

Stephen P. Berczuk

No, you can't park here. This Honda Civic found in the Burton House game room last month was not really there in search of a parking space. The car, placed there as a hack, was promptly removed at the request of the house manager. Requests for further use of the game room as a parking facility are expected to be denied.

Student debt triples in decade

By Katie Schwarz

One-third to one-half of all college students now leave school in debt, according to a congressional report released last week.

The report, prepared for the Joint Economic Committee, raised the question of how this widespread borrowing affects students' educational choices and their careers after graduation. There is no reliable evidence to answer this question, it cautioned.

Students graduating this year owed an average of \$6685 at public colleges and \$8950 at private ones, the report said.

Well over 65 percent of MIT students graduate with debts, and the median debt among the last class to graduate was approximately \$11,000, according to Director of Student Financial Aid Leonard V. Gallagher '54.

The report to Congress also expressed concern about those students, 10 percent in public colleges and more than 25 percent in private schools, who owe more than \$10,000. Students may not be able to make good decisions about these loans because they cannot predict the long-term future of their careers and the economy, it said.

Gallagher noted that few MIT students owe much more than the median. Under 5 percent graduate with more than \$15,000 in debts, he said.

"Although we ask our students to pile debt on more than most

colleges, their earning capacity makes up for it," Gallagher said, noting that in the last 15 years the average debt of the graduating class has not exceeded five percent of the average expected salary.

Many more depending on loans

The Guaranteed Student Loan program has ballooned from \$1 billion in 1970-71 to \$8.3 billion last year, according to the report prepared for Congress. Even after taking inflation into account, the loan volume more than tripled.

This increase came about because more students are borrowing, the report pointed out. Its figures showed GSL loans jumped after the Middle Income Student Assistance Act of 1978 removed income limits on eligibility.

Borrowing is now much more widespread among students than it was 15 years ago, the report concluded, even though the constant-dollar value of the average loan actually decreased.

Some lose GSL eligibility

Well over 65 percent of MIT students borrow money to attend school, Gallagher said. MIT has formally determined about half of all students to be needy, he explained; another 10 to 15 percent became eligible for the GSL after the Middle Income Student Assistance Act.

But Congress effectively re-

New federal loan proposed MIT, Harvard officials criticize cost to students

By Katie Schwarz

The US Education Department has asked Congress to approve \$600 million for a new student loan program that would let repayment schedules vary with the borrower's income.

The proposed Income Contingent Loan was included in the budget the Reagan administration submitted to Congress on Monday.

Students earning lower incomes after graduation would be allowed to repay their loans on slower schedules. The government expects to curb defaults with this plan, an Education Department spokesman said last week.

But the ICL could actually demand "horrendously high rates" of repayment, said Leonard V.

Gallagher '54, MIT's director of student financial aid. The government may fund the ICL by cutting back other forms of aid, he added.

Harvard Vice President for Government and Community Affairs John Shattuck also criticized the ICL in Monday's *Harvard Crimson*. He agreed that the ICL threatens other student loans and grants.

The ICL would require a maximum annual repayment of 15 percent of the borrower's income. Gallagher felt this maximum was too high. A study by the National Association of Student Financial Aid Administrators found that when debtors are using more than 10 percent of their gross earnings annually to repay loans, "they're in trouble, they're feeling pain," he said.

Students could take up to 30 years to repay an ICL; the Guaranteed Student Loan, which now dominates Federal student aid, must be repaid in 10 years. The ICL would also raise the total students may borrow to \$50,000, compared to \$17,250 with a GSL.

Interest costs not subsidized

An ICL would cost a student more than a GSL in the long run, Gallagher pointed out, because the government would not subsidize interest rates on the ICL as it does on the GSL. He felt this extra cost outweighed the advantage of a flexible repayment schedule.

Interest on the ICL would be the 91-day Treasury bill rate plus 3 percent; students pay no interest on a GSL before graduation and eight to 10 percent afterward.

Harvard's Shattuck observed that lower-income ICL recipients would actually have to pay more interest because they would be paying off the loan for a longer time.

Hello ICL, goodbye GSL?

"Congress is running out of money" and must change its student aid programs, said Deputy Undersecretary of Education Bruce Carnes, at a briefing last week. He called the ICL a more promising alternative to the "out of control" GSL and Pell Grant.

The government authorized nearly \$4 billion this year for Pell Grants, \$210 million for National Direct Student Loans, and \$3.4 billion for interest subsidies and defaults on the GSL.

Carnes refused to say what cuts will be proposed in other areas to pay for the ICL program. There will be changes in other loan and grant programs, he said, but students would be eligible for just as much financial aid as they are now.

Representatives of higher education were skeptical of the ICL, calling for more time to observe the results of the pilot project, the *Washington Post* reported.

Gallagher approved of the general idea of pegging repayments to income. "It's a good tool," he said, "but it's in the hands of an agency that is not our friend." MIT once tried a similar program, he noted.

ICL was approved as a \$5 million pilot project on 10 campuses in last year's budget. Carnes said he is optimistic about winning approval for the full-blown \$600 million proposal, which would involve 1,500 institutions and up to 500,000 loans.

voked this act last summer, Gallagher said. Students will now have to be judged needy by the college to qualify for a GSL.

Loans up, grants down

Federal grants that do not have to be repaid have declined at the same time that loans are on the rise, the report pointed out. Social Security and veterans' benefits for student aid were repealed at the request of the Reagan administration.

The shift toward loans changes the long-term nature of student aid, the report warned. For example, women and minorities earn less on the average after graduation than white males and would find loans harder to pay back, she said.

Athena's priorities outlined

By Niraj Desai

"The university should be a place where students learn, not where faculty teach," said Steven R. Lerman '72, director of Project Athena, at a talk yesterday about its goals.

Lerman told students and faculty members that the program's objectives are twofold: to foster educational innovation, and to create an environment at MIT which will prepare the Institute for the increasing importance of computers.

Project Athena placed primary importance in deciding which proposals to fund on those projects which aid in the solution of learning problems, Lerman said. He cited visualization, computer aided design, dealing with large amounts of data and individual-

ized instruction as the areas most commonly addressed by Athena projects.

Lerman estimated that much more than half of the \$20 million the Institute has targeted for Athena would be used to sponsor

(Please turn to page 2)

Minority program to expand

By Paula Maute

The Office of the Dean of Graduate School has begun a drive to recruit minority sophomores and juniors from US colleges and universities for MIT's ten-week Minority Summer Science Research Program (MSSRP).

The expense-paid program is an attempt to "identify some promising minority scholars and expose them to the science fields through a research environment," according to Associate Dean of the Graduate School John B. Turner.

Because of the "huge success" of last summer's pilot program, which provided paid research assistantships to eight minority students, the Office of the Dean of Graduate School plans to expand it to include 24 students, Turner said. Further multiple-year fund-

ing from private businesses is being sought to facilitate the expansion, Turner said. The program received start-up funds from the Provost's Office, Turner said.

The MSSRP grew out of a need to increase the number of underrepresented minority students — blacks, Hispanics and American Indians — in graduate science programs, Turner said.

Only 1.8 percent of PhD's in mathematics and the physical and biological sciences are awarded to blacks and Hispanics annually in the United States, according to a 1982 report of the National Research Council.

One reason for these low percentages is that very few minority students apply for graduate school in the sciences, Turner said. At MIT some departments annually receive "zero or one or two" applications from members

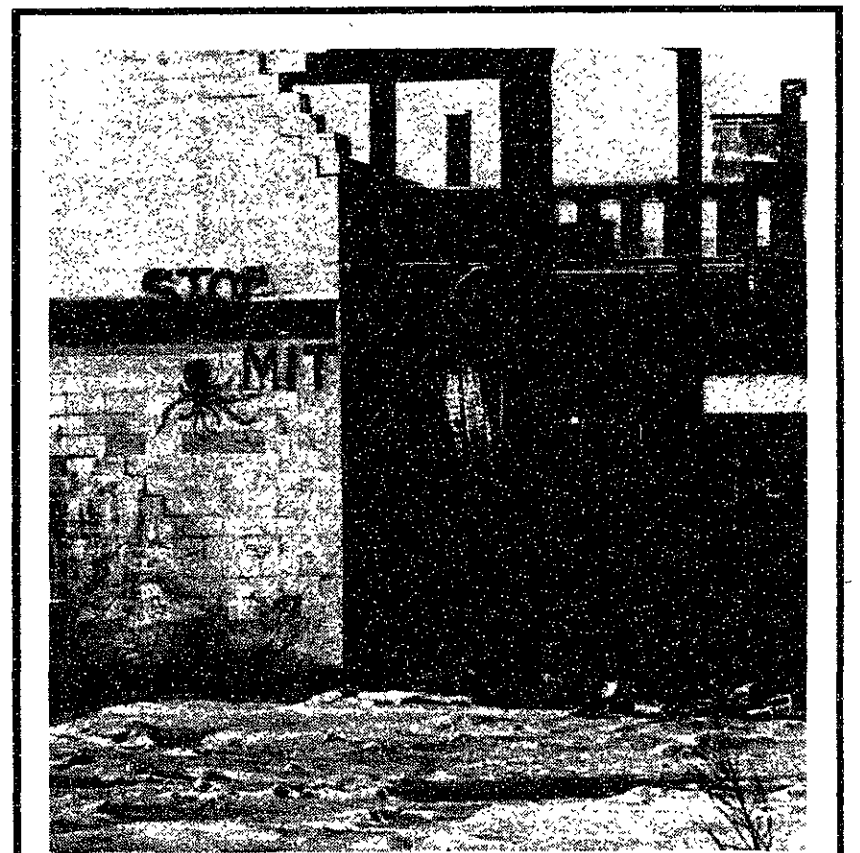
of minority groups, Turner said.

Many minority students are not aware of what a chemist, a biologist, a meteorologist or an astronomer does, Turner said. Often the parents and friends of minority students do not have PhD's, and they are unlikely to be professional scientists and engineers, Turner said. Growing up in a typical black or Hispanic family does not provide role models in these fields, he noted.

The summer program should enable students to begin building up professional credentials and contacts, providing them with laboratory skills and an overview of graduate studies, Turner said.

MSSRP places students in a department of the School of Science and assigns them to a faculty member who has agreed to supervise and support each student

(Please turn to page 2)



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Reminders of resentment over MIT's plans to develop the twenty-seven acre Simplex site remain, even as arrangements are finalized. University Park will be developed at a cost of \$250 million over 10 - 12 years. The land is leased by the developer from MIT.

Program offers science experience to minorities

(Continued from page 1)

faculty-initiated projects designed to improve the learning environment. Athena has already funded 98 separate projects in almost every department, he said. Between 12 and 15 new projects have been approved for next term.

Project Athena can already be used by faculty members as a personal productivity tool, a drill master, a textboard, and a blackboard, Lerman said. Several departments are attempting to expand Athena's usability as a laboratory instrument, a simulator of complex systems and a special learning environment, he continued.

The Department of Mechanical Engineering has put Athena to use in teaching thermodynamics, Lerman said. After students have designed and made predictions about a thermodynamic system, they are able to use computer simulations to test their predictions, he explained.

The method is controversial because critics claim that students may not be able to develop a proper sense of intuition, be-

Lerman discusses the future of Project Athena

(Continued from page 1)

in his or her research. The students "are treated just like a member of the research team," said Turner. They carry out research projects and attend professional seminars, he said.

The students also attend weekly seminars with minority role models — professors, engineers, and advanced graduate students — to speak about their particular fields, Turner said. The seminars will inform students on issues such as graduate school admissions processes, financial aid, and the value of advanced degrees, Turner said.

coming overly dependent on the computer, he added.

Project Athena has announced the intention of making a workstation available to every student at a cost of about ten percent of tuition by 1988. Lerman said he doubted this goal would be met before 1989.

MIT's computing system relies on flexibility

To meet its secondary goal, Project Athena has developed a set of guidelines for the expansion of MIT's computing system, Lerman said. He stressed that MIT should not be tied down to any one manufacturer of computer systems, and, therefore, Athena software is designed to be used on a wide variety of computers.

Heterogeneous software is particularly important because MIT hopes to exchange with other universities, Lerman said. Texas A&M University has expressed interest in Athena projects being developed by the Department of Civil Engineering, he said. Lerman hoped that Texas A&M could be used both as a testing ground for software and as a source of funding.

MSSRP will provide students with \$200 per week for their full-time research work and housing in MIT dormitories along with transportation costs.

The Graduate School Dean's Office hopes to create a pool of prospective minority graduate students, some possibly for MIT, through this program, Turner said.

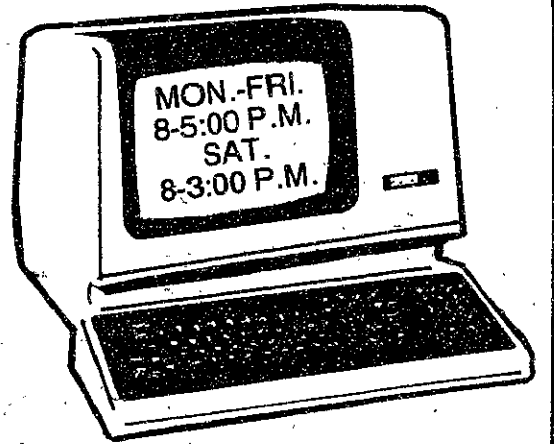
MIT will further benefit from the different cultural, and social-economic perspectives provided by the students, and the program will "help ease the cultural gaps that may [exist] between MIT faculty and underrepresented minority groups," Turner said.

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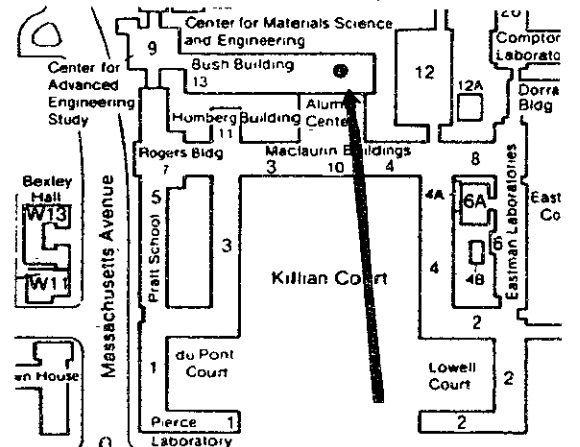
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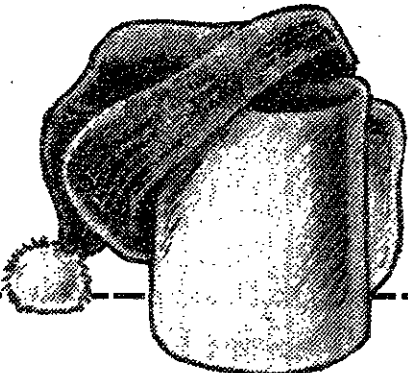
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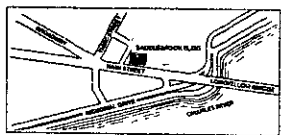


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news roundup

from the associated press wire

World

Vietnam reports clash with China

Vietnam says its troops repulsed a Chinese attack at the border, killing or wounding nearly 500 Chinese soldiers. Vietnam's official news agency did not say whether there were any Vietnamese casualties. Chinese news media have not reported the border clash. The Vietnamese report has not been independently confirmed. (AP)

Local

Breath test machine faulty

The state won't seek to try to reimpose the license suspension of a Norfolk man who was arrested under the new drunk driving law. Scott Holman got his license back on Monday after a forensics expert said the breath test machine used to check Holman's blood alcohol level may have been faulty. Holman tested at 0.14 percent, well above the legal limit of 0.10 percent. (AP)

Spangler given five-year probation

Former Boston money manager Mark Spangler has been placed on five-year probation. Spangler pleaded guilty in November to mail fraud in a scheme to defraud investors of nearly \$300,000 as head of the Spangler group. The US Attorney's office had requested a four-year prison term plus restitution of the stolen funds. But federal Judge Robert Keeton said today he believed there was a better chance for restitution if Spangler remained free. (AP)

Nation

Amtrak restores service

Amtrak restored limited passenger train service yesterday past the site of Sunday's deadly wreck north of Baltimore. Officials say their tests found two critical signal lights were working properly and should have been prevented the collision that killed 15 and injured more than 170. (AP)

Proposal to eliminate scholarships

A scholarship named in memory of the late teacher-astronaut Christa McAuliffe is among the programs that would be eliminated by President Reagan's proposed budget. Cuts totalling nearly \$20 million are aimed at shaving \$5.5 billion from the Department of Education budget. Also facing the ax under Reagan's plan are scholarships named for the late Health and Human Services Secretary Patricia Roberts Harris and Senator Jacob Javits. (AP)

Sports

Celtics to play without Bird

A bad back will keep Boston Celtic Larry Bird out of tonight's game with Milwaukee. The forward apparently injured himself during Friday's game with Chicago and woke up Saturday with a sore back. Bird's status will be determined on a day-to-day basis. (AP)

Berry makes playoff predictions

New England Patriots Coach Raymond Berry says he thinks his team gave its all. Berry commented a day after the Patriots lost to the Denver Broncos in the NFL play-offs 22 to 17. In Berry's words, "This football team stretched every limit of their capabilities and beyond." Berry predicts the Broncos will defeat the Cleveland Browns for the AFC title in Cleveland Sunday and the New York Giants will beat Washington for the NFC crown. Berry added that if the Giants play like they did against San Francisco Sunday, they will be very hard to beat in the Super Bowl. (AP)

Weather

Enjoy it while you can

Except for the chance of a shower or snow flurry today, we are in a basically dry weather pattern which should last into the weekend. A cold front associated with a moisture starved system to our north will pass through our area later today and off-shore tonight. Colder but fair weather will follow, so enjoy today's relatively mild temperatures.

Today: Mostly cloudy, chance of a shower or snow flurry especially this afternoon. Milder with highs in the low 40's.

Tonight: Clearing and turning colder. Lows in the mid 20's.

Tomorrow: Sunny and cold. Highs in the low 30's.

Friday: Fair. Highs in the mid 30's.

Saturday: Fair. Highs in the upper 30's

Forecast by Chris Davis

Compiled by Mike Niles

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opinion

Guest Column/Paul E. Gray

MIT seeks science/humanities synthesis

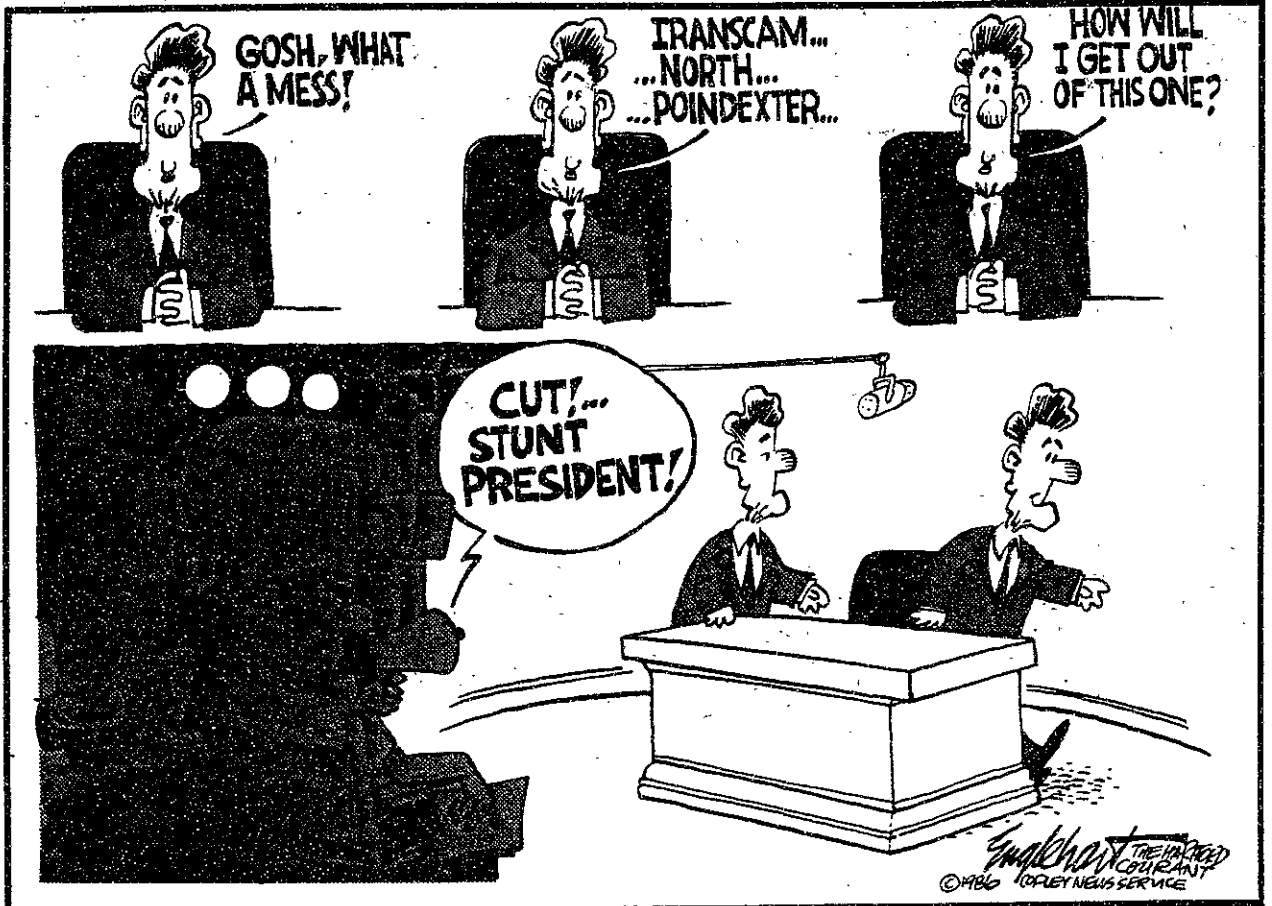
At the Massachusetts Institute of Technology, we have decided to make the most intensive review of the undergraduate program in 25 years. We haven't forgotten that old stricture, "If is ain't broke, don't fix it." We don't think it's "broke," but we want to be sure it's in good shape for the tasks that lie ahead of us.

Many of us believe that a richer educational environment will be required for the undergraduates who will come into their prime early in the new millennium. The growing impact of science and technology on public affairs and human well-being will require that the people who

shape or influence those fields appreciate the diversity and complexity of societies and human values and have the ability to understand and respect the economic, political, social, and environmental issues associated with technical developments and applications of science.

Some of us sense that our academic program — in regard both to its already strong liberal-arts requirements and to many of its specialty courses of technical study — will not be sufficient in character and breadth for students in the years ahead. For that reason we have undertaken a

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TheTech

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feedback

MIT will whitewash race problems

To the Editor:

After all the talk that surfaced last term about racism at the Institute, people may be wondering what actions are being taken by students to combat the situation. Last term three student groups, the African Students Association, the Black Graduate Students Association and the Coalition Against Apartheid, sponsored discussions that led to the formation of People Against Racism (PAR). PAR is a group consisting of members of the MIT community including faculty, staff and students from La Union Chicana por Aztlan (LUChA), the Chinese Students Club and the three aforementioned groups.

Our discussions centered upon the ways in which racism manifests itself within the Institute. There were three major areas of concern: power, numbers and Institute response.

With the racism issue as with all other issues of community concern, the students and faculty have absolutely no power in determining Institute policy. Despite continual occurrences of racial and sexual harassment, students are still complaining that no formal actions are ever taken by the grievance board. The board's method of handling complaints has been to console the harassed students and to issue vague reprimands to the faculty indicating that such behavior is unacceptable. In the end, these measures provide no long range solution.

As often pointed out in the discussions of last term, the number

of minority persons in the community is unacceptably low. For the past 15 years, minority enrollment has been in general decline, reaching its lowest point last year. Recruitment efforts have failed to increase the applicant pool and minority enrollment. Programs for inner-city and low-income student recruitment is virtually nonexistent. These inadequacies in the admissions policy, coupled with a financial aid program that severely lags behind MIT's tuition increases, have accelerated MIT's harsh racial imbalance.

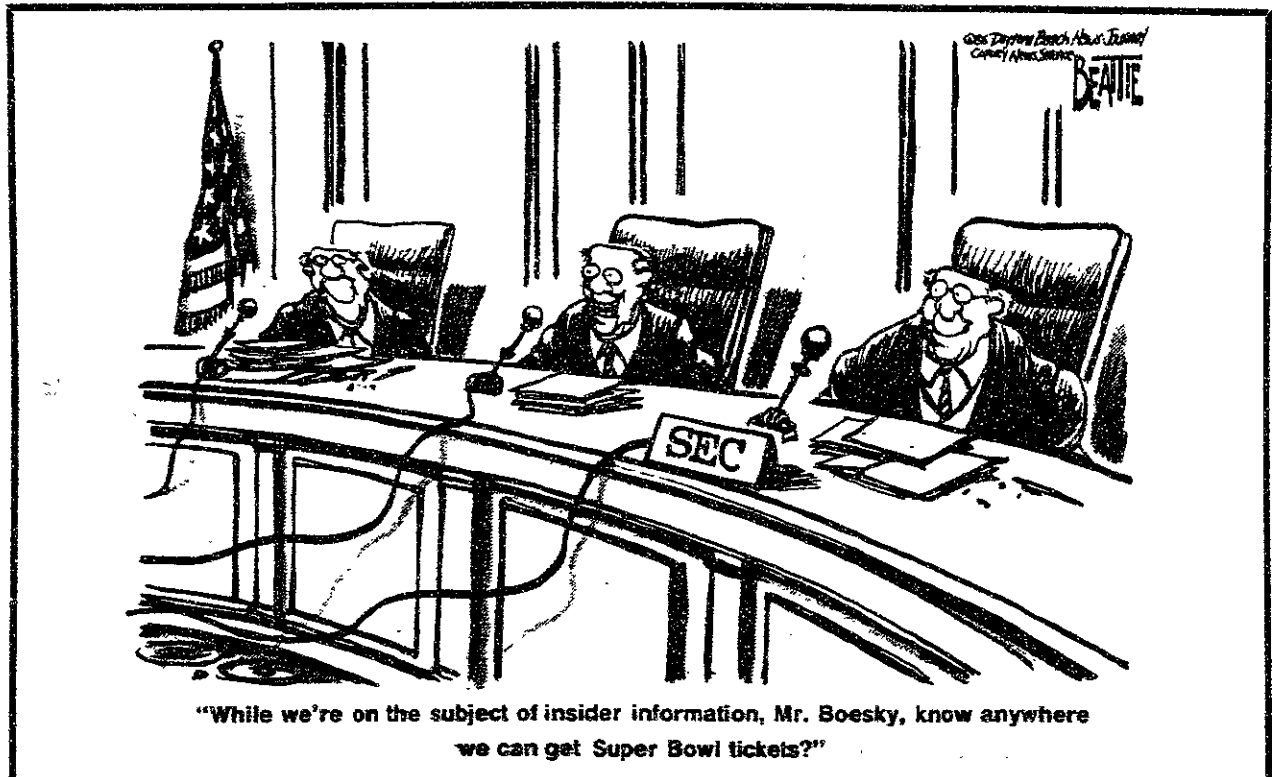
Likewise, serious efforts to recruit minority faculty have not been made. In the past ten years the number of black faculty has been cut in half to a dismal one percent. At present there are no Puerto Rican or Native American faculty, and one administrator commented last year that it may be 20 years before there are any faculty from these minority groups. It has been consistently stressed that the lack of minority faculty only aggravates the problem of racism at the Institute. These problems are further compounded by an unsupportive community environment that lends to a high rate of attrition for minority students.

It is ironic that after years of protest by student groups, the administration has changed its stance and admitted to racism at the Institute. The McBay report ["The Racial Climate on the MIT Campus"] is careful in confining its description of racism to specific student incidents and low

enrollment, while ignoring the administration's responsibility for the current racial situation. The administration has its own game plan. It will release three more reports on different aspects of the Institute's racial problem. These reports will make a few suggestions for minor changes in administrative policy; the administration will then enact these changes, while noting its "commitment" to the racism problem. Since the racism committee has many top-level administrators in its membership, students may be assured that all changes made will have little or no effect on the present situation. The end result: favorable PR for MIT and no change in student life.

It is the feeling of PAR that all effective change must originate from the community. Thus PAR has begun work on investigating and eradicating specific racial problems within the areas of minority student admissions, minority faculty hiring, student and faculty attrition, financial aid, grievance procedures and community education. Currently PAR is researching and formulating actions that can be taken on the part of students. The first of these actions is planned for Martin Luther King's birthday. We would like to stress that only through student involvement will there be any change in the Institute. We invite you to join in our activities and celebrate MLK's birthday with us.

Steven Penn G
 Raudline Etienne '87



opinion

feedback

SDI unfeasible, impractical

(Editor's note: The Tech received a copy of this open letter to President Ronald Reagan.)

Dear Mr. President:

Although I am of American birth, I was in France when The Maginot Line was being built. It was expensive. It wrecked the French economy and the countryside. But it gave the French such great, some might say smug, confidence in their security. It was, after all, impregnable!

How similar to SDI!

In fact, it was the French, not their enemy, who were foiled by the Maginot line. It served to bottle up much of the French army so that the Germans were relatively free to take Paris behind it!

As a war-time lieutenant colonel in the US Army, a former assistant secretary general of NATO for scientific affairs, and a professor emeritus of physics at MIT, I am not a stranger to military and scientific matters. During World War II, I served as liaison to the chief signal officer. My duties were to advise the military what the scientists could do for them, and to advise the scientists what were practical warfare instruments for the Army.

SDI fails on both counts — it is both unfeasible and impractical.

cal. It cannot be physically made, because of the limitations of power and battle control in space; and it cannot be effectively used because it will be saturated by the thousands of missiles which can be launched simultaneously against it.

A Maginot Line in the sky!

What a magnificent dream!


When the first platform is put into orbit, the Soviets will shoot it down, which should be easy and they must do it. What's the response?

What a frightful nightmare!

I am writing this personal, but open letter to you to awaken you from the dream before the nightmare, and I am encouraged to do so by the good wishes received, signed by both you and Mrs. Reagan, on my birthday, November 15. I am certain that you will have happier birthdays if you will discard SDI and accept something like Mr. Gorbachev's proposals.

William P. Allis '23

Professor of Physics, Emeritus



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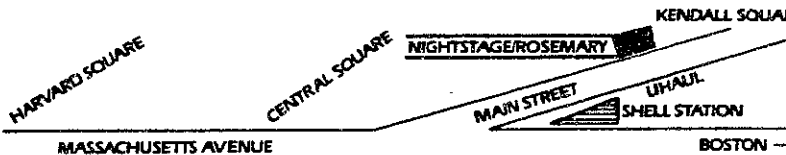
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opinion

MIT: educational balance

(Continued from page 4)
 searching assessment and reformulation of our undergraduate program.

Some press reports about our decision to review and modify our undergraduate-education program have used the phrase "curriculum reform," and, indeed, there are elements of curriculum reform in what we hope to accomplish. However, such a focus tends to distort what we have set out to do.

Our task is not merely one of exposing students in the sciences and engineering to more humanities and social sciences — those areas already represent an important part of the core requirements — but one of developing a true educational partnership among the technological, artistic, social, and humanistic disciplines. Such educational synergy cannot be addressed in isolated, piecemeal fashion by faculty members in different disciplines.

The report of one of several faculty committees established to assist in the undergraduate-program review makes this point:

"Modern science and technology are founded in part on a conviction that the understanding and control of Nature is a powerful means by which human affairs can be given rational direction and material prosperity can be achieved.

"A large body of research shows, however, that the development of science and technology does not take place in a political or social vacuum. . . . Their development is both influenced and constrained by forces outside the domain of scientific discourse.

"MIT students need to be aware of these shaping forces and constraints. They need to understand the social, political, historical, ethical, and cultural contexts in which they work."

To meet this need, the committee has suggested a new required course, to be taught by a faculty team drawn from our five schools, that would reflect on and illuminate the human contexts that shape and are shaped by work in science and technology.

Another part of our task is to

expand students' creative and design capabilities. While little is known about the creative process of the determinants of imagination, there is considerable evidence that the truly creative scientists and engineers have strong parallel interests in the arts and humanities.

There is also evidence, I'm sorry to say, that some students entering current science and engineering programs may be more open, creative, and enthusiastic as freshmen than they are when they leave the institution four years later. Thus we must develop subject offerings and academic experiences that will not only serve to introduce students to a wide range of approaches to knowledge, but also encourage them to make connections and analogies within a broad range of social, humanistic, and scientific and technical disciplines.

(Editor's note: This column is reprinted with permission from The Chronicle of Higher Education [Dec. 3, 1986]. Copyright 1986, The Chronicle of Higher Education.)

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"WHAT IS WALL STREET? THE TRANSFORMATION OF THE FINANCIAL INDUSTRY"
 TILL M. GULDIMANN, Vice President, Morgan Guaranty Trust Company

Tuesday, January 13
"THE CHICAGO OPTIONS & FUTURES MARKET"
 SETHU PALANIAPPAN, O'Connor & Associates, Chicago

Thursday, January 15
"CAPITAL MARKETS"
 LARS TOOMRE '82, Shearson Lehman/American Express, Inc.

Tuesday, January 20
"GLOBAL FINANCIAL TRADING: GILT-EDGED OPPORTUNITIES FOR ENGINEERS"
 TILL M. GULDIMANN, Vice President, Morgan Guaranty Trust Company

Thursday, January 22
"MANAGEMENT CONSULTING"
 ALLAN V. ABELOW '82 AND ADIL ZAINULBHAI McKinsey & Company, Inc.

Tuesday, January 27
"MANAGEMENT INFORMATION SYSTEMS CONSULTING"
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Rx Monthly News Rx

JANUARY 1987

THE FUTURE IS NOW!

In his best selling book, "Future Shock," Alvin Toffler argues that more and more of us will be unable to cope with the accelerating changes in our society. He thinks the next several years will see an increase in suicide, hysteria and depression as people find themselves overwhelmed by rapid changes in every aspect of life.

IS IT REALLY THAT GLOOMY?

Along with many others we do not share this dark outlook on life. Frankly, we think that the current fad for nostalgia is really people expressing a desire for a return to a less complicated time. One where old-fashioned, easy going relationships existed.

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Kopit play about nuclear war has a sane lunacy

THE END OF THE WORLD WITH SYMPOSIUM TO FOLLOW

By Arthur Kopit.
Directed by Richard Foreman.
Currently in repertory at
the American Repertory Theatre

By JONATHAN RICHMOND

THE ESCHER PRINT provides a clue to what Arthur Kopit's "End of the World with Symposium to Follow" is about. The print shows the perpetual motion of a stream of water, always seeming to fall, but endlessly recycling round the same loop.

The play is about the apparent internal logic of lunacy in the nuclear arms race. But I am not sure that the Escher ART chose was the most appropriate one: The theme of the play is more one of recursion, of a logic of madness eternally winding in to itself. To maintain peace we have to build hardware to protect ourselves against their nukes. They then have to

build a bigger and better toy to deter us. And we have to go a step further, building more armaments to "prevent" war. Within our assumption lies their assumption about our assumption about their assumption about . . .

Then there is also the recursiveness of the main character, Trent. The play is an attempt to write "a play about trying to write a play about the issue, but not being able to." In real life Kopit had been approached by Leonard David, a millionaire, with a four page scenario for a play about a nuclear crisis. The main character of "End of the World," Michael Trent, is given a similar assignment. Kopit was faced with an "inability to comprehend the reality of it all," and so is Trent. Neither come up with an answer, but both take us down the path of the impossible logic that keeps an answer from being found.

There are points in the first act when clichés seem to leak in but as the play progresses it gradually sinks in that the clichés are integral to the intelligence of insanity.

The play increases in brilliance and in its conclusion convinces the audience by having drawn us inescapably into the system of logic from which it says we must be free.

The acting was of consistently high quality. Ken Howard introduces Michael Trent to us as a struggling playwright drawn into a contract by the lucrative money but later shows Trent becoming increasingly involved and serious, detailing the complex conflicts doing battle in the character's mind. His final monologue is calm but thrilling, mental tensions just below the surface communicating urgency.

Jeremy Geidt plays the sinister Philip Stone, sponsor of the play-within-the-play. Geidt's Stone is obsessed, cool on the outside but burning inside to produce a play about nuclear folly, a play he will pay to continue on stage even if nobody attends. Geidt makes Stone's lines deliberate, well thought out — even Stone's most lunatic moments seem to have a purpose. And Geidt makes the role supremely entertain-

ing in a black sort of way.

Ted Kazanoff makes us believe in the self-righteousness of General Wilmer, who is certain that it is "not rational to be rational." The slapstick of John Bottoms and Richard Grusin as Jim and Pete is as hilarious as it is troubling. The characters are jolly, playing games at arm's length from reality. Isabell Monk plays Trent's agent, Audrey, portraying her stereotypically, the routines of being an agent professionally attended to but anything outside that role ignored. Audrey, like all the other characters but Trent, has her assumptions; those assumptions provide for the illusion of sanity but insure the maintenance of madness.

This is a deeply thoughtful production of a wonderful play and is highly recommended, especially to those receiving defense-related financial support.

MIT Orchestra concert well-measured

MIT SYMPHONY ORCHESTRA

Conducted by David Epstein.
Piano soloist Abbott Ruskin.
Kresge Auditorium,
December 13.

By JONATHAN RICHMOND

ON DECEMBER 13 David Epstein led his astonishing band in an adventurous program in Kresge Auditorium. Top marks for revelation go to the performance of Rimsky-Korsakov's rarely-heard *Piano Concerto in C sharp minor*, Op. 30, with soloist Abbott Ruskin. This is a demanding work for both orchestra and soloist, and especially difficult for the conductor who must keep them together. Epstein inspired an organic relationship between soloist and orchestra, each of which built upon and expanded the strengths of the other.

Ruskin approached the work as an essay in romance; the well-measured reflective quality of his playing spoke with eloquence and his cadenza was deeply tragic, a time-stopping episode of intense beauty.

All sections of the orchestra performed well and the strings had a particular warmth. But it was the blending of the separate elements that was most impressive: It made for a variety of continual interest, but also for an integrated whole that showed maturity on the part of the orchestra and inspiration from their conductor.

"Four Dance Episodes" from Copland's *Rodeo* was not as consistently satisfying. There was slack in the rather mechanically performed "Buckaroo Holiday," and the "Hoe Down" lacked in pizzazz. But the dreamy "Corral Nocturne" conjured images of a serenely soft evening wind, and the "Saturday Night Waltz," described in the program as "Square-footed," was gently sensual and pictured the roughshod West poetically. It could not have been

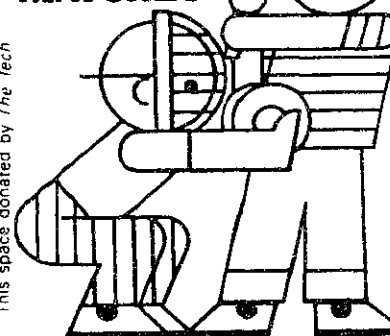
brought off with greater sensitivity and insight.

The first two of "Three Dances" from de Falla's *The Three-Cornered Hat* were done nicely, with a tantalizing oboe solo and exciting orchestral build-up in "The Miller's Dance." "The Final Dance" was a trifle on the heavy side, Epstein's otherwise solid coordination falling apart for a few measures.

The evening ended with a delicious exploration of the symmetries of Dvorak's *Symphony No. 8*. The inquisitive questioning of flutes and dark-throated responses from lower registered winds and strings in the *Adagio* was delightful. The third movement was light and joyful and injected with an element of folksy mystery — Epstein's fine balance drew great pleasure here. The changing textures of the *Allegro ma non troppo*, also provided much enjoyment, bringing the work to an end with energy and precision and more than enough color to build a vivid third dimension, too.

ARTS...

**SMOKEY'S FRIENDS
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WITH
MATCHES**



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 January 12-16, 1987
 1:00 - 4:00pm
 January 12,13,14,15 M.I.T. Room 66-110
 January 16 M.I.T. Room E51-329

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Dr. Unger '69 is Vice President and Director of Datacube, Inc. He is also co-founder and vice-chairman of the M.I.T. Enterprise Forum and has been a founder/officer of several technology-based companies.

Monday, January 12 Room 66-110

STARTING AND RUNNING A COMPANY: THE INSIDER'S VIEW

- 1:00pm -Dr. Robert J. Shillman '72, President and Founder, Cognex Corp., and former M.I.T. faculty member
 2:30pm -Betty F. Kadis, President, J. L. Clark Associates, and Cofounder and Ex-CEO, Wakefield Software Systems, Inc.

Tuesday, January 13 Room 66-110

PLANNING AND FINANCING THE BUSINESS

- 1:00pm *Venture Capital and Other Financing Alternatives for the Startup Company*
 -Robert J. Crowley, Vice President, Massachusetts Technology Development Corporation, and former President, Neponset Valley Bank
 -Laura C. Morrissette, Consultant, Massachusetts Technology Development Corporation
 2:30pm *The Business Plan: Both a Blueprint and a Sales Document*
 -Stanley R. Rich, Co-author of "Business Plans that Win \$\$\$," and founder of numerous companies.

Wednesday, January 14 Room 66-110

MARKETING AND SALES FOR TECHNOLOGY BASED PRODUCTS

- 1:00pm -Ralph E. Grabowski '63, Marketing Consultant
 -James H. Geismann, President, Market Share Inc.
 3:00pm *JOINT VENTURES AND OTHER FORMS OF BUSINESS AND MARKETING RELATIONSHIPS BETWEEN SMALL AND LARGE COMPANIES*
 -Richard C. Lufkin '68, Enterprise Development Associates, and former Manager of Business Development, Johnson and Johnson Co.

Thursday, January 15 Room 66-110

RESOURCES FOR THE ENTREPRENEUR: FINDING GOOD PEOPLE AND ADVICE

- 1:00pm *Recruiting, Compensating, and Effectively Using A Board of Directors*
 -Arthur C. Parthe Jr. '66, Director of Marketing, Aerodyne Products Corporation
 2:00pm *Formal and Informal Resources Within the M.I.T. Community*
 -Paul E. Johnson, National Director, MIT Enterprise Forum
 3:00pm *Finding and Motivating Business Partners, Employees, and Consultants*
 -Dr. Judith H. Obermayer, President, Obermayer Associates

Friday January 16 Room E51-329

LAW AND THE TECHNOLOGY BASED SMALL BUSINESS

- 1:00pm *General Considerations in Organizing and Financing the Company*
 -Steven M. Wallman '75, Attorney, Covington and Burling
 2:30pm *Patents, Trade Secrets, Relationships with Previous Employers, and Other Issues Concerning Intellectual Property/Protection of Your Technology*
 -Barry D. Rein '60, Partner, Pennie & Edmonds

For further information, contact the MIT
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