prices in the Boston area as their reason for not coming to MIT, according to Brown. The problem, Fox added, has grown to the extent that it is affecting the pool of graduate students MIT receives each year.

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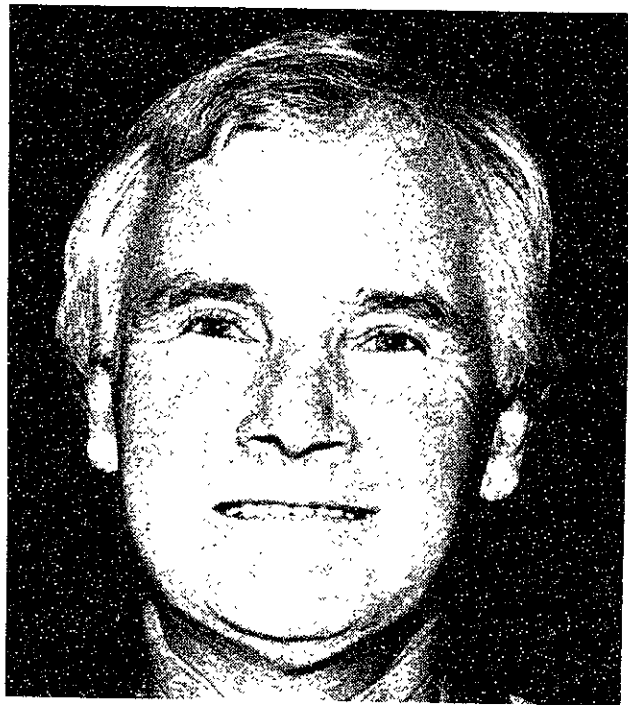
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SPRING BREAK '86

sports

Osgood to coach MIT hoops



Assistant Dean for Student Affairs Leo Osgood (left) will replace Fran O'Brien as men's basketball coach.

By Alison C. Morgan

There will be a familiar face missing from the men's basketball bench next fall. Fran O'Brien, MIT head coach for fourteen years, announced his retirement on Mar. 12. Assistant Dean for Student Affairs Leo Osgood will replace O'Brien at the helm.

O'Brien will continue as baseball coach and move into the position of MIT assistant director of athletics. "It was tough to give up," O'Brien said. He has been coaching basketball for the last four decades.

In addition to being MIT assistant coach for the last eight years, Osgood was head coach at Chamberlain Junior College in 1977-78. He has also served as a basketball referee in Boston high school and community youth programs.

Osgood previously served as the Director of Social Services for the Suffolk County Jail and probation officer for the Boston Municipal Court. He has a BS in business administration and an MS in education from Northeastern.

Some of Osgood's basketball experience is from hands-on hoop action. He was MVP of the Northeastern Huskies basketball team in 1967 and 1969. A 13th round draft choice of the Milwaukee Bucks in 1969, he was one of the final players released in the star-studded rookie camp which included Kareem Abdul-Jabbar and Bob Dandridge.

"At some point I knew I had to hang up the sneakers," said Osgood about his transition from player to coach. He never envisioned "playing [basketball] as an end-all for life."

The two former companions in basketball coaching had only kind words for one another. "Fran is a wonderful man and excellent mentor," lauded Osgood. "Leo relates so well to faculty, administration and students," added O'Brien.

Next season will be an "ambitious" one according to Osgood. "We have a core group of good young men coming back."

Photos courtesy MIT Sports Information office



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sports

Men's crew prepares for optimistic spring season

By William Hou

Spring always brings about a new sense of optimism, but nowhere can this optimism be found more than with the men's crew teams at MIT. Good performances in the fall and excellent training over the winter by both heavyweight and lightweight squads should make their spring seasons much more successful than last year's seasons.

Both squads have new head coaches. Bruce Beall, world class oarsman and former Harvard lightweight coach, has taken over as head coach of the heavyweights and as director of the boathouse. Peter Holland, former MIT heavyweight coach, is the new head coach of the lightweights.

The freshman heavyweight crews are coached by Gordon Hamilton, and the freshmen lightweight crews are coached by Chris Hare. Hamilton was the US Women's Lightweight sculling coach, and Hare was an oarsman at Worcester Polytechnic Institute. Together, the four coaches have tremendous amounts of experience which will prove beneficial to the MIT rowing program.

What is Crew?

Despite MIT's location along the Charles River Basin, many students are unfamiliar with the sport of rowing. A certain mystique has always been associated with crew. Crew is an expensive sport. An eight-oared shell costs over \$10,000, and the oars cost \$150 each. Because of the high capital expenditure necessary for starting a rowing program, many colleges simply cannot afford to have crew as a spring season sport.

MIT offers some of the finest facilities for crew in the country. The Pierce Boathouse contains not only the boats and oars, but also an indoor rowing tank, weights, Nautilus machines, and ergometers.

Crew, however, is not meant to be a "sport for the rich." Oarsmen are a special kind of athlete. Crew practices the entire academic year for eight spring races: two hours a day, six days a week.

Each 2000 meter race lasts a little over six minutes, which works out to almost eight hours of preparation and training for every minute of racing. No other team sport requires such dedication from its athletes.

The lightweights practice every morning at 6:45 while most of MIT is still asleep. It is not uncommon to see icicles hanging from the oar or frost on their heads and shoulders. Many heavyweight oarsmen could be outstanding individual athletes in other sports, but they choose crew because they are team players.

Each boat contains eight oarsmen and one coxswain. A good boat will have all eight oarsmen "rowing as one." Different sized people, however, make the task of harmonious rowing much more difficult. It is the coxswain's job to make sure the oarsmen are rowing together.

Crew is divided into three seasons. The fall season involves low-key exposure to races such as the Head of the Charles, the world's largest regatta, and the Head of the Merrimac. "Head" races are long, three mile races with staggered starts.

The winter season consists of intense indoor training. After the Charles River freezes, crews practice with weights, Nautilus machines, rowing tanks, and ergometers. The main emphasis of winter training is on building strength and conditioning.

Most workouts are designed to re-create the rowing motion, but nothing can substitute for practicing on the water. During the last two weeks of January, the team travels to Melbourne, Florida for two-a-day practices on the Banana River.

Spring is the real season for crew. Races, or sprints, are 2000 meters long. But more is at stake in a spring race than just a win or a loss — the winning team receives the shirts of the losers as trophies.

Heavyweight Crew

Last season was highlighted by four dual race victories and a sec-



Tech photo by Mark S. Abinante

The men's varsity heavyweight crew team at practice.

ond place finish by the varsity four in the IRA's, the unofficial national championships.

Two varsity heavyweight eights and three freshmen heavyweight eights will be racing this spring. Most of the varsity oarsmen are juniors. "This year we have more guys," said varsity coxswain Stu Schmill '86. "We've had a lot more intensity in practice, and we're much closer than last year."

Five returning varsity lettermen include captain Jim Nugent '86, Rob Biedenharn '87, Rob Smith '87, William Van Doorne '87, and Geoff Kelsh '87, who was also invited to the US Pre-Elite Development Camp. Some of this year's oarsmen were close to rowing in last year's varsity boat, while this year's squad has a number of strong sophomores, said Coach Beall.

"It's very hard to predict the outcome of the coming season and any sort of speculation really isn't very productive," said Coach Beall. "I wouldn't want to mis-

lead anyone as to our ability, yet I will also not put a limit on what it's possible to achieve."

With such a young squad, anything can happen during the season. Says JV coxswain Elliot Douglas '88, "We're just going to take it one race at a time."

The biggest race of the year for the heavyweights will be the IRA's in Syracuse, New York during the first week of June.

Lightweight Crew

The fall season was very encouraging for the lightweights. Despite a mediocre performance in the Head of the Charles, the first varsity lightweight boat finished second at the Dartmouth Invitational a week later.

The lightweights will also put two varsity eights and three freshmen eights into competition this year. With six returning oarsmen from last year's varsity boat and lots of sophomores, the lightweights could surprise some of their opponents.

"We've worked hard and I'm pleased with the attitude of this year's team," says Coach Holland. "We raced FIT [Florida Institute of Technology] in Florida and did very well."

The six returning oarsmen are captain Greg Frazier '86, Dave Cultice '86, Marvin Guiles '86, Peter Schwartz '86, Steve Brown '87, and Olof Hellman '87. Phil Paoletta '86 and Fred Johnsson '86 are also making a significant contribution to the team, Beall pointed out.

The lightweight's season opener is this Saturday at noon along the Charles River against Connecticut College and the University of Rhode Island heavyweight crews. Highlights for this season include the Harvard/Dartmouth race and the EARC Sprints Championships. All home races start by the sailing pavilion and finish by Tang Hall.

"We've had a profitable winter training in Florida," says varsity coxswain Mike Fox '88.



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