

## City hears request for Biogen facility

By Richard Salz

The Cambridge Biohazards Committee (CBC) held a public hearing Tuesday night on the Biogen Corporation's request to establish a laboratory and limited production facility in East Cambridge.

The request by the Swiss chemical company marks the first commercial venture into the city by a company involved in recombinant DNA technology. The firm would like to start construction within six months and already has a tentative site picked.

Harvard molecular biology professor Walter Gilbert is chairman of Biogen's scientific board, a policy-making body analogous to a company's board of directors. Gilbert was a co-recipient of the Nobel Prize in Chemistry last week for his work in discovering a method for determining the sequence of a seg-

ment of DNA. [Editor's note: see related story, this issue.]

Phillip Sharp, MIT professor of Biology is on the board of the two-year-old firm. Professor Daniel Wang is also involved with the company.

The announcement by Harvard President Derek Bok that the University should consider becoming an active partner in a commercial recombinant DNA operation is coincident yet not totally unrelated.

At Tuesday's hearing, Andre Muller, Director of United States Operations for Biogen, explained that there are four primary reasons for the firm's desire to locate in Cambridge. First, Logan Airport allows easy access to the company's headquarters in Switzerland.

Second, there is sufficient trained manpower in the area to

build and staff the desired facility. Biogen expects to employ about 100 people within two years, according to Muller.

"We would also be close to MIT and Harvard," testified Muller. "These institutions are at the forefront of the field." Muller did not explain why this proximity was desirable: iogen currently holds no licensing rights to any MIT patents.

"Our fourth reason is that Cambridge has shown itself to be most concerned and knowledgeable in recombinant DNA work. It is the only city in the US which requires all DNA work to comply with the National Institutes of Health (NIH) guidelines."

The NIH guidelines provide for varying degrees of control and hazard levels of experimentation. Mandatory for any facility receiving NIH funding, the guidelines prescribe four levels of protec-

tion, termed P1 through P4. A P1 facility must ensure that any genetic material is kept in sealed canisters and never exposed in the open lab. A P4 facility involves sealed experimentation chambers, protective clothing, and mandatory cleansing procedures.

Biogen is interested in setting up a large-scale P1 production facility of approximately 1000 liters, or about 250 gallons. "We would be doing the same sort of thing that MIT and Harvard do. (Please turn to page 2)



Biogen's director of US Operations Andre Muller pauses before answering a question posed by the Cambridge Biohazard Committee at last Tuesday's hearing. (Photo by Rick Parker)

## Candidates need students

By Ivan Fong

Editor's note: This is the second of two articles analyzing student involvement in the presidential contest. Tuesday's article covered the Anderson camp. Today's article covers the two major party candidates.

Both the Democratic and Republican presidential campaign headquarters in Boston are making strong last-minute efforts with the help of area student volunteers for this year's elections next Tuesday.

The main goal of organizing a student volunteer program is to increase the candidate's visibility, agreed student coordinators from both major parties. There are a variety of jobs done by the students, including working on-campus, handing out leaflets on street corners and shopping malls, and sponsoring group events such as concerts.

"In a state where the race is neck-in-neck, student volunteers can make a difference. They provide workers for the campaign, and contact voters personally," said Jack Abernof,

Chairman of the Massachusetts College Republican Union.

Lisa Rotenberg and Dave Bracken, Massachusetts State Campus Coordinators for the Carter-Mondale campaign, say they think "Reagan would probably win if we had no student organization. This state is a trend-setter, and there are a lot of liberal students who are politically very active." A junior from Boston College, Bracken estimates that student volunteers account for approximately one-seventh of the campaign effort.

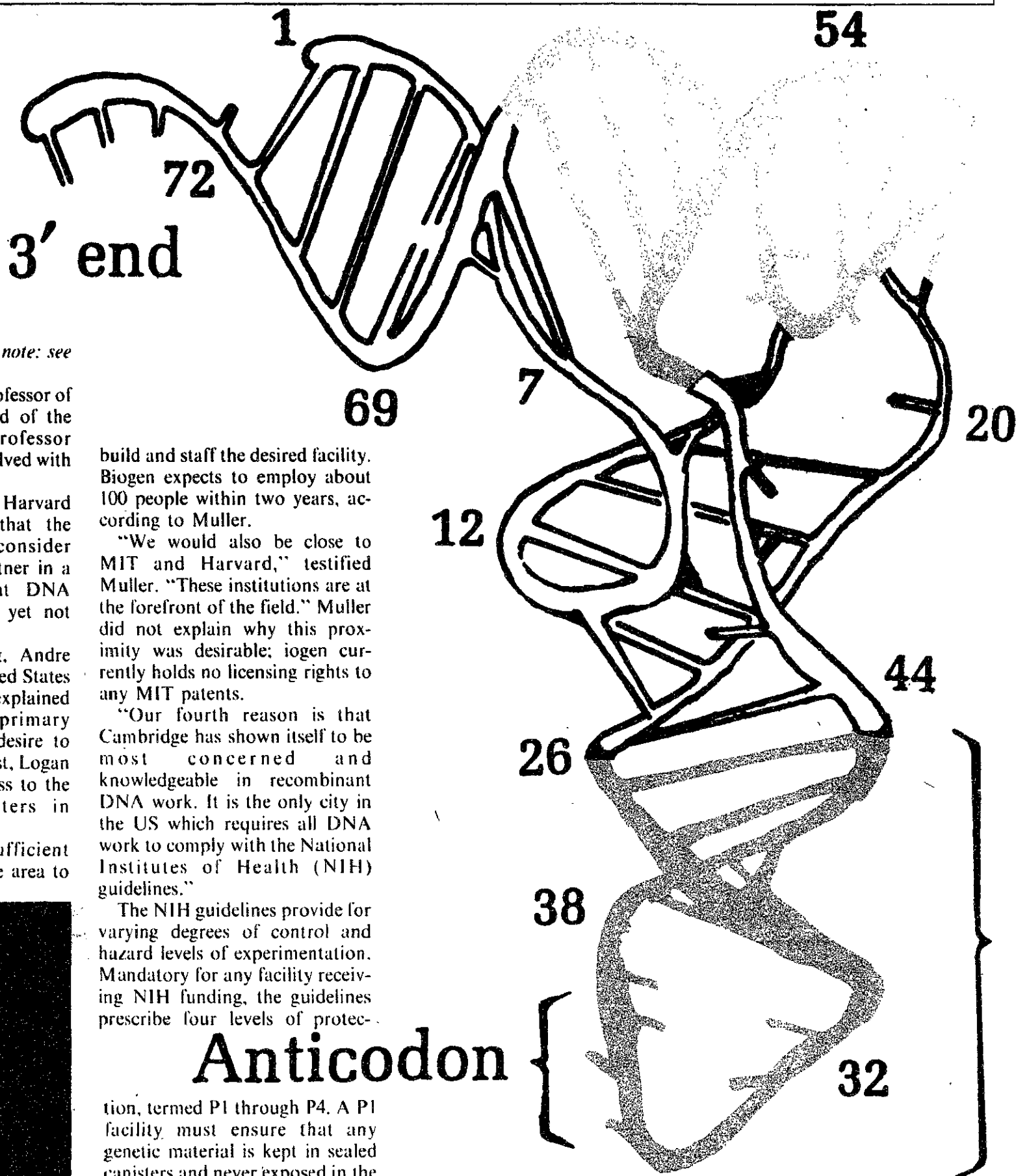
Abernof has about 3500 volunteers state-wide at 45 colleges, and began recruiting about two months ago. The student campaign has been "doing extremely well, and the campus response to Reagan has been phenomenal," reported Brandeis senior Abernof. "Many students identify with Reagan, and are characterized by a 'hard-core enthusiasm,' as opposed to that of students for Carter," added Abernof.

Volunteers from 54 schools in Massachusetts work for the

to Rotenberg, began organizing before their Republican counterparts. "Basically, we are trying to push the election as a two-man race. We got a lot of support from students who were campaigning for Ted Kennedy, and now we're trying to tell the voters that Anderson isn't as liberal as everyone thinks," stated Rotenberg, a Harvard senior.

With reference to last Tuesday's debate between the candidates, Rotenberg noted that "Carter acted very presidential, and handled himself very well." She said that the debate "definitely helped Carter," and showed that "Reagan is quite overrated, in that he spoke condescendingly, side-stepped questions, and appealed too much to the audience's emotions."

Reagan-supporter Abernof commented that the debate helped to clear a lot of the misconceptions the public had about Reagan, and observed that he was "swamped with volunteers" soon after the televised meeting.



## New dining study

By Laura Farhie

A \$25,000 study conducted by Arthur D. Little, an independent consulting firm, has confirmed many of the recommendations made by the Committee on Campus Dining dealing with the operation of food services.

The A. D. Little study was concluded on May 15, but the report was not released until three weeks ago. Although the details of the report were discussed by the Food Services Department, only a summary of the report was released to the press.

Three of the ten recommendations made by A. D. Little deal with improved customer satisfaction, another three recommended improved sanitation and food handling, and the rest deal with more effective management and implementation.

"Significant opportunity exists to increase cash sales and user satisfaction levels through

renovation and concept modification at Walker and the Student Center," observed the report. The Cambridge-based firm concluded, "students on Commons here do not enjoy a sense of community."

The large dissimilarity in the needs of Commons participants and cash customers in Walker and the Student Center is "our biggest problem," said Director of Housing and Food Services Eugene Brammer. He noted that Commons users in Walker have to pile their trays with everything they want to eat the first time around, instead of the unlimited salad, beverages, and ice cream that exists in the West Campus dormitory cafeterias. Associate Director of Housing and Food Services George Hartwell, however, maintains that at Walker "almost half of our business at lunchtime is from cash customers."

(Please turn to page 15)

**inside**

Nobel Laureate David Baltimore expresses concern about current trends in the presentation of the award. <b>Page 2.</b>	Spring isn't all that's awakening in the Harvard-Radcliff Drama Club's new production. <b>Page 9.</b>
Talking Heads' new album communicates poorly. <b>Page 10</b>	Sheena finds the Psychedelic Furs shallow in concert. <b>Page 11.</b>

# Baltimore: Prize leans medically

By Julie Tiao

"Recently they have been slanting the Chemistry Nobel Prize towards research with direct medical relevance," commented Nobel Laureate and MIT microbiology professor David Baltimore, "leaving the entire field of biochemistry unnoticed except by the chemistry department."

Baltimore received the 1975 Nobel Prize in Medicine and Physiology for his work with tumor viruses and their interaction with the genetic material in a cell.

The Chemistry award was divided among three professors. "They are all very deserving of the prize," noted Baltimore. Half of the award went to Dr. Paul Berg, a professor of Biochemistry at Stanford University. According to the October 15 *New York Times*, Berg was commended "for his fundamental studies of the biochemistry of nucleic acids,

with particular regard to recombinant DNA." Baltimore commented that he has been an admirer of Berg since high school. "Berg was the first major proponent of the idea of recombinant DNA technology," explained Baltimore. "He's like the godfather of the field."

Recombinant DNA technology, or "gene splicing" is a new field of research whose development has largely been the result of Berg's experiments and research. The field includes techniques and experiments conceived by Berg to splice the DNA from animal cancer viruses into the DNA of other organisms, which could then reproduce it. These techniques have opened an entire new branch of research in gene manipulation and genetic engineering.

The other half of the chemistry prize was awarded jointly to Dr. Walter Gilbert, a professor of

molecular biology at Harvard University, and Dr. Frederick Sanger, a professor of molecular biology at Cambridge University. The award was Sanger's second Nobel Prize in Chemistry, an even occurring only once before.

"Gilbert and Sanger learned how to sequence DNA," explained Baltimore. They each developed a method of rapidly determining the exact order of the chemical bases of large segments of DNA. These methods have been the basis for many other advances in genetic engineering.

"This is a very active field," observed Baltimore, "and we have been busily plumbing the techniques and insights which these men have shown us."

Baltimore noted that the awards were given to the developers of new fundamental techniques. He added, "The prize is awarded to people who open new fields of research."

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## Biogen prefers MIT area

(Continued from page 1)

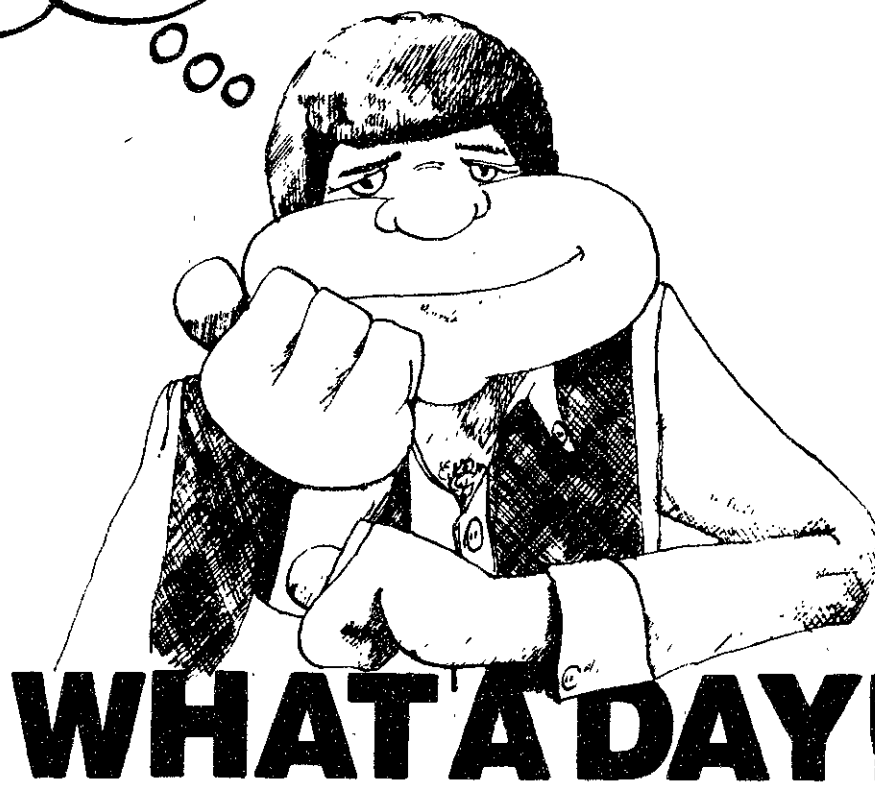
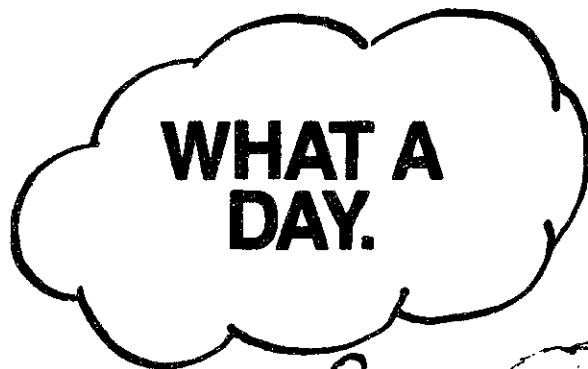
except on a bigger scale," explained Muller.

When questioned by the committee, neither Muller nor Gilbert would give a direct answer on the type of research the firm wants to get involved with in Cambridge. "At the start it would mostly involve P1 work. We can't say what we would be involved in some years in the future," said Gilbert.

At this point, City councillor Alfred Vellucci interrupted and discussed his proposal before the City Council to ban all P3 research in Cambridge. Vellucci, a long-time foe of recombinant DNA research, asked Muller and Gilbert whether a P3 ban would affect their decision to move into Cambridge.

"We're talking about making a major financial commitment in the city; roughly \$45 million would be involved," responded Muller. "We need to know the rules of the game before we get started." Muller did not say that a P3 ban would force Biogen to look elsewhere, however. The City Council will discuss Vellucci's proposal Monday night.

The Biohazards Committee will prepare a written report based on the information received Tuesday to be delivered to the Council "probably within two weeks," according to Dr. Richard Neer, committee chairman.



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## Analysis

# US weapon sales increasing

By Hans A. von Spakovsky

US military arms sales are continuing to increase, according to government figures. While both presidential candidates have spoken about nuclear war and defense policy, neither has addressed the role of the United States as the largest arms dealer in the world.

In the last decade alone, the US has made foreign military sales agreements in the staggering amount of \$85 billion dollars, according to data assembled for congressional presentation on US Security Assistance Programs in fiscal year 1981. If one includes weapons sold through commercial licenses since 1971 under the Arms Export Control Act, plus the monetary value of the US Military Assistance Program (including training programs and the sale of excess defense equipment), the total reaches almost 113 billion dollars.

It is interesting to note, however, that deliveries under the FMS agreements have not kept up with sales. Since 1977, the US delivery rate has hovered at 6 billion dollars a year. If the United States decided to stop all military sales abroad overnight, enough unfilled orders exist to continue shipments at the rate of 6 billion a year till the 1988 Presidential election.

Jimmy Carter's claim of being a "peace-maker" is not supported by the record of increasing arms sales during his administration. In the 1976 campaign, Carter promised to try to reduce American weapons sales if he were elected, and, in 1977, US military and commercial sales did drop to 10 billion dollars from a 1976 high of 16 billion.

This is a deceptive figure, however, as the difference is almost entirely due to a reduction in sales that year to Saudi Arabia (50 percent of the cut was in projects managed by the US Army Corps of Engineers under the Saudi Arabian Engineer Assistance Agreements). Since then, total US sales have increased 40 percent.

As US-China relations continued to improve, culminating in Carter's abrogation of the US-Taiwan defense treaty, military sales to Taiwan increased 250 percent to over one-half billion dollars in 1979. Recent US concern over the security of Thailand is evidenced by the quadrupling of arms sales in 1979 over the previous year.

The congressional data indicates that in the last decade alone, the United States has sold 57 billion dollars worth of arms in the Middle East and South Asia (including India and Pakistan). In the last three years, sales to Iran fell sharply, reaching zero under

the arms embargo imposed by Carter last year. Efforts to maintain a strong Arab ally in the Persian Gulf seem to have switched from Iran to Saudi Arabia, the chief US oil supplier, as military sales to Saudi Arabia approached 6.5 billion dollars in 1979.

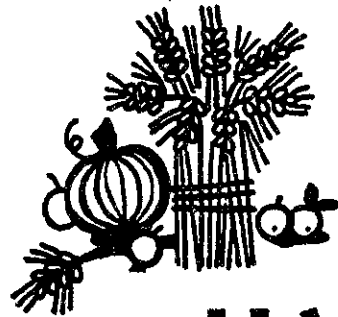
Supporters of the American defense industry point to the many jobs it provides in our troubled economy and the value of exports in reducing our trade deficit. They believe foreign sales are necessary to absorb research and development costs, and to maintain the American technological lead in the arms industry during peacetime.

The idea that "if we don't sell it to them, someone else will," has been one of the basic defenses of arms dealers. Whether this is a valid conclusion or moral justification is debatable, but it is true to an extent. According to data released by the US Arms Control and Disarmament Agency, the US share of the world market has gone down from 50 percent in 1968 to 39 percent in 1977, as the French, West Germans, British, and Czechoslovakians have increased their shares of a very lucrative market.

One of the most foreboding developments of recent years has been the diffusion of weapons technology and an increase in the number of producer-nations. Israel, for instance, has been especially successful in establishing and building its own arms industry.

Attempts to establish any kind of control, regulation, or halting of weapons transfers have not been very successful. Many third-world countries look on negotiations to control the weapons flow as discriminatory or attempts by the West to exert political-military blackmail. Increasing sales in underdeveloped regions demonstrate the willingness of many governments to buy guns instead of butter. Attempted embargos have also not proved very effective; in too many instances, countries like France and Italy have shown their willingness to sell to just about anyone.

Whether any kind of international agreement to limit arms sales can be reached at the present time or in the future is questionable. However, the moral, economic, and foreign policy implications of American participation in the trade is certainly a vital issue for debate in the current campaign.



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# opinion

## Steve Solnick Curriculum questions

There has been a lot of banter lately about a big "curriculum review" in the wind. MIT has not stepped back and looked carefully at its undergraduate educational policies since 1971. Then, a blue-ribbon task force concluded a multi-year study with three proposals for the undergraduate experience, which were all mostly ignored.

That study occurred at the end of President Johnson's administration, however. The new effort would come at the beginning of President Gray's. He has already indicated his support to such an endeavor. It seems probable the results of a major "Review" would be listened to. What's it all about? Well, here are some of the big questions you can expect to see cropping up. They're based partly on speculation, partly on educated guesswork, and mostly on the public record:

1) What is the role of the Humanities at MIT? It is likely that Humanities Requirement will be reviewed to see if it is effective. The structure of the School of Humanities, which is prone to frequent change, may change yet again. Humanities courses may eventually be mostly elevated to twelve units to improve their "stature" and put them on an equal footing with the sciences.

One proposal to clarify the Humanities requirement would be to bring it more in line with that used at other Ivy League Institutions. Specifically, the Humanities and Social Sciences Requirement would be divided into a separate Humanities Requirement and Social Sciences Requirement. This would eliminate the confusion of the Humanities Distribution Requirement, and would conceptually clarify the difference between such fields as English, Philosophy, Economics, and Psychology.

2) What about a Writing Requirement? The Humanities Distribution Courses are often looked at by the faculty as being the courses which are supposed to imbue students with writing skills. As such, they frequently fail. They are not writing courses per se. MIT students are generally under-instructed in writing and rarely excel at it.

Yet the MIT Writing Program is not currently equipped to offer an Institute Requirement in Writing. It is a fairly small program. The problem of bringing MIT students up to a level of writing proficiency will be high on the agenda of any Review.

3) How can MIT teach science in a social context, as President Gray stressed in his Inaugural Address? The Science, Technology and Society (STS) program poses an interesting dilemma: if it begins a degree program, many faculty fear it will attract students who fail at science and engineering and will become a "cheap" degree. Others, including President Gray, feel an STS degree program will only reach a small audience of interested students.

The tough nut to crack is how to get students in 8.01 or Unified Engineering to consider the social consequences of science and engineering. It may require fundamental changes in the teaching structure of some key Institute courses since many of the instructors of the core science and engineering subjects are frequently blind to humanistic aspects of their work.

4) Returning again to topics in the Gray Inaugural, how do we slow the pace of MIT? Do we eliminate weekly problem sets? Do we make more courses self-paced or pass-fail? Do we impose a strict credit limit? Do we reduce departmental requirements? Are three or four technical courses a term just too much?

Tied to this argument is the issue of the advising system. Any serious discussion of slowing the pace of the student's life will need to consider the role of the advisor in setting that pace.

5) Who will conduct this Review? Well, it's in the Committee on Educational Policy right now. It is likely that group will serve to formulate the agenda for the review and turn it over to a group who can work on it full-time. One subtle question is whether the Division for Study and Research in Education (DSRE) will play any part. The DSRE was the only substantive result of the 1971 Review and it was intended to provide advice on just such matters of educational policy as the above.

If President Gray can strike when the iron is hot, so to speak, we may not have to wait too long for the last question to be answered. The others won't be so easy.

## MIT & Mass. high tech

*Editor's Note: On October 1, President Paul Gray addressed the Massachusetts High Technology Council on MIT's relationship to high-technology industry in the state. On October 6, The Boston Globe discussed Dr. Gray's remarks in an editorial entitled, "MIT and Mass. High Tech."*

*Since the issue is of great potential importance to the MIT community in the coming decade, The Tech is pleased to reprint The Globe's editorial below, courtesy of the Boston Globe. It is accompanied by an essay submitted by Dr. Gray. Dr. Gray's essay, which appeared later in The Globe, summarized his remarks to the High Technology Council.*

Paul E. Gray, newly inaugurated as the 14th president of the Massachusetts Institute of Technology, is — as one of his predecessors, Dr. James R. Killian, remarked — almost "indigenous" to the MIT campus, a man who has spent most of his life there since his undergraduate days. Yet he is hardly a man unaware of the concerns and the needs of the outside world.

Gray first came to wider public attention in the 1960s for his sensitive handling of student unrest on the campus. And his inaugural speech last week reflected his awareness of broad social concerns. In that speech and in other conversations he emphasized repeatedly his desire that MIT's student body be broadened to reflect the makeup of society as a whole.

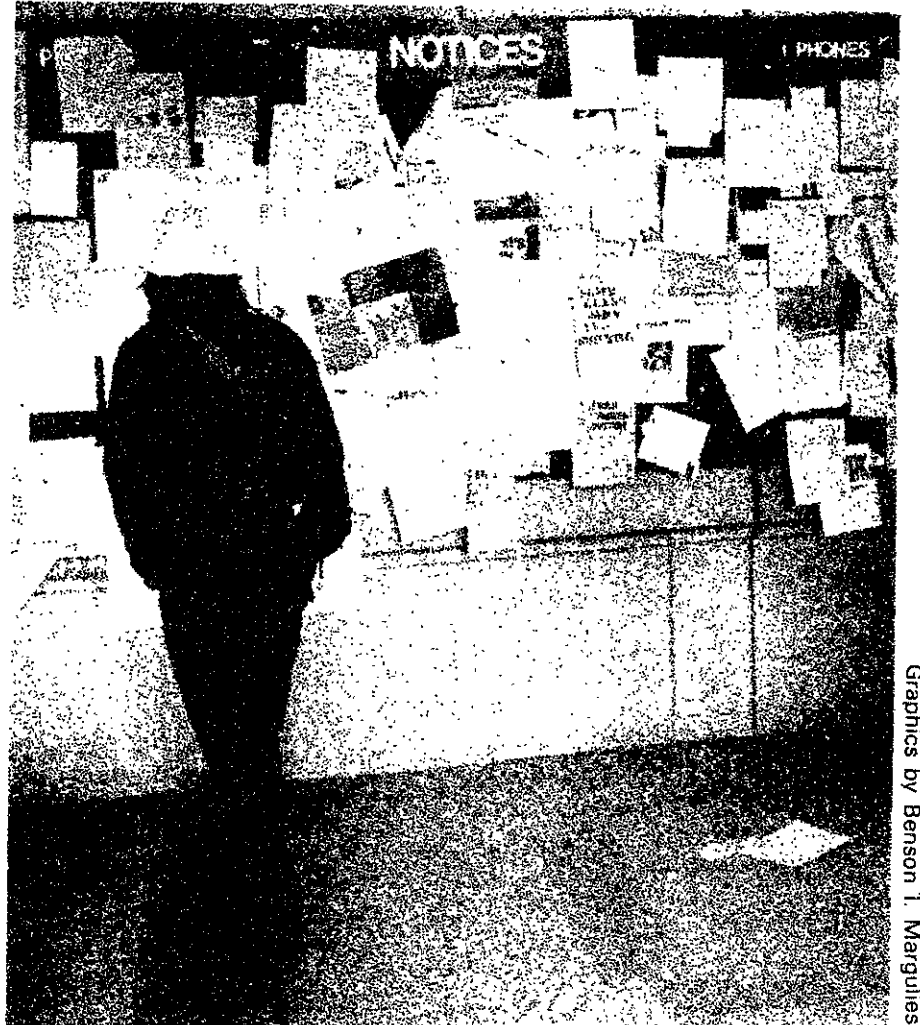
The challenge before the university, he said, is both to "preserve and transform MIT."

It is in that context that Massachusetts must hope MIT will

over the years reconsider its role in fostering the social and economic health of the state. In a speech to the Massachusetts High Technology Council the other day, a speech surely disappointing to his audience, Gray reported that MIT had little inclination to offer part-time advanced degree

heighten the attractiveness of Massachusetts to engineers and enhance Bay State high tech companies' recruitment efforts.

MIT's desire to protect the integrity of its curriculum, even to make the campus ambiance an integral part of its students' university experience, is understandable.



Graphics by Benson I. Margulies

programs or off-campus programs to Massachusetts engineers.

The High Tech Council had hoped that such an expansion — along the lines of programs already offered even in this state by Stanford University — would

No academic institution should become simply the handmaiden to commercial interests. Nor should MIT ape Stanford; it might well require well require more on-campus activity of advanced degree students than does

(Please turn to page 5)

## feedback

## Protest vote called unwise

To the Editor:

In your editorial of Tuesday, Oct. 28, you have stated the dilemma facing voters with chilling precision. However, I believe your endorsement of Mr. Anderson is predicated upon an overestimate of the benefits accruing to the Independent movement from a protest vote and an underestimate of the magnitude of the differences between a Carter and Reagan presidency. First, minor party and independent presidential candidates are not excluded by law from the political process, and the successful efforts by Eugene McCarthy and John Anderson have shown

that such technical impediments to getting on the ballot as have arisen in the past are easily surmounted. Moreover, the Anderson campaign has faltered not because of lack of money, but because of a system of voting that forces the citizen to decide whether his first or second choice candidate has a better chance of winning. This has evidently led to significant defections from the Anderson to the Carter camp in recent weeks. The inequity inherent in the present voting system could be lessened by allowing voters to rank all the available candidates on their ballots; however, pressure on our

legislators is a more likely means of effecting such a reform than a protest vote for Mr. Anderson. In the meantime, the continued appearance of the Socialist Workers' and Libertarian parties on the ballot, despite their lack of Federal subsidies, suggests that the option of voting outside the major parties is not likely to be foreclosed in the future.

Equally important are the real differences between the ways Mr. Carter and Mr. Reagan would run the country. A comparison of Reagan's record of judicial appointments in California with Carter's record on Federal ap-

(Please turn to page 5)

## The Tech

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Friday, October 31, 1980

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# Opinion

## More than partners?

(Continued from page 4)  
 the California institution. Yet all-powerful institutions have an obligation to try to structure their activities in a way that will ensure the widest social benefit and it is not clear MIT is meeting that standard.

It is a changing world. One of those changes is the possibility of substantial, detailed communication between decentralized set-

the useful arts. During our 119-year history, new strengths in basic science, in the humanities and social science, and in management have developed. But these developments have not deflected the Institute from its historic purpose. Rather, they have added to our capacity to pursue education and research in the modern context of engineering.

During the past decade at MIT,

graduate level enrollments in engineering have increased by about one-third and we have been consistently among the top-ranked schools in the numbers of graduate degrees awarded. At the undergraduate level, the trends have been even more striking. From 1970 to 1980, undergraduate enrollment in the School of Engineering nearly doubled, as did the number of bachelor's degrees awarded annually.

(Please turn to page 6)



tings. That makes high caliber, off-campus education a possibility. It has resulted from technological innovations of the very kind MIT-based research promotes. And, sadly, MIT is not responding fully to the opportunities created by changes it has helped initiate.

### Paul E. Grey

As I take up the duties of the MIT presidency, I would like to develop opportunities to better understand New England industry — particularly Massachusetts industry. I want to understand industry's problems, its expectations, its hopes for the future. I want to understand particularly how MIT might strengthen further, in the contemporary setting, its long-standing ties with industry, and especially local industry.

To do this, in the coming months I plan to begin an ongoing, informal dialogue for representatives from MIT and industry — a mechanism through which we can consider issues of central, mutual importance — with frank discussions of how to define more precisely the current and future educational needs of New England's high-technology industries. I will need help and advice, both in organizing these conversations and in making the dialogue meaningful.

Since its founding, MIT has been a partner in a mutually supportive relationship with industry and that relationship is in good health today. Our academic roots are in American industry. We began as a school of applied science, with a primary emphasis on engineering, architecture, and

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## Examining MIT's role in Massachusetts industry

(Continued from page 5)  
would be a giant step closer to meeting the increased demand for engineers.

There is another, more relevant measure of our contribution to engineering talent in Massachusetts. Overall, the data show that although only 10 percent of our entering undergraduate classes come from Massachusetts, a much higher percentage of our degree recipients stay in Massachusetts. For example, MIT alumni records show that about one quarter of the individuals who received bachelor's or master's degrees in engineering in the last 25 years now live in the Commonwealth. The MIT Career Planning and Placement Office, which keeps track of the initial employment of new graduates who make use of its facilities, reports that during the past five years, an average of 40 percent of degree recipients at all levels in electrical engineering and com-

puter science who entered the job market accepted initial employment with Massachusetts-based companies. So it is clear that MIT is an important "concentrator" of engineering talent. Many young people come here from other parts of the nation to study, and stay here afterwards to work. I remain hopeful that MIT's strengths will continue to play an important role in attracting talented students to Massachusetts — and ultimately exerting a favorable effect on the "balance of trade" with respect to the local supply of engineers.

As I have indicated, MIT has traditionally had close and mutually supportive relationships with industry. Let me summarize the principal modes of interaction at the present time.

First, the several departments in the School of Engineering participate in a number of cooperative educational programs with industry. For the School as a whole, about 16 per-

cent of the undergraduates participate in these work-study

Today more than two-thirds of the undergraduates at MIT who have selected a major are in engineering — and nearly one-third are in electrical engineering and computer science alone. Between 1970 and 1980, the number of bachelor's degrees awarded in electrical engineering and computer science increased from 174 annually to 270. These changes have occurred because MIT, unlike many schools, admits undergraduates without regard to intended field of study and gives them, as sophomores, complete freedom to choose their major. The young men and women who come to MIT clearly understand the job market and they vote with their feet. If the other 300 schools of engineering in the US were to increase their degree production by a factor of two over the rates characteristic of the early 1970s — as MIT already has done — the nation

programs, which lead to simultaneous bachelor's and master's degrees with a thesis done in industry. In the Department of Electrical Engineering and Computer Science, the cooperative program has operated since 1917 and currently involves 250 undergraduate and graduate students. While there are practical limits to the scope of work-study programs that can be supported by MIT — particularly limits on the amount of faculty time that can be used to oversee students in work assignments and during in-plant thesis research —

we are actively seeking new mechanisms to extend our efforts.

Second, 260 companies, in the US and abroad, participate in MIT's Industrial Liaison and Associates Programs, which provide member companies access to research resources at MIT and offer a means of exchanging information. These programs are one of the ways in which technical developments at MIT are transferred to industry for commercial application, and the work of the Institute is coupled to the solution of societal problems.

(Please turn to page 7)



## Engineers

## ON CAMPUS INTERVIEWS NOVEMBER 12TH CAMPUS PLACEMENT CENTER

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# Burroughs

## feedback

(Continued from page 4)  
pointments indicates that a Reagan Supreme Court would be considerably more conservative than a Carter Supreme Court. Carter may support the MX system, but Reagan has supported the multiple-aim-point basing mode, which is generally agreed to be incompatible with strategic arms limitation. And which of the candidates would be more likely to yield to political pressures to stop the strategic buildup? Reagan proposes to scrap SALT II and start afresh, but Carter's experience in 1976 showed how counterproductive such an action would be. Regarding nuclear proliferation, the *Times* confirmed today that Reagan really did claim it would be "none of our business" if

Pakistan developed a nuclear weapon. One could go on with Mr. Reagan's faults, but we must not forget Mr. Carter's successes: the Windfall Profits Tax, the Panama Canal Treaty, Camp David, and the injection of the human rights issue into American foreign policy. The concept of a protest vote is emotionally appealing, but we must remember that Richard Nixon was elected over Hubert Humphrey largely because thousands of Democrats refused to vote, as a protest against the debacle at the Democratic convention. Any protest which is likely to leave us worse off than before is no protest, but an angry shot in the dark.

R. T. Pierrehumbert



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## Opinion

## Industry ties in the 1980's

(Continued from page 6)

These liaison relationships are two-way in nature, which is very important to us. They facilitate member companies' contact with work in progress at MIT and at the same time they provide a means by which faculty can stay informed about developments in industry and about industrial problems and needs.

Third, the Institute offers several score of intensive "short" courses each year, both by lectures on- and off-campus and by videotape, designed for professionals in industry. During the past year, more than 2,000 professionals participated in 67 of these courses; most of those people are employed in industry. MIT's video short courses, offered by the Center for Advanced Engineering Study, are designed for professional engineers, scientists, and technical managers who wish to continue their education on a self-study, in-plant, non-credit basis and are sent to users around the world. More than 30 subjects—consisting of over 700 videotaped lectures, study guides, and textbooks and ranging from refresher courses to graduate level subjects—are available. Of special importance are several new courses dealing with microprocessor technology and its impact on industry. About 20,000 persons per year—again, primarily professionals in industry—take these videotaped courses. We are actively seeking ways to expand our relationship with industry—particularly Massachusetts industry—through our existing mechanisms of industrial liaison, short courses, and video courses. We have been engaged in discussions with many companies concerning these programs, and hope to work closely with industry on developing ideas that have resulted from these contacts.

Fourth, there is a significant level of industrial participation in, and support of, research programs at the Institute. This trend is evident in the recently announced study of combustion of carbonaceous fuels, funded by Exxon; in the industry-supported study of particulate emissions in diesel engines; in the Polymer Processing Program, which is supported by a consortium of a dozen companies; and in the support by several computer manufacturers of research on office automation in MIT's Laboratory for Computer Science.

Finally, mention must be made of our major initiative in the area of very large-scale integrated (VLSI) systems. We have recently begun a major teaching and research program related to the production of integrated circuits, from architectural conception and automated design through the intricacies of fabrication and testing. We have expanded our subject offerings in this field and have increased the participation of faculty in this area nearly threefold. This emphasis complements an ongoing program in the area of submicron structures. I believe that these activities in VLSI will contribute to the solution of problems that are of consequence to a growing fraction of high-technology companies and

will produce an increasing number of graduates who are skilled in this broad area of technology—an area which will be of central importance to high-technology for the foreseeable future.

A question has come to me several times during the past year: Will regional problems and needs be taken seriously by MIT in setting its priorities? The answer is unequivocal. We are conscious of, and responsive to, regional needs. We serve industry interests through the education of a substantial number of extraordinary young people, many of whom stay on in Massachusetts to work. These MIT alumni are among the leaders of the high technology industry in the Commonwealth. A number have founded entirely new companies and so have added substantially to the economic strength of the region.

We also serve industry and the regional economy through a large and diverse program of first-rate front-line research and through the transfer of new technology from the Institute to industry. We serve, in addition, through many complex relationships with industry, some of which I have enumerated, and through careful attention to quality in all that we do. In these respects we offer to industry the best of which we are capable, and I believe we make a difference.

But I also recognize that New England high-technology industry is in a crisis at present.

MIT cannot be, and has no wish to be, aloof from this situation. And, as I stated at the outset, I am ready to explore fully and seriously with the industry issues of central, mutual importance and to seek pathways to their resolution. Let us begin.



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# news roundup

## World

**US tries to woo Iran** — The Administration has informed Iran that once the American hostages are freed, it would be ready to allow Teheran to receive about \$220 million in military equipment Iran had already purchased. The war materiel had been paid for by the deceased Shah and was held up in delivery when the White House ordered the freezing of Iran's assets following the seizure of the hostages nearly a year ago.

**Egypt and Israel close gaps** — The presidents of Egypt and Israel reached an informal agreement early this week on a package of steps to improve trade and people-to-people links. In addition, Anwar el-sadat of Egypt and Yitzhak Navon of Israel also discussed new approaches to the talks seeking autonomy for Palestinians in Israeli-occupied territory. Principal among the agreements is a plan to open a land route across the Sinai.

**Guard strike hits Britain** — The British Parliament gave the Government sweeping emergency powers to deal with the spreading crisis caused by striking prison guards. Currently, over 3000 prisoners are being held in an overcrowded police station because the guards will not let them into the jail cells, which are also overcrowded.

**Khomeini has cancer** — Carter aide Frank Moore, while discussing the US's concern for safeguarding Iran's internal security, was quoted as saying Ayatollah Ruhollah Khomeini "has cancer of the colon." The White House and State Department issued a statement saying there is no information that the Iranian ruler is terminally ill.

## Nation

**Banks raise prime rate** — At their highest level since May, the prime lending rates of a number of major banks rose one-half percent to 14.5 percent, despite pressure by the Carter Administration to not do so. The banks cited cost of funds increases as the major reason.

**Detroit's Big Three lose \$1.6 billion in quarter** — General Motors, Ford, and Chrysler reported third quarter losses of \$567 million, \$595 million, and \$490 million, respectively.

**Former CIA agent double agent** — David Barnett, a former American intelligence agent, confessed in a Federal Court Wednesday that he sold information to the Soviet Union on "numerous occasions." The ex-CIA agent was also guilty of exposing the identities of 30 covert US agents, according to the Department of Justice.

**Budget deficit second-largest** — The Carter administration reported today that the federal budget deficit for fiscal year 1980 reached \$59 billion, the second-largest deficit on record. The figures would normally have been released last Friday. Yesterday's New York Times quoted an administration official chuckling and saying that he couldn't think of "a single reason" why the results were held up until after the debate.

**Nixon testified on illegal searches** — In his first court appearance since 1974, former President Richard Nixon testified that he had approved of a proposal allowing the Federal Bureau of Investigation to enter and search homes without warrant. He added that four days later he revoked his approval. Nixon testified that when a President authorizes such action "in good cause, what would otherwise be unlawful or illegal becomes legal."

By Richard Salz

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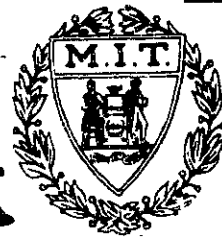
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*Spring's Awakening* by Frank Wedekind, produced by the Harvard-Radcliffe Dramatic Club at the Loeb Drama Center has another performance tonight and tomorrow at 8pm. Not recommended for those of a sensitive disposition.

If you don't like the sound of words such as "penis" and "climax," then perhaps you can't bear to see the film. But then, most of us have one or the other of these phobias. And these words alone should not offend a modern audience. But just in case the club didn't anticipate this, the scene with Dido's... (text is partially obscured)

... (text is partially obscured)

Of course, this won't bother everyone (especially as there is... sensibly... no actual nudity). So, to add to the spice, a film scene is included on the stage, and such scenes as the shower murder scene from *Psycho* are shown. In the second half we see... (text is partially obscured)

... (text is partially obscured)

... (text is partially obscured)

... (text is partially obscured)

The acting is competent, if not brilliant all-round, and the direction of David Prum is interesting and original, there is certainly a lot to think about after one has left the theatre. Relationships, friend to friend, lover to lover, parent to parent, parent to child were all carefully studied to introduce us into the world of the characters, and help us understand their desires and inhibitions. The stage is spacious, giant flowers complete with phallic symbolic stamens stand at its edges, a lake fills the middle space is well used.

This play is startling in its dark humor is well worth the fore in the present production. The audience is made to feel guilty in enjoying themselves. But that guilt may be... (text is partially obscured)

Jonathan Richmond



Jon von Zelowitz

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# THE TECH A



## Bruce Springsteen, *The River* on Columbia Records.

Nearly two years in the making, Bruce Springsteen's fifth album has arrived. And this two-record set is no flop, though a few questions may be raised.

Springsteen's strong point, in most minds, has always been his lyrics. He doesn't fail us here. Few of his songs compel one to respond "what stupid words," as I often do when I hear the work of several extremely popular groups. From sagas of love, cars, and the Jersey shore to more contemplative moments, Springsteen evokes images, often raw, but all the more appealing for that. Though he does approach the ridiculous on occasion—"ooh, ooh, I got a crush on you," for example—the verses of the song frequently compensate for the occasional silliness of the chorus.

Another strong point of all his work is the enormous amount of energy he and the E Street Band inject into their music. This is despite the fact that none of them are extraordinarily accomplished instrumentalists, with the notable exception of David Sancious (who played keyboards on the first two albums and the song "Born to Run"), and an occasional inspired moment by Max Weinberg, the drummer on the last three records.

Perhaps we should say the energy and rawness of the music is allowed to run unchecked precisely because they are not preoccupied with trying to play fast. Compare the strength and the emotion with that of, say, Al DiMeola. But let's not make a rule against advances in technique.

The songs on this album can be divided into two categories; the more upbeat ones and the quieter, more pensive ones. In the former, the former don't compare to ear, the former don't compare to ear, like "Rosalita," "Blinded By the Light," "Thunder Road," and so on. I find it difficult to define my reasons, as pieces like "Darling," "Hungry Heart" (on the album), "The River" (on the album), and "Cadillac Ranch" are enjoyable even without the usual husky tones. Springsteen's voice is somewhat recognizable—he sings in a higher register and without the usual husky tones. Even "Cadillac Ranch" are enjoyable things that bothers me is that few songs here are as well-developed as the epics, like side two of *The Wild, the Innocent, and the E Street Shuffle*, "Jungleland" or "Backstreets" of *Run*.

Those are my favorite kinds of teen songs, and there are few more in this album nearly as moving as "Jungleland" or as plainly beautiful as "New York City Serenade." I don't seem to use dynamics and he used to.

Though there are several moments here, too; most notably "Blank," also "The River," "Day," "Fade Away," the "On the Highway," and "Dancing Queen," which is the only song I can't listen to too long. Most of the songs are four minutes; on his second album the songs were more than four minutes long.

Perhaps others will say that Springsteen is becoming too predictable to write songs as about "Back," as "Rosalita," he should. That's why his album is still his best.

## Talking Heads Remain in *Light* on Sire Records.

Heatwave Festival, Toronto: Talking Heads with guest stars—PARLIAMENT? *NY Rocker*, October 1980: article entitled "Talking Heads Face the Funk"? Hmm.

I've been looking forward to this album for a while. I was really curious to hear the direction Talking Heads would take. Besides, my friend, Joe Kesselman, informed me the cover art was generated at ARCHMAC. In fact, they used one of his graphics on the cover.

He didn't get credit for his work. *Grrrr* . . . This is a mediocre album. *Grrrr* . . .

Side one is disco; in fact it's uninspired disco. The former I don't hold against them, the latter I do: "Born Under Punches" and "The Great Curve" could have been lifted from any disco album in the market (save lyrics, of course). "Crosseyed and Painless" is "Life During Wartime" revisited. That's inexcusable.

On the flip, two of five cuts just don't make it. "Seen and Not Seen," is light disco with unfeeling monotone spoken lyrics barely distinguishable from the background. Somniferous time. "The Overload" is a dirge that evokes no emotion and grates on the ears. Arty filler, perhaps.

It is now time to praise the virtues of the album. The lyrics never fail. They range from government oppression to the pains of a life without direction, achievement or purpose. Even "Seen and Not Seen" is a curious look at facial features and their relation to personality. Thankfully, the group has departed from lyrics done solely in David Byrne's desperate growl.

However, there are two catches. One, the stylistic change is uniform over the entire album: interspersing flowing passages sung by Brian Eno and Nona Hendryx and Byrne's usual. Two, they don't know how to write the contrasting passages: the

soothing sections in most of these songs (most notably "Born Under Punches" and "Crosseyed and Painless") are amazingly similar. The most refreshing departure from this rut is on "Once in a Lifetime." Another interesting change is found on "Houses in Motion." Here phrases are alternately monotone Byrne and desperate Byrne, a sort of schizophrenic effect.

But by far, the best song is "Listening Wind." It's got a very North African feel, as if it was No. 1 with a bullet in Sudan or Algeria. It's a view from the other side of colonization or "bringing democracy to the world." It gives us an interesting feel of what moves a terrorist or "nationalist" fringe (the wind, perhaps).

Let's wait for Round Two of Talking Heads vs. Funk to make a final judgment. 'Tis a complex monster to conquer and will take time to do so. It's an interesting album intellectually but not much more.

Eric A. Sahn

**French cooking, American style.**

**15**

# SPORTS SECTION

graphics by Jon von Zelowitz

## THE PSYCHEDELIC FURS

The Psychedelic Furs in concert at the Bradford Hotel Sunday October 26, 1980, album of the same name on Columbia Records. Since I made my first gushing assessment of England's Psychedelic Furs things have changed, as usual. Not drastically, but they've changed. It's always deranging to see a band whose album has completely won you over, on stage. A lot of illusions are at stake.

The Psychedelic Furs have been in Boston twice now: October 1 and last Sunday at the Paradise and the Bradford Hotel, respectively. Neither show was disappointing and the Paradise, with its concentrated sound, was quite an impressive gig. But seeing the group twice in such a short period brought up nagging questions about the durability of their sound. Their debut album, on CBS records (getting hipper every year, aren't they?) makes eating and sleeping unnecessary for two days after even an initial listen, and it's still one of the year's best surprises. What softness at the center of all this lush noise turbs me is a shallowness, a marshmallowy LP that comes through only in concert. The LP merits a good deal of praise—I'll save my reservations for later.

The Psychedelic Furs started in London way back in 1977 making gritty noise, insulting their audiences, pulling together along the pub circuit they found and mastered a particular sound, and refined their identity around it. The name is misleading—reviews of the band always harp on the "psychedelia for the 80's" motif, but drawing parallels between the Furs' music and psychedelia of the 60's is absurd. The Furs are Velvet Underground freaks, but it's more an attitudinal than a musical influence.

There are the customary mysterious changes between UK and US releases. I have the import, and cannot fathom the advantages of the domestic LP, whose chief difference is the inclusion of the ultra-dull "Soap Commercial" and "Susan's Strange" and the omission of one of the best tunes, "Radio". Superior production by Steve Lillywhite, a miracle man for multiple British groups, is hugely important to the album. Lillywhite seems to have muddled little with the Furs' doomed and apocalyptic sound. Trancelike is a favourite descriptive adjective, but it's quite apt. The music is heavy and threatening, the percussive advance and plod like some fatalistic religious music. The songs weave hypnotically on a pair of whirling guitars (Roger Morris and John Ashton) and a liberally-used sax, the P-Furs signature. There's a certain redundancy in much of their work, but the album

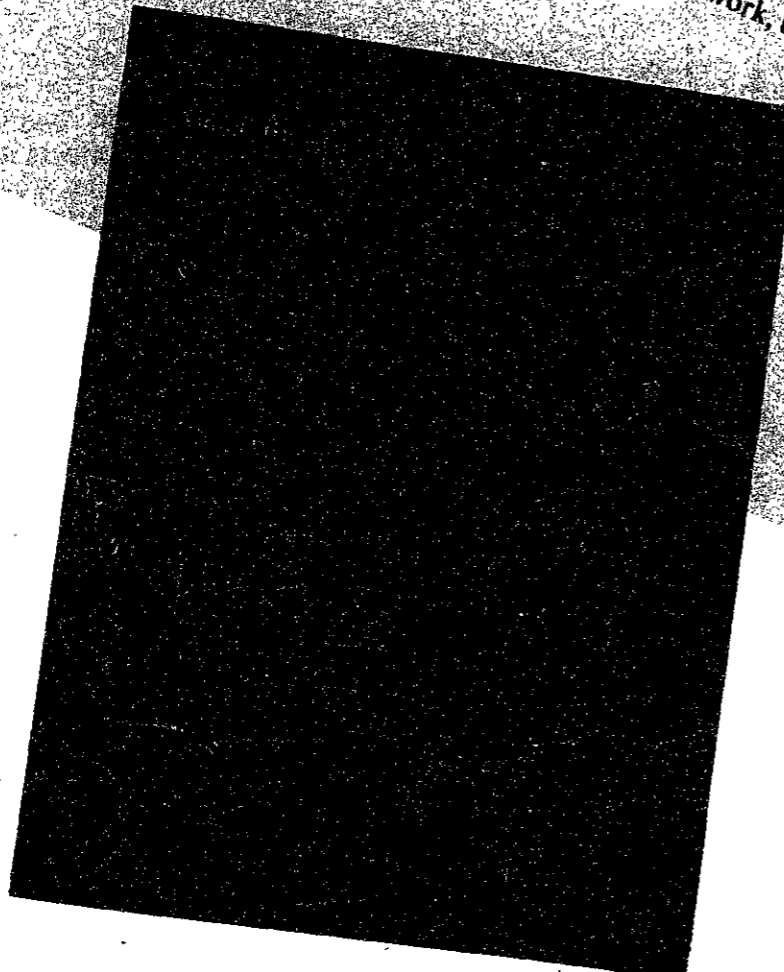
is given its brooding impetus by lead vocalist Butler Rep's evil, insistent, rasping vocals.

A fortuitous balance between the more lyrical melodies with their *mal de siècle* flavour ("Imitation of Christ," "India," and the dreamily haunting "Sister Europe") and the angrier compositions such as the dramatic "Pulse," "Fall," and "We Love You" makes the LP more worthwhile than seeing the Furs live, where songs tend to slur into one angry mess of slushy guitars, thin bass and hoarse accusations about our collective stupidity.

The Furs rely on the important nuances which can be achieved in the studio; there they can control and stylize the elements that become trite when performed hastily and a bit mechanically as they were Sunday at the Bradford Hotel. Furthermore, the concert marks the album seemed forced in which, albeit dispassionate, pessimism movement on the record; on stage Butler (who moments earlier was seen chugging a beer and chatting happily, dressed in a nondescript tee-shirt) launches into what appears to be an overchoreographed rave-up, prancing in a sinister kimono outfit, looking as pallid as possible. Attractive, but empty too.

Buy the album and hold your breath—there's an inherent slickness about the Furs, apparent only from their live shows as yet, which suggests that future efforts will be somewhat less surprising.

Sheeeeeeeena



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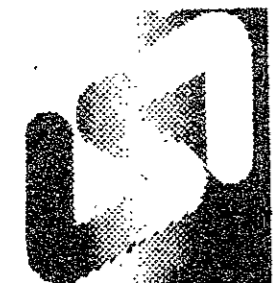
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Cambridge  
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### B.C. Class of '80

Being a recent graduate, Tony understands the difficulty in students' finding jobs in the state of Massachusetts. The high technology industry is leaving Massachusetts because of our high income and property taxes. Tony is extremely concerned and, if elected, would work toward bringing the high technology industry back to Massachusetts. His economic policies will be described in the next issue of *The Tech*.

# ARTS

## ON THE TOWN

### THEATRE

*Spring's Awakening*, a hilarious and insightful examination of sexuality, plays tonight and tomorrow at Loeb Drama Center. Tickets, \$3.50. For information call 547-8300. See review elsewhere in this issue.

\* \* \* \*

*Sugar Babies*, the smash Broadway hit, is at the Colonial Theatre. The production stars Carol Channing and Robert Morse. Performances are Mon-Sat. at 8pm, with 2pm matinees on Wed. & Sat. For more information call 426-8383.

\* \* \* \*

There's magic in the air as **The Boston Shakespeare Company** opens its sixth season with *Macbeth* and *The Tempest*. Subscription memberships for the 1980-81 season are available. Call 267-5600 for tickets and information.

\* \* \* \*

People's Theatre presents *Bits & Pieces* by Corinne Jackson. Billed as a "bizarre play" concerning "a woman's journey to reconstruct piece by piece the memory of her beloved husband," it should be worthy of a look. Student discounts are available. Call 354-2915.

\* \* \* \*

The **Opera Company of Boston** will be performing Marschner's *The Vampire* at 8pm on Oct. 31 and at 4:38pm (sundown) on Nov. 1. The audience is advised to bring equipment to deal with any contingencies that might arise, such as garlic and crosses. Tickets from \$8. Call 426-5300.

\* \* \* \*

*Transcendental Love*, a "slightly scandalous" romantic comedy, is having a four-week run at **The Charles Playhouse**. Performances Tuesday through Friday at 8pm; Saturday at 6:30 & 9:30pm; Sunday at 3 & 7:30pm. For more information and reservations, call 426-6912.

\* \* \* \*

The **Peking Opera** is at Boston's Schubert Theatre for a two-week engagement (through Nov. 2). This show, a major breakthrough in cultural exchange between the US and China, is a composite of singing, dancing, chanting, acrobatics, mime, music and art. Performances are Tuesday through Saturday at 7:30pm with matinees Saturday and Sunday. For tickets and information, call 426-4520.

### MUSIC

Patricia McCarty will give a viola recital on Nov. 2 at 3pm at the First and Second Church, Marlborough St., Boston. Phone 522-3763 for tickets.

\* \* \* \*

Renowned cellist **Anner Bylisma** will give a recital in Sanders Theatre on Oct. 29 at 8pm. Student tickets are \$5 (others are \$6 and \$8) and can be acquired by calling 864-2634.

\* \* \* \*

The Early Music Series of the **Museum of Fine Arts** presents a concert of sonatas by J.S. Bach at 3pm on Nov. 2 and 9. Performers are the Boston Museum Trio. Tickets are \$7, \$5 for students, and include admission to the museum. For information, call 267-9300, x340.

\* \* \* \*

The **John Oliver Chorale**, Boston's virtuosic ensemble of 52 voices, will perform Beethoven's *Missa Solemnis* in Jordan Hall at 3pm on Sun., Nov. 2. For more information, call 864-4924.

The **Boston Classical Orchestra**, F. John Adams music director, will perform works by Haydn, Bach and Mozart in Faneuil Hall on Nov. 5 at 8pm. For information, call 426-2387.

*The Material Object*, a collection of sculptures by Tom Bills, John Gibbons, Roni Horn and Nichols Pearson, is currently on display in **The Hayden Gallery**. The Gallery is open daily 10 to 4, and 6 to 9pm on Wednesdays.

*This week's LSC lineup:*  
**Nosferatu (1922 version)** (classic) Fri. at 7:30 in 10-250.  
**Invasion of the Body Snatchers** Fri. at 7 & 10 in 26-100.  
**Kramer vs. Kramer** Sat. at 7 & 9:30 in Kresge.  
**Five Easy Pieces** Sun. at 6:30 & 9 in 26-100.

\* \* \* \*

Have you any idea how long it takes to draw all the little letters in an issue of *The Tech*? Well, neither do we. help us do nearly everything else at *The Tech*.

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## How to stretch your college dollars.

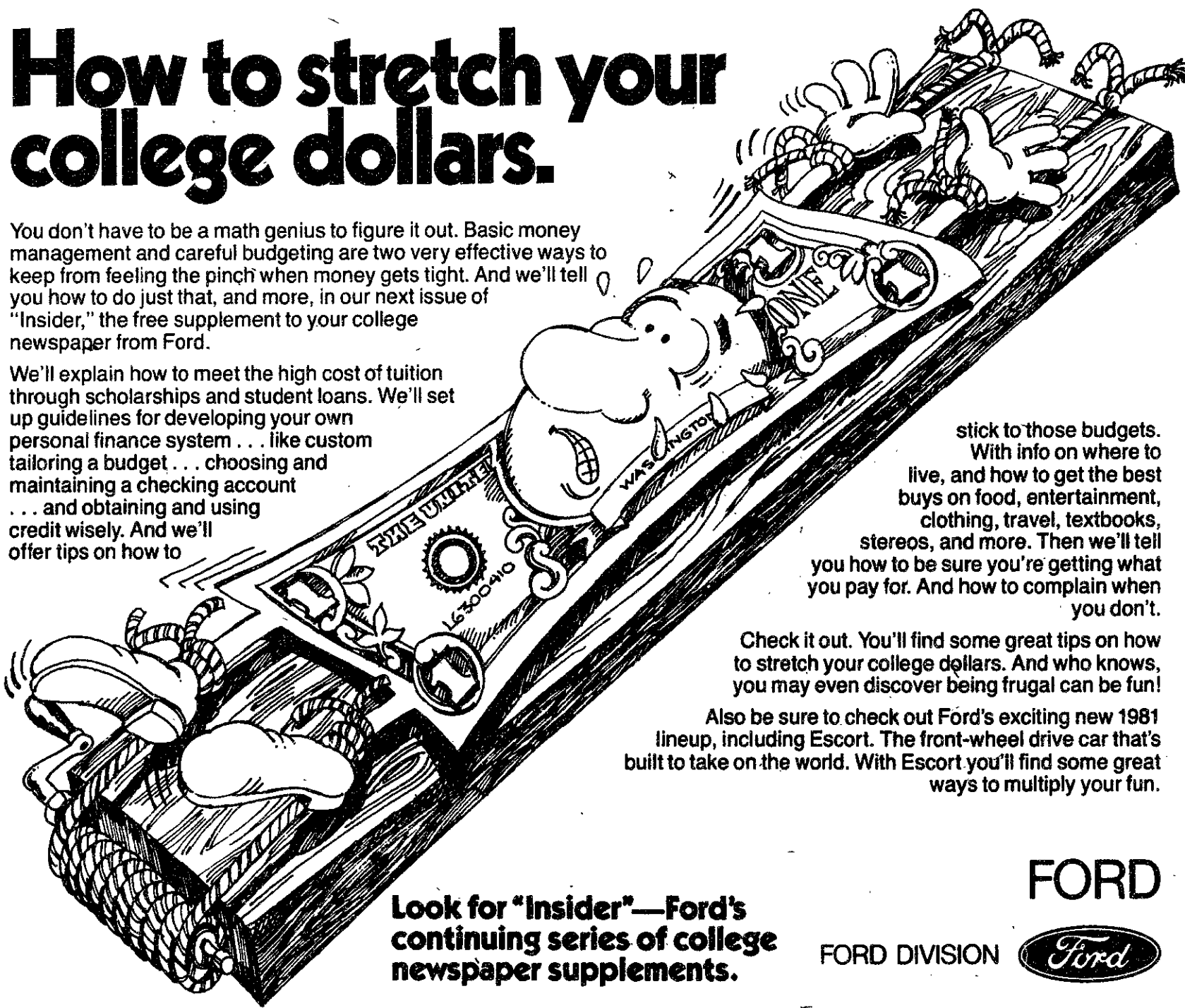
You don't have to be a math genius to figure it out. Basic money management and careful budgeting are two very effective ways to keep from feeling the pinch when money gets tight. And we'll tell you how to do just that, and more, in our next issue of "Insider," the free supplement to your college newspaper from Ford.

We'll explain how to meet the high cost of tuition through scholarships and student loans. We'll set up guidelines for developing your own personal finance system... like custom tailoring a budget... choosing and maintaining a checking account... and obtaining and using credit wisely. And we'll offer tips on how to

stick to those budgets. With info on where to live, and how to get the best buys on food, entertainment, clothing, travel, textbooks, stereos, and more. Then we'll tell you how to be sure you're getting what you pay for. And how to complain when you don't.

Check it out. You'll find some great tips on how to stretch your college dollars. And who knows, you may even discover being frugal can be fun!

Also be sure to check out Ford's exciting new 1981 lineup, including Escort. The front-wheel drive car that's built to take on the world. With Escort you'll find some great ways to multiply your fun.



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## ARTS

## Shan Yuan: for when you're feeling wonton

Shan Yuan, 485 Massachusetts Ave. (Central Square), open daily 11:30am till 10:00pm, till 11:00 Friday and Saturday; liquor; take out available, 491-6725.

Shan Yuan is a tidy new Chinese restaurant featuring Szechuan, Hunan, and Mandarin cuisine. It replaced Zorba's, a Greek restaurant. One would hardly recognize the place as the same: wontons, clean dishes, bright atmosphere . . . and the inevitable high prices (\$8 to \$12 for a dinner).

favorite theme. Two lamb dishes are well-placed in the beef column of the menu since at least one, "sliced lamb Hunan style," tastes like a beef dish. Lobster is available, with the usual "seasonal" price tag. House specialties are marked in the menu and all are very good, except the house special soup.

One main dish per person provides a good quantity of food, but check with the waiter on the higher priced items. The price of dinner at Shan Yuan can be

You will never know better.

Even on Friday and Saturday nights, Shan Yuan is practically empty since people seem not to have discovered that the food is quite good. Thus the service is quite prompt, so the waiters are not rushed and can spend some time giving advice and describing the dishes.

Your sense of humor will carry you far.

Indeed, descriptions are sometimes necessary. For instance, what is "jade shrimp"? How strange is "strange flavor sliced chicken"? What is in "Buddha's delight"? And what makes a

blunted by ordering the large dishes and splitting the cost. For instance, "spicy, crispy whole cod" and a vegetable dish can comfortably feed four people, while a half duck and a moo shi dish will feed three.

There is a bar, but nothing offered is very special at all. The

You are greatly admired and quite popular.

"slippery chicken" slippery? Although many dishes actually have descriptive names, the best way to answer your questions is to taste the food. The hot and spicy dishes are marked, so the proper precautions can be made.

In general, the appetizers are too expensive for what they are, and tend to be more American in flavor than Chinese. Cheaper than the appetizers, the hot and sour soup is delicious; as good as

Polynesian drinks are complete rip-offs and should be avoided. And for me, the traditional tea is good enough for dinner. In fact, the tea at Shan Yuan is fuller than the green hot water most Chinese

restaurants serve.

Desserts are a big mystery. Sometimes a complimentary orange appears before the fortune cookies. In any case, the bill tends to appear before the hapless diner can utter the magic words "sesame banana," or the name of any other dessert. It is probably just as well considering the price.

Gordon Hunter

Join The Tech

any in Boston. As with all hot and spicy dishes, you can request that they tailor the spiciness to your taste, but the recipe is well-balanced and this shouldn't be necessary.

The main dishes include the standard fare, plus some rare entries. For moo shi fanatics, there are five variations on their

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## ON THE TOWN

## MUSIC

Nervous Eaters at the Paradise, 967 Comm. Ave., Fri.

Human Sexual Response, Thrills, Boy's Life at the Channel, 25 Neco St., Fri.

Flestones, Junk Mail, Harlequin at the Rat, 528 Comm. Ave., Fri. Dark plus horror flicks at the Underground, 1110 Comm. Ave., Fri.

Taxi Boys, Last Ones at Cantone's, 69 Broad St., Fri. - Sat.

Sylvain Sylvain at the Channel, Sat.

Joan Jett, Boy's Life, Outlets at the Rat Sat.

Snakefinger, People in Stores at the Underground Sat.

Joan Jett, Pastiche at the Rat Sun.

Hot Lunch, Guests at the Underground Sun.

George Thorogood and the Destroyers at Berklee Performance Center Sun. Nov. 2.

Roches at the Paradise Tues. Nov. 4.

Bobby and the Midnights featuring Bob Weir at the Orpheum Tues. Nov. 4.

B-52's at the Orpheum Thurs. Nov. 6.

Private Lightning at the Paradise Sat. Nov. 8.

Kansas at the Garden Mon. Nov. 10.

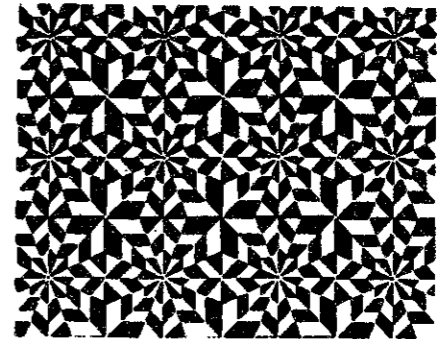
Plasmatics at 15 Lansdowne St. Thurs. Nov. 13.

Talking Heads at the Orpheum Fri. Nov. 14.

999 at the Paradise Sat. Nov. 15. Gang of Four at the Channel Tues. Nov. 18.

Siouxie and the Banshees at 15 Lansdowne St. Thurs. Nov. 20. Rockpile, Moon Martin, Ravens at the Orpheum Sat. Nov. 22.

Buzzcocks, Rattlers at the Bradford Hotel Tues. Nov. 25.



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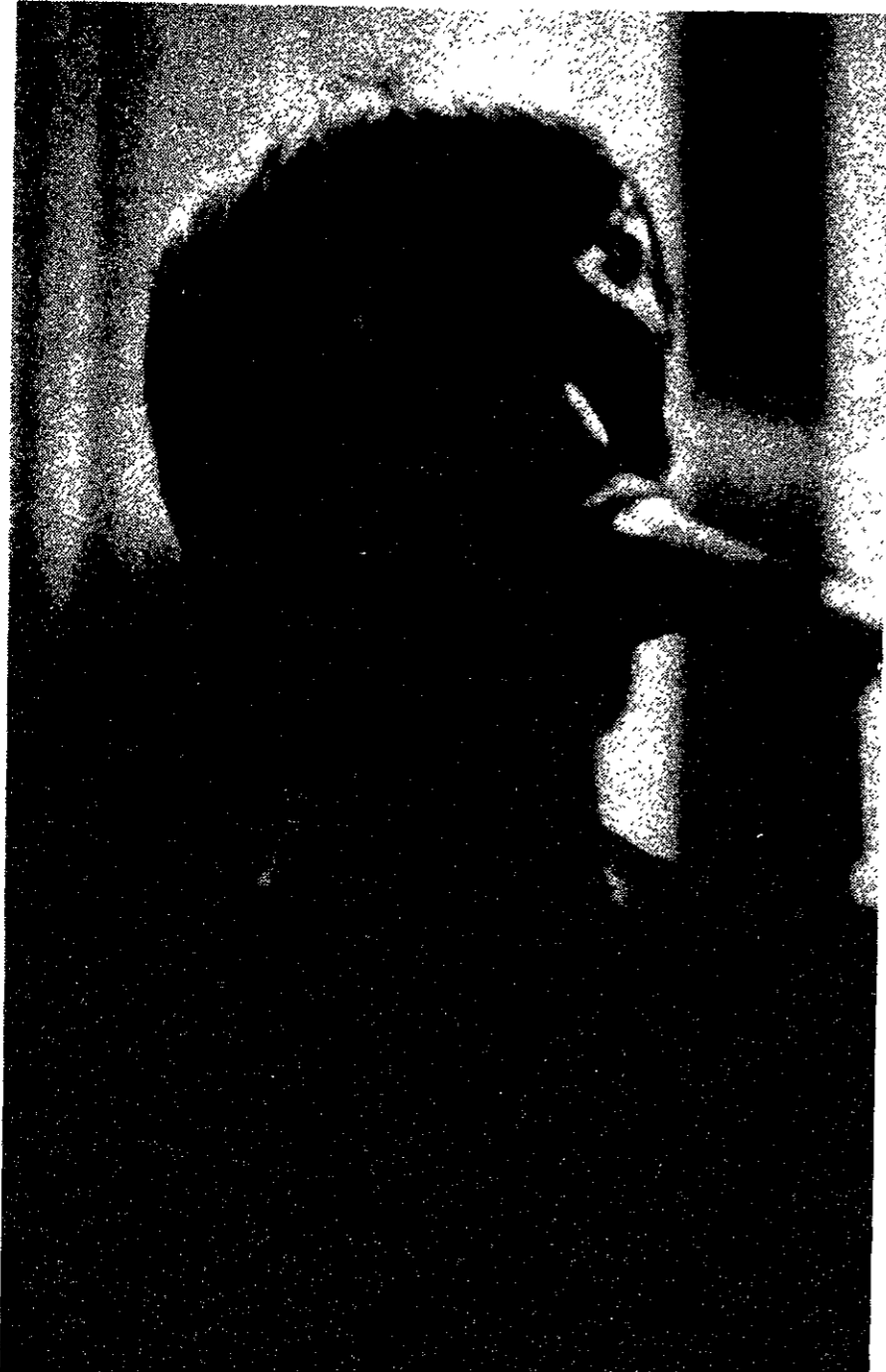
Venture into new frontiers with us in our Optical Technology Division and reach for breakthroughs in the development, design, and manufacture of a wide variety of sophisticated optical technological innovations. You will expand your skills, interfacing with some of the top professionals in the field and attaining new heights of achievement.

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Luther Johnson, lead singer of the Vacuumheads. The V-heads and La Peste appeared at a party in Walker last Saturday. The party was sponsored by Dormcon and the MIT Social Council.

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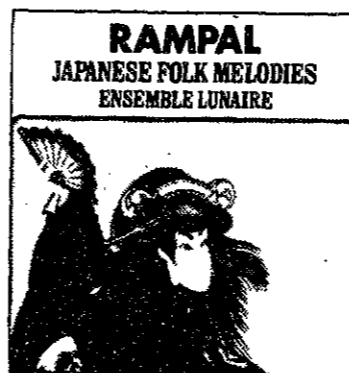
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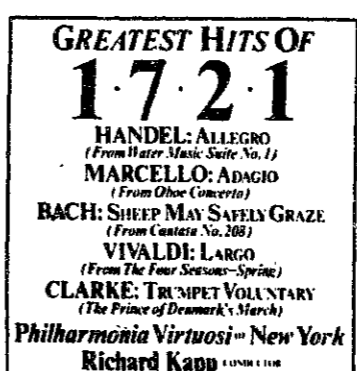
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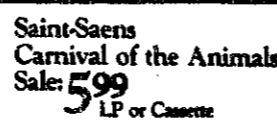
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# Dining study finds few flaws

(Continued from page 1)

In evaluation of the West Campus dormitory cafeterias, the report noted, "the Commons program at Baker and MacGregor is functioning well and requires only fine-tuning. At these houses, dining is an important aspect of student social life."

The management in MIT's Food Services has been ineffective in developing the food service organization, according to another part of the A. D. Little report. "Food Services is largely made up of good people, each working hard, but pursuing their own priorities which are not always consistent with those of the organization," stated the report. It explained, "the focus seems to be on getting the next meal out or reacting to what is perceived as the most immediate problem. There is only limited planning, developing, and motivating of people, delegating, or controlling."

"Under the old structure, regular violations of command occurred," said the report, to which Brammer replied, "direction was coming from too many people." The responsibilities of each person are being clarified and a number of people have been hired to fill new positions, observed the A. D. Little evaluation. The report recommends, however, "a review of the organizational chart and job

descriptions to better define responsibilities."

The report also recommended that "immediate steps must be taken to rectify food-handling and sanitation problems." It found that "student employees require basic food-handling instruction." Specifically, the A. D. Little sanitation committee found that ammonia and bleach, dangerous in combination, were being mixed together for cleaning. In addition, in certain cafeterias, incandescent light bulbs were hanging over kettles and had a high potential to explode. There were inadequate exhaust systems for certain dish-washing rooms, and the wooden ladles being used were labelled "unsanitary." Brammer attested that these sanitary problems have now been rectified.

"The Student Center kitchen is poorly laid out. The serving area is unattractive and inefficient," according to the section on physical plant in the evaluation. "The serving area and busing systems in Walker are inefficient

and the kitchen is too small. A major renovation is required." Thereport found the MacGregor kitchen "generally good, with a few minor problems." Baker was found to have "both correctable equipment and facility problems and more major design and layout flaws. For example, the brick walls in the Baker kitchen are "porous and absorb odors and are "hard to wash down," according to both Brammer and Hartwell.

The A. D. Little committee interviewed students at every dining unit and concluded that "the taste and appearance of food is generally good." Commenting on why so many students thought otherwise, Brammer replied that students will complain about the food but are unable to pinpoint on a problem. He said, "it is interesting when students talk about the same item, one will say it is undercooked." The report commented that the menu planning cycle "includes a variety of items and minimizes redundancy."



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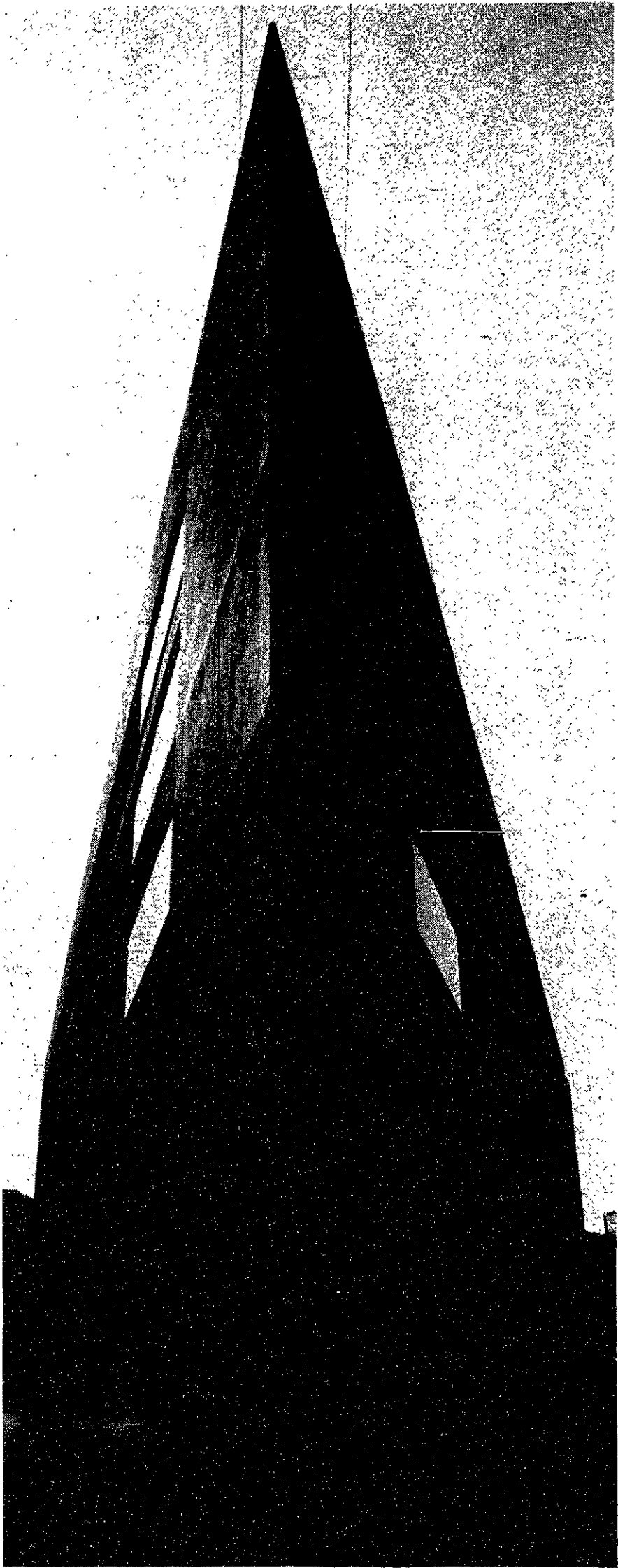
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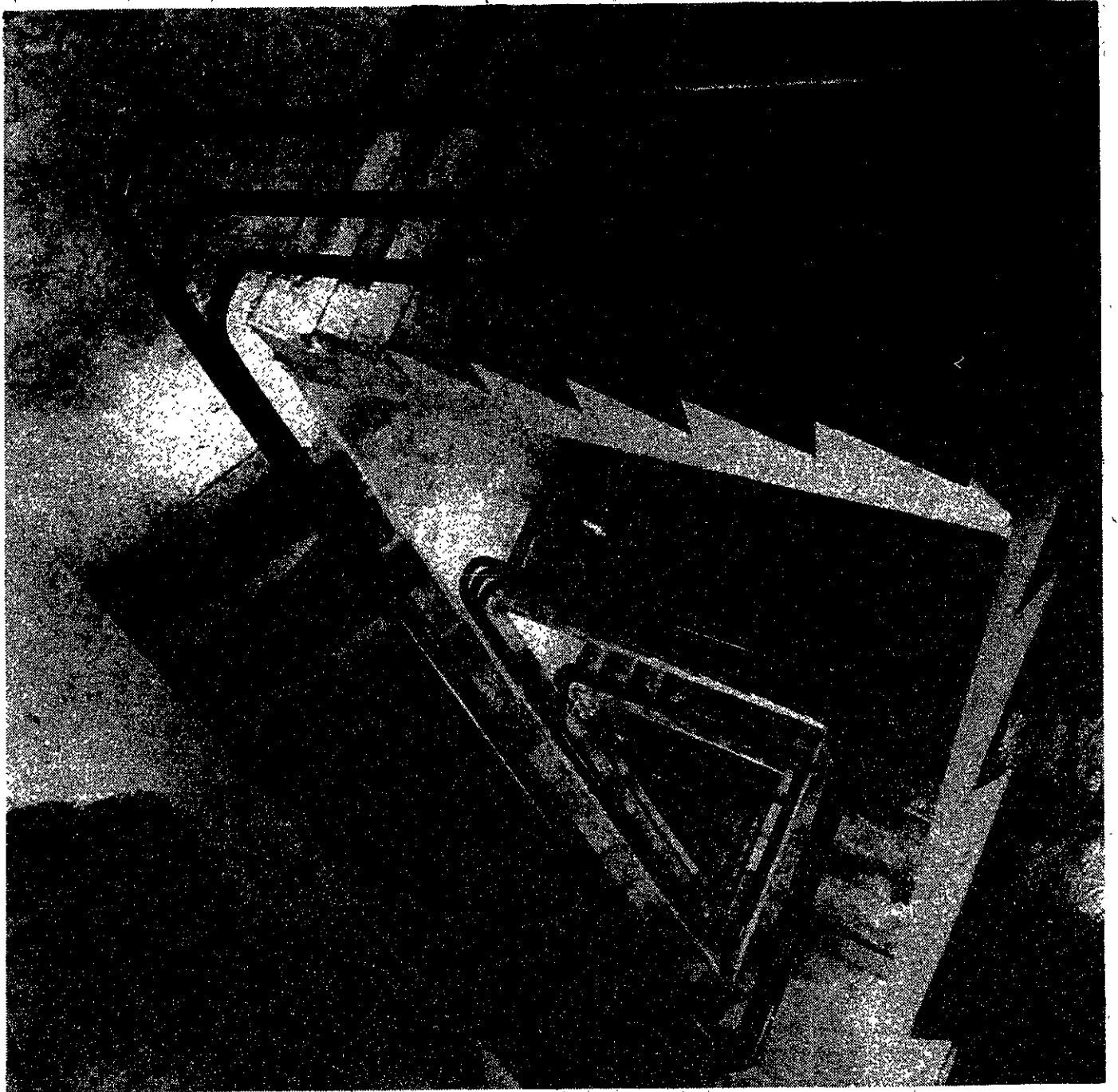
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The setting sun throws the Chemical Engineering building in stark contrast (above). Inside, the triangular staircase seems to wind down forever (right). Top photo by Jim Mihori. Right: *The Tech* file photo.



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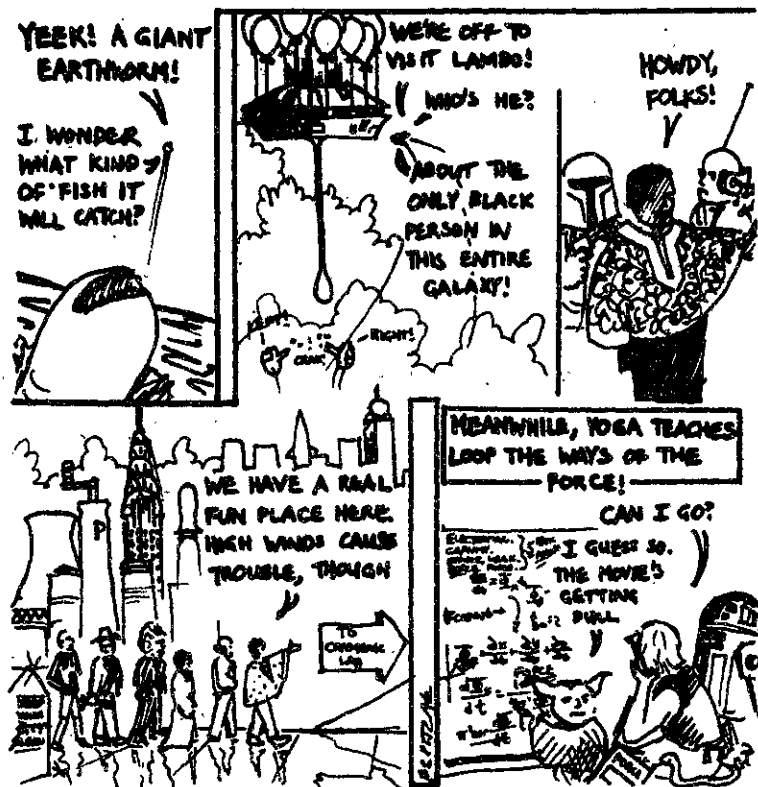
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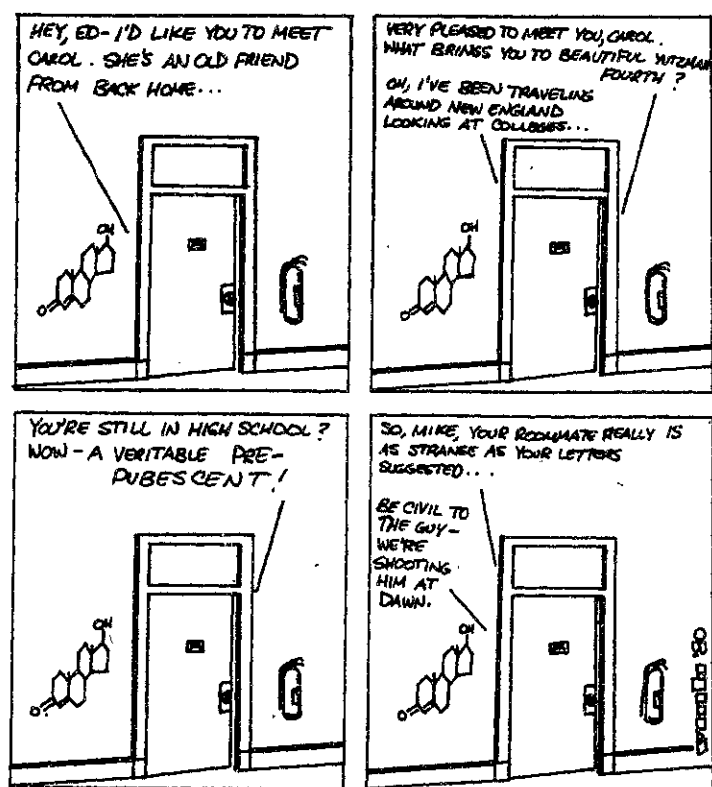
## Technicality By Bill Spitzak



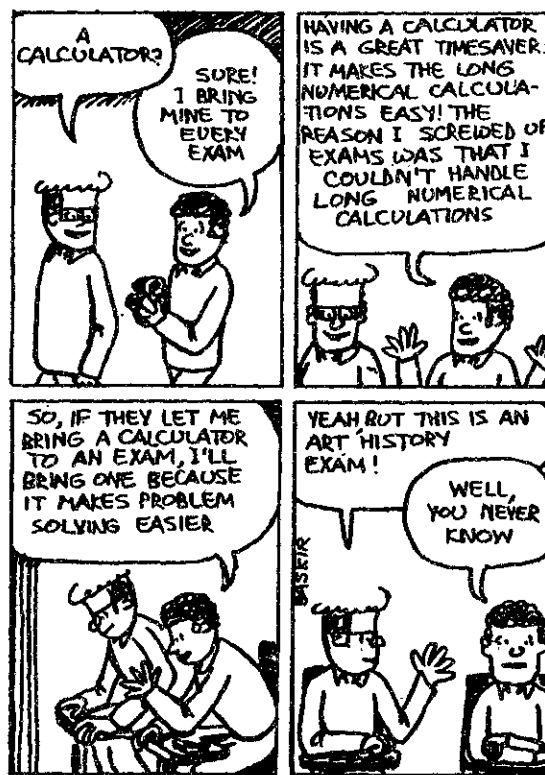
## Dybosphere By Appleman, Plotkin, and Bradley



## Outside Looking In By V. Michael Bove



## Stickles By Geoff Baskir



Company Presentation on Opportunities  
Room 4-159 Friday, Nov. 7, 1980

9am-11am

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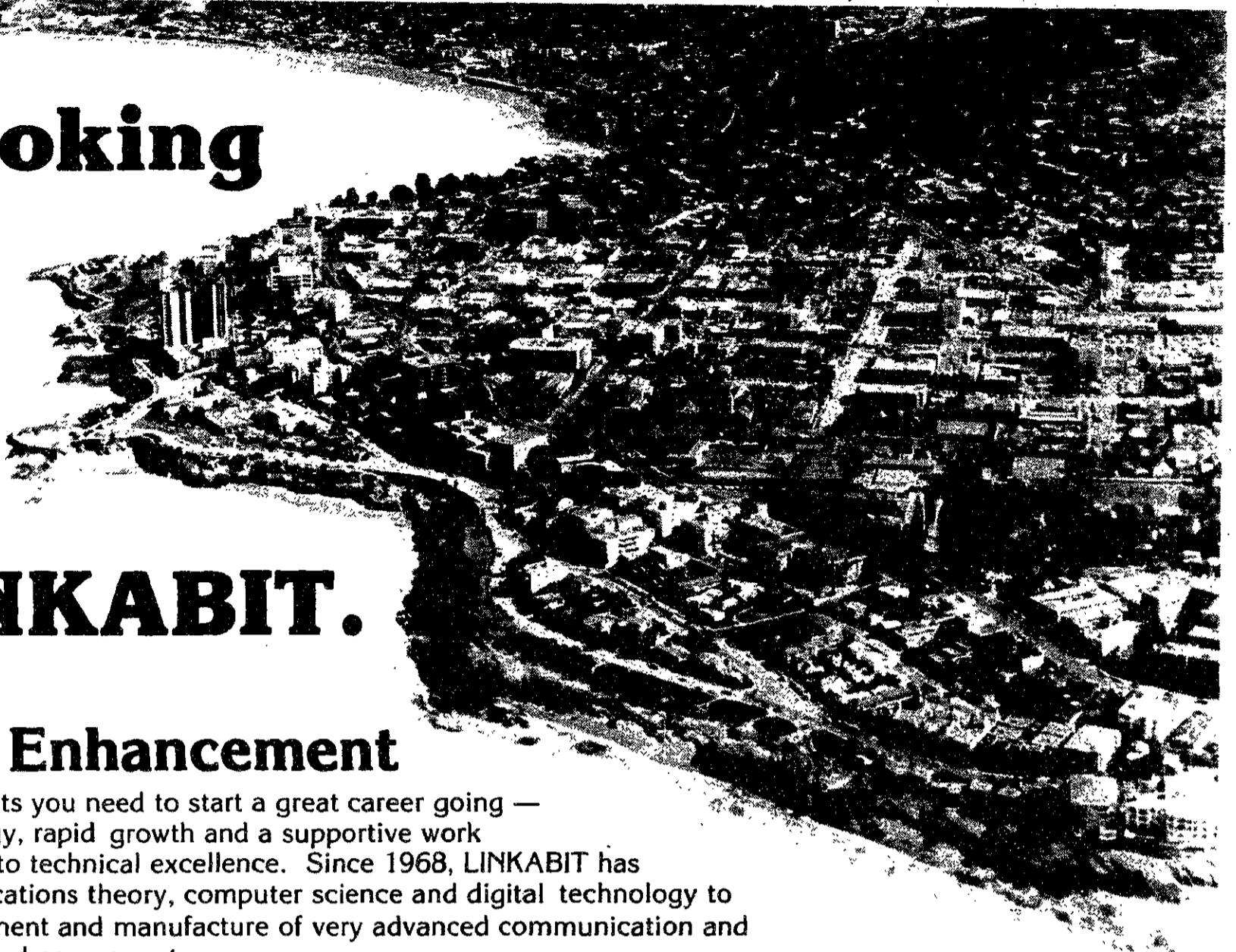
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| • RF DESIGN                                     | • SOFTWARE TOOLS                  |
| • REAL TIME SOFTWARE DESIGN                     | • SECURE SOFTWARE                 |
| • MICROPROCESSOR ARCHITECTURE                   | • CRYPTOGRAPHY                    |

## A SPECIAL NOTE TO MIT ENGINEERS

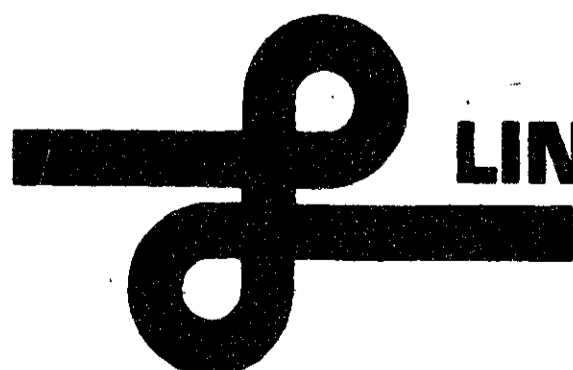
Among the more than 480 people who make LINKABIT a leader are the following MIT graduates:

Dr. Irwin Mark Jacobs	Lawrence Jankauski	Dr. Woo Paik	Dr. Paul Moroney	Vivek Ranadive	Tom Seay
Dr. Andrew Viterbi	Stephen Blake	Ilan Peer	Steven Rubin	Morton Lipman	
Dr. Jerrold Heller	Lindsay Weaver	David Wright	James Petranovich	Paul Braisted	
Dr. Andrew Cohen	Robert Gilmore	Dr. John Kaufman	Timothy Paul	Dr. John Ratzel	

Get the facts, first hand, during our On-Campus Interviews scheduled for

**November 7**

Should you be unable to schedule an interview at this time, mail your resume to Pat Tankersley, College Relations Administrator.



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notes

Announcements

Anyone interested in doing draft counseling please call 253-4965. We are planning training session for new counselors and an update for experienced counselors.

\* \* \* \*

The Coalition to End Animal Suffering in Experiments is coordinating a demonstration to be held on Saturday, Nov. 1 at the Prudential Center on Boylston Street in Boston at noon in observance of **World Day for Animals**. The demonstration will call public and Congressional attention to animal exploitation, including fur industry trapping, currently factory farming methods, experimentation in the name of science, and the plight of countless endangered species.

Lectures

Bertil Gardell, Professor of the Social Psychology of Work at the University of Stockholm, will speak on Nov. 6 on the subject of "Work Reform, Collective Bargaining, and Public Policy: the Swedish Perspective." The talk will be from 4-6pm in room 150 of the Kennedy School of Government, 79 Boylston St. Cambridge. It is sponsored by the Harman Program on Technology, Public Policy and Human Development.

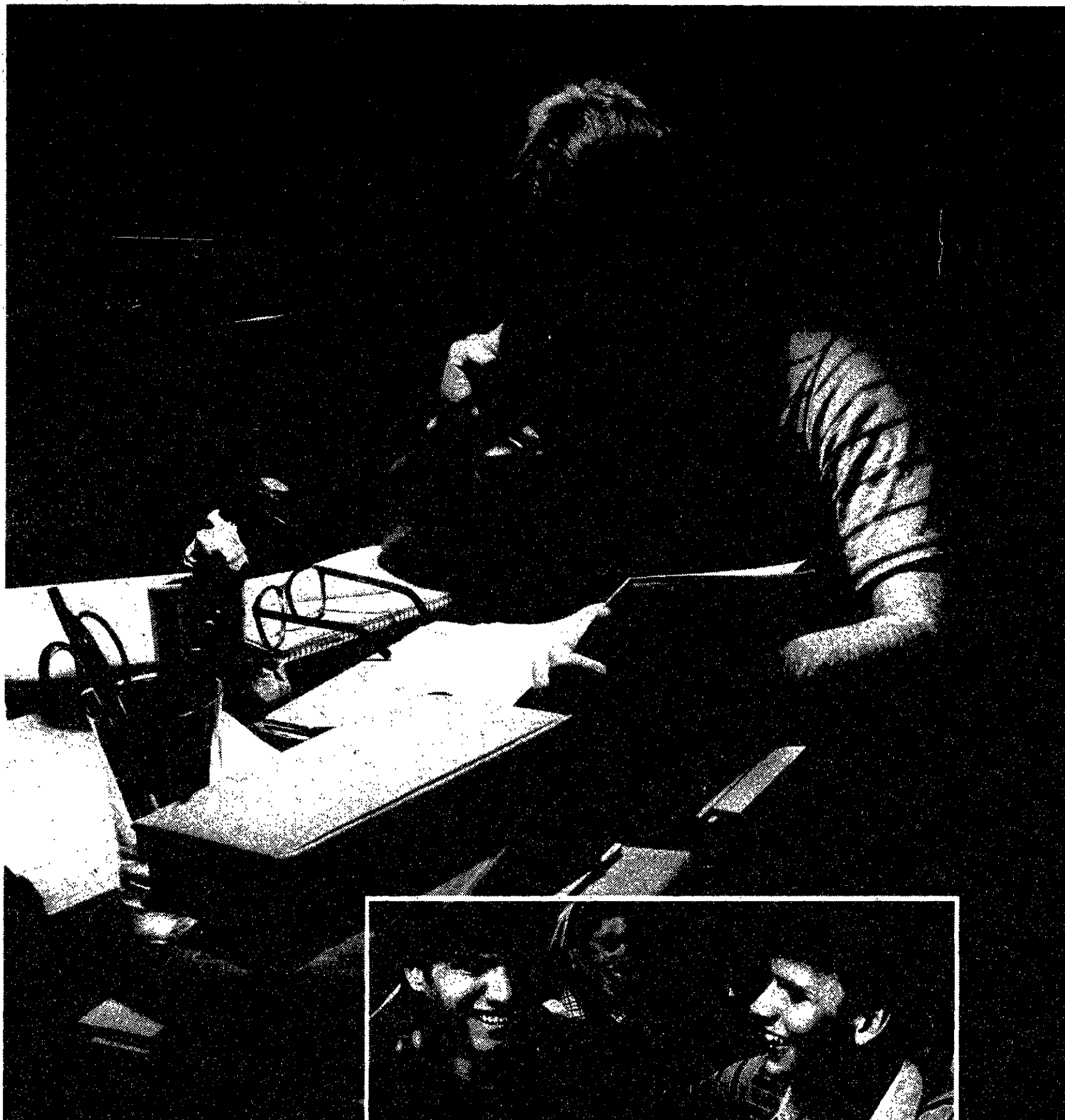
Future programs in the Harman series include:

Nov. 17, 8pm, room 150, Kennedy School: Ambassador Harry Barnes, Director-General of the Foreign Service, US State Department: "Managing the State Department." (Respondent: Professor Douglas Johnston)

Nov. 24, 4pm, Penthouse, Kennedy School: Ronald Muller, Prof. of Economics and International Finance, American University; co-author of *Global Reach*: "Revitalizing American: The Reindustrialization Question." (Respondent: Prof. John Kenneth Galbraith)

Dec. 16, 4pm, room 150, Kennedy School: William Koch, Asst. Chief of Systems Design and Integration, Federal Aviation Administration: "Quality of Work Life in the Public Sector: a case study of the F.A.A."

# When you need some notes at 3:00 a.m., you find out who your friends are.



You left the notes for chapter 6 in the library. A sure sign that tomorrow's test will be heavy with questions from chapter 6. Someone you know is about to get a phone call. He's not going to like it, but he's going to come through. When this is over, do something special for him. Tonight, let it be Löwenbräu.

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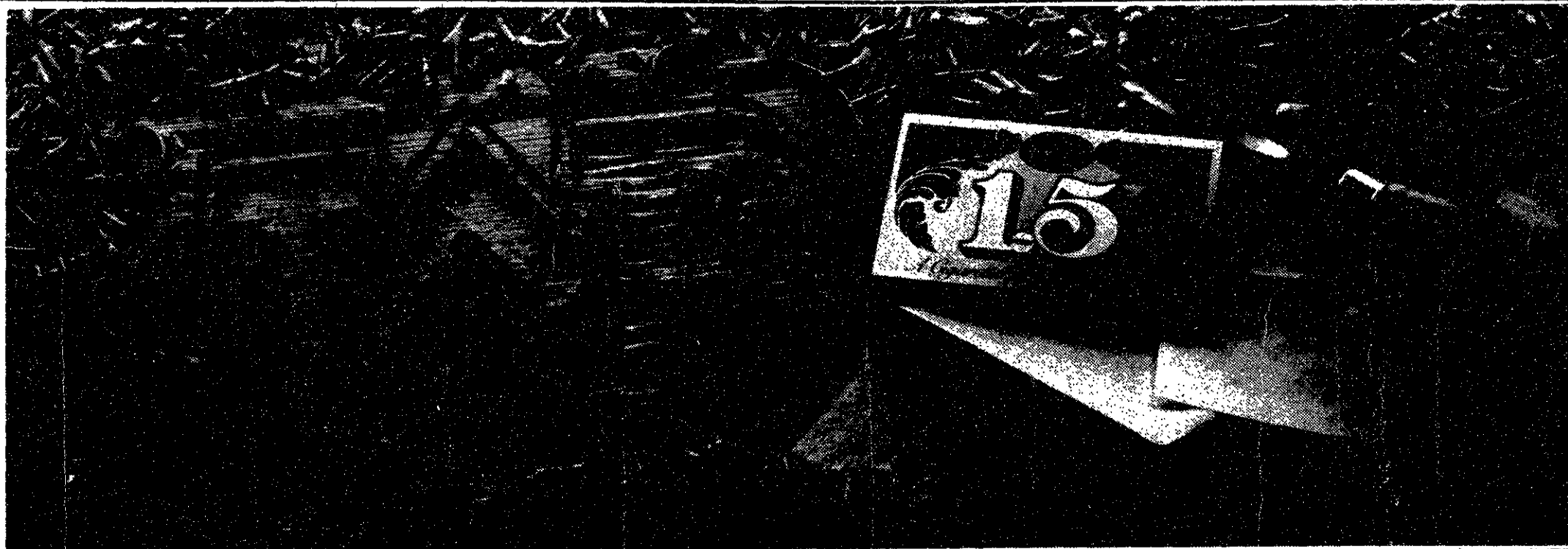
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## Soccer defeated

By Bob Host

Boston University (BU) defeated MIT 3-0 in soccer competition Wednesday night at Nickerson Field, dropping the Engineers' record to 4-8 with one game remaining on MIT's schedule.

BU got off to an early lead, scoring at 5:45 of the first half on a goal by senior forward Paul Fisher. Less than five minutes later, back Panue Itkonen added another score to put the Terriers up, 2-0. After that, the first half was scoreless, with BU consistently maintaining possession in MIT territory without being able to connect for a goal.

The second half was played more evenly, with MIT making occasional thrusts into BU territory. However, with six and one-half minutes left to play,

## IM cycling rolls along

By Bob Host

For the third consecutive year, Mechanical Advantage won the team title in intramural cycling competition, edging out the Burton 4 Players by slightly over three seconds.

Manager Steve Selin reported that this year's 30-mile race, extending from Fresh Pond to Wellesley, had 73 riders. Two lanes of traffic were filled at the beginning of the race, but Selin noted that the field was "narrowing quickly to a long snake, and finally breaking up to groups of five or six cyclists working together to catch the lead pack." The manager added that the front group maintained its lead, with an unofficial rider edging out official winner Marcello DiMare "by a matter of inches," with the first six riders all crossing the finish line within two seconds of each other.

Selin added that "competition ranged from intense to easy-going," noting that some entrants did not finish until an hour after the winner. "There was a lot of interest shown for this fall's race," he commented, hoping for another good turnout this spring.

The team and individual leaders were:

Team	
Mechanical Advantage	4:25:37
Burton 4 Players	4:28:37
Newts	4:30:11
Sigma Chi	4:50:03
Munchkins	4:58:56
New III Stooges A	5:08:40
Spirit of Burton	5:15:44
Desmond House	5:41:32
Beast from the East	6:01:47
New III Stooges B	6:08:30
Bozons	6:37:13
Individual	
Marcello DiMare	1:20:37
Saman Majd	1:20:37
Tom Woods	1:20:39
Steve Zale	1:20:39
John Toplosky	1:24:43

BU's Steve Geraghty tallied to make the score 3-0, with the final goal of the game. BU now has a 13-3-1 record, and is currently ranked third in New England.

BU coach Ron Cervasio had a good deal to cheer about, as the victory was the seventh for BU against MIT in his seven years of coaching—the only team BU has had such a mark against since he took over. In addition, BU fullback John Primario was drafted in the second round by the professional New York Arrows team earlier in the day. The victory raises BU's overall lead in the series with MIT, dating back to 1949, to 17-14, with two ties. MIT closes its season at home tomorrow against Coast Guard at 1pm in Steinbrenner Stadium.

IM cycling contestants at the finish line of the race at Wellesley College. (Photo by S. Cohen)

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