

MIT buys TRW building Institute will build academic facilities on site

By Julia M. Drewry

MIT purchased 129,000 square feet of property at 31 Ames Street from TRW last June. MIT plans to use the area mostly for academic use "because it is located in a designated academic area," according to Walter L. Milne, assistant to the chairman of the MIT Corporation. Part of the area may be designated for revenue purposes, he added.

The land has been leased back to TRW until they can consolidate with another of branch on Binney St. TRW used the building to manufacture hardware for automobiles and home appliances.

MIT will definitely not build graduate housing on the site, Milne said. "It is not in the mode of plan of development for the Institute to have graduate housing on that site," Milne explained. "It is too integral to the academic part of the Institute."

"The Institute is designed to flow together" and create a cohesive atmosphere to give the students a communal feeling, Milne said. "The Institute wishes to keep all of the academics in the same basic area."

Milne said MIT will not begin construction for many years.

Though MIT "will not re-lease the building once TRW leaves," Milne expects other factors to delay the plans.

TRW has a "very flexible lease," but Milne expects they will leave at the end of this academic year. Once TRW leaves, the plans still must be decided upon, drawn up, funded, and executed.

A subcommittee of the Academic Council, including President Paul E. Gray '54, Provost John M. Deutch '61, and relevant deans and faculty members, has been formed to oversee the planning, Milne said. "Many ideas are being considered at present, but none have been decided upon."

MIT is considering "very exciting" plans, Milne asserted. "The plans will add to the intellectual strength of the Institute. . . . Some of the labs at the Institute are [structurally] out of date. . . . A new building with modern equipment will enhance the Institute."

"An institute such as ours must renovate in quantum jumps because of the need for funding," Milne explained. He expects MIT to get funding for the project

from corporations and other private groups interested in the possible uses for the new building. MIT should have no problem obtaining funding, he added.

Milne foresees no major problems in the development of this area with respect to zoning. "No re-zoning will be needed for the area, but the parking lot as it is now does not meet the zoning requirements. . . . TRW grandfathered in before the law went into effect. MIT will, however, be obligated to meet the requirements." This will not present a problem, Milne explained.



The TRW building on Ames St.

Mike Niles

Science group releases report

By Sally Vanerian

The Science Education Committee is proposing to replace the current list of science distribution courses with a new set of courses "aimed at giving some sort of general science exposure," said Arthur P. Mattuck, head of the mathematics department and a member of the committee.

The revised science distribution list would contain up to 15 courses in the School of Science; the current list includes 73 courses drawn from all of the schools. Many of these courses

would be new, the report indicated. Under the proposed science distribution requirement, students would need to take only one course from this list.

"The current situation is ridiculous," said Gene M. Brown, dean of the School of Science and committee member. All undergraduates are presently required to take three science distribution courses, but most departments incorporate two or three distribution courses into their undergraduate degree program.

The result, Brown explained, is that many students never take general science courses outside of their degree requirements. "This defeats the spirit of the science distribution requirement," Brown said.

The new subjects "should exemplify the way science or mathematics is done by dealing with a broad subject, discussing major

unsolved problems, and by treating both successful and unsuccessful attempts to solve the problems," the report stated.

This will not be an easy task, Brown said, since these courses will have to have no prerequisites other than freshman core requirements. These courses may also "concentrate on topics that are on the cutting edge of science," he suggested.

Committee reviews chemistry requirement

The committee was generally satisfied with the science core courses, such as freshman physics and calculus, the report stated. These courses serve their purpose of "provid[ing] a strong and broad base . . . to serve as a foundation for the departmental programs throughout the Institute."

Some committee members, (Please turn to page 18)

Crime rate increases at MIT

By Jai Young Kim

One hundred larcenies have been reported on campus between Sept. 1 and Oct. 20, according to an MIT Campus Police bulletin issued last Thursday.

The Campus Police also listed 30 occurrences of suspicious persons roaming the campus, an increase of 18 instances over the same period last year. Four assault and batteries and one rape in a living group were also reported.

MIT Campus Police Chief James Olivieri said he was especially concerned about the inordinately high number of thefts in such a short period of time. "The same repetitive kind of larceny takes place," he said, "where a wallet's stolen from a backpack, or a backpack is stolen. Too many people are leaving things unattended."

Although Campus Police Captain Anne Glavin pointed out that over half of the thefts were from Institute buildings, both she

and Olivieri felt that improving dormitory security would help solve the problem.

Olivieri has proposed to have dormitory entry doors locked at all times to deter theft. He noted that "larcenies from locked rooms are practically nonexistent" but that many students still leave rooms unlocked and unattended.

"We are one of the very few [universities] in this area who don't have access control in dormitories," Olivieri said.

Olivieri was particularly worried about East Campus and Senior House having had numerous thefts already this year because their designs allow intruders to bypass a desk and walk into a dorm entry. "I know the students don't want to close up their dorm," he said, but "my main concern is for the personal safety and personal property of our residents, at the loss of personal freedom."

Glavin also sees an effective

form of crime prevention in spotting suspicious looking persons. "We need . . . to encourage reporting these people." Glavin noted that 52 intruders on MIT property had been arrested during the first six months of 1986.

Visiting Committee charged with studying student affairs

By Katie Schwarz

The Visiting Committee on Student Affairs, an arm of the MIT Corporation, will meet with students and Dean's Office personnel here Monday to assess new initiatives for freshmen and the racial climate on campus.

This committee traditionally holds open meetings, noted Secretary of the Corporation Constantine B. Simonides, unlike some of the 25 other visiting committees, most of which cover academic departments and cen-

ters. The committee has scheduled meetings open to the public all day Monday in the Mezzanine Lounge of the Student Center.

David Wiley '61, head of the Undergraduate Academic Support Office, will present a statistical profile of the freshman year. A panel discussion of Residence/Orientation will follow, with five students from the R/O Committee and Andy Eisenmann '71 of the ODSA. The panel will explain R/O to the committee, said 1986 R/O Coordinator Hugo Ayala '89, and consider "The question of governance: Who has the power to change?"

Professor Travis Merritt will discuss the UASO's new academic programs for freshmen, such as efforts to improve freshman advising. The afternoon will be devoted to the Minority Student Issues Group's recent report on its

survey of black alumni. Students are invited to bring up any student issue they want to discuss at the concluding session from 7:30 to 9 pm.

Dean for Student Affairs Shirley M. McBay chose the Visiting Committee's agenda in consultation with committee chairman D. Reid Weedon '41, said Mary Jansinski, staff assistant to McBay.

The Visiting Committee comes to the Institute roughly every two years; its last visit was in February 1985, when it focused on an ODSA survey about the quality of student life. It will make an oral report to the full Corporation at its next quarterly meeting in December and a written report to the Executive Committee. The 16 visiting committee members are nominated by the Corporation, the Alumni Association and the president.



Stephen P. Berczuk

Costumes & classics. . . The MIT Concert Band gave its annual Halloween Concert in Lobby 7 on Wednesday.

inside

Recruiting remains strong, despite slump in computer industry. Page 16.

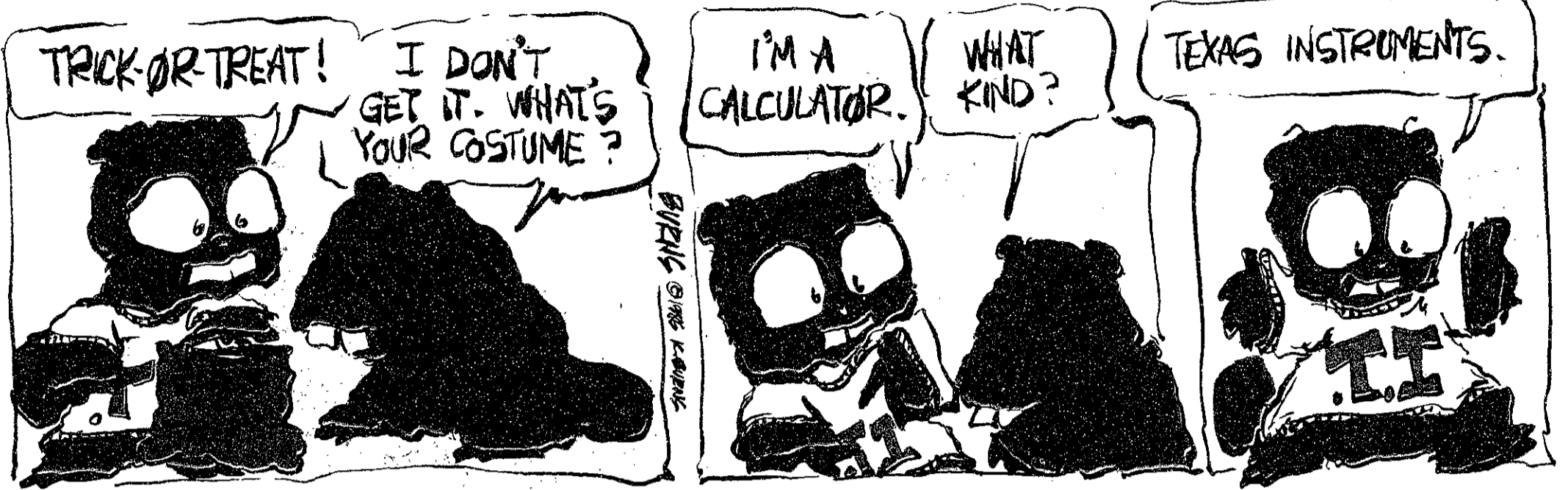
Clark C. Abt '51, Republican candidate for the 8th Congressional District seat. Page 17.

MIT begins an interdisciplinary program on the Middle East for graduate students. Page 18.

comics

T.I.M Beaver

By Kevin Burns



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news roundup

from the associated press wire

World

Waldheim denies Nazi war crimes

Austrian President Kurt Waldheim is again denying that he participated in Nazi operations during World War II. However, Israel's *TV Today* broadcast a picture of what it says is a photocopy of a 1947 Yugoslavian government file. The file contained evidence Waldheim was responsible for killing several thousand Yugoslavians in a Nazi "pacification" operation, the broadcast alleged. Yugoslav and Soviet intelligence compiled the file of war crime charges against Waldheim in an attempt to recruit him, *The Washington Post* reported.

Attorney General Edwin Meese is currently considering adding Waldheim's name to a list of people who could be barred from entering the United States. (AP, *The New York Times*)

Striking workers force shut-down of General Motors South African plant

The General Motors plant in Port Elizabeth was shut down when 3000 employees refused to either work or leave the plant. The workers are demanding severance pay and refunds on their pension plans before the new unidentified owner takes over. Many fear that they will be laid off when GM completes its recently announced sale. (AP)

US cargo ship explodes, injuring four

The *OMI Yukon*, an American cargo ship, has caught on fire and is sinking 1000 miles off the coast of Oahu, Hawaii. Four of the 36 crewmen are still missing and are presumed dead. A Japanese fishing ship rescued the other 32 and reported that only four crewmen were injured, the most seriously with a broken leg. (AP)

Nation

NAS survey calls for SDI spending cut

A survey of members of the National Academy of Science says that the Strategic Defense Initiative won't produce an effective defense against Soviet nuclear attack and recommends that spending for SDI be cut. Sen. William Proxmire (D-WI) says that the survey will be taken "very, very seriously" in next year's congressional debate on SDI. (AP)

Reagan tells Soviet Union that US remains open to discussion

President Reagan has directed Secretary of State George P. Shultz '49 to tell the Soviet Union that arms control proposals "remain on the table." Reagan also said that the administration is prepared to continue where "it left off in Reykjavik." The two sides had made much progress before the talks collapsed on the issue of Reagan's refusal to limit the research on a "Star Wars" space-based missile defense shield to laboratory work. Reagan spokesman Larry Speakes says the administration wants to see "if progress could be made in one area without progress in another." (AP)

Real estate business is improving

Real estate brokers were busier last month after five straight months of declining business. Sales of new homes rose ten percent in September, reported the Commerce Department. Analysts predict that mortgage rates will hold steady and sales of both new and existing homes will improve for the rest of the year.

But the new homes won't be cheap. The average new home price last month rose above the \$114,000 mark. (AP)

US attorney charges four members of Chicago street gang in terrorist plot

Four Chicago men are under indictment on Federal weapons charges for their involvement in an alleged plot to carry out terrorist attacks in the United States. Anton Valukas, the US attorney in Chicago says the men — all members of a street gang called "El Rukn" — allegedly approached the Libyan government with an offer to attack federal property in exchange for money. Police found an arsenal of 30 weapons, including a M-72 series light anti-tank weapon, in an August raid on the gang's south side headquarters. One of the four men is already in prison, two others have been arrested, and one is still at large. (AP)

Agriculture department to crack down on marijuana harvesting

The agriculture department says there is a "highly organized criminal element" harvesting a billion dollars worth of marijuana each year in federally-owned woods. Department officials announced today that they're forming an enforcement team to crack down on the growers with \$20 million from the newly enacted drug abuse law. (AP)

Drug tampering case ends with 27-year jail sentence

A former brokerage firm trainee who admitted tampering with some over-the-counter drugs has been sentenced to 27 years in prison. Edwin Marks says he put rat poison in packages of Contac, Dietac, and Teldrin capsules and planted them in several Orlando, Florida, stores to affect the stock prices of the company that makes the products. (AP)

Local

Brandeis coalition to boycott classes in demonstration against apartheid

A group of Brandeis University students, faculty and staff is calling for a boycott of classes today to protest apartheid and show support for students in South Africa. The demonstration is planned to coincide with a weekend meeting of Brandeis trustees. (AP)

Congressman Markey to probe Seabrook drug and alcohol abuse

Democratic Massachusetts Congressman Edward Markey plans to probe reports of drug and alcohol abuse by workers at the Seabrook atomic power plant in New Hampshire. Aide Scott Leabman says Markey has received numerous statements about the issue in recent weeks. New Hampshire Yankee, the project builder, asked Markey to confer with them to resolve the issue. A spokesman says the reports are not backed up by evidence. But Leabman says Markey does not believe the company can do justice to the matter. Markey also wants federal officials to look into the reports. (AP)

Massachusetts DPW purchases land for open space conservation program

The Massachusetts Department of Public Works is buying nearly seven acres of coastal land at high head in Truro. The \$900,000 purchase is the first under a new open space program. The land is part of 22 acres being acquired for conservation by various agencies. It will be saved from development and preserved as open space. (AP)

Former Boston mayor Collins considers a political comeback

Former Boston Mayor John Collins is moving back to the city from Cape Cod, and he reportedly is considering a challenge next year to Mayor Raymond Flynn. Collins says he plans to move from Falmouth by January first to meet the legal residency requirement. But he hasn't decided whether to make a political comeback attempt nearly 20 years after he left office. Collins told the Boston Herald he won't make any decision for several months. The 67-year-old Collins is credited with revitalizing Boston in the 1960s. (AP)

Technical problems delay Titanic photo

The leader of this summer's Titanic expedition says a picture of the full-wreckage will be delayed. Robert Ballard says that technical problems require several more months of work. The pieced-together picture of the sunken luxury liner had been planned for last month. Ballard says artists renderings of the old vessel are likely to look better. The pictures were taken on a dozen dives in a mini submarine last July. The Titanic sank in water two miles deep in April 1912 off Newfoundland, taking the lives of more than 1500. Ballard commented in Boston where he received the \$5000 Washburn award from the Museum of Science. (AP)

Moose courts dairy cow in Vermont

In the lonely hills of Vermont there is a smitten male courting his reluctant sweetheart. But the unusual twist to this tale is that the male happens to be a 700-pound moose and the object of his admiration a brown and white dairy cow. The moose has been standing in the pasture since Saturday, staring at his new-found love. The moose will probably remain there until the end of mating season in early November, the game warden said. One spectator reports, "They've nuzzled like they're kissing; but I ain't seen no action." (AP)

Sports

Mets' manager wants more money

Less than 72 hours after leading the New York Mets to a world series triumph, Manager Davey Johnson has asked for a raise. In an article in the New York suburban newspaper *Newsday*, Johnson says that the Mets are contractually obligated to increase his salary to the \$300,000 earned by Lou Piniella of the Cross-Town Yankees. Met general manager Frank Cashen has told the newspaper he doesn't have to revise Johnson's pay scale. However, Cashen does say that the club might increase the \$225,000 Johnson is due for both of the next two seasons. Johnson's three year record — his first three years as a Major League manager — shows him posting more wins in that period of time than any other manager in National League history. (AP)

Jury delivers indictment in cocaine death of basketball star

A Prince Georges, MD, county grand jury has handed up an indictment in the cocaine death of University of Maryland basketball star Len Bias. The indictment named Brian Tribble, and contained three additional charges, in-

cluding "obstruction of justice." Tribble is already scheduled to stand trial on drug-related charges stemming from Bias' death in June. Tribble was one of three men with Bias when he died.

Charles "Lefty" Driesell, Bias' former coach at Maryland, resigned yesterday in the wake of the scandal surrounding the death of the All-American star. The University of Maryland is replacing him with 41-year-old Bob Wade, who won more than 90 percent of his games in his ten seasons at Baltimore's Dunbar high school. (AP)

USFL asks federal court again to split NFL into two leagues

Unions representing players in five sports — including major league baseball and the National Basketball Association — have filed briefs in support of the United States Football League's motion to break the National Football League into two separate leagues. The unions have asked judge Peter Leisure to break the NFL into two separate leagues so as to foster competition in the player market. The USFL asked the court for the same thing several weeks ago. The USFL recently went back into federal court after receiving just \$3 in damages from this summer's antitrust case against the NFL. (AP)

Weather

Thrills and chills

Today is among the coldest days of the season so far, but a warming trend will soon be here. Saturday looks to be clear and about ten degrees warmer than today. Sunday will be even warmer, but showers will be moving through New England. Meanwhile, fall's first blast of arctic air is poised to invade the upper midwest from Canada.

Today: Decreasing winds, clear skies. Highs near 48° (9° C).

Tonight: Calm and chilly. Wear warm costumes. Lows 36° (2° C).

Saturday: Warmer, with some southerly breezes and high clouds. Highs 57° (14° C).

Saturday night: Not bad. Lows 48° (9° C).

Sunday: Warmer still, but a 60 percent chance of some rain. Highs 63° (17° C).

Monday: Turning colder again. Highs 50°-55° (10° C-13° C).

Forecast by John W. Nielsen

Compiled by Mark Kantrowitz
Jigna Desai

opinion

Editorial

Vote against Proposition One

A no vote on Proposition One is essential in order to safeguard abortion rights in Massachusetts. This will allow individuals to reach their own decisions on a deeply personal matter, and will secure financial assistance for poor women seeking abortions.

Proposition One would allow the state legislature to cut public funding of abortion. Some say that this is the main issue, that individual abortions should not be on the collective conscience of the taxpayers. In reality, this is an attempt to impose the moral stance of a minority upon all the women of Massachusetts.

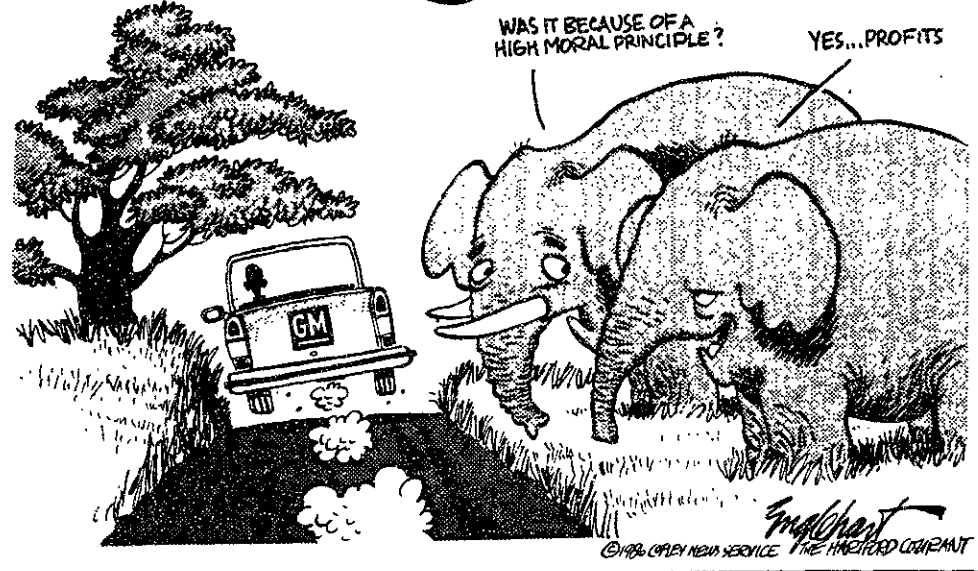
The amendment would allow the legislature to prohibit all abortions, except when the mother's life is threatened, to the extent permitted by the US Constitution. This prohibition would also extend to women who have been victims of rape and incest. The US Supreme Court presently interprets the Constitution as protecting abortions under rights to personal freedom. But this opinion is held by a slim margin. A new Supreme Court could reverse its stance, allowing the Massachusetts legislature, and not the courts, to outlaw almost all abortions.

Over 80 percent of the Massachusetts populace believe that abortion is a "personal decision that state government should stay out of," according to an independent poll conducted this year by Harrison and Goldberg. The active minority, however, has historically had a louder voice on Beacon Hill, making it likely that the legislature would use its new constitutional power to ban abortion.

A strong rejection of the amendment will send a clear message to abortion opponents in other states who are looking for a test case. If there is support for the amendment in liberal Massachusetts, we will see similar referenda across the United States.

This amendment threatens the right to choose an abortion. For this reason, *The Tech* strongly urges you to vote no on Proposition One.

OUT OF AFRICA



Guest Column/Carol Shiue

World's wonders offer delight

Leaves, pointy red leaves, fan sized orange leaves, round yellow leaves that hang like gold coins on the bottom of a tree branch — as I remember my home in New Jersey where I lived for most of my childhood, leaves were everywhere in Autumn. They blew in the air like wind, came down on us like rain, and decorated everyone and everything in a cloak of colors — even pine trees wore bright colors.

When the tips of the tree branches finally appeared bare against the early pink sunset, we knew it was the annual sweeping time. Armed with various rakes and brooms, mittens and thick sweaters, some friends and I would gather our weapons and turn towards the leaf strewn streets.

We trekked the neighborhood, stopping at the houses of the elderly and offering to sweep their yards. We pushed the leaves out of the way, while indulging in the rituals of rolling in leaves and leaning into bushes. Occasionally we found a leaf so perfect I would put it in my pocket, saving it to contemplate later. These leaf raking gatherings seemed so simple,

yet I derived a great deal of pleasure in them for reasons I am beginning to understand.

Recently, I had the opportunity to hike the Massachusetts countryside, a region of farms and fields, deep green valleys, and mountainous hills, a region vast and yet provincial in its own ways. During one of these walks I came upon a huge maple tree, a tall and majestic monument of a tree. Its branches must have held tens of thousands of leaves, each of them blended with different shades of yellows and orange, each of them a representative of the tree itself. The leaves that had fallen were swirling in circles in the air as if dancing to the silent beat of a waltz strummed by the sunbeams between swaying branches.

Although I had never been there before, as I stood mesmerized by the presence of the tree, it seemed to me as if I did know a place and time when the sun glowed and the wind blew in exactly the same ways once before. It was a most oppressive feeling. But perhaps I had been there before in that "moment of being," perhaps I was feeling or thinking

something which I had felt or thought once before.

It seemed to me then, as it must have seemed to me at some level as a child, that there is something mysterious about the natural world which continuously draws me into it. And I think herein lies the explanation of what had appealed to me in those leaf raking experiences. We were seeing for ourselves the beauty of the leaves, hearing their crackle, sniffing their earthy smell; we were in direct contact with a part of nature, and in that sense, we were exploring.

Since then I've come to realize that there is something which enhances the carefree sensory experiences we had as children. It is the sense that accompanies the scientific study of natural phenomena, the sense that complements but does not displace childlike enthusiasm.

The prospect of exploring the unknown is exciting and extremely inviting. The wonders that the world holds have still to be appreciated, and I take delight, very much in the same way I once took delight in rolling in leaves, in the promise it holds.

Guest Column/Charles Whetsel

People of Greene misunderstood

The recent federal court ruling in Greeneville, TN has stirred much discussion concerning the ruling's implications on public education. Andrew L. Fish '89 ["Court decision flawed," Oct. 28] attaches an unfair attitude of malevolence to the situation and persons involved in this case.

My father is a United Methodist minister whose parish is currently in Greeneville. He is not involved in the case (in fact, we are one of the most liberal families in the area) but our family knowledge of the incident is far from removed. From the media coverage which this event has been receiving, the people of Greene County are being either grossly misrepresented, or misunderstood.

The people of Greene County are (pardon the cliché) good, hard-working people who, regardless of Fish's interpretation of their actions, have no intention of unseating public education as it exists today. Their concerns are that they should have some control over what is taught to their children in the schools that they are forced to attend which are funded by the parent's tax dollars.

Viewed in context, their issue is not a hard one with which to sympathize, if all of the legal implications are ignored for an

instant. In the modern dilemma of church-state separation, these people have borne the brunt of the hardship. When recently told by the federal government that they could not have their morning meditation or scripture lesson without violating the religious freedom of others, they complied.

But when their children were forced to read the texts in question (*The Diary of Anne Frank*, *The Wizard of Oz*), they perceived a double standard. From their (admittedly limited) point of view, their children were being exposed to and influenced by the tenets of Judaism and mysticism. If this last analogy seems a bit extreme, it is because it is. I myself do not agree with their objections, but I will defend their right to voice these objections.

Attending elementary school in Hawkins County, contiguous to Greene, I was raised with a morning "moment of silent meditation" and a pledge of allegiance to the American flag (a secular practice from which the Jehovah's Witness children refrained for religious reasons). Growing up in a town of 30,000, there was one Jewish family in the community (my father's best friend from high school) and about 10 or 15 Catholic families.

To us, "religious freedom" meant that we Methodists got

baptized by sprinkling instead of going to the river like the Baptists did. The people there are different. They do not know much about judicial review and they did not even know what secular humanism was until people started telling them that it was not right to pray in school. They never really thought that it was wrong to pray anywhere.

David Byrne once wrote a lyric that stated, "Facts all come with points of view." I have learned this from my personal migration from my home where I am considered a radical liberal to Boston where I am regarded as a radical conservative. A different perspective on any issue can provide insight that can never be gained by all of the mediating in the world.

Regardless of the implications of this court case and what historic import is achieved by this precedent, a judgmental attitude towards the people at the center of this issue must be avoided, especially when the situations and motivations surrounding this incident are not fully understood nor appreciated.

The citizens of Greene County lead simple lives; Fish should exhibit less concern for their understanding of European history, and exhibit instead, more concern about our understanding of this subculture of our own nation.

The Tech

Volume 106, Number 48 Friday, October 31, 1986

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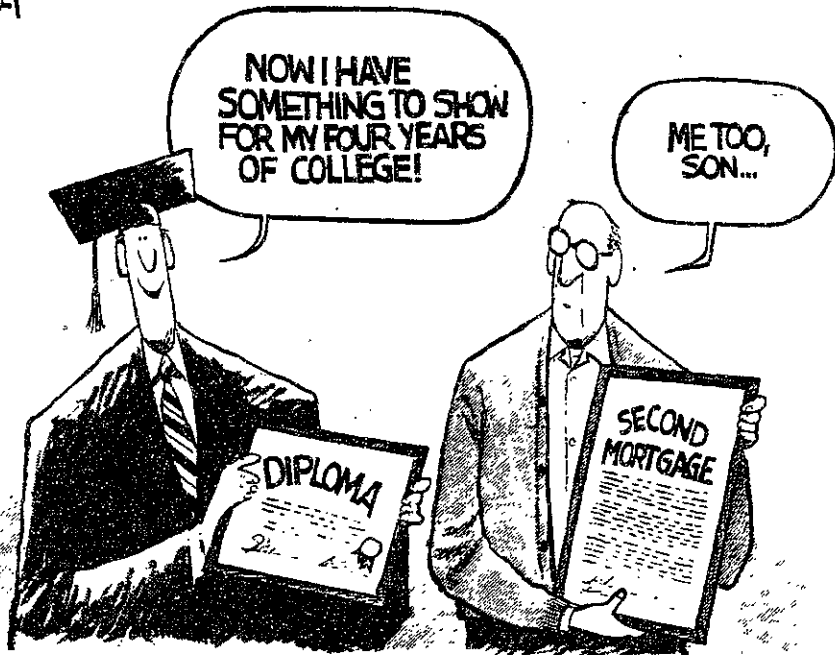
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The Tech (ISSN 0148-9607) is published Tuesdays and Fridays during the academic year (except during MIT vacations), Wednesdays during January, and monthly during the summer for \$13.00 per year Third Class by The Tech, 84 Massachusetts Ave. Room W20-483, Cambridge, MA 02139. Third Class postage paid at Boston, MA. Non-Profit Org. Permit No. 59720. POSTMASTER: Please send all address changes to our mailing address: The Tech, PO Box 29, MIT Branch, Cambridge, MA 02139. Telephone: (617) 253-1541. Advertising, subscription, and typesetting rates available. Entire contents © 1986 The Tech. The Tech is a member of the Associated Press. Printed by Charles River Publishing, Inc.

opinion

SYFLA
DISSEMINATING
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feedback

Facts do not support the Black Alumni Survey's claims of racism

To the Editor:

I feel that certain points were overlooked in the article "Alumni study shows racism [Oct. 28]," placing the validity of the report in question.

The 1985 Black Alumni Survey, which reached 137 of the 671 black alumni who entered MIT from 1969 to 1981, failed to survey white and non-minority students to get a parallel view on other students' perceptions of their years, treatment, and education at MIT. Without such a survey, it is impossible to know whether the problems are unique to blacks or are indicative of the undergraduate experience. The report was quite vague, the professors never named as not the years in which the acclaimed racial incidents occurred.

The survey found that most respondents "developed a negative orientation to the MIT environment." Is this to say that all whites were enamored with the Institute for their entire stay? Also 55 percent had "negative perceptions of the personal and academic support provided by MIT faculty members." MIT is a research institution. Many students find it slightly impersonal in this regard, because the faculty often seem more interested in their research than in the students, black or white.

The claim of the Visiting Committee's 1984 Quality of Student Life that academic pace and pressure, difficult for most, is intensified for minority students is undocumented. Am I, after reading the first half of the article which is built on shaky statistics, supposed to believe the claim just because *The Tech* says it is true?

The report of the Minority Students Issue Group based on these two surveys goes on to say that MIT is a nonsupportive environment in which minorities

must prove they are equal, both intellectually and socially." To succeed in any faced paced environment, one must continue to prove his or her worth, whether at MIT or at Lincoln Labs.

The other broad section of the article was subtitled "Excerpts from responses to 1985 Black Alumni Survey." These undated anecdotes, if their purpose was to support the claim that MIT is racially discriminant, often fail. Under Relations with Faculty is this quote. "My reluctance to approach teaching assistants or professors to help fill the gaps in my knowledge had a negative effect on my academic performance." Two questions. Is this the fault of the faculty member or the student? Does it matter that the student was black?

Under "Preparation for MIT" is this slightly off the wall quote, "There were two types of blacks at MIT: those who were completely prepared for MIT and the rest of us. We had aptitude, but we couldn't keep up. White students — their parents were engineers. They had taken apart the family car." What exactly this is implying is rather confusing. Is it implying that to be a good engineer you have to have taken apart the family car or is it that all white students have parents who are engineers?

I also fail to see how race comes into play in the anecdote from the "Living Group Experiences" section. "The living experience was all right, but I didn't fit into the norm. A typical party was 'let's drink beer and get drunk and pass out.' I wasn't into that so I went to black parties and just hung out with friends."

I am white. I don't like to get drunk and pass out. Neither do lots of my friends. I don't see this as being a habit of all whites

or exclusive of all blacks. What is being implied by including this in the article? Getting drunk or hanging out with friends or washing dishes on Friday night is a choice each person has to make. Just because one is Jewish or Chinese or black doesn't rule out any options.

MIT undoubtedly has racial problems. The claims of this article though were unsupported and seemed to be implying certain fallacies. The themes of the anecdotes were not exclusive to a certain race, but could have been related by a student of any race or religion. The author of the article and the editors of the newspaper should learn how to back up generalities and not make unsupported claims such as "Alumni report shows racism" on the front page of *The Tech*.

Lindsay Haugland '89

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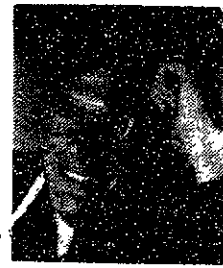
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opinion

feedback

Massachusetts should not cut back funding of abortions

To the Editor:

While I agree with Mark DeGuire's assertion that Referendum Question #1 will have no effect on the legality of abortion ["Abortion question is misrepresented," Oct. 28], I do not think that the probability that abortion funding will be reduced should be taken lightly.

It is certainly true that no matter what the outcome of the referendum, abortion will remain legal everywhere in the United States. The Supreme Court's decision in *Roe v. Wade* made abortion legal in 1973. Abortion will only become illegal if the Supreme Court reverses its decision.

The decision gave women the right of choice. The unethical aspect of curtailing abortion funding is that it allows wealthy women freedom to choose while preventing indigent women from doing the same. Precisely that segment of the population which has the most to lose from unwanted pregnancies will be coerced into bearing children because the state will not fund abortion but will fund the alternative, childbirth.

By the time a woman discovers that she is pregnant, she has approximately two months left of the first three months in which abortions are the safest and the

cheapest. In that short amount of time, she must not only make a very difficult decision about whether to carry her pregnancy to term, but she must also scrape together the funds to have an abortion, if that is her decision. As the pregnancy progresses, abortion not only becomes a more dangerous and costly option, but it is also likely to increase greatly any psychological stress to the woman.

A similar funding issue was decided on a federal level a few years ago. The Supreme Court upheld the Hyde Amendment, which denied federal funding of medically necessary abortions for indigent women.

The effect of this amendment was that in the subsequent year, 20 percent of those pregnancies medically requiring abortions resulted in childbirth. The other 80 percent found means to have abortions anyway, either by being lucky enough to live in states that still provided funding, by finding some other way to come up with the money, or by having illegal abortions.

The 20 percent who were successfully coerced into having children had to suffer not only the physical injury they sustained as a result of the childbirth but also the unwanted financial and emotional responsibility of raising a child.

Nor can it be said that the taxpayers' money is wasted on abortion. There are two alternatives for a woman who is pregnant: she can either have the child or have an abortion. The state, by choosing not to fund the latter, incurs greater cost to itself by suddenly having to fund more of the former.

Abortion in this state only costs several hundred dollars. On the other hand, a normal childbirth free of complications will have cost the state \$2000 by the time the baby is born. The state is then responsible for the welfare of the child until he is 18. In addition, 12 years of public schooling figure into the bill. The monetary costs to the state of not funding abortion are enormous.

People are not free to allocate their tax money as they see fit. I will have to pay for military buildups and the Strategic Defense Initiative whether I like it or not. Similarly, it is the place of the government, not private organizations, to look out for the well-being of its citizens.

Social programs affect large numbers of people and their costs are extremely high. Expecting private citizens to pick up the cost of abortions for every indigent woman in the state is as realistic as throwing quarters to beggars. Vote *no* on Question #1.

Nicole Stucki '88



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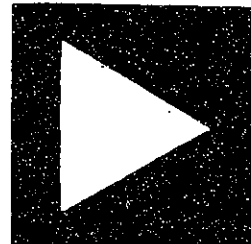
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opinion

feedback

Students need to take initiative to facilitate the reform process

To the Editor:

The entire MIT community has become increasingly aware of the problems inherent to the current system of undergraduate education. The heightened concern has resulted in ongoing discussions at all levels — the Undergraduate Association as well as the Committee on the Undergraduate Program and *The Tech*.

This is the reason that the UA Forums have been established: to facilitate communication and stimulate further discussion at the student level. The Student Committee on Educational Policy has been revived to act as a vehicle for this task. Therefore, as cosponsor of the recent UA Forum on the Freshman Year, I would like to expand on Akbar Merchant's article ["Students favor pass/fail," Oct. 21].

The general consensus among students was that pass/fail is necessary. Approximately 25 percent of students surveyed felt that pass/fail was in some way being abused, but the definition of "abused" was not clearly defined. One person pointed out that the system is set up to catch those who abuse the system to the extent that the material is not learned: they fail.

Further debate on this topic concluded that freshman year is the time in which a student learns his/her limits; pass/fail allows this to be done with fewer pres-

ures. The majority felt that pass/fail should not be restricted to required courses and that to allow this with the option to take the courses other than the first year would defeat the purpose of pass/fail. The majority felt that a credit limit while on pass/fail was a good idea.

The key point that emerged from the forum was that students need to learn to stand on their own. Many students seem to be under the impression that MIT should cater to them. Complaints arise that "no one cares" despite the support network and programs abounding on campus.

Students need to take some initiative themselves. This might alleviate some of the burden of teaching and advising while fostering a better relationship with the faculty; it would probably re-

solve some of the other problems in the undergraduate curriculum as well. At the very least it would facilitate the reform process because people would have a better perspective of where structural, curricular problems existed.

We students are in a good position to uncover problems in the curriculum. We are the only ones who can tell the faculty why we behave in a certain way or what our opinions are of a given topic. It behooves us to do so in a constructive manner. The opportunities are there; several mechanisms are in place (letters to *The Tech*, forums, UA, advisors), and more will be set up. Lack of participation can only hurt us in the long run.

Becky D. Edmiston '87
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opinion

Guest Column/Richard Cowan

Military influence increasing

Last term, the question of military research funding on campus was the subject of considerable acrimonious debate, with a special focus on the Strategic Defense Initiative.

Yet the reaction of some students to this explosion of political debate on research programs that are far from the development stage is one of confusion. "Why bother?" some say. The answer, put succinctly, is that the issue affects all of us. This semester, the MIT Science Action Coordinating Committee is going beyond last term's focus on "Star Wars" to examine the militarization of MIT. Here's why.

• *There are major changes taking place.* A primary reason for the volatility of the military research issue is the speed with which the national research situation is changing. In the 1970s the percentage of federally funded research and development devoted to military programs stood near 50 percent. That already large fraction has been steadily increasing since 1978, reaching 67 percent in 1985 and 72 percent in 1986, according to *Technology Review*.

• *MIT students are especially affected.* Many MIT graduates go directly into research jobs. Therefore, the fraction of research devoted to military programs determines to a large degree the fraction of science and engineering graduates going into the military industry. Furthermore, professors and students doing research projects or UROPs are directly affected by shifts in funding patterns.

• *Even people who opt out of the military industry are affected.* Of engineering graduates not pursuing careers in academia, about one-third work directly on military contracts and another third work on commercial products (certain electronics, computers, and software products) whose primary market is, increasingly, the military industry. There are places to work in high tech where this is not the case. Most of these places, however, are outside the United States.

• *The defense boom cannot go on forever.* Real research expenditures have risen 50 percent since 1979, to the same levels as at the peak of the Vietnam War. Because budget deficits have reached 25 percent of the budget, the defense boom has been curbed, and further cuts are likely. Companies such as Digital Equipment Corporation or Symbolics whose recent growth is entirely attributable to military purchases will undoubtedly suffer. In 1971 many engineers found themselves out of jobs. It could happen again.

• *Money and scientific resources for research are limited.* Exorbitant expenditures on programs like SDI reduce the opportunity for significant socially useful and economically beneficial research. Community and regional development research was slashed from \$127.3 million in 1979 to only \$28 million in fiscal year 1986 [*Science Indicators*, 1985]. National Institute of Health life sciences funding decreased seven percent last year.

While the US infrastructure — roads, the Harvard Bridge, water pipes, and electric power networks — has been deteriorating, there has been correspondingly little federal support for civil engineering. Meanwhile, the US commercial electronics industry has been dwindling despite all the military research and development for electronics in recent years. Research allocation determines what problems are solved, and what problems (such as acid rain) go unsolved.

* * * *

Putting aside for the moment

the question of whether defense spending really is intended for "defense," it is clear that the domination of federal research by the military will not only have profound effects on society, but also limit the opportunities for students to enter productive and rewarding careers in other areas.

The best I can do in this space is recommend that you learn more about the issue. A survey by MIT last spring revealed that students feel they are not being told enough about the military aspects of the technology they study. Looking at the MIT Bulletin, one can understand why. The description of Draper Laboratory doesn't even mention "military," "national defense," or Draper's main mission: missile guidance for nuclear weapons. Classification barriers and a pattern of institutional self-censorship prevent professors from bringing up the topic.

Fortunately, professors do usually know the extent to which their field is dominated by the

military. If you wonder, ask them.

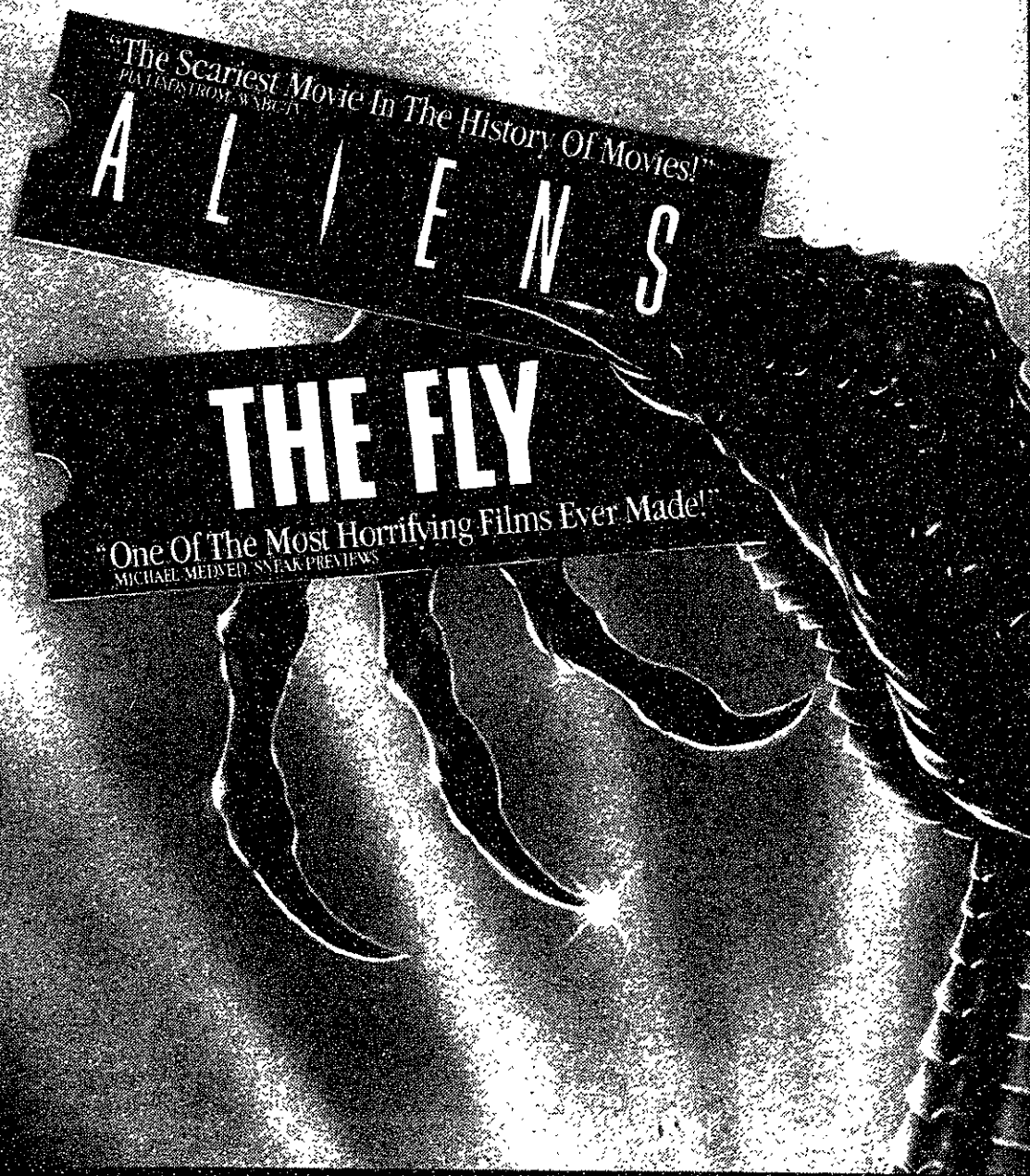
The glossy brochures of military contractors also usually fail to explain what those companies are really doing. In the MIT placement office, there is a copy of a pamphlet "Are you considering a career in the defense industry?" prepared by High Technology Professionals for Peace, which raises many important issues — like what happens when you get a security clearance.

Finally, SACC is compiling information on MIT's own military research — a topic rarely discussed even in classes that deal with arms issues. A guidebook with this information should be useful to students who want to choose UROPs and thesis advisors, and could be provided to hall tutors, faculty advisors, and class councils. Given the number of students affected, this is not just a "left-wing issue" — even the right wing should be interested in telling students the truth about what they are getting into.



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opinion

feedback

SACC has failed to accept SND's challenge to a debate over SDI

To the Editor:

Seven weeks ago, two members of the MIT Students for National Defense and the MIT Republican Club publicly challenged Richard Cowan G and the Science Action Coordinating Committee to debate the question "Should the US pursue the Strategic Defense Initiative?"

The goal of this debate is to improve the quality of the SDI argument from selective arguing of sub-issues and shallow one-liners in protests and on flyers to a reasoned discussion of the overall issue. Demonstrations and leaflets do not facilitate give-and-take, permitting their creators to ignore the weaknesses in their case. This leads to a poor discussion of the issues, as there is no

Students must demonstrate against support of contras

To the Editor:

If it is true that governments as well as people can be judged by the friends they keep, the revelations from the Eugene Hasenfus affair in Nicaragua speak volumes about the interests that form US government policies in Central America.

Hasenfus was a cargo handler for a Central Intelligence Agency-run operation to supply the *contras* fighting to overthrow the Nicaraguan government. He survived the downing of a C-123 aircraft on its way to deliver a cache of assault rifles, grenades, boots, and other military supplies to the *contras*.

With the direct and indirect support our government has offered to the operation of which Hasenfus was part, it comes as small surprise that Oxfam America has been denied permission to ship \$41,000 worth of agricultural implements and emergency housing supplies to Nicaragua. In contrast, the US Council for World Freedom, headed by Gen. John K. Singlaub (Ret.) had no difficulty obtaining a license to send a helicopter to the *contras*.

The *contra* army relies on outside support for its existence. They operate mostly from Honduras and Costa Rica and have little support within Nicaragua. "People . . . fear the *contras* because many *contra* leaders are former soldiers in the National Guard of deposed dictator Anastasio Somoza. . . . American financing of the *contras* reminds most Nicaraguans, whatever their ideology, of the unpopular US Marine occupation of their country in 1912-1925 and 1926-1933 [*The Wall Street Journal*, Sept. 8]."

If those historical associations were not enough to put a damper on the *contras*' popularity, their current actions would probably suffice. On July 2, 34 civilians were killed near the hamlet of Bocaycito when a passenger truck was destroyed by an antitank mine. A week ago Monday, another *contra* mine explosion took the lives of six passengers on a truck in northern Nicaragua and injured 43 others.

The lack of support for the *contras* within Nicaragua and their dependence on US assistance was known well in advance of Hasenfus' capture. Among the

(Please turn to page 12)

opportunity to dispute arguable points, such as technological infeasibility, destabilization, and economic effects.

A debate forces both sides to deal with all aspects of the issue. In a real-time interactive argument, each side must restrict itself to defensible arguments, or be countered effectively.

One would think that SACC would welcome the opportunity to debate, because they should believe their arguments to be correct and, therefore, strong enough to withstand debate. One would think that SACC would welcome the opportunity to debate, because they should believe their arguments to be correct and, therefore, strong enough to withstand debate. We are disappointed that Cowan, though apparently willing to debate, has

been unable to find one more student to form a two-person team to debate against SDI.

It is particularly disturbing that a group which organizes protests of a hundred people is unable to find as many as two students who are willing and able to defend their opinions in an equal-time setting such as a debate.

We remain hopeful that the debate will take place, as we prefer to explore the full depth of the issue than to watch SACC retreat from the intellectual challenge of a real discussion of the whole SDI issue and resort to the easy way out — more rallies, leaflets, emotional chants, and monologues.

Lucien Van Elsen '90
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IDEAS

FALL 1986

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in the Hub, Page 4

A NEW RESPECTABILITY

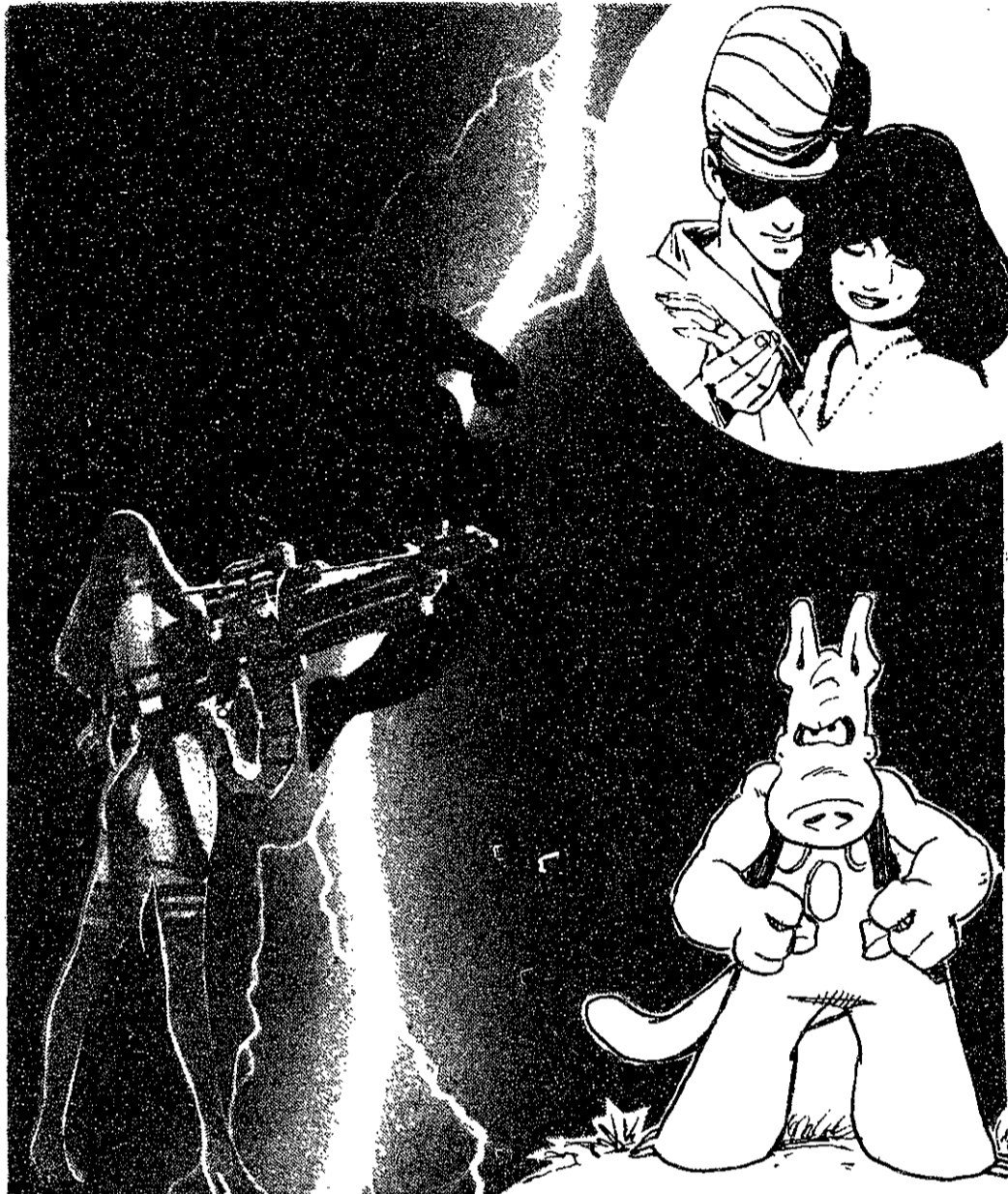
Comic books (and their readers) grow up

Comics have long had a reputation of childishness and simplicity which was perpetuated in the late 60's and early 70's when the BIFF, POW, and ZOWIE of Batman and the Boy Wonder graced the television. The tube projected an image of superheroes as idealistic do-gooders who took on powerful villains while always triumphing through perseverance, superior intelligence, and perhaps a little brute force. Comics were for kids. If as an adult you wanted to read one, you would buy it hastily and hide it under your trenchcoat.

If comics had a bad reputation, they deserved it. With few exceptions, the mainstream magazines mirrored what was on television. But comics have since gained respectability. Take the T on a Friday afternoon and you are bound to see a few yuppie commuters browsing through the latest "X-Men". The New York Metropolitan Museum of Art recently ran an exhibit of Al Capp comic strips, concentrating mostly on "Li'l Abner", those humorous hillbilly tales, and I would not be surprised if in the future they had similar displays featuring Windsor McCay ("Little Nemo"), Harold Foster ("Tarzan" and "Prince Valiant"), or Jack Kirby.

One reason for the new respectability is that the people publishing comics today were once the kids who peeked through comic mags in the backs of drugstores. More important, though, is not who is publishing comics, but what is being published. The people writing, drawing, and distributing them are no longer making comics just for kids. Having grown up reading comics, they are now making a product which they themselves can enjoy. As adults.

Recently *The Boston Globe*, *The Boston Phoenix*, *The Economist*, and *Time* have all run articles on the new image of comics. One recurring thesis is that superheroes have become more fallible: their powers are weaker, they have to deal with real life problems such as laundry, they can't always cope with their unusual abilities. This



argument concludes that superheroes have become more realistic and better able to reflect human foibles.

I personally think this is a load of crock. I have been a diehard fan of comics since I was a toddler and have noticed few of these changes. If Superman is weaker, then he is simply closer to his original powers (back when he couldn't fly but could only leap tall buildings in a single bound) and the reality of the superhero universe remains relatively unchanged. Also, superheroes have always had to deal with the less exciting aspects of life: Peter Parker has had to stitch the tears left in his Spiderman costume from hard fought battles.

And superheroes have always had to deal with the bane of their superhero powers. The curse and tragedy of the doomed anti-hero, were what made Spiderman, the Hulk, and the Fantastic Four's Thing so popular in the early 60's when Marvel Comics began its rise as a force in the industry.

What has changed in the superhero universe is not so much the superheroes but the rest of reality. From Frank Miller's apocalyptic visions in "Ronin" and "Dark Knight", to witch hunting in "X-Men" and "New Mutants", to the intricate political machinations of "American Flagg", and "Cerebus", the world in general is far more complicated for our heroes than it was twenty years ago. If anything, the comics of today no longer represent an escape from reality but rather show a reflection of a despairing, paranoid, sometimes insane society aware that it is on the verge of nuclear holocaust. Reading the best current comics one is nearly suffocated by this vision and is presented with heroes who, for all their vaunted powers, stand little chance of coming out on top. But, for all the desperation and solitude, there always seems to be a tiny ray of hope — not from brute force but from reasoning and human compassion.

If the general outlook has so drastically changed in comics, so has the artwork. When once a comic book artist was rated by how realistic and clean-lined his illustrations were, one

need look no further than Sienkiewicz ("Elektra") or Muth and Williams ("Moonshadow") to find the expressionist movement in comics. They use skewed layout, angular lines, and muddied watercolors to create jarring effects. Los Brothers Hernandez ("Love and Rockets") take just the opposite approach, using simple, black-and-white line figures to present striking minimalist artwork.

Sadly, the majority of comics are still produced for the mass consumption of teenagers. Not all comics today present challenging subject matter or daring artwork, just as twenty years ago not all comics were BIFF, POW, ZOWIE (the most notable example being Neal Adams' "Green Lantern/Green Hornet" which dealt with such subjects as drug abuse and the Vietnam War). But fortunately there is a large enough output of higher quality, adult fare to warrant going through some of the cream of the crop.

Among Marvel comics, the flagship remains "X-Men". Unlike other established superhero teams, the X-Men are all *homo superior*, mutants who fulfill the heroic archetype of a special birth. Most new characters introduced in the Marvel universe are now mutants, and when their powers are manifest at puberty they are persecuted by the world at large. The X-Men exist to provide a mutant sanctuary, and now only fight evil as a sideline.

X-Men purists point to the saga of Phoenix, a demigoddess doomed by the dark side of her powers, running roughly from "X-Men" #107 to #137, as one of the finest stories in mainstream comics. Since then, dangling plots have been the rule as the writers flailed about for an encore. But the strength of "X-Men" remains the characters, not the plots.

Recent storylines have concentrated on human-mutant relations, allowing Marvel to treat in depth the problems of any persecuted minority. But the potential for conflict has existed a long time. In the splendid X-Men #142, one of our heroes was time-shifted from a future world in which mutants were rounded up and slaughtered. The memory of that possible

future still haunts the current stories.

- In a fit of honesty four years ago, Marvel admitted that the X-Men had drifted away from the original idea of having teenage characters with which readers could identify. They created "The New Mutants" which introduced five young mutants whose powers were still developing. After a promising start, "The New Mutants" bogged down, to be rescued in NM #18 by the art of Bill Sienkiewicz. After Sienkiewicz's departure, other superior artists like Leialoha and Wilshire have also worked on the title.

- DC Comics' "Dark Knight", a four-part series (also available as a whole in bound softcover) both written and pencilled by Frank Miller, with finished art by Janson and Varley, sets Batman years after his retirement from crimefighting, in a world on the brink of nuclear war, surrounded by a populace that adulates him but also despises him as a brutal vigilante. Miller's work is a symphony of weird lighting and fluid body movement composed in highly original layouts. "Dark Knight" is a *tour de force* examination of the paranoia of current society and also digs deep in its probe of the warped personality that must propel heroes to do what they do.

- Miller's current project is as writer for "Elektra", a tale of a woman ninja (introduced by Miller in "Daredevil") being pursued by U.S. government agents. If "Dark Knight" and the earlier "Ronin" pushed the limits of conventional superhero graphic and narrative style, then this present collaboration with artist Bill Sienkiewicz breaks through all those boundaries. Miller's jumpy, disjointed storyline and Sienkiewicz's alternately angular and muddied then clean-lined and bright artwork give the story a nightmarish quality. The first six of eight issues are available at list price.

- Another name worthy of mention is that of Alan Moore. Moore works exclusively as a writer and presents the most literary narratives in comics, using little dialogue and no thought balloons. "Swampthing" originally began as simply the tale of man turned to monster, blessed with great powers but cursed with the mantle of a horrifying figure. Moore has since transformed "Swampthing" to something quite different: the monster is now a modern-day everyman, accepted and despised by all, observing the idiosyncracies of human society.

- In Moore's "Watchmen" there exist neither superheroes nor supervillains. The year is 1985, the world is on the verge of nuclear holocaust, the U.S. won in Vietnam, Nixon is still President, and heroes are normal human

CONTINUED, PAGE 3



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WP

Writing a thesis on your PC? Here are some products you should know about

There are literally hundreds of PC-based word processing programs available today. In the interests of brevity, I established some broad criteria for consideration in this review: The programs had to oversee both text-editing and formatting/printing, and had to be able to produce page headings, footnotes, some Greek and math characters and super/sub-scripting. (Some of these functions are printer-dependent, and you should check printer capabilities before purchasing your system). In addition, all the programs reviewed have a high correlation between screen display and printer output, and all can produce an unformatted ASCII file so they may be used for writing and editing source code as well as editing files which will be transferred between a PC and a mainframe computer.

Programs were rated on a number of scales:

Learnability — how long it took between opening the package and producing text at a reasonable rate.

Documentation and user support — This test gave brownie points for "are you sure?" prompts after commands to reformat the data disk and similar gaffes.

Bugs — things that could be better designed, or problems with the program itself.

Features — extras such as spelling checkers, outlining functions, keyboard macros, etc.

Most testing was done on a Compaq DeskPro (100% IBM-PC, XT compatible), with two floppy drives, a hard disk and a composite (text and CGA graphics) monitor. Additional compatibility testing was done on a home-built AT clone with a NEC monitor and a Multisync graphics adapter (EGA or CGA compatible). The printer was a Toshiba 1340. A DOS background utility program, Sidekick, was run simultaneously with the word processing programs to test for conflict and compatibility.

There follows, in order of my preference, the top four programs available.

WordPerfect, SSI Software (aka WordPerfect Corp.), Orem, UT.
needed: 2 floppy drives, 256Kb recommended: hard disk, at least 384Kb
list price: \$495 (\$245 at MIT micro-computer center)

The first thing one notices about WordPerfect is the sheer intelligence with which the program has been designed and implemented. While there are a few glaring exceptions (printer installation is one), most functions are designed with logic and ease of use in mind. The program is also extraordinarily fast, and if you have enough memory will run itself from RAM, enhancing its speed even further.

Learnability — A learning diskette is included in the package and each section in the manual ends with a self-administered lesson, but unless you need to become familiar with all the functions immediately (things like mail-merge — addressing a copy of a form letter to each name on a mailing list), it is easiest to just sit down and start typing. The default values of the format variables (line spacing, page

width etc.) will see you through most documents, and the function key template and quick reference guide provide all you need to start.

Documentation and user support — The written documentation is merely adequate, but most function menus are well enough designed for it to be superfluous. The manual is supplemented by an on-line help command (for a system without a hard disk, this will require floppy juggling).

User support consists of an 800 number manned roughly during business hours and on Saturday, by friendly, well-informed people.

Idiot-proofing — Once again, WordPerfect is a marvel of logic and planning. The average absent-minded student would be hard pressed to lose a document or a block of text. Since all functions are accessed through the function keys (except user-defined macros) the chances of accidentally accessing a function are almost nil. In addition, the program can be set to do timed backups automatically, and will always prompt you to save your file as you exit.

Bugs — WordPerfect has, in the interests of speed, bypassed DOS entirely in writing to the screen and printer. WordPerfect will completely ignore, therefore, any DOS resident background program (such as screensave

plete with cute little animated graphics and lots of positive emotional feedback, which should provide an evening's entertainment for the potential user. The more sensitive intellectually among you may be insulted by the level at which the learning program is aimed. Commands are not obvious, however, and starting Word cold will probably waste more time than will be saved.

Documentation and user support — The documentation may even be too comprehensive, requiring two thick looseleaf binders, a spiral bound printer guide, and an on-line help function. Expect to use the documentation frequently — there are far too many commands and functions in Word to be memorizable. User support is via a business hours phone number (long distance, not toll free), and the ubiquitous "Microsoft Software Problem Report." The latter takes a few weeks for a response and your answer may well consist of a disk with a debugged version of the program.

Idiot-proofing — What can you say about a program that tells you to make sure the label on the DOS disk is facing up? Unfortunately, so much of the package is designed to shield the user from the hard realities of computing, that the novice may well

Wordstar 2000 Plus, MicroPro, San Rafael, CA.
needed: 2 floppy drives, 320Kb (256Kb for lower than DOS 3.0), for telecommunications functions, Hayes Smartmodem or compatible
recommended: hard disk
list price: \$595, \$495 without telecommunications and some mail-merge options

WordStar manages to perform all the standard word processing tricks without the user needing to know much more than what is displayed in the menus. While the magnitude of the hand-holding does slow the program down somewhat, an office or lab which has a high turnover and cannot take the time to extensively train each new employee may well find this program exactly suited to its needs.

Learnability — There is a decent learning program. Don't bother, you won't need it.

Documentation and user support — The full documentation was not available at the time of writing, however the on-line help function is superb, and the sample documentation I received seems to indicate the printed support will be comprehensive.

User support is either through the dealer (not an optimal system), or through a toll free support number for which there is a roughly \$10/month subscription fee. MicroPro is in the process of implementing a system by which each new user gets a number of days of free telephone support upon purchase of the software.

Idiot-proofing — WordStar comes closest to the "do what I meant" type of idiot-proofing. (For example, exiting a document pops you into the print/save menu.) In addition, there is a generic "undo" command which many of us would find quite useful.

Bugs — The program is not fast, mostly because it is often necessary to go through several tiers of menus before you get to the command you want. In addition, the extensive use of control/letter type commands makes it more likely to accidentally access a command, though the same system will be a boon to touch typists. The biggest bug is the half screen editing window.

Features — ASCII files can be written to floppy or sent and received via modem through the program as one of the menu functions, a clear boon to those who split their work between mainframes and their PC.

WordStar 2000 Plus provides the usual office and editing goodies (mail-merge, multi-column, spell-check, variable page numbering, etc.), and allows the user to change most program defaults. Wordstar also automatically keeps a history file of each document as well as allowing the user to insert hidden (not printed) text.

TechWriter, CMI Software, Waltham MA.

needed: 256Kb, 2 floppy drives
list price: \$395, \$295 with educational discount. The spelling checker is an additional \$50, tutorial diskette and additional printer driver diskette an additional \$30 each.

There are discounts for purchase of multiple copies of the program, and a non-copy protected version is available for an additional \$200.

Compared to the giants above, TechWriter is a mere fledgling. It is included in this review as a service to

Who steals
It was mine
But he the
Robs me of

and printer interface programs) and some print spoolers. This is not always a bug, however. WordPerfect and Sidekick will happily share your screen and keyboard with no conflicts, Sidekick vanishing without a trace when it is exited.

Features — The goodies are too numerous to list here, but include an on-line thesaurus and enormous spelling dictionary, a set-up program that allows you to change virtually every default value (including things like paper width and screen size), a function that allows you to draw several types of line within the document using the cursor keys (great for bar graphs), a very basic outlining program, programmable math functions, multi-column (both newspaper and chart format), split screen, and the previously mentioned keyboard macros. The feature which I came to appreciate the most was the size of the editing window, which filled the entire screen minus a single line (a feature not found in most other programs).

SSI also has other programs of interest to labs and offices which can share data and create an integrated system with WordPerfect.

MS-Word, Microsoft Corporation, Redmond WA.

needed: two floppy drives, 256Kb suggested: hard disk, mouse
list price: \$395 (\$150 at MIT micro-computer center)

Word is capable of performing virtually every text processing function required by the average office, professor or student. In addition, those PC users suffering from Macintosh envy, can, with the aid of Microsoft's PC-Paintbrush, Windows, Word, and a Microsoft Mouse, set up a user environment almost as friendly as that associated with a Mac.

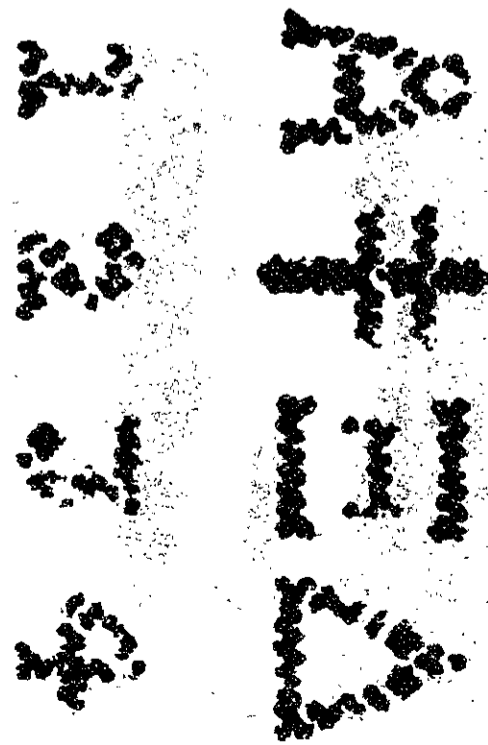
Learnability — Word comes with a very thorough learning program, com-

be completely stumped if something goes wrong, and the program itself does not consider all contingencies (the set-up function was completely stumped by the — admittedly weird — configuration of my system).

Microsoft seems to be straddling a fine line between hand-holding and hand-cuffing. On the other hand, the program does prompt you to save files as you exit, and as long as the program itself doesn't do something stupid, it probably won't let you do so either.

Bugs — Word uses a graphics mode display, which enables it to do neat things like showing italic as italic, but if you have a CGA will also make the text look like sky-writing on a windy day. In addition, the program needed to be specially configured for the non-standard monitor on the AT-clone I was using for testing (luckily a simple process). Sidekick, which also uses graphics mode, left a (temporary) screenful of garbage when tested with Word in text mode. All these problems may be avoided by running Word in text mode, which can be done with only slight loss of display capability.

Features — Those planning large writing projects will be absolutely delighted with Word's multilevel outlining function, which may well be the first steps away from word processing toward thought processing. Almost any other function you can think of is probably hidden in the documentation somewhere, including pre-formatted style sheets, spell-check, mail-merge, multi-window editing, page numbering in letters or roman numerals, etc. In addition, Word exploits the full capabilities of most laser printers, including those by Xerox, HP, DEC, and Apple. Word also provides a program to create printer interfaces for non-supported printers.



IDEAS: FALL 1986
A supplement to The Tech,
October 31, 1986

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those die-hard computer hackers who want a word processor they can write programs in as well as with, and idiots like me who purchased dot matrix printers with only basic fonts and then found themselves in need of Greek letters, as well as symbols from physics, symbolic logic and integral and differential calculus. TechWriter integrates bit-mapped graphics with the printer's on-board fonts to produce these characters, as well as molecular diagrams, oversize and undersize letters and numbers, and some characters I have yet to recognize.

While I was often tempted to compare TechWriter to IBM's Displaywrite (which did not make it into this review), it seems to be heading in the direction of WordPerfect. If this is the case, the giants had better beware.

Learnability — TechWriter is about as difficult to learn as BASIC or Fortran. Like a language, it can be used for basic tasks with relative ease, but to fully implement all its capabilities will take a few hours and lots of flipping through the documentation. An adequate quick study guide and a sample documents diskette are included in the package; the tutorial diskette is extra.

Documentation and user Support — Physically, the documentation consists of an 8½-by-11 looseleaf binder, far too large to comfortably balance between screen and keyboard (as software companies get larger, the page size in their documentation seems to get smaller). The documentation is good, but lacks an index. There is an on-line help function.

User support is via either a local or

a toll free number, manned roughly during business hours (you may luck out at other times). From my calls, I gather the staff is small enough that you may actually be able to talk with someone who wrote the source code (unlike Displaywrite, for which I called no fewer than six states in search of answers).

Idiot-proofing — Idiot-proofing consists mostly of a confirm key, though there is a function to undelete text. There is also a function in the file manager to retrieve files from a bashed diskette, a welcome addition no other program seems even to recognize as necessary.

Bugs — Like Displaywrite, TechWriter produces cryptic error and help messages, not always well explained in the documentation. Also like Displaywrite, the TechWriter code is copy protected. Unlike Displaywrite, the TechWriter source diskette has a counter which will allow you to make up to five copies of the program, and you can "uninstall" a copy of the program code, deleting it and moving the counter back. (For the hackers among you — my bit-copier produced only garbage.)

Like Word, TechWrite displays in graphics mode (though the result isn't nearly as obnoxious). The EGA driver (which the documentation insisted on calling the Extended Graphics Adapter driver) worked properly on the clone only in monochrome mode.

Like WordPerfect, TechWriter writes directly to the printer, so forget about printer interfaces and similar DOS background programs. It also reads directly from the keyboard, and

manages to reassign the values of virtually everything except the alphanumeric keys.

TechWriter makes lots of very time-consuming disk seeks, especially during printing, and copy protection makes it difficult to run the entire thing from a RAM disk, which would enhance its speed considerably.

Lastly, TechWriter asks for the time on startup, and was incapable of accessing my system clock.

Features — Most of the goodies of the big companies are included. If you don't find a function you need, you may be able to write it. As mentioned above, TechWriter has fantastic printer support. It also has almost perfect

correlation between screen display and printer output and an editing window which takes up all but one line of the screen. A document history file is attached to every text file, and the file manipulation functions are admirable.

Note — By the time this review is published, CMI will have released a new version of TechWriter in which the keyboard will be closer to industry standards and which will feature more functions, better use of function keys and simplified commands. If you may be interested in the program, I suggest you call the company to discuss the upgrade.

— Amy Gorin

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DUE PROCESSING

The promised crop of Mac WP software has yet to appear

Originally, I had hoped to do a comprehensive survey of Macintosh word processing packages, much like the PC article in this issue. It seemed like a good idea at the time: there were several new packages announced or rumored, and everyone was sure they'd be out by the start of the term. They weren't.

In fact, the only word processing packages in general distribution now were the only ones a year or two ago. Word from Microsoft and Apple's MacWrite are still the main choices. Everything else is either special purpose (outliner-based) or awful (the last release I saw of Advanced Logic System's Word Handler didn't even use the Clipboard).

This is not to say either choice is bad. Both programs are competent, medium-level word processors, with Word taking the lead for its sheer power.

MacWrite is a classic Mac program. It works hard to show you on the screen what will be on the paper, and does a good job considering the limitations of the Mac. You can see the page breaks, headers and footers in their

correct places. Word is not as friendly. While you can force it to show page breaks, it's slow, and the page header/footer commands are positively baroque.

"What-you-see-is-what-you-get" is nice, but for formatting power, Word is superior. If you have a Laserwriter (everyone should!), the output can be printed in any size from 4 to 72 points, with complete control over line spacing. This is invaluable, for example, when you want to make a nine page paper stretch for ten pages. Word's big plus over MacWrite is its ability to format paragraphs individually. Instead of playing around with dozens of MacWrite rulers, I can set up each paragraph the way I want it to look. Word's glossary even allows me to store these formats by name.

Word also works with multiple documents simultaneously, and allows documents to be wider than the screen. It even allows the writer to view two parts of a document at the same time. I find this feature invaluable for writing papers from outlines.

Ever since Apple stopped giving away MacWrite, the choice between MacWrite and Word has become easier. In the old days, unless you were a hard-core word basher, you used MacWrite because it was free and easy. The extra bucks for Word didn't buy much more performance. Now that Apple charges for MacWrite, the \$195 (list — you can pay about half that at some discounters or the MIT Microcomputer Store) for Word doesn't look as bad.

Since my Mac is used primarily for reports and papers, I've leaned towards Word. The program is more powerful than MacWrite, and the idiosyncracies can be dealt with if one uses it on

a regular basis. No matter which program you use, the Mac's graphics capabilities can make your reports and papers look professional. I am particularly fond of Apple's MacDraw (about \$100 from MIT), an object-oriented drafting program, and MacEqn from Software for Recognition Technology (about \$25), an equation-drawing program. Both supplement the word processing programs by creating pictures that can be "pasted" into your papers and reports. MacDraw makes short work of most diagrams, and "object-oriented" means you can build up parts and figures from simpler forms like squares, ovals, and lines, without worrying about the "stretchmarks" you can get in MacPaint. Basically, the program remembers that the square you drew is a square, and will allow you to move or resize it independently of other objects on the screen. Biggest drawback of this approach is that you cannot erase or modify part of an object, but for scientific and engineering diagrams, this is less of a problem. MacDraw also includes a variety of commands to make it easier to get things on the screen to be the right size.

MacDraw produces beautiful output as finely detailed as your printer will allow. Best of all, you can print out draft copies on your dot matrix printer, and without change, take full advantage of the Apple LaserWriter's increased resolution.

It takes practice, but MacDraw makes good use of the mouse and menus on the Mac. I wouldn't trade it for any other program I've seen. It has quite a few bugs and misfeatures, but all in all, it is a great program.

MacEqn is hard to describe, but I'll try.

Basically, it allows you to pull down a window in which you can type your equations out. When you're done, the equation is pasted into your paper. The program can be used with keyboard or menu commands, and while it is not obvious, it is pretty easy once you get used to it.

The big drawback is that it is tough to edit a finished equation. You can bring it into MacDraw to move around things, but most of the time it's easier to start over again.

MacEqn handles just about all the math I've ever seen at MIT. Editing capabilities would be nice, but I've found it is an excellent way to handle equations in my papers. MacEqn works best with the LaserWriter, but does produce acceptable output on an ImageWriter.

As I write this review, the Macintosh magazines are starting to print rumours and announcements for the next generation of Mac word processors. WriteNow! from T/Maker Software looks like a real winner, and is almost released. WordPerfect should also be available in a few months. WP is one of the best word processors for the IBM PC family, and should be very popular. Finally, Microsoft should have a new version of Word around January or so. If it's anything like the PC version, it will be my choice.

Basically, don't spend a lot of money for a new word processor now if you don't have to. I'd recommend Word, especially with the rumored new version, but don't ever buy anything because of rumors. Things are likely to change quite a bit in the next six months, and I have no idea of who'll be on top soon.

— Ken Meltsner

COMICS CONTINUED

beings with no special powers. Moore probes into what makes a hero tick, into the unusual psyche of someone who daily puts his/her life on the line. Society is warped, frustrated, and violent but its supposed heroes are just as warped, frustrated and violent. Presented is the most believable reality of any comic but a strong statement about current society is also made.

- The visually haunting and beautiful "Moonshadow" follows the adventures of the young boy Moonshadow (named so by his hippie mother), and his fat, ugly, furry, degenerate, cigar-toting sidekick Ira as they travel here, there and nowhere through space. "Moonshadow" is full of literary allu-

sions, but is principally an updating of the turn of the century comic strip "Little Nemo in Slumberland." "Moonshadow" is a modern day fantasy which, with its beautiful, dark, muddled watercolors, examines a universe of illogical, close-minded beings. Fortunately Moonshadow's wide-eyed innocence always brings a ray of hope and Ira's sleazy ways always bring a touch of sarcasm to the writer, DeMatteis', somewhat depressing reality.

- Dave Sim's "Cerebus" is perhaps the single most noteworthy "independent" comic. It has had the advantage of remaining under Sim's artistic direction all along, and after a few silly adventure tales settled down to a series of sweeping, intricate plots of political intrigue. "Cerebus" is the story of a talking aardvark, both a tough soldier and an inhumanely cunning poli-

tician, and his adventures in a magic realm. The background situations start off like Tolkien's, but in walk characters who are parodies of Foghorn Leghorn, Groucho Marx, and comic book figures such as Red Sonja, the Batman, Wolverine. . . It sounds so silly when I try to describe it that I can only suggest buying the recently published High Society [reprinting "Cerebus" 26-50] and take a look at the quality of Sim's art, dialogues and scripting. If you are totally confused, the earlier stories are available in six volumes called Swords of Cerebus.

- The success of "Cerebus" has enabled Sim's company, Aardvark-Vanaheim, to sponsor the work of a number of other artists, notably Arn Saba's delightful "Neil the Horse".
- One of the most touching comics on the market is "Love and Rockets,"

drawn by Los Brothers Hernandez. "Love and Rockets" follows two continuing storylines, written and drawn by the two Hernandez brothers. Jaime's "Los Locas Tambien" is a diary of the adventures of Hopey, Maggie and their many punk friends as they hang out in somewhereville, South California. Gilbert's "Heartbreak Soup" deals with the daily life and politics of a town he describes as "a sort of Central American Dogpatch."

- Places to purchase comics are Newbury Comics (Garage in Harvard Sq. and 332 Newbury St. Boston), Million Year Picnic (99 Mt. Auburn St. in Harvard Sq.), Superhero Universe (1105 Mass. Ave. Cambridge) and New England Comics (six locations around Boston).

— Peter Dunn
additional material by Julian West

MUSEUM PIECES

Visual art on display in and around the Hub

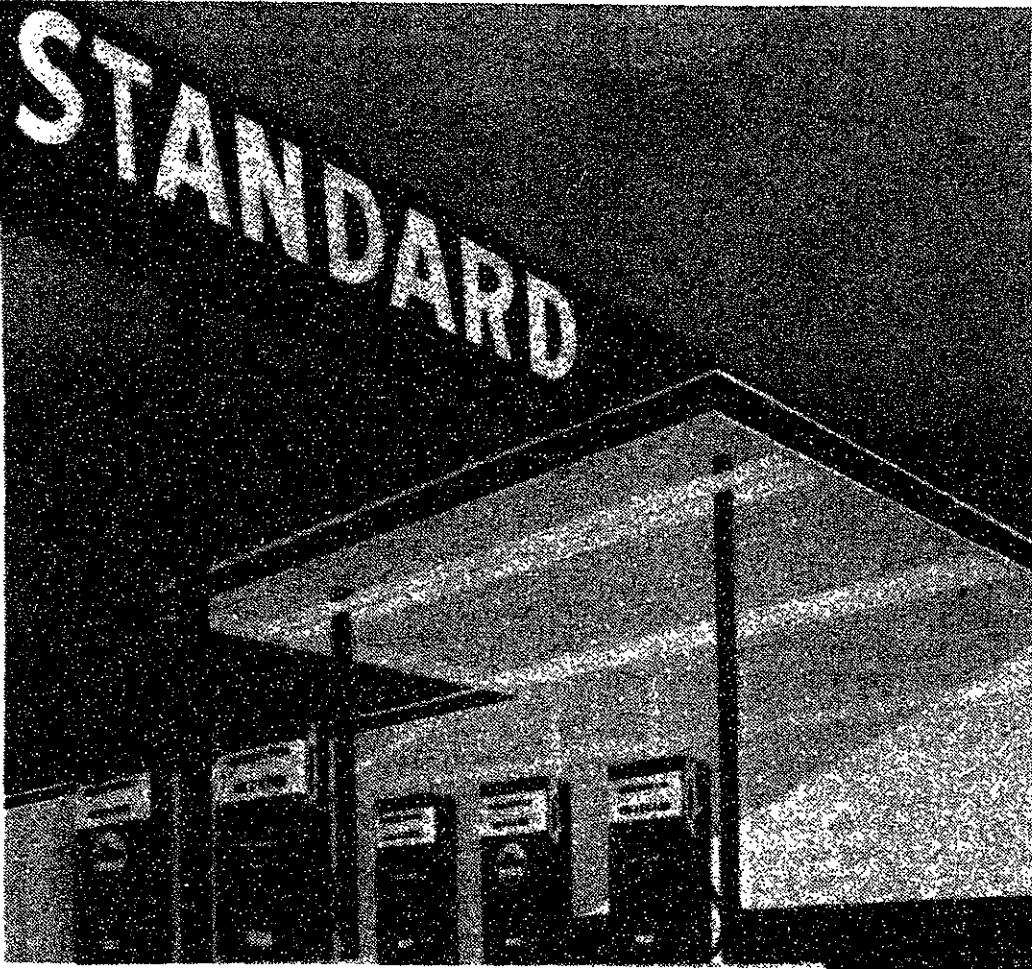
That Boston is one of the art capitals of this continent is a commonplace almost as easily experienced as stated. With the exception of New York, probably no U.S. city has so much visual art on display. Almost everything from ancient treasures to the latest fads can be found in the area's exhibition spaces, which vary in size from single-room galleries to a warehouse scale museum. Some of these spaces are listed below.

The list is incomplete in many respects. Most obviously, many locations are omitted. But more importantly, though most of what is to be seen in museums and galleries qualifies as art, not all art is to be seen in museums and galleries. In addition to its intrinsic merits, visual art has the redeeming feature of being cheap to look at. Many museums and all galleries are free for everybody; for MIT students (with ID, of course) the sum of the admission tickets for all the places listed here is still less than the typical cost of a first-run movie.

ON CAMPUS

Most art exhibitions at MIT are held in three rooms collectively called the **List Visual Arts Center**, on the ground floor of the new Wiesner Building (E15). The running time of exhibitions there — all of which deal with contemporary art — varies from two to four months.

The **Hayden Gallery**, the biggest of the three spaces, serves an exhibition program that is widely ranked among the most innovative north of New York City. Imaginative and often arcane, it separates the believers from the bewildered. It rarely fails to be interesting, though.



The **Reference Gallery** is intended as a kind of laboratory for art, and houses a program of artists-in-residence. The **Bakalar Sculpture Gallery**, finally, is the smallest and most intimate of the three. It is used for small-scale, high-quality exhibitions of twentieth century sculpture, thus far mainly of a retrospective nature. All List galleries are open weekdays 10am-4pm, and weekends 1-5pm.

The second focus of activity is the **MIT Museum**, located in a renovated factory building a little bit up Mass. Ave. (at #265, to be precise). As its main task is to document MIT's history, it always abounds with memorabilia of rather uneven degree of interest. But it often comes up with pleasant surprises in the visual arts, like last year's photography series with Berenice Abbott, Minor White and Ansel Adams,

and the current Bauhaus show. Open weekdays 9am-5pm, Saturday 10am-4pm.

The MIT Museum has a small annex (with identical opening hours) in the **Compton Gallery**, located as central as anything at MIT — just off Lobby 10. It houses a range of exhibitions as wide as the Museum itself.

The **Wiesner Student Art Gallery** is located not in the Wiesner Building, as its name might suggest, but on the second floor of the Student Center.

None of the places above charges admission. The best source for information on current events is the hotline of the Council for the Arts: dial 253-ARTS. And watch the campus media.

THE BOSTON BIG THREE

Considered by many authorities (including itself) to be the prime cultural institution in New England, the **Museum of Fine Arts**, at 465 Huntington Avenue, can keep you busy for a long, long time. And not only with visual art. Following a trend among major museums in this country, the MFA is gradually becoming a kind of cultural Disneyland, with concert series, film programs, a bookstore, a cafeteria, a cafe, a restaurant, and more. Most of these activities take place in the new I. M. Pei-designed West Wing; that also harbors the blockbuster exhibitions with which the MFA woos the masses — usually on Impressionism, or Post-Impressionism, or Followers of Impressionism, or maybe Early Impressionism.

The MFA's permanent collection is top notch on almost everything. The rooms of Egyptian art and artifacts include a fabulous collection of Ancient Kingdom sculpture, as well as rare works from Nubia, both the fruit of Museum expeditions earlier this century. The comprehensive department of Greek and Roman art is pleasantly located in what is probably the quietest section of the building (you can have rooms entirely for yourself even on busy Sunday afternoons). The Oriental collections are said to be the most extensive outside Asia itself. There are huge departments of American and European Decorative Arts, with many period rooms to recreate the historical atmosphere. The Draw-

up, but the damage has been done and the collection is likely to forever retain gaps in this area. But at least their activity in this field is increasing. Most of this takes place in the contemporary art gallery in the West Wing.

A pleasant surprise: all this is available for free to members of the MIT community. Students just show their ID, while others may borrow free passes (one per ID) from the office of the Director of the MIT Libraries, 14S-216 (open weekdays 9am-5pm). Most ordinary mortals pay \$4, unless they come on Saturday between 10am and noon, when admission is free to all. Opening hours are Tuesday through Sunday 10am-5pm, Wednesday also 5-9pm, the West Wing also Thursday and Friday 5-10pm. Call 267-9377 for recorded information, and 267-9300 for everything else. Of the two entrances, one is on Huntington Avenue, the other in the West Wing (next to the parking lot). Always check out the information booth in the West Wing; apart from the latest on special exhibits, it has free maps — essential gear, for the building is huge and the arrangement of its interior not simple (to put it mildly).

The most idiosyncratic venue in this list is the **Isabella Stewart Gardner Museum**, at 280 The Fenway (close to the MFA and the Red Sox). Isabella was the New York-born wife of Boston financier Jack Gardner. Her (at least in this place and those days) unconventional behavior caused many a stir in turn-of-the-century Boston society. But she was an avid collector of art. At her death she bequeathed her house and its contents to the City of Boston — with the condition, however, that not a single object be moved from the position she had put it in.

Alas, Isabella's zeal in collecting was second only to her lack of taste in arranging collectibles. Chaos reigns, with fragments of medieval buildings haphazardly mixed with Old Master paintings, rococo furniture, Persian tiles and what not. The confusion is actually rather amusing at first, but after a while it gets positively annoying. The exhibits are great, though; even if some of the labels are a bit overly generous; the museum does not make great efforts to reflect the development of historical criticism. The collection is particularly strong in Italian Renaissance (Piero della Francesca's *Hercules*, Raphael's *Portrait of Tommaso Inghirami*, Titian's *Rape of Europa*) and 17th century Dutch painting (a Vermeer interior, Rembrandt's only known seascape).

For admission, come any day except Monday between noon and 5pm (Tuesday also till 9pm) and bring a donation; \$2 will do. Call 566-1401 for information on the weekly concerts.

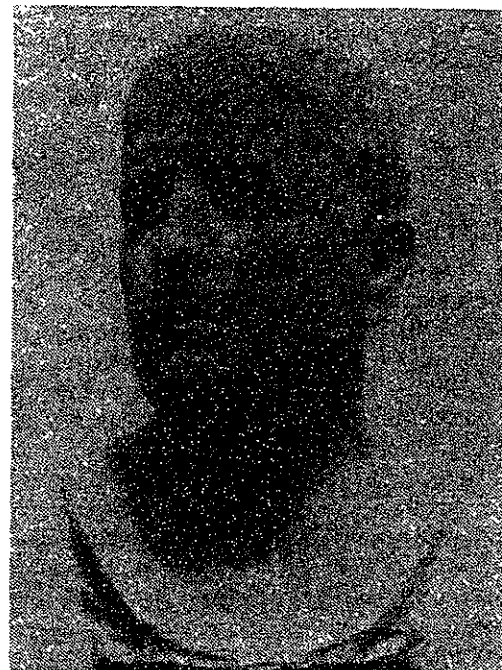
What the MFA failed to do until recently the **Institute of Contemporary Art**, now in a renovated firehouse at 955 Boylston Street, has done for fifty years: present current developments in art. Contrary to the MFA, the ICA has no permanent collection. There are temporary exhibitions, usually several at a time, each remaining for a few months. Over the past years individual artists have been presented in a series called *Currents*. Recently, the ICA has also started installing thematic shows again. Although reminiscences of the early days of Modern art occasionally come by, most of the fare is fresh. The programming is not especially outlandish, and good, accessible documentation is usually available, which makes this a good place to find out what mainstream art is up to.

The ICA also has an attractive program in experimental film, video and drama, presented in its basement theater. General admission is \$2.50 here, but students get in for \$1, and nobody pays Fridays between 5 and 8. Open Wednesday through Sunday 11am-5pm, Friday also 5-8pm. Information: 266-5152.

CAMPUS COMPETITION

Of the Boston area universities Harvard has the most extensive offerings of pre-1945 art. The old **Fogg Art Museum**, at 32 Quincy Street, and the new **Arthur M. Sackler Museum** at 485 Broadway (both in Cambridge, of course) add up to a kind of MFA-wanabe, with departments of almost ev-

erything. Although the overall quality is not as superb as in the MFA, there is enough to guarantee many pleasant visits. Once again a good showing of Impressionists and Renaissance painting, and sizeable Oriental and Classical collections. Both museums also do an excellent job with temporary exhibitions.



A cute building down the street from these two (at 29 Kirkland Street) houses the **Busch-Reisinger Museum**, entirely devoted to German art. The collection starts with casts of the medieval Hildesheim sculptures and continues until well into the present century. The density of coverage fluctuates wildly over this range, but the Museum's holdings in early twentieth century art are particularly noteworthy; in that field it also tends to mount interesting exhibitions.

There is a combined admission ticket for all these three museums. Regular price is \$3, but students pay a mere \$1.50. They are all open Monday through Saturday 10am-5pm and Sunday 1-5pm; call 495-2387, if necessary. Unfortunately, Harvard has mimicked the MFA to the point of neglecting the presentation of contemporary art (though here the opening of the Sackler seems to have opened new perspectives); what there is mainly to be found at the **Carpenter Center for the Visual Arts**, at 24 Quincy Street, free when it is open.

What the Harvard complex is to the MFA, the **Wellesley College Museum** is to Harvard. Here, too, a permanent collection, mainly consisting of gifts by alumnae. Highlights from it are put on display in sample exhibitions, which usually make for singular art cocktails. But occasionally there are interesting special exhibitions, a good excuse for an otherwise pleasurable excursion. The museum, located in the Jewett Arts Center on the Wellesley campus, is open Monday through Saturday 10am-5pm, Sunday 2-5pm. Admission is always free. Information: 235-0320, ext.2051.

Most of the institutions mentioned thus far have exhibits of photography every now and then, but Boston University's **Photographic Resource Center** specializes in it. It stands on 602 Commonwealth Avenue, Boston, and is open Monday through Friday 11am-6pm, and Saturday noon-5pm. Free. Info: 353-0700.

The **Rose Art Museum** at Brandeis University in Waltham, finally, complements the Boston museum spectrum in yet another way: apart from having good exhibitions in contemporary art, it is also about the only place around to possess a good permanent collection of post-1945 works. Opening hours are 1-5pm Tuesday through Sunday, Thursday also 5-9pm. Call 736-3434. And again: free admission.

GALLERIES GALORE

If your appetite calls for the very latest, pristine, as yet uncanonized work, you will want to explore the Boston gallery scene. It is large and diverse, and makes for pleasant excursions. A few hints for starters. Many, though not all galleries are to be found around Newbury Street. Many, though not all, are closed on Sunday. To find out what is being shown where, check the weekly *Boston Phoenix*, or the *Boston Globe* (the daily Arts pages, as well as the Thursday Calendar section). Enjoy.

— Michiel Bos

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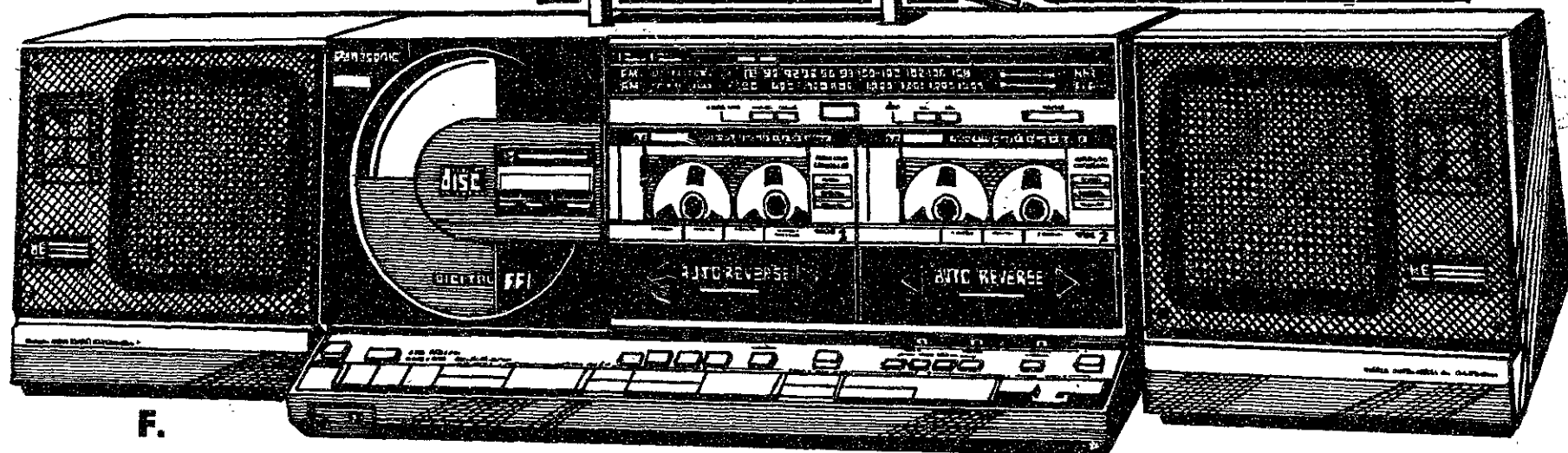
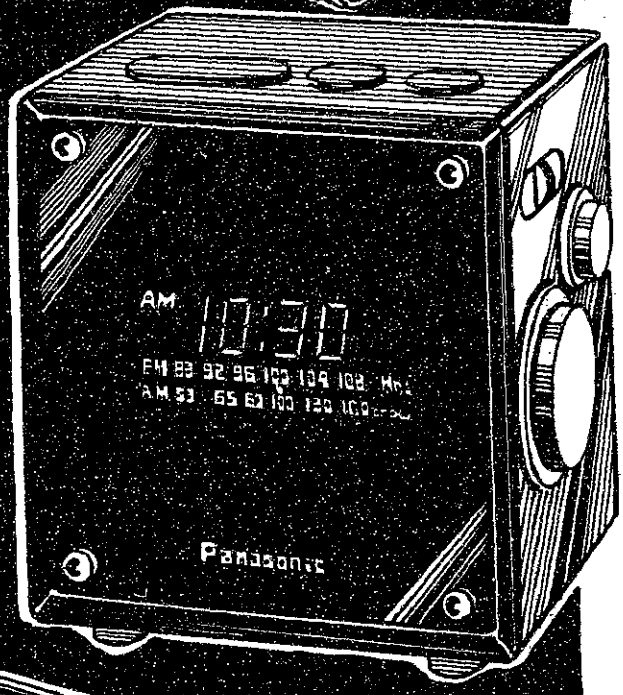
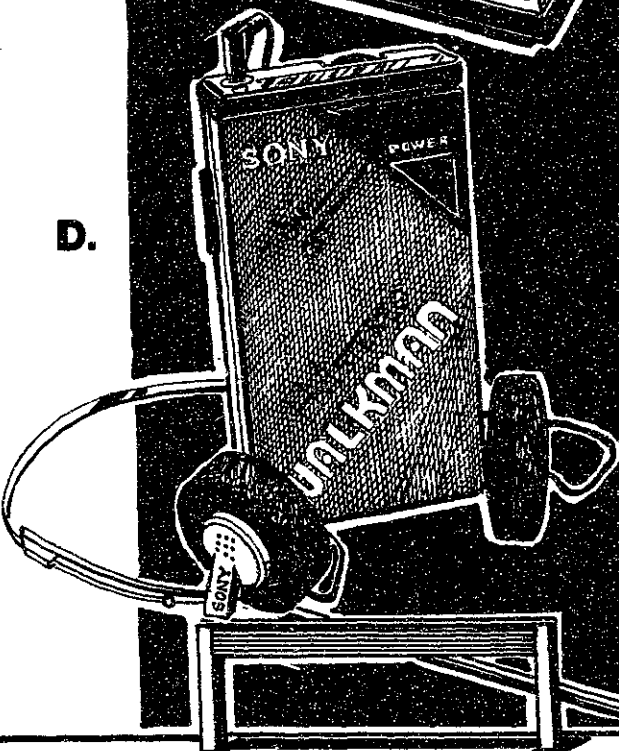
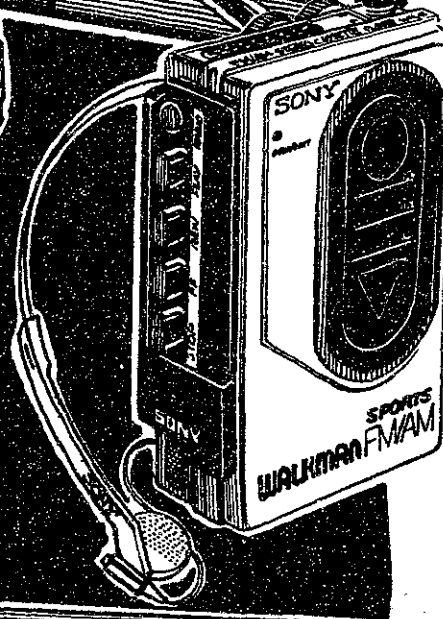
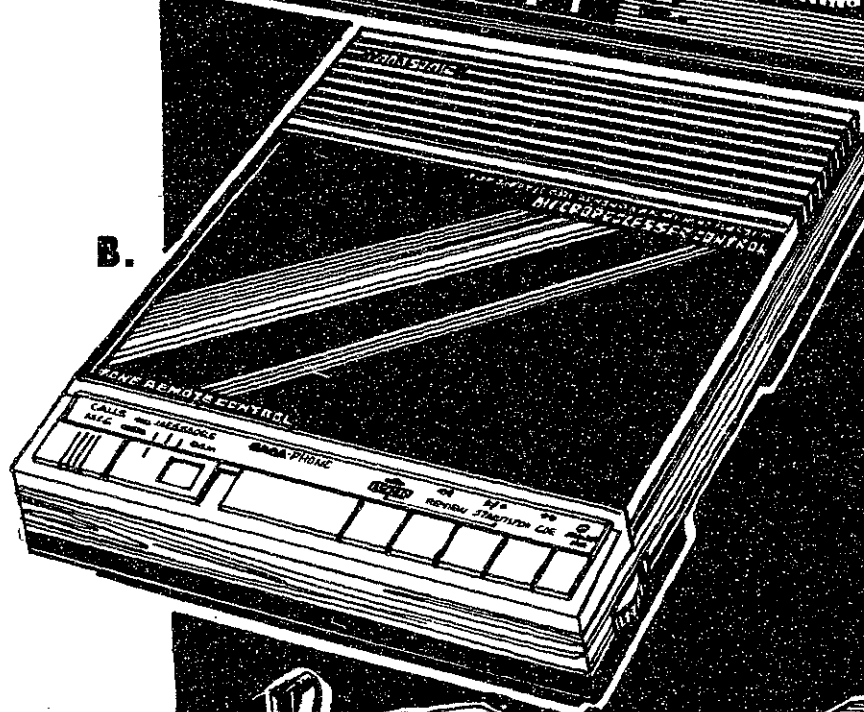
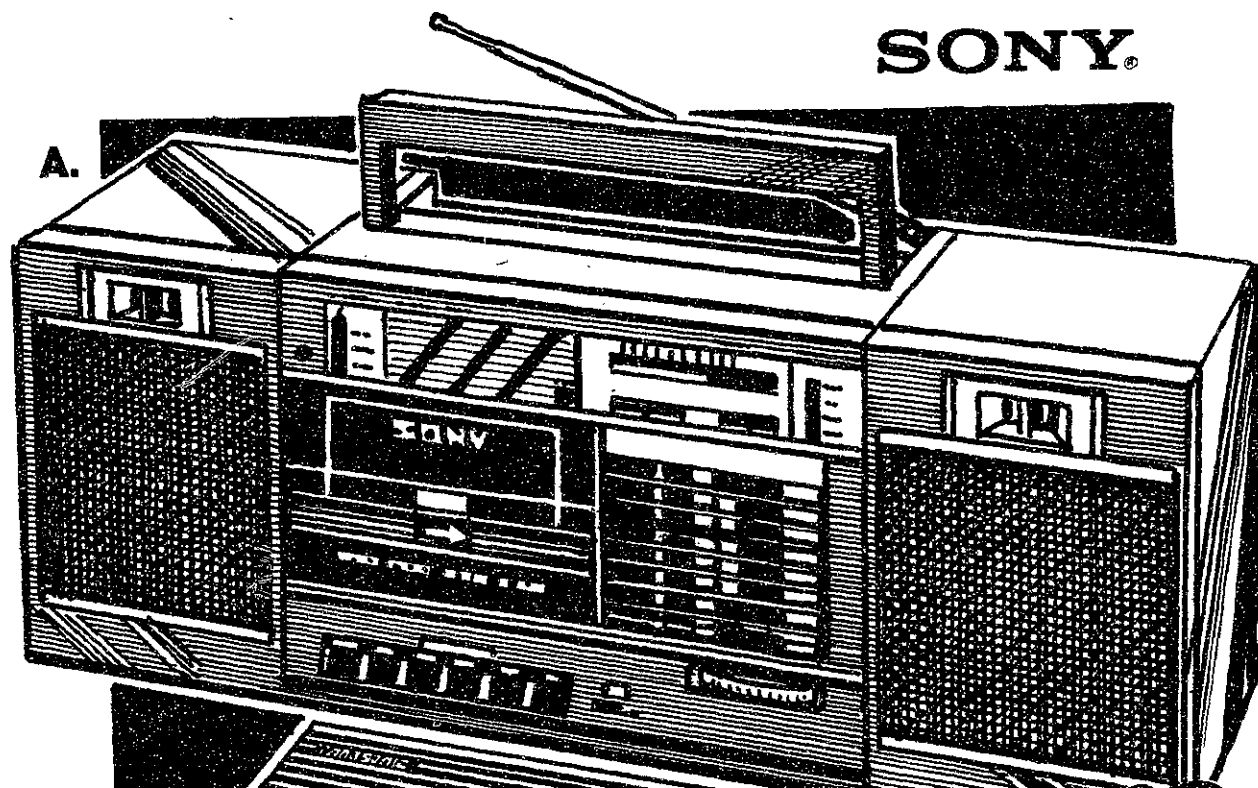
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Students must protest *contra* aid

(Continued from page 9)
connections his statements have revealed is a personal one between Vice President George Bush and longtime Central Intelligence Agency agent Max Gomez.

Gomez is the director of the operation, centered at the Salvadorean air base at Ipango, for which Hasenfus worked. *The New York Times* has established a personal acquaintance between Bush and Gomez and have reported that US Ambassador to El Salvador Edwin Corr has met Gomez and had lunch with him.

The second in command at the Ipango operation was known to Hasenfus as Ramon Medina, identified by Nicaraguan Deputy Interior Minister Luis Carrion as Posado Carriles. Carriles bribed his way out of prison in Venezuela last year, where he had been jailed for his part in the murder of 73 persons aboard a Cubana jetliner which was blown up in flight in the Caribbean.

One of Carriles' cohorts in that act of terrorism was Orlando Bosch, who claimed responsibility for the 1976 assassination of Orlando Letelier, Chilean ambassador to the United States.

In considering what we can do about these reprehensible policies and associations, it is important to recognize that the United States-sponsored *contra* army does not have popular support in this country either. Even Hasenfus has yet to profess anything like a belief in what he was doing.

But 60 percent opposition to *contra* aid, in and of itself, was not enough to prevent Congress from approving \$100 million of mostly military support and training of *contra* leaders by US Army special forces. This in addition to removal of strictures on CIA involvement, which allows the release of \$400 million more in agency funds.

It is not enough to be against the *contras* — we have to say so loud and clear. Two hundred and sixty-five people in the MIT community have done so by signing a Committee on Central America

petition calling for a halt to US aid to the *contras* and supporting negotiations within the *Contra-dora* Initiative and between the United States and Nicaraguan governments.

Perhaps the most effective way to oppose the escalating war against Nicaragua is by participating in demonstrations against it of the kind which forced the United States' withdrawal from Vietnam.

Jeff Cina
for the Committee
on Central America

Gray's anti-divestment arguments are old hat

To the Editor:

The arguments made in President Paul E. Gray's letter excusing MIT's support of apartheid are old hat ["Divestment is inappropriate and inadvisable," Oct. 21]. We will continue to discuss the issues raised there during the coming year.

At this time we can do nothing better than to call attention to two recent events:

1) Harvard University recently admitted that many US corpora-

tions clearly support apartheid; they had no choice by to divest from them.

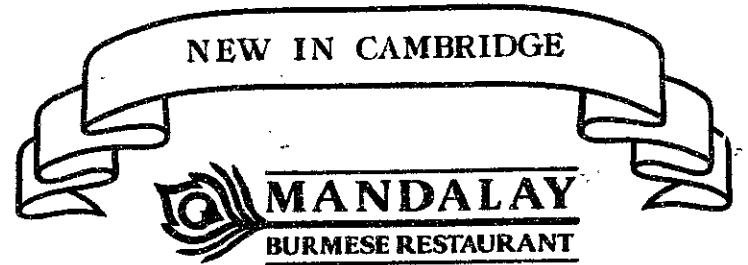
2) IBM, General Motors, and other US corporations have finally admitted that they are completely unable to help end apartheid; they are leaving.

It is long past time for MIT to divest.

John Parsons
Assistant Professor of Finance
for the Coalition Against Apartheid



Phone home

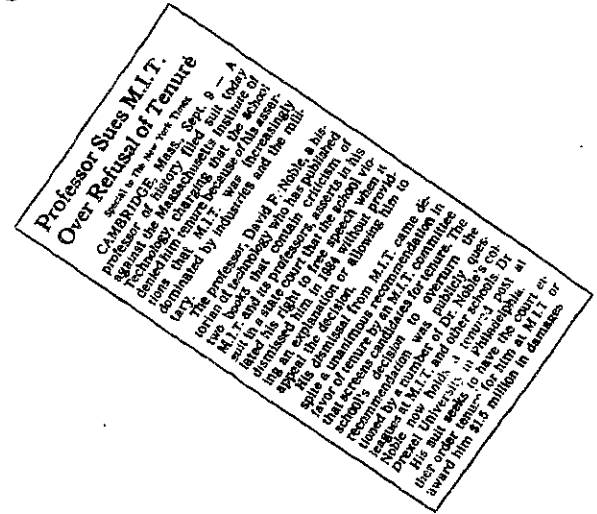


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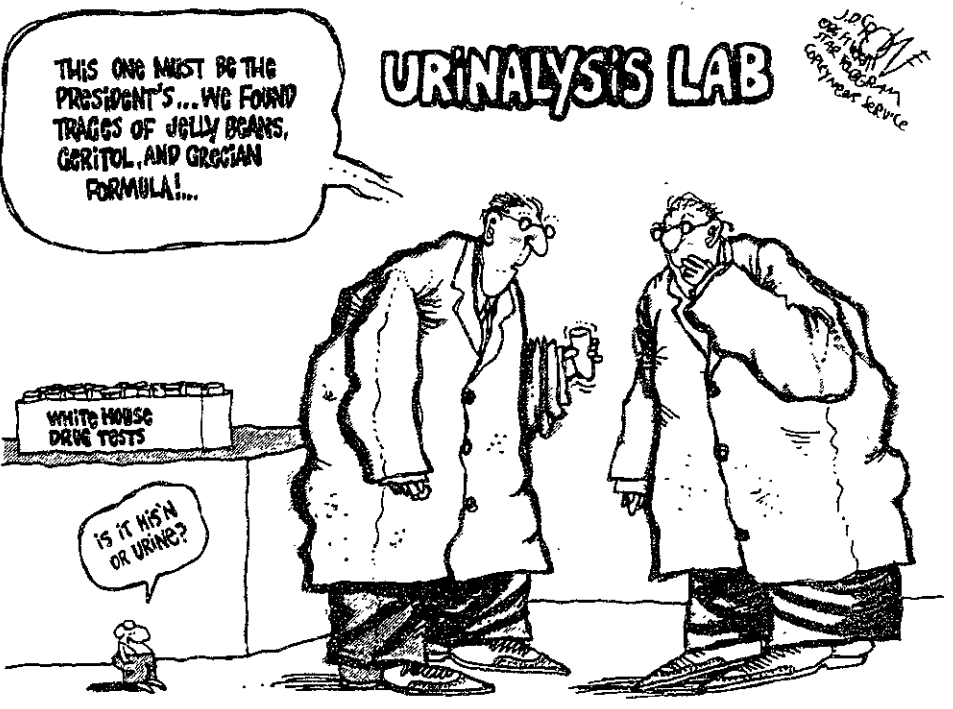
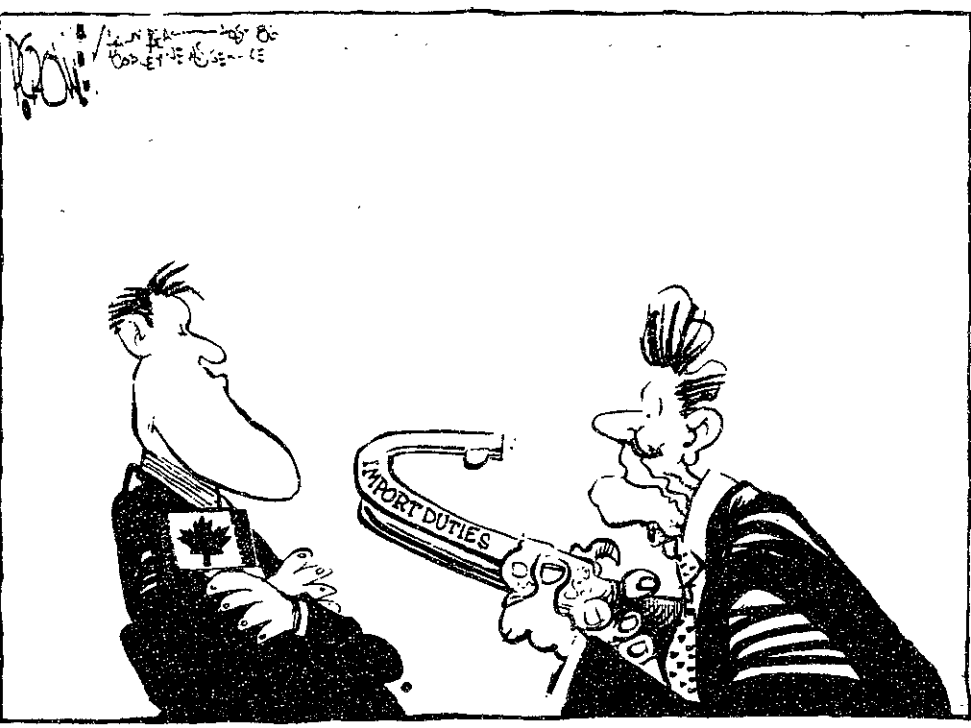
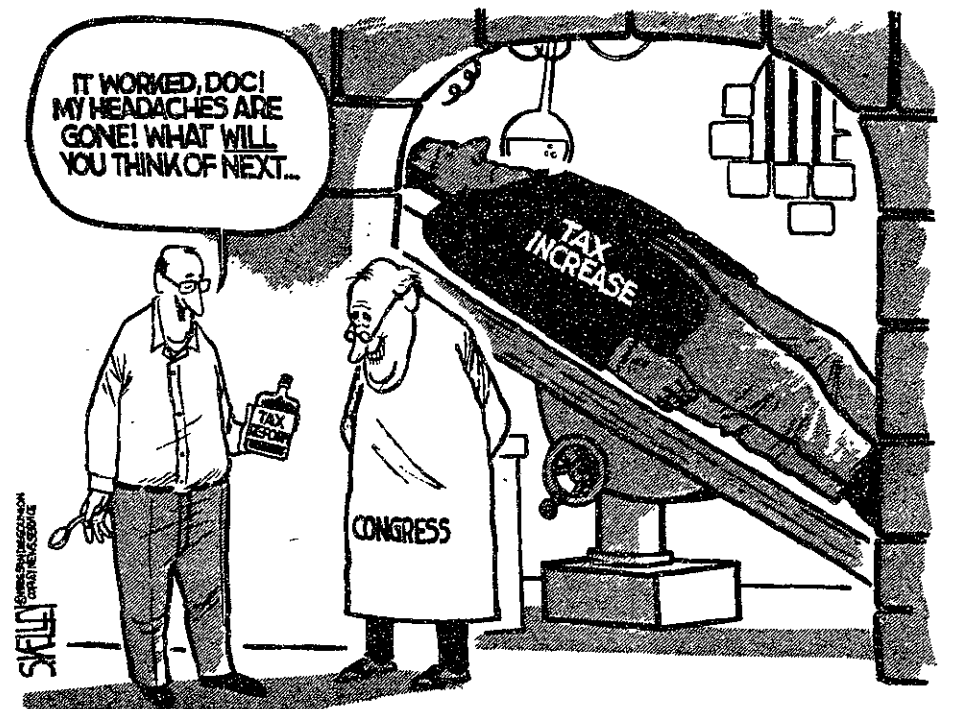
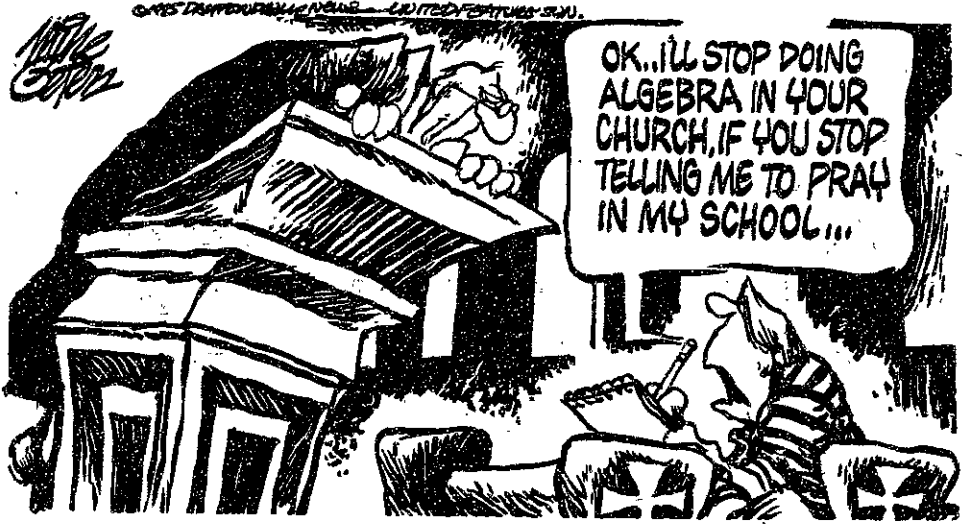
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"Round Midnight" pays homage to the greats of be-bop jazz

ROUND MIDNIGHT

Written by David Rayfiel and Bertrand Tavernier.
Directed by Bertrand Tavernier.
Starring Dexter Gordon and François Cluzet.
At the Copley Place Cinema.

By PETER DUNN

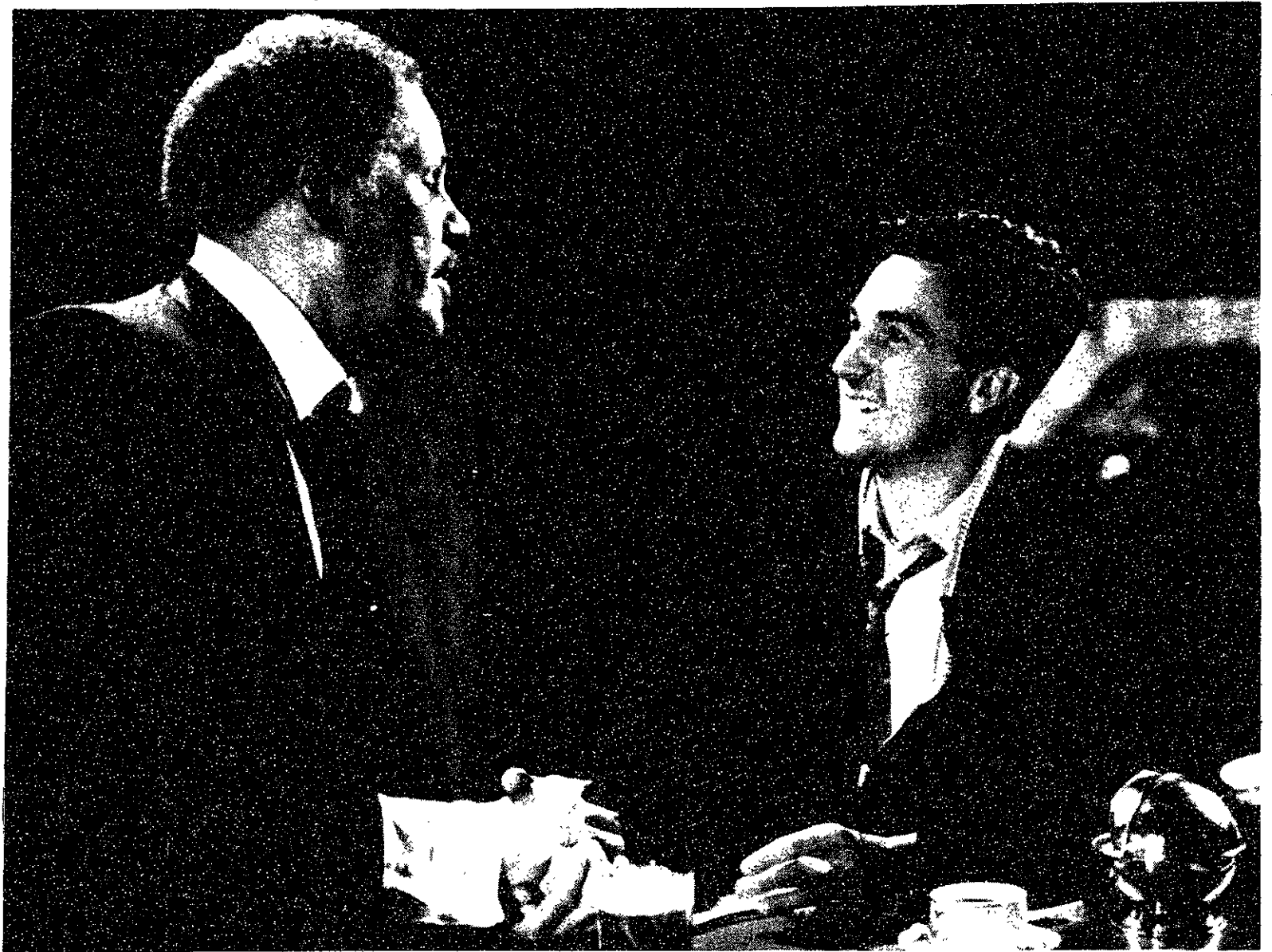
THIS IS NOT JUST A GOOD FILM; this is an excellent one. If you like jazz, this film will blow you away. If you are not particularly enamored of jazz, this film will blow you away anyway.

"Round Midnight" is based loosely on incidents in the lives of Francis Paudras and Bud Powell, but is more generally a film about black American jazz be-bop musicians who went to Paris in the late fifties. Dale Turner (Dexter Gordon) is a virtuoso jazz tenor saxophonist who has met a dead end in America with his be-bop style, and decides to go to Paris in hope of more success.

Dale is readily accepted at the Blue Note Club in Paris but remains unfulfilled. His music is lauded as the work of a genius, but his manager sequesters him to such a degree that he cannot enjoy any of his success. His life is limited to musical stints at the club and locked solitude in his hotel room. When he does manage to escape the gaze of his manager he tries to drink himself into a stupor.

Enter Francis Borier (François Cluzet), an out-of-work graphic artist who idolizes Turner and the be-bop style. The film chronicles the budding friendship between Francis and Dale, and the rise of Dale out of his imprisonment and alcoholism. Dale brings inspiration to Francis, allowing Francis to finally drag himself out of his moroseness and unemployment; Francis' enthusiasm and belief in the saxophonist's genius bring meaning and incentive to Dale's life.

Bertrand Tavernier, the writer and director, denies that his film is strictly a jazz film, saying that the main characters "could be painters or anything else." However, the be-bop sound and style figure throughout. The music is more than just supplemental, and scenes of Dale Turner playing at the Blue Note Club take up almost half of the film.



The film resembles be-bop jazz in its style: it seems to meander between unrelated scenes which later are thematically connected; it has an unhurried pace, always bordering on breaking away but never doing so; its tone is bluesy, always pointing out the more personal aspects of life; its dominant colors are quite dark, reflecting the loneliness of the main characters.

Tavernier's directorial style is exceptional. While Dale is sequestered away in Paris, the camera reflects this with claustrophobic points of view. Most shots emphasize the limited space of Dale's hotel room and of the Blue Note Club, and the

remaining ones are mostly of tiny, dark hallways. The outdoor shots never show the sky, indicating the extent of the imprisonment of the protagonists in their tiny world. But as the friendship between Dale and Francis develops, the spaces become more and more open, reflecting the newfound freedom these two experience.

The acting in "Round Midnight" is excellent all around. Dexter Gordon (Dale) is perfect as the laid-back, mellow, and likeable jazz saxophonist. His slow, muffled delivery and awkward, storklike stance indicate a fragile soul easily taken advantage of. It is easy to see why Gordon fits the role so well, since he is in real life a jazz

musician. François Cluzet (Francis) is just as exceptional as the little man obsessed with Turner's music. He too depicts a fragile soul, but in quite a different manner: his wide-eyed fascination of Turner and close, tender relationship with his young daughter, Béangère (played with kind likability by Gabrielle Haker), indicate a man in need of companionship to fulfill his life.

"Round Midnight" has great music, great acting, and great direction. It has no flaws to speak of. It is tender, heart-warming, and uplifting. Nothing more could be asked of a film.

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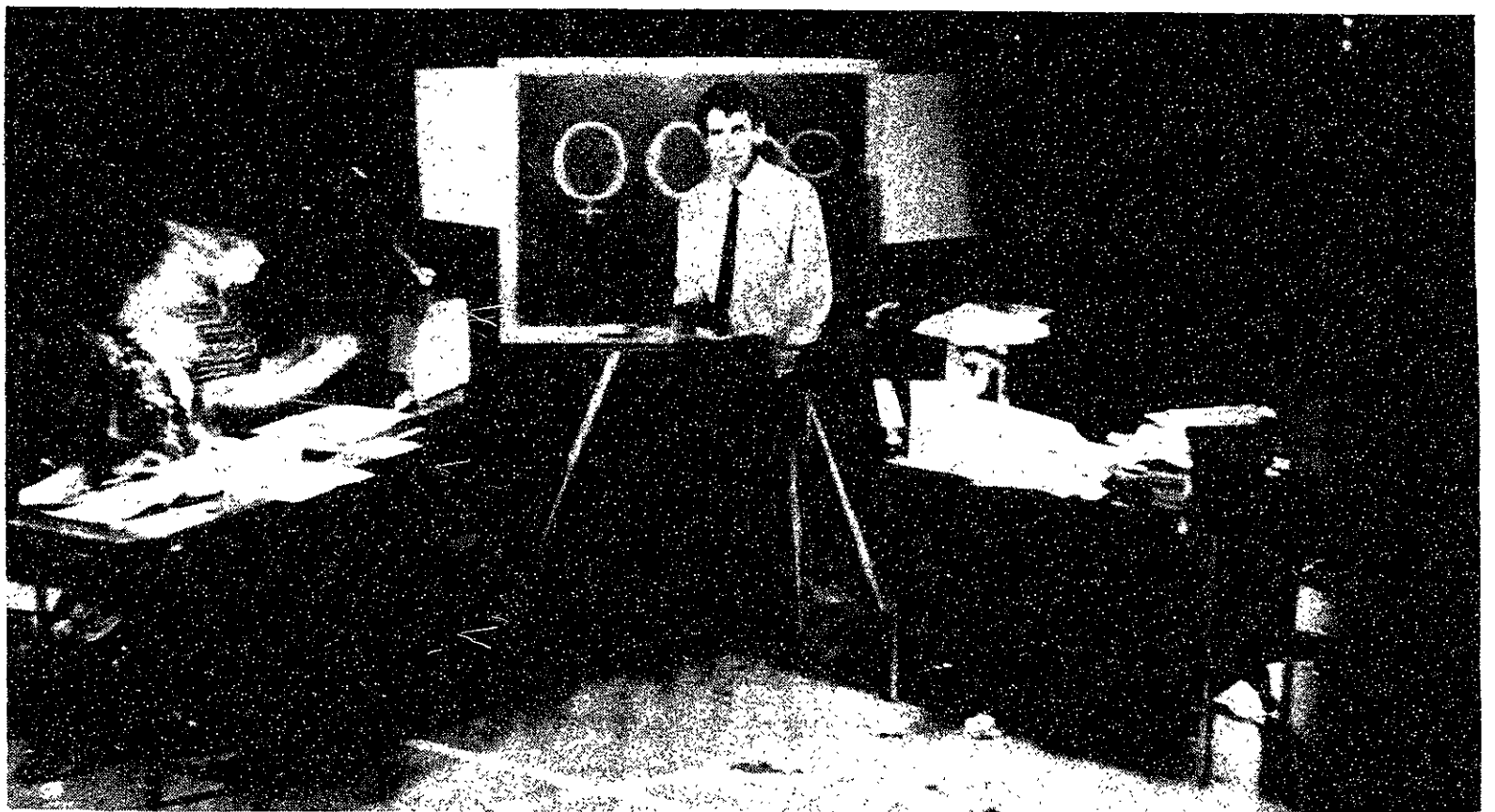
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ARTS

A refreshing look at the limitations of scientific understanding

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By SIMSON GARFINKEL



"W"ERE THERE ANY QUESTIONS?" begins the performance. In the center of the stage, a man, perhaps a college professor, stands before a chalkboard and a video monitor. To the audience's right is his office: a poorly lit, dusty space, piled high with old books and antique instruments of science.

"So we are back in the gay '90s, and all the big-time scientists were discouraging people from studying physics because the field was overcrowded and there was not much left to know. Newton was king and the universe was a billiard ball table," the professor, Rick Brown, continues.

For the next 77 minutes, Brown discusses the development and current state of particle physics. But this is no ordinary lecture, and the chorus is not a group of ordinary students. Brown's five 12-minute

lectures concentrate on the absurdity and the uncertainty that plague the science. The lecture is funny, it is witty, and it is all true. Technical descriptions are interspersed with clever examples and philosophical reflections. Music and video se-

quences punctuate the monologue.

Although an understanding of particle physics is mandatory to catch all of the references, there is always the chorus to watch. While Brown lectures, the three women in the chorus listen, act, and react

to what he says. Clearly improvisational, their performances had the feeling of a well choreographed dance of the absurd. One member takes notes of every third concept that Brown mentions and holds up the paper for the audience to read; another deals a deck of tarot cards; a third stuffs confetti into a toaster. They quietly play with staplers, dolls, and art supplies. Between lectures they freewheel, exploring each other, their props and the minds of the audience.

"Before and After Science" felt like a metaphysical version of Quantum Physics I (8.04) or Physical Chemistry (5.61), with Brown a surrealistic combination of Mr. Rogers, Mr. Wizzard, and Jonathan King. The emphasis on randomness, unpredictability, and the limitations of scientific understanding were refreshing and satisfying after my six-and-a-half semesters of MIT. Viewing this performance will be downright therapeutic for many. Director Paoli's observations and conclusions are far from obvious or common.

By day Brown teaches film and video production in the Newton public school system. After the performance he explained how he drew on his experiences from teaching for the construction of his character. "If anybody had asked a question, I would have done my best to answer it," he said. But from curtain to curtain he was the only one who spoke.

Simply seeing the set for this performance is well worth the price of admission. "Before and After Science" won't let you down.

The best and worst movies on the town

** **Blue Velvet** — David Lynch's weird tale of sexual perversity is interesting in its presentation of the darker side of life, but the humor is incongruous with the serious subject matter. At the Nickelodeon and Harvard Square.

**** **Children of a Lesser God** — A beautiful, moving love story between deaf pupil (Marlee Matlin) and teacher (William Hurt) with fabulous acting performances by the principals. At the Cheri and Harvard Square.

**** **The Color of Money** — Scorsese directs and Paul Newman and Tom Cruise star in this excellent sequel to the 1961 "Hustler." Cruise is a hotshot pool shark being stakehoused by Newman but the film is less about pool than it is about deception and personal redemption. At the Charles.

** **Crocodile Dundee** — Paul Hogan is likeable as the Australian from the Northern Territories and the scenes in the outback are gorgeous. But the story bogs down once it moves to New York. At the Cheri and Circle theaters.

*** **Down By Law** — A quirky and enjoyable tale about three losers who end up

together in the same jail cell. Occasionally surprising with its intelligence and wit, it does not explode on the screen and requires patience for full enjoyment. At the Nickelodeon.

** **The Fly** — Guaranteed gross-out but don't expect any great acting or much of a plot. Jeff Goldblum undergoes gradual transformation to a six-foot, talking insect and Geena Davis oohs and ahs a lot. Opening with "Aliens" on Oct. 31.

* **Jumpin' Jack Flash** — Whoopi Goldberg's talents are wasted in this silly tale of computer operator who finds herself immersed in international espionage through her terminal. Her romantic involvement with an invisible spy is even less believable. At the Cinema 57, Circle, and Somerville theaters.

** **Menage** — Gérard Depardieu and Miou-Miou star in this bizarre French film chronicling a trio's journey of damnation into the underworld. This film refuses to be taken seriously and ultimately defies classification. At the Nickelodeon.

*** **My American Cousin** — During the summer of '59, Sandy's cousin from California unexpectedly visits her home in

British Columbia, adding spice to her dull life. Proof that Canadians make more than just great hockey players. At Copley Place.

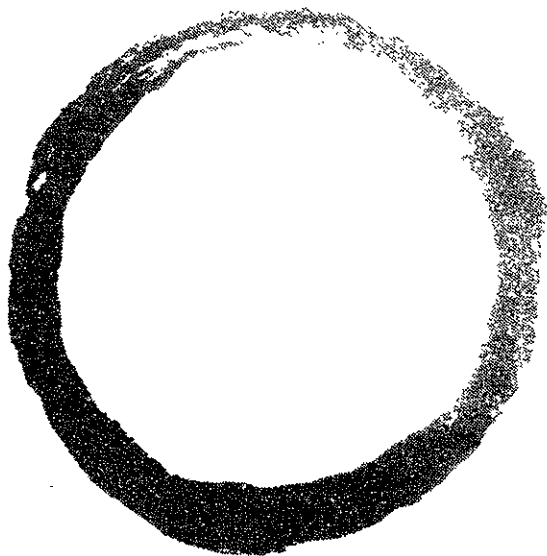
* **The Name of the Rose** — Umberto Eco's book about the importance and beauty of books is reduced to nothing more than a detective story set in a monastery in 1327. Sean Connery stars as the sleuth, William of Baskerville. At the Charles and Harvard Square.

*** **Peggy Sue Got Married** — Kathleen Turner and Nicolas Cage star in a Francis Ford Coppola film about what a woman wishes she had done when she was eighteen. At the Cheri and Somerville theaters.

**** **She's Gotta Have It** — Sex, that is. She's pretty and has three lovers. A delightful comedy of sexual manners. At the Nickelodeon and Harvard Square.

**** **True Stories** — David Byrne's funny and absurd vision of life culls unlikely stories from a weekly tabloid to deposit them in the town of Virgil, Texas. The black and white characters from these stories are molded into real, likeable people. At the Nickelodeon and Harvard Square.

Compiled by Peter Dunn from Tech reviews



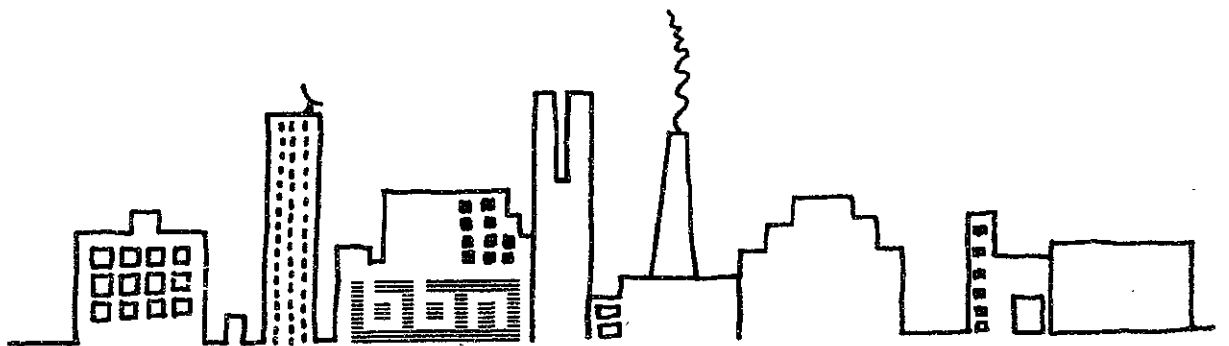
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Employment opportunities remain good for graduates

By Susan Landsman

The slump in the computer industry has not been responsible for any noticeable decrease in the overall intensity of recruiting at MIT, according to Robert K. Weatherall, director of Career Services and Preprofessional Advising.

Increased hiring of computer-oriented graduates in the pharmaceutical industry and in chemical engineering corporations has somewhat offset the decline of hiring from mainstream computer firms, Weatherall noted.

Although IBM is not recruiting this year, Texas Instruments has offered more than 1000 openings to students across the country, and Merck is hiring more graduate students than before. AT&T Bell Laboratories and Exxon are still interested in recruiting despite budget cuts.

Corporations such as Hewlett-Packard and Wall Street banking firms have been especially interested in hiring qualified students this year, and they are continuing to find them at MIT, he said.

The generally good qualifications of MIT students in their areas of specification ensure plentiful employment opportunities, Weatherall said. Decreases in recruiting, if any, would occur at colleges where prospective employees are less well-qualified, he explained.

Students' misconceptions about company hiring sometimes have negative effects on recruiting, Weatherall commented. Students often do not investigate jobs or internship opportunities on the assumption that, because of economic difficulty, corporations are not offering many opportunities, he explained.

The corporations, as a result, decrease recruiting due to apparent lack of student interest. Students should not judge corporations by their economic appearances, he advised.



Robert K. Weatherall, Director of Career Services and Preprofessional Advising.

Isaac Chuang

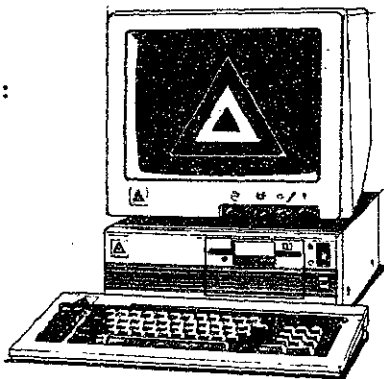
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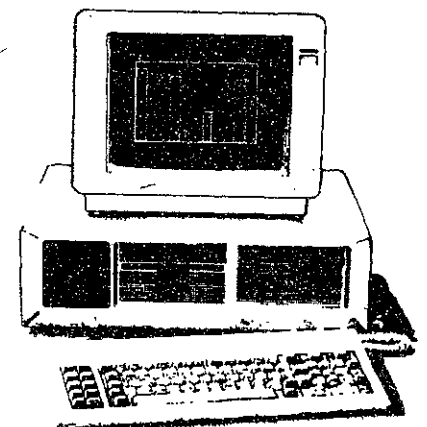
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Clark Abt, candidate for Congress

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Interview

By Joel Friedman

Clark C. Abt '51 is the Republican candidate for the Massachusetts 8th Congressional District seat. Abt, 55, is president and director of Abt Associates of Cambridge, one of the nation's largest policy research firms. Abt, like his opponent Joseph P. Kennedy II, has never held a political office.

Q: Tell us a bit about your education background.

A: I skipped around a bit. I was in aeronautical engineering the first year, switched to mechanical, then architecture, and went into general engineering my fourth year. Got a master's degree in literature at Hopkins, and then returned to MIT in 1962 for a PhD in political science, mainly in international relations and arms control. I also went to Air Force Navigation and Electronics School, and took graduate courses in operations research at MIT.

Q: What happened after that, businesswise?

A: I spent five years in the Air Force as an officer and a navigator, mainly in Europe and North Africa, flying electronic reconnaissance. I came back, joined Raytheon Missile Systems Division in 1957, became head of first the preliminary systems design, and then the advance systems, and then the strategic studies department. I left to start Abt Associates in January of '65. Today it is the leading private, profit-making, social-economic research firm. It has a staff of about 500, and does about two-thirds federal government policy research, and maybe one-third industry consulting.

I believe in a stronger, safer, more affordable defense.

Q: How would you say that your education and business experience have prepared you to be a congressman, in lieu of actually having held an office?

A: Well, I've testified in Congress. I've evaluated and researched most of the major federal programs in health care, housing, education, criminal justice, transportation, and quite a few in defense. Our core disciplines are economics, statistics, survey sociology, and political science. What my firm has developed is basically the application of cost-benefit analysis, to determine what works and what doesn't among government programs. Also, how to find out through large scale field experiments if we don't know. We planned and operated most of the major social experiments in the sixties. A social experiment is a valuable technique for estimating the impact of a new policy. It's less risky and costly than trying it out full force, and more accurate than running a computer model of it because the behavior groups of individuals are involved.

Congress depends on these kinds of evaluation research studies to estimate the costs, the risks and benefits of various programs. The General Accounting Office carries out a lot of these things for Congress, but research contractors like ourselves and Rand carry them out for the administration. What I would be bringing to Congress is about 25 years experience knowing what government programs work, and which ones don't, and how to find out if we don't know, as well as the respect of a lot of the Washington working level bureaucracy for my work personally, and the work of my research shop.

Q: How would you compare yourself to your opponent, with his business experience?

A: I've created about a thousand jobs, and brought in about \$300 million worth of work to this part of the state. My opponent's business experience is limited to the fuel oil business. I don't know how many jobs it's created, but probably one or two orders of magnitude fewer. It's specialized, and doesn't have much to do with government. It's also not a real business, because it's heavily subsidized by both the Kennedy family and the tax subsidy, being non-profit. It's a personal charity.

Also, I think my opponent has only had a couple of government jobs, and never finished them. I've done about a couple of hundred projects for the federal government at least, and I've finished them all.

I may get even more Democratic votes than Republican vote. The surveys are showing I'm getting about a quarter of the vote.

Q: How are your chances for winning next week?

A: That depends a lot on what the undecided voters do. About half the voters generally make up their minds just in the last couple of days. That could swing it either way. Of course, it's a tough fight because people tend to stereotype me as a Republican, so they assume that I'm less caring and compassionate than a Democrat would be, despite my twenty years of work on the war on poverty, social programs.

I may get even more Democratic votes than Republican vote. The surveys are showing I'm getting about a quarter of the vote. Republicans are only about nine percent of the electorate. Surveys seem to show that among Democrats, Kennedy has a little over half the vote. The other forty percent or so is roughly split between me and undecided. So it's hard to know.

Q: What do you think the undecided will be using to make their decisions?

A: Whether I make a reasonable alternative, being both

more experienced than my opponent, and as caring and concerned with a lot of the people who need help. The general image of Joe Kennedy is that he's very caring. The general image of me is that I'm a successful businessman, and not particularly involved with anti-poverty programs.

Q: Why do you think he has that image?

A: Three things: one, he's a Democrat; two, he's a Kennedy; and three, he usually leads off his speeches with a re-statement of how awful things are for some social groups that he wants to help. He usually lacks specifics, but he plainly wants to increase government support of people and pay for them either with a tax increase or a deficit increase. I don't think it's possible to get enough productivity increases in Congress in a year or two, to, for example, take care of 35 million people underserved in health care without greatly expanding cost.

Q: What sort of plans do you have for that problem?

A: I think we need to focus on home health care and catastrophic illness insurance. Home health care can save about \$10-15 billion, and make elderly and disabled people a lot better off because we avoid the duplication of their being on. Catastrophic illness insurance is necessary because otherwise any serious illness can bankrupt even a fairly affluent family. I advocate limiting the expenditures to a maximum of 15 percent of annual income. Beyond that, it would be insured.



Joel Friedman

Q: How would you solve the housing problem around Cambridge?

A: Rent control won't produce more. Removal of rent control won't produce more. What I want to do is build lots of single and two family homes on platforms above parking lots. They're all over the place. And on top of the one-story store buildings that line Massachusetts Avenue and a lot of the other avenues.

This has been done in San Francisco. We could build a single family home for about \$50,000, and a platform above a parking lot for another 20. There's thousands of potential sites for that. Massachusetts Avenue isn't densely built up at all.

The other thing we need is to put multiple utility stacks in new office buildings, so that if they have a lot of vacant space, it can be easily converted to apartments. We also need an urban homesteading program that will allow poor local residents to earn their own housing by investing their labor in it. I want to give away the public housing to the residents in the community in exchange for their fixing it up and maintaining it. That will save both the taxpayers and them a lot of money, give them a chance to build up.

Q: What are your thoughts on the drug testing issue?

A: I think before we pass any more laws requiring people to be tested, congressmen and aspiring, would-be congressmen should be subjected to testing first, on the theory that let he is without fault or sin cast the first stone. That should be voluntary. The only people who I think should be tested for drugs are those responsible for life and death decisions for others, and clearly behaving in a way that suggests that they may be on drugs.

Q: What would you recommend to reduce the deficit?

A: I'd cut defense about \$40 billion. I'd cut farm subsidies \$40-50 billion. I'd step up the efforts to confiscate the illegally gained assets of criminals. That might be worth \$10-20 billion. I would get the other \$100 billion of the \$200 billion deficit out of economic growth.

I believe in a stronger, safer, more affordable defense. Stronger, because stronger conventional forces. Safer, because balancing the Soviet conventional preponderance in Europe would make us less dependent on the threat of nuclear escalation to compensate for their superior numbers. More economical, because we can cut the fat out and actually strengthen ourselves.

First, we can equalize military pensions with the private sector. That's worth about \$10 billion.

Rebasing the forces on less costly real estate is worth at least \$10 billion. You make money on both ends. In suburban areas, the jobs and the incomes and the tax revenues go up when the base land is used for something more economically productive than a sparsely settled military base. The bases are relocated to underdeveloped rural

areas like Western Massachusetts. They provide a necessary infrastructure investment, and create jobs there as well.

The third way of saving about \$10 billion is much more joint use of military and civilian transportation and communication. I would build aircraft ships of the kind that can do double duty, and can be mobilized in time of war. I would reduce the active forces and more than compensatingly increase the ready reserves, so that we would go more towards the Swiss-Swedish-Israeli system with more 48-hour-ready reserves.

Finally, longer production runs, and competitive production runs, of a smaller variety of weapons systems to

I'd cut defense about \$40 billion. I'd cut farm subsidies \$40-50 billion. . . . I would get the other \$100 billion of the \$200 billion deficit out of economic growth.

achieve a common use of scale, and also to maintain competition among producers to contain prices, cost.

Collectively, those military reforms would leave us stronger, safer, and save us \$40-50 billion dollars a year.

Q: What do you think about the Strategic Defense Initiative?

A: I support SDI research, a long time away from deployment, because it helps to balance the Soviet aircraft and missile defense, because we need active defense against nth country threats from nuclear launching submarines. If we don't know the identity of the attacker, we can't retaliate. If we can't retaliate, there goes deterrence. It's advantageous to be able to defend against low level nuclear attacks. A third reason is that the best way to stay out of war with the Soviets is to maintain a balance of power. Right now they have a strong air defense, and a partial missile defense. We should either try to negotiate them out of that entirely, or build our own.

Q: What do you think about the results of the recent summit, or the hopes for any future summits?

A: Oh, I think progress was made. I think that President Reagan did the courageous and difficult thing in deciding that weakening our missile defenses and not really reducing the Soviet conventional threat would be effectively unilaterally reducing our forces. That could increase the danger of nuclear war. I think President Reagan should have thrown in the Soviet superiority in conventional forces in Central Europe, and I think he should have argued to get Soviet and Cuban advisors, equipment, and personnel out of Nicaragua.

Q: How do you feel about contra support?

A: I think we should support them with humanitarian and defensive aid, but make it clear to them that if they use any of our weapons for anti-civilian purposes, they'll be cut off. But after all, the Sandanistas have a stronger force than all of our four allies combined. What do they need it for if they don't plan to expand?

Q: What are your views on South Africa?

A: I support selective sanctions, particularly against those businesses down there that have very few blacks working in them. I think we should diyest from the enterprises that are mainly staffed by the white South Africans, and encourage black enterprises to keep going. There unfortunately are precious few black enterprises.

This would expand black opportunities, but I don't think either selective sanctions or less selective sanctions are by themselves going to turn the South Africans around. Gradually the predominantly black and colored labor force of South Africa will wield the crippling economic power.

Q: Why didn't you get to debate Joe Kennedy?

A: I wanted to debate all the major issues. He initially agreed to two debates, and then backed out of one. Actually, we haven't had a single debate, because even at the one meeting we had at Bentley College, the press questions were prearranged.

It's usually to a well known candidate's advantage to refuse to debate or confront his challenger, because that would be giving him name recognition unnecessarily. However, in my case, my name recognition is over ninety percent, so I think it's political cowardice to duck the issues and refuse to debate.

It's usually to a well known candidate's advantage to refuse to debate. . . I think it's political cowardice to duck the issues.

Q: Is there anything else the MIT voters should know?

A: Yes. The main sources of economic and social and political strength in this country are represented right here in this most intellectually creative and most economically productive district. Those strengths are science and technology, academic prowess, and entrepreneurial finesse. I come out of all three traditions, as an engineer and a social scientist, as a former teacher and professor, and as an entrepreneur. Although I may not be the world's greatest in any one of those fields, I participated profoundly in the three great sources of our economic and social strength here: technology, entrepreneurship, and academia.

Middle East program formed

By Marcia Smith

MIT is offering a new interdisciplinary program for graduate students focusing on the Middle East. The program can be integrated with political science, urban studies and planning, architecture, civil engineering, or the Alfred P. Sloan School of Management, according to a program brochure.

Unlike programs at other universities, which concentrate on language, history, culture, or religion, MIT's new program concentrates on the technological development of the countries in the Middle East, said Dr. Nazli Choucri, the chairman of the committee that directs the program. "This is the only program in United States that concentrates on the scientific aspect of the Middle East."

Graduate students can enroll in this program to learn about the socio-economic change, history, political issues, institutional development, capital flows, technological development, business, and investment possibilities, according to the brochure.

"The Middle East is very important to the States," said Choucri. "It's a major center for trade, it's an important strategic area, and no other region has had the rapid economic change in

the last ten years. Students can develop projects and see them through in their lifetime."

The program is a result of four years of research, Choucri said. First, there was an Institute-wide census of how many people were interested in the Middle East, Choucri said. "There was a very large number of people interested in some aspect of the Middle East, but there was nothing tying it together," she said.

Next, the committee surveyed other universities, such as Harvard, Yale, and Princeton, and found that no other offered a technically based program, Choucri said. "We thought that since MIT is so good at science and technology that it would be natural for us to lead the way in such a program," she explained.

The committee made two other major decisions after deciding to start the program, Choucri said. First, they made the program "an addition, not an instead of" program, she said. Students are only required to take two courses, attend a workshop seminar, and write a thesis related to the Middle East, she noted. The program thesis can also serve as the student's major thesis if both departments approve ahead of time.

Despite the small number of courses, they designed the program to make the students experts on the Middle East, Choucri said. "We aren't trying to compete with the programs at Harvard or Yale," she explained. "Our program is very different, so if someone wants to hire an economist who has a strong technical background about the Middle East, they have to come here."

The program doesn't require that the student learn a language of the area, but a student is encouraged to do so, Choucri said.

Students are also encouraged to go to any of three seminar series: the MIT/Harvard seminars which concentrate on the political issues; the Emile Bustani series which invites officials, consultants, and distinguished scholars to discuss the relevant issues; and the development and change seminars which focus on political and economic changes, Choucri said.

The committee doesn't foresee an undergraduate program in the future. "The undergraduates have enough requirements as it is," Choucri commented. "We don't want to pile on more, although students are certainly encouraged to come to the seminars."

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Group advises broad courses

(Continued from page 1)

however, did not support the use of both Principles of Chemical Science (5.11) and Introduction to Solid-State Chemistry (3.091) to satisfy the chemistry core requirement.

The committee said that 5.11 "provides a broad introduction to modern chemistry," while 3.091 "is a narrower view of chemical science dealing mainly with solids and defects in solids," according to the report.

Brown said 3.091 "may be an extremely useful course for engineers to have, but it is not equivalent to 5.11 in context." Continuing to allow 3.091 to satisfy the chemistry requirement is an "issue that will have to be addressed at a higher level than [the Science Education Committee]," he added.

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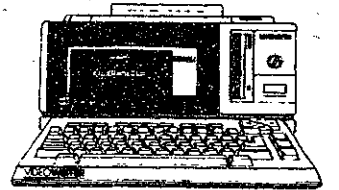
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sports

Men's, women's crew row to victory at invitational regatta

By Anh Thu Vo

The MIT men's varsity heavyweight crew captured first place at the Dartmouth Invitational Regatta in Hanover last Sunday. The women's first novice eight also edged out an experienced Boston University eight by a 0.8 second margin.

The men's varsity heavyweight crew outrowed the crew from the University of New Hampshire by five seconds to capture first with a time of 14:34. BU, Wesleyan, and Dartmouth finished out the top five spots.

"They were rowing at a 31-32 rating [strokes per minute] while UNH was at a 33-34 rating, so we were understroking," Varsity Coach Peter Holland said. This "meant we were moving the boat really well."

This is the second consecutive year that the heavyweight crew beat Dartmouth after losing to them at the Head of the Charles Regatta, Holland added. Dartmouth approached the Head race differently than MIT, entering the strongest and best rowers they had, Holland noted.

The winning crew consisted of Alec Jessiman (stroke) '88, Bob Smith '87, Chris Neits '89, Jeff Kelsch '87, Mike Marino '89, Jay Best '89, Rick Wesel (bow) '88, and Elliott Douglas '88 (cox).

The MIT men's junior varsity heavyweight crew finished 16 sec-

onds behind the UNH JV. "UNH had a half length lead over us at the finish line although we started first," according to three-seat oarsman Opher Donchan '88.

The MIT men's varsity lightweight crew lost to the Dartmouth crew by four seconds but they edged out UNH. Dartmouth's winning time was 15:20.5.

The MIT men's JV lightweight team entered two eights in their race. MIT A boat finished second in 15:49 and MIT B boat finished third in 15:58. The Dartmouth lightweight eight captured first with a time of 15:35.

The Dartmouth freshmen lightweight team finished took their race in 16:06. MIT's freshmen lightweight team had six boats entered in the race. MIT B boat finished in 17:18 at third place, MIT A boat finished in 17:32 at fourth, MIT F boat finished in 18:53 at seventh, MIT C boat finished in 19:34 at ninth, and MIT D boat finished in 20:41 at tenth.

The MIT E boat missed the race and ended up competing in the freshmen's heavyweight race instead. Their time was 20:29.

In the freshmen heavyweight race, BU's A boat outrowed the rest of the field to a first place finish in 16:20. The MIT heavyweight team entered four boats in their race. MIT A boat

finished seventh in 17:16, MIT B boat finished tenth in 17:53, MIT D boat finished in 12th in 19:53, and MIT C boat finished 13th in 19:56.

Women's novice eight edges BU

The MIT women's first novice eight captured first place with a winning time of 18:10. MIT B boat finished seventh in 19:17, MIT C boat finished 11th in 21:49, and MIT D boat finished 12th out of 12th in 23:00.

Beth Jones '90 was stroking the winning MIT eight followed by Jerelyn Watanabe '90, Becky Dumas '90, Mary Catherine McCorkingdale '90, Stephanie Patterson '90, Ellen Koonmen '90, Ericka Jones '90, and Gayle Benson '90 in the bow. Charrissa Lin '90 coxed.

Novice coach Tom Tiffany had mixed feelings about the race since the experienced stroke Wendy Rowell '90 had a kidney infection and could not row in the race. "But the first novice eight just clicked on the Saturday morning practice even with the new lineup, and I felt confident going into the race," Tiffany noted.

Tiffany aimed to train the novice team to be among the top five novice crews in the country. "I am bullish on the Beavers and we are looking forward to challenging the best crews in the country," he said.



Mark Virtue

Jeri Ikeda '87 (left) battles an opponent from Babson College for the ball. MIT lost its last home game 2-1, going on to finish the season with a 4-8-1 record.

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Women's tennis takes MAIAW championship

Sports Update

Women's tennis captures MAIAW championship

The women's tennis team won the Class B Massachusetts Association of Intercollegiate Athletics for Women championship last weekend held at Wheaton College. MIT finished with 16 points, ahead of second-place Simmons College which tallied 12 points, and Wheaton College.

Kay C. Lin '87 won the fourth singles, 6-4, 7-6, while Dheera Ananthakrishnan '90 captured sixth singles. Stacey D. Chinn '89 teamed with Christy M. Alvord '89 to take the second doubles slot.

On Tuesday, women's tennis was again victorious, this time defeating Southeastern Massachusetts University. Keiko Yamaguchi '88, Mimi Ing '87, Lisa Shields '90, team captain Jennifer A. Hyman '87, Lin, Chin, and Ananthakrishnan all won their matches.

Women's tennis takes four consolation flights

Five members of the MIT women's tennis team won in the consolation flight at the New

England Championships last weekend. In second singles, Jennifer A. Hyman '87 defeated Ginger Wilson of Wellesley, 6-4, 6-1. In third singles, Christy M. Alvord '89 defeated Marilyn Richards of Babson, 6-2, 6-2. In sixth singles, Dheera Ananthakrishnan '90 defeated Sue Sterns of Wellesley, 7-6 (7-3), 6-2. In third doubles, Mimi Ing '87 and Keiko Yamaguchi '88 defeated the Wellesley team, 6-3, 7-5.

Adams co-offensive player of the week

Running Back Christopher J. Adams '87 has been named co-offensive player of the week for the second time. Adams gained 204 yards in 24 carries with a touchdown in MIT's 14-0 win over Assumption College. Adams leads the New England Conference in both yards rushing (728) and touchdowns (9). His performance Saturday set the school record for yardage in a game and increased his season total to 728, also an Institute record.

Women's volleyball loses to Springfield

The women's volleyball team lost to Springfield College Tuesday, 3-1. The Engineers are now

21-5, and are currently ranked 14th in the nation in Division III. The team will next compete in the Juniata Invitational tournament, which starts Saturday.

Men's soccer unbeaten streak ends

The men's soccer team ended their season last weekend with a game against Coast Guard. MIT lost the game, 3-0, evening their record at 6-6-2. The Engineers, who started off the season 0-5, ran off six consecutive victories on the way to an eight-game unbeaten streak. Brandeis, one of New England's top teams, fell to MIT in double-overtime, 2-1.

By Harold A. Stern

Men's Soccer

Sept. 15 WPI	1-2	0-1-0
Sept. 17 Harvard	0-3	0-2-0
Sept. 20 Trinity	1-2	0-3-0
Sept. 24 BABSON	0-2	0-4-0
Sept. 27 BATES	1-2	0-5-0
Sept. 30 BRANDEIS	2-1	1-5-0
Oct. 4 SUFFOLK	7-0	2-5-0
Oct. 9 NICHOLS	3-0	3-5-0
Oct. 11 NORTHEASTERN	2-0	4-5-0
Oct. 13 SWATHMORE	3-2	5-5-0
Oct. 15 Tufts	1-0	6-5-0
Oct. 18 Colby	0-0	6-5-1
Oct. 22 STONEHILL	1-1	6-5-2
Oct. 25 Coast Guard	0-3	6-6-2

Standings

Bentley	6	0	181	69
SMU	5	1	121	40
MIT	4	2	128	90
Providence	4	3	145	138
UMass	4	3	112	118
Stonehill	3	3	91	99
Merrimack	1	5	78	110
Assumption	1	5	92	146
R. Williams	0	6	58	198

Conference

W	L	PF	PA	W	L	PF	PA
6	0	181	69	6	0	181	69
5	1	121	40	5	1	121	40
4	2	128	90	4	2	128	90
4	3	145	138	4	3	145	138
4	3	112	118	4	3	112	118
4	3	91	99	4	3	91	99
1	5	78	110	1	5	78	110
1	5	92	146	1	6	108	171
0	6	58	198	0	7	72	241

OFFENSE

	Yds	Avg
Rushing		
MIT	1647	274.5
SMU	1285	214.2
Providence	1344	192.0
Bentley	1002	167.0
Assumption	985	164.2
UMass	748	106.9
Stonehill	571	95.2
Merrimack	567	94.5
R. Williams	585	80.7
Passing		
Providence	1262	180.3
UMass	1073	153.3
Stonehill	867	144.5
Bentley	812	135.3
R. Williams	945	135.0
Merrimack	800	133.3
Assumption	896	128.0
SMU	671	111.8
MIT	352	58.7
Rushing		
SMU	445	74.2
MIT	464	77.3
UMass	594	84.9
Stonehill	516	86.0
Bentley	627	104.5
Providence	1316	198.0
Merrimack	1187	187.8
Assumption	1518	216.9
R. Williams	2131	304.4

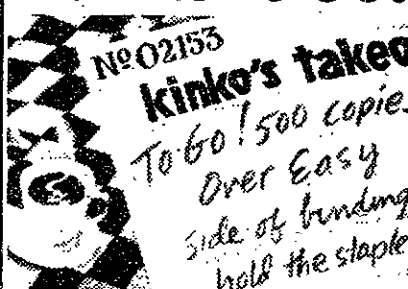
DEFENSE

	Yds	Avg
Passing		
Bentley	585	97.5
SMU	618	103.0
Providence	723	103.3
Merrimack	626	104.3
Assumption	780	111.4
Stonehill	788	131.3
UMass	1007	143.9
R. Williams	1021	145.9
MIT	994	165.7



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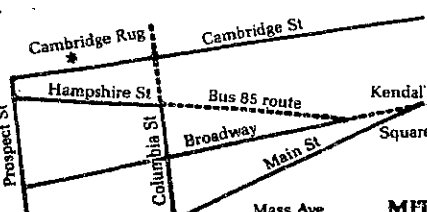
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