

The Tech

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FRIDAY, FEBRUARY 4, 1972

MIT, CAMBRIDGE, MASSACHUSETTS

FIVE CENTS



Photo by Roger Goldstein

A member of the Boston Women's Abortion Action Coalition leads the discussion as female liberationists met to discuss "Forced Motherhood - How to Prevent It." The meeting, which was held at Northeastern University, featured a twenty minute movie and a panel discussion. Members of the panel included Diane Crane of the Massachusetts Organization for Repeal of Abortion Legislation, Sue Volman of the MIT UAG, a member of the Local Chapter of Zero Population Growth, and the pictured speaker.

Conference to support Black technology aims

By Walter T. Middlebrook

After more than two months planning, the Black community of MIT will be engaged in its first "Black Experience in Science and Technology." The "Experience" will be held at MIT over the weekend of February 5-6.

The "Black Experience in Science and Technology" is being coordinated by Black students at MIT and will deal primarily with the topics of communications, economic development, health care, and transportation. It will offer to participants a chance to meet and talk with several Black professionals about their concerns and pursuits in these areas.

According to coordinators, these topics were chosen because of their current technical concern and major impact on the Black communities of America. They hope that the weekend sessions will give participants the unique opportunity of defining problems, strategies, and possible solutions to some of the needs of rapidly changing urban communities.

In an effort to encourage the involvement of all Black faculty, administrators, Community and Sloan Fellows, and students invitations to the conference were sent to all members of the MIT community. Some invitations have also been extended to members of other campus communities and to several residents of the greater Boston area. Since that time, responses to the invitations has been overwhelmingly favorable. The only problem that really faces coordinators now is that some people may have to be turned away because the conference was planned on the assumption of only 180 participants.

The Tech wants you!

If you're interested in taking on a little extracurricular fun check out our offices. A recruitment meeting for all interested will be held in room 483, the Student Center, Feb. 9, at 9 pm.

The purposes of this conference, as stated in the proposal submitted by the committee, are: 1) to provide MIT Black students with the opportunity to examine their skills, strengths and weaknesses; to make them better aware of how their proficiencies and know-how may be useful in responding to some of the technical needs and considerations of our urban communities; and to offer the opportunity for some students to further develop their problem solving skills, and 2) to engender a new spirit of responsiveness, creativity, and excitement among Black students at MIT. An expression of the significance of this purpose is the use of a Black caterer and a Black printing firm for the conference.

1000 enter 'clean car race'

The Urban Vehicle Design Competition is growing even faster than the problems created by the increasing use of automobiles within American cities.

It started last February with few of the nation's 200 engineering schools expressing interest in a more focused version of the 1970 Clean Air Car Race. The competition now involves more than 1000 students; they comprise 92 teams from 80 US and Canadian universities. About 70 teams are expected in the final competition, which will be held at the GM Proving Grounds in Milford, Mich. In contrast, only 43 teams tested their vehicles in an MIT-Cal Tech race during August 1970.

This year's competition will be less spectacular than a transcontinental race but more significant. It will tackle one problem intensively: that of designing and building transit systems that are more 'civilized' in the urban traffic environment that present automobiles.

Women's study to continue

By Lee Giguere

The surprise resignation of Professor of Nutrition Emily Wick from her post in the Dean's Office, coupled with their steadily increasing numbers, has sparked an examination of the situation of women at MIT undertaken by the women themselves.

According to Professor of Electrical Engineering Mildred Dresselhaus, organizer along with Wick of the IAP Women's Forum, the origin of the problem is that the previously small number of women at MIT has increased. She went on to say that there is a tendency "not to take women students as serious-

ly as men," the belief being that they're "not here for the same reasons." Women, Dresselhaus explained, are discussed in a "more flippant manner," and their professional plans are not taken seriously.

During January, the Women's Forum met to discuss "problems of particular interest to women." However, it has not only served as a discussion group, but, according to Dresselhaus, has also helped to promote "a sense of community among women." She explained that many women don't realize that others have faced the same problems and aren't able to draw on their experience. At the Forum,

they are beginning to realize their common difficulties.

Noting that over 100 women, many more than she had expected, have been participating in the Forum, Dresselhaus felt that this "showed a need for talking about these issues."

Closely related to the forum which Dresselhaus described as a diverse but informal meeting, are three subgroups and a special Ad Hoc Committee on Women, appointed by Dean for Student Affairs J. Daniel Nyhart. One of the subgroups, organized by Dorothy Bowe of the Student Financial Aid Office and Cynthia Bloomquist of the Admissions Office, will focus on women in the MIT staff, a second subgroup is examining the roles of faculty and research staff women at MIT, and a third has been concerned with the problems faced by women students at MIT.

The Ad Hoc Committee on Women is being chaired by Paula Stone '72 and Professor Dresselhaus. The committee is charged: "To review the existing environment for undergraduate and graduate women at MIT and to make recommendations for its improvement... To work with the Dean's Office on defining the qualities and capabilities of any additional personnel needed in the Dean's Office or elsewhere to provide support for the recommendations made... To work with the Dean's Office in arriving at interim support arrangements..."

Nyhart emphasized that he felt this was "not just filling a vacancy;" there is a need, he stated, "to increase awareness and concern for how women see this environment." Nyhart went on to say that it was not simply a question of changes in one office, but changes throughout MIT. He added, however, that he personally thought there is "a need for someone in this office."

The committee, which has been meeting twice a week for two hours at a time, has broken up its investigation into a number of areas: academic, housing, Dean's Office, the Wellesley Exchange program, medical, athletic, admissions and financial aid, employment, child care, and extracurricular activities. Dresselhaus explained that each member of the committee was "looking into a specific area." She noted that summaries of the committee's work and recommendations are already being prepared in the areas of the Wellesley Exchange, medical, and athletics. The committee's final report, Dresselhaus stated, would primarily be a collection of brief reports on each of the individual topics.

Dresselhaus noted that the committee considered the question of the Dean's Office important; the people on the committee all have ideas about it, she added. She predicted that there would be "substantial work" in a few weeks on the question of the Dean's Office. The committee, she noted, will also explore whether it should continue in some form. Dresselhaus pointed out that there "ought to be some sort of feedback" from women to the MIT administration.

While claiming that there is a lot of discrimination at MIT, Dresselhaus felt that it is unintentional.

New director appointed for Housing & Dining

H. Eugene Brammer, Administrative Officer in the Department of Electrical Engineering, has been named to replace Howard Miller as Director of Housing and Dining Services.

Miller, who requested a return to Physical Plant where he had worked as design coordinator for new construction before becoming dining and housing director, will become Assistant to the Director of Physical Plant. He explained that he had requested the transfer because of his interests.

Housing and Dining Services was the focus of the last several years' discussion over optional commons, but Miller termed the past year and a half as "relatively quiet" following the offering of optional food plans in the West Campus dormitories. He noted that the demand for optional commons was "a cry that's been around for a couple of years."

Brammer told *The Tech* that he has already begun "trying to get a handle on things" in the Housing and Dining Service. He added that he has already begun

to "sit in with people," and noted that he was taking part in the discussion on next year's rates. While he has no direct experience in service industry administration, Brammer has a long background in engineering research, both in the laboratory and as an administrator. For a period of several years, while he was away from MIT, he ran his own business.

Admitting that his interaction with undergraduates was limited to his five freshmen advisees and students in a seminar on mini-computers which he taught during the fall term, Brammer pointed out that as EE Administration Officer he had worked with graduate students.

Miller, reviewing his term as director, noted that students have been involved in the Services' budget process "since I've been here." This year, however, students have been brought in "extremely early" and are working with the same data as the housing and dining administrators. Students have been brought into the budget process, Miller said, because "a lot of what we do has a direct impact on them."

LINAC passes the 20 MEV milestone

By Storm Kauffman

The MIT Linear Accelerator (LINAC) of electrons, which is under construction at Middleton, has passed with flying colors its series of tests at 20 million electron volts (MEV) and should be ready in March for its first operational run at 100 MEV.

Costing in excess of seven million dollars, LINAC has been jointly financed by MIT, 20 percent, and the Atomic Energy Commission, the remaining 80 percent. Therefore, it will be essentially a national facility, serving physicists from all over the country.

Operations and research are to be largely funded under AEC contract, and priorities will be assigned by the lab director as advised by a program review committee with representatives from prestigious institutions such as MIT, Los Alamos, Stanford, Yale, and the Bureau of Standards. To further promote the efficient utilization of the installation, a national policy board of scientists from other accelerators has been formed. Nearby schools have already been invited to investigate the opportunities that LINAC offers.

Professor of Physics Peter Demos, the Director of the Lab for Nuclear Science and of

LINAC, has said that the accelerator is on schedule and should have the capability of generating its maximum power of 430 MEV by December of this year. However, research projects, which will begin in earnest in early 1973, will likely work with only half the energy for a time. LINAC could have been completed this year, but it was not funded on the level necessary to balance inflation.

A Linac for MIT

Plans for an MIT accelerator date back to 1960 when a smaller, on-campus facility was being considered. A possible site was under Briggs Field, but engineers rejected that location on the contention that the high water table of that fill land would have made it impossible to keep the buildings underground. The present LINAC was authorized in 1966 but construction did not begin until two years later.

Some of the inevitable problems have caused delays. Despite its location on a small hill, the underground vault which contains the beam guide leaks minor amounts of ground water. During construction, forms for the huge concrete walls of the experimental area were blown down, but the contractor managed to finish on time.

Further difficulties arise from the fact that LINAC, by necessity, must use many "state-of-the-art" devices. This means that many of the highly complex and delicate electronic components are custom-made and essentially untried in service. LINAC's designers have come up with a virtually unique installation and are, for example, one of the few groups in the nation to use "switch tubes" that operate at high voltages to modulate power flow. Two of these tubes have

been given out after a mere ten hours of service but, fortunately, they are guaranteed for five hundred hours. Fortunately because, though LINAC bought them at a contracted \$8000 each, they now cost \$25,000 and the installation requires a total of twenty. All are not yet needed so the only resultant delay was the time for replacement and testing.

planned very carefully with this in mind and much of the credit for the electronics goes to Prof. of Physics William Bertozzi and for the accelerator to Dr. Jacob Haimson of the Lab for Nuclear Science.

One of the exceptional abilities of LINAC is its beam intensity. The electron beam has been successfully kept to a very small diameter in tests at 20 MEV that

should be able to run for up to a week with only minor supervision.

If funds become available in the future and research opportunities look promising, the accelerator can be stepped up in power to nearly a billion electron volts by the addition of another "transmitter."

LINAC layout

A visitor enters LINAC through the reception and office area which leads into the control room. The control room is not yet in use, but upon completion it will house all remote command instruments and a computer.

The other area that is above ground is the RF (for Radio Frequency) Gallery where all of the power boosting and heavy electronic equipment is housed. Running nearly five hundred feet in length and twenty-five in width it will contain five giant transmitter assemblies plus generators, cooling and heating water pumps, and the equipment necessary for servicing. Presently, everything is somewhere in the gallery but only about half the electronics is operational.

At the end of the gallery is a stair leading to the injector room where the electron gun, buncher, chopper, and first sections of mainline wave guide can be found. This is where the beam originates.

The electrons then travel through their nearly six hundred feet of guide in the vault. To preclude radiation exposure, the vault is constructed with heavy concrete walls and has had fifteen feet of earth piled on top as shielding. This is the section that is sealed during operation.

At the business end of the beam tube is the beam switch yard and beyond that the experimental room which will house various detection devices. Outside and underground will be the dump that will "catch" the beam and prevent it from doing harm once scientists are through with it. The switch yard and experimental room are now largely empty and the dump has not yet been built.

The entire facility is surrounded by a fence posted with "Hazardous Area" signs and is situated in the middle of a larger section owned by MIT.

The electron beam

The first stage of LINAC is an extremely high voltage, oil-filled transformer that produces current with a potential of about 500,000 volts. This is channeled to the injector which contains the electron gun. Using the high voltage power, the gun emits pulses of electrons in a manner similar to the gun in a television but at a much greater magnitude and more accurately.

The electrons enter the buncher where they are accelerated to nearly the speed of light. It is in this first short length of guide, less than ten feet, that the electrons reach their maximum velocity. From then on, they are only gaining momentum and energy in the form of mass.

The chopper is a selective

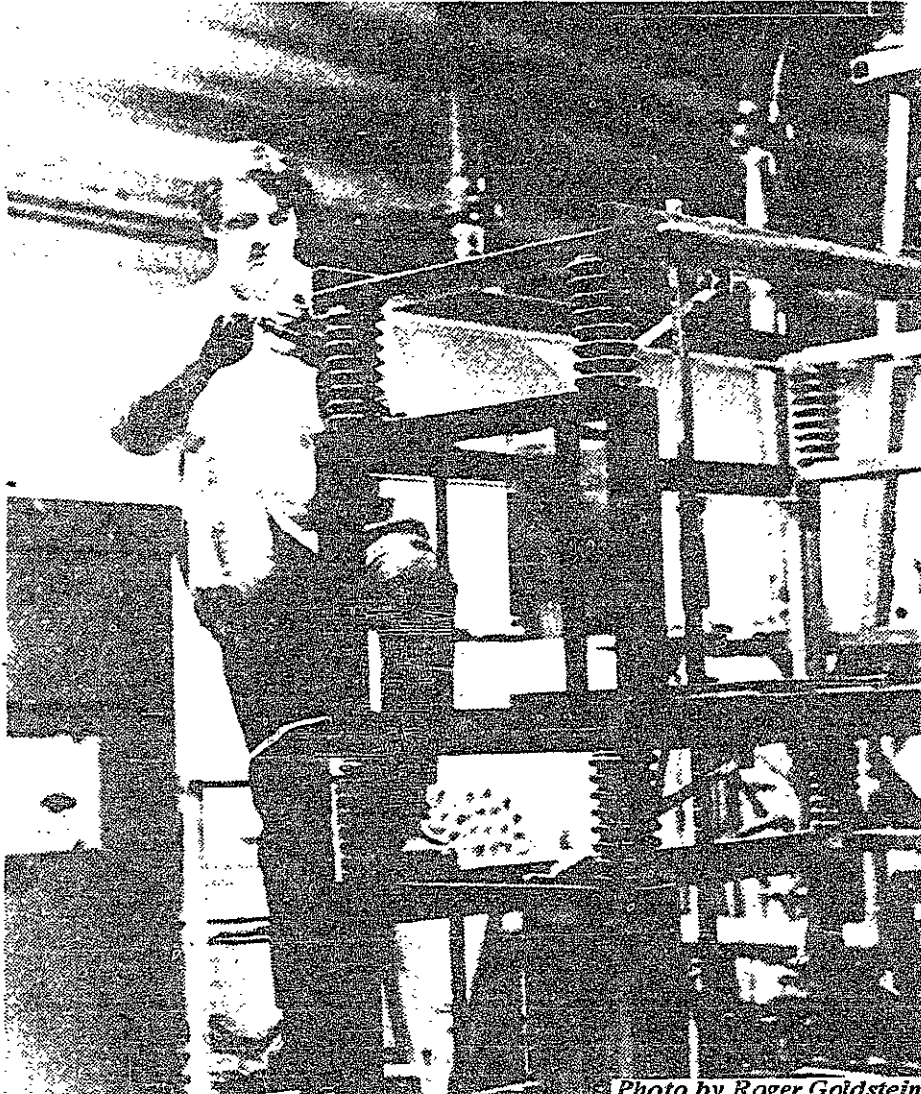


Photo by Roger Goldstein

Changing a tube in an accelerator is not nearly as easy as it may sound. These installations utilize mainly "heavy electronics," an engineer's way of saying that a crane is required to lift the equipment.

Unique LINAC

LINAC is in a class by itself for a number of reasons. It does not have the great beam energy of Stanford or the National Accelerator Lab as it has been designed to study the shape and structure of the nucleus as a whole rather than as a sum of its subnuclear particles. It has been

actually show a better than hoped for intensity. At completion, LINAC should be able to deliver its over 400 MEV to a target area of less than a millimeter in diameter. This will permit highly accurate studies of the nucleus and improve its power rating as compared to the bigger accelerators.

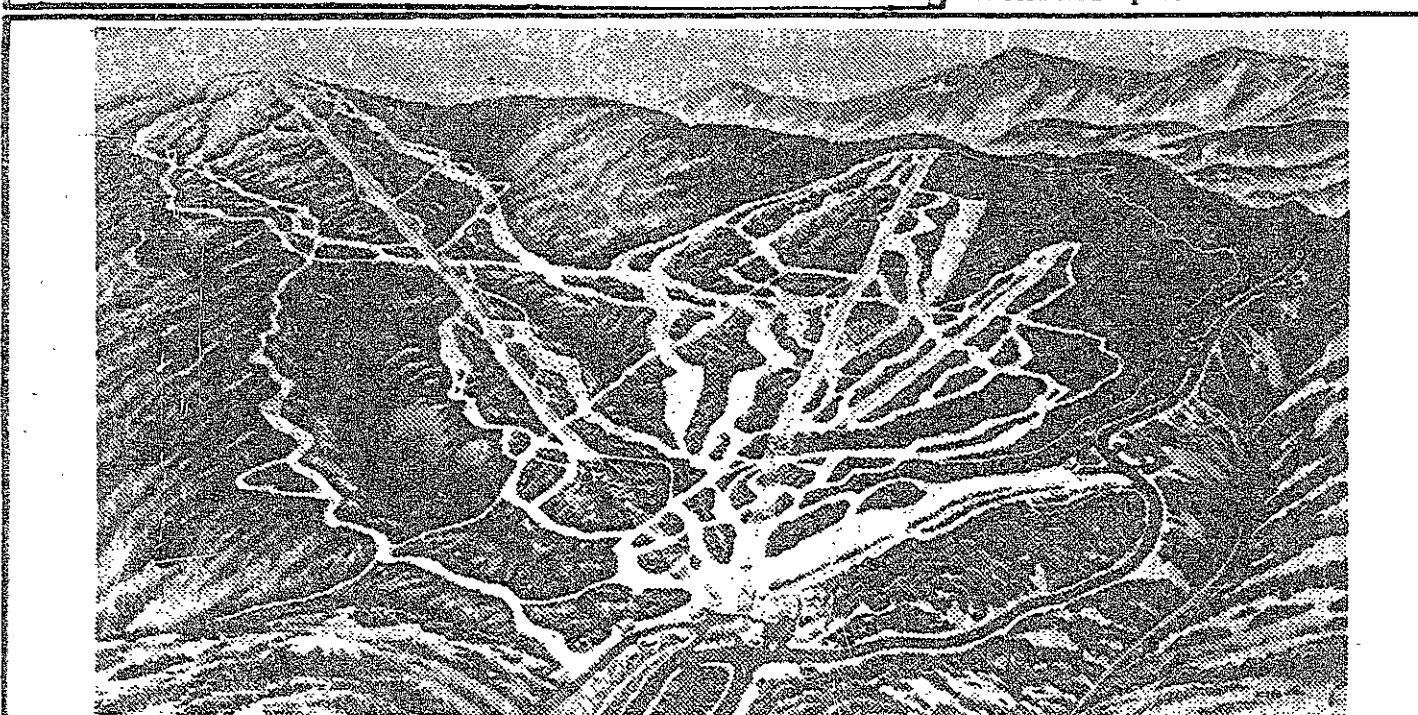
Another important feature is the ability to deliver the pulsed bunches of electrons for the much greater duration of a maximum of 20 millionths of a second — nearly ten times that of other projects. An accelerator does not operate continuously, rather is off most of the time and only delivers spurts of particles at intervals. LINAC will be able to pump its long duration pulses at a rate of up to five thousand a second.

LINAC's crew also hopes that the machine will be able to run more constantly than others. It is believed that the installation

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100 MEV beam due for trial in March

device that cuts the electrons into neat, spaced packets with, as much as possible, the same velocity. A beam with uniform energy is important to the effectiveness of the accelerating principle. This is the end of the presently activate 20 MEV section.

The beam comes through a series of twelve and then twenty-four foot wave guides where it gains further energy. These guides contain "resonant cavities" where the microwave

be that a gamma ray experimental station may be built over the dump for only minor extra expense.

Power: the transmitter

The excitation of the electrons is accomplished by catching a bunch on the top of a microwave crest and kicking them along. Another great capability results from LINAC's novel system for doing this that provides very broad and flat crests at a precisely controlled frequency to thus improve the

watts and a peak of four megawatts.

The outside electricity is stepped up within a large transformer submerged in a tank of high quality oil to prevent arcing. The power is then stored in the capacitor bank to provide a uniform and dependable source.

Once the drive line signal is received, it triggers the drive klystron which again provides a sort of reference pulse. The high voltage pours into the modulator, the 4000 gallon oil-filled tank that holds the four switch tubes and complex modulator assembly of each transmitter and is separate from the transformer tank. Here, the switch tubes serve as high speed control devices to either drain current through themselves or send it on through the rest of the transmitter.

The final stage of the transmitter is two, separately controllable, main klystrons. It is these klystrons that actually turn out the microwave power that is sent below to accelerate the beam. The microwaves are carried to the vault through water-heated, evacuated, copper microwave guides. Each of the first four transmitters serves four sections of beam tube, two per main klystron, while the last powers twice that number. Only the first main klystron has been used to energize the beam, but the next three have been tested and are awaiting the 100 MEV run.

With great foresight, the designers of LINAC realized that the chance of all transmitters being operable at the same time is virtually nil, so they allowed for several, even the middle ones, to be deactivated without

loss of performance of the others. This was accomplished by constructing the main beam guide so that it could be charged to prevent deterioration of the beam as it travels through non-operational sections.

Safety features galore

LINAC's safety precautions are elaborate. With the exception of dump, switch yard magnets, and spectrometer, all of the radioactivity generated will be short-lived. The vault is kept sealed for twenty-four hours after operation to allow radioactive gases to decay.

Anyone remaining in the vault during operations would quickly receive a lethal dose of radiation, therefore a careful search of the area is made by radiation personnel before the beam can be activated. Doors are provided with sensors that prevent operation unless they are closed and remain so. Within the vault are emergency panic but-

tons that shut off the equipment in the unlikely case someone is missed in the search; the lights are flashed and a deafening horn sounded as additional warning. Three bolt holes provide emergency egress from the vault by way of a short "neutron-confusing" maze and steep ladders to the surface. Announcements are made throughout the facility to tell all that the vault must be cleared, that high voltage is coming on at a specific transmitter, that a search of the vault is in progress, that the beam is on.

All personnel wear film badges to keep track of their total exposure to radiation. Only chief medical officer Frank Masse, other than Director Demos, has final say over activation. His department monitors the numerous detection devices scattered throughout the facility to make sure that no one re-

(Please turn to page 6)

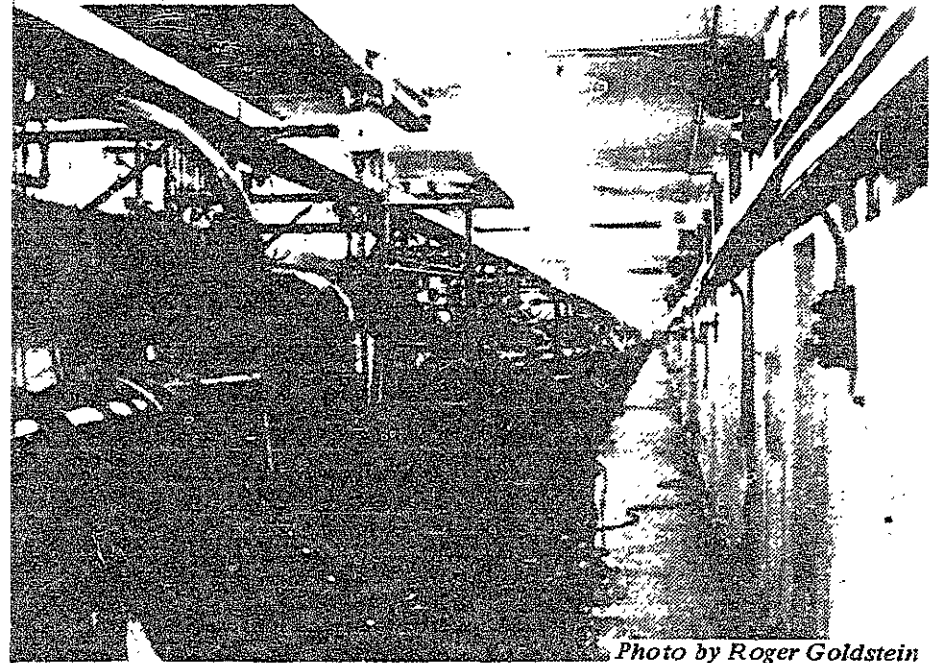


Photo by Roger Goldstein

power from the transmitters kicks the electrons along in rapid succession. Between guide sections are connecting tubes that maintain the integrity of the vacuum within and which may contain various monitoring and filtering devices. The waveguides are cooled by a constant flow of water; rather, in most cases, they will be heated as the object is to maintain a constant temperature and warming is the surer process.

At the end of its accelerator section, the beam enters the switch yard. Here quadrupole and hexapole magnets are used to focus and deflect the beam to the proper spot in the experimental area. Presently, the only experimental device actually provided for a 50-ton spectrometer; however, there are hopes that funds will be made available for another experimental hall and then the switch yard will have greater steering duties.

The spectrometer is a project in itself, and it is another of LINAC's features. Filling up most of a huge experimental room, it takes the beam and bends it through a right angle to strike the detection devices at the bottom of a twenty-three foot pit. This spectrometer will be highly accurate. With a resolution of one part in ten thousand, it will be capable of studying nuclei with very low captive cross sections.

The used beam will travel down a tunnel and into the dump which will safely contain its radioactivity. This dump will contain a great mass of iron which will, in time, become "hot" and have to be disposed of at one of the AEC burying grounds. A residual benefit will

probability of the greatest number of electrons being properly and efficiently accelerated. This makes for a more uniform beam and utilizes power effectively to enable more accurate and consistent measurements.

The triggering signal originates in an ultrastable oscillator operating at 2856 megahertz. The signal is put through a one thousand gain klystron, a device that boosts microwave power by accelerating electrons (not part of the beam) through a high potential, which turns out about a megawatt.

The impulse is then sent down the drive line to the five transmitters where it serves as a trigger and regulator. A transmitter is a massive assembly of several sections: the input power source, transformer, capacitor banks, drive klystron, modulator and switch tubes, and main klystrons. The assembly takes commercial high voltage electricity at around 480 volts and 2000 amps and turns it into an average microwave output of 75 kilo-

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NOTES

* Association of Student Activities (ASA) meeting, Thursday, February 10, 8 pm, W20-400. The new constitution will be discussed. Small activities mail is now in W20-401.

* Admission tickets to the six lectures on World Peace will be distributed to MIT students in Building 10 on Monday, February 7, from 10 am to 4 pm. These tickets are for all lectures, and will be distributed on Monday only.

* MIT Hillel presents a special program "Jewish Medical Ethics" — a discussion program coordinated and led by Dr. William Kavesh, MD, a medical resident at the US Public Health Service Hospital; Friday evening, February 4, directly following Hillel services (MIT Chapel at 7:45 pm). The program will be held in the McCormick Country Kitchen at approximately 9 pm.

* MIT Yavneh in cooperation with MIT Hillel announces the first in a series of panel discussions with the Bet Din on the topic of "The Nature of Halachic Authority." The first discussion will be Sunday, February 6 in the Bush Room (10-105) at 7 pm. All are welcome to attend. Refreshments will be served.

* 17.34, Governance of Cambridge, taught by Thomas Mahoney, will meet on Thursdays, from nine to eleven in room E53-216.

UROF

A Cambridge contract R&D firm is interested in talking to undergraduates about possible projects in sustained release of biologically active materials using a biodegradable polymer matrix. For more information, call or visit D. Burmaster, 20C-231, x4849.

The Interdisciplinary Environmental Projects Laboratory, concentrating on pollution-related environmental problems, will be offered Spring Semester to interested UROF students. Orientation Session will be: Thursday, February 3, 4-5 pm, Room 48-316; METRO APEX Sessions will be: Mondays, 6-10 pm, Room 48-316. For further information, please contact S.F. Moore, x1771 or F. Ventre, x6253, afternoons.

A guide to better education?

By Lee Giguere

Large scale course surveys like "The 1972 MIT Course Evaluation Guide" are hard things to discuss because it is almost impossible to consider their objective validity without conducting an equally broad, yet more subtle poll. However, there are some questions that can be considered by examining the Guide itself: its aim, its success in carrying out that aim on its own terms, the amount of useful information it appears to provide ("appears" because it is nearly impossible to say what is useful information), the accessibility of its contents, and the extent to which the user can determine for himself just what the replies mean.

The Guide was the cooperative effort of the Class of '72 and TCA, "entirely student-initiated and student-run." The questionnaires were distributed directly to student living groups. Faculty assistance in the distribution of the questionnaires was sought, but with little success — the CEP endorsed course evaluations in general and commended the project but refused any practical assistance on the grounds that such a "consumer research" study should be entirely student-run.

The course evaluation questionnaire was composed of three parts: "The Course," "The Teacher," and a section for comments. "The Course" questions, all requiring a response on a one to five scale, included inquiries on the student's overall rating of the course, the depth, extent and pace of the course, its time demands and its organization, and its utility. A rating of "teaching," and questions on the teacher's preparation, ability to communicate and answer questions as well as his manner filled out the second section of the questionnaire. While the "Comments" section welcomed "anything you would like to say," it also prompted remarks in five areas: pace, interest, text and lectures, homework, and quizzes. The questionnaire also asked the student to identify his year and major.

Aims and their execution

According to its authors, the Guide is "a compilation of information about these courses that the MIT student body volunteered to us at the end of the past term" and is intended "as an aid in course selection for this semester and for the fall semester of next year." Further, they state that "it is our intent that the faculty see the strengths and weaknesses of their courses as perceived by students . . ."

The first aim is quite straightforward: in a way, the Guide is a compilation of the information that flows through the student grapevine every term. Any student could obtain this sort of information by selectively quizzing students who had taken the courses he is interested in — the Guide simply saves him some time. Of

course it does more than that since it provides him with a much wider base than he is likely to have. Unfortunately, these advantages are coupled with one drawback: the student is isolated from his informers and cannot easily gauge the worth of their information.

The Guide is written so as to provide its users with quick and easy criteria for making his selections: some courses are labeled as "guts" and others are clearly marked as sources of trouble in a student's academic life. The evaluations of each course, besides giving the numerical results of the questionnaire, include a discussion, presumably based on the written comments.

The second aim of the study, to give feedback to the faculty on their teaching, while admirable, is not so well handled as the first. Perhaps the two are not mutually compatible — how can you give a professor useful feedback while at the same time telling students that his course is a "gut?" The Guide seems to deal with this problem in a somewhat sporadic manner: some of the evaluations are carefully, seriously worded and offer information that could easily be useful to the instructor, for example, the discussion of 8.03X notes that "there were too few illustrative problems" in the text, certainly useful information to a teacher who can make up for this deficiency by his teaching, but only if he knows it exists. At the same time, some of the comments are rather flippant: evaluating 7.01, the Guide notes: "Simpson and Beck's *Life* also has a place — in a junior high school class;" this type of sweeping criticism gives the instructor no suggestions on how to improve the course.

Information content and accessibility

The Guide, without a doubt, contains a vast amount of information. According to its authors it evaluates "exactly 200 courses." For each course included there is the numerical data on the various instructors, in one case for twenty-four individuals. Much of the information, as mentioned above, could be garnered by closely attending to the student grapevine — in particular, the evaluations of 1.00, 2.10, and 6.00 will convey little information to anyone who has ever seriously considered taking a programming course and talked with anyone else about it. But when you get to some of the lesser known courses, the information becomes more interesting.

Perhaps the most commendable aspect of the Guide is its organization: it is very easy to find what you want. The courses are listed by their number, the way most MIT students are accustomed to looking for them, unlike the IAP Guide, which was arranged alphabetically. The Guide exhibits no fancy design techniques, and its arrangement is quite simple and orderly. A further assist to the user is a listing of

the courses evaluated in each department at the beginning of the department section.

Evaluating the evaluations

The Guide takes one major step to overcome one of the main criticisms: last term's History Section evaluation: gives the reader some information about its statistical base. With every course given the number of replies on which the evaluation is based; unfortunately, the information is only of limited value since the reader is not told what the total enrollment in the course was — it is nearly impossible to determine the statistical significance of the numbers. Still, some indication is better than non — this is a first, small step in the right direction. In addition, the authors make some effort to explain the significance of their numerical results: In one evaluation they note: "The '3's' . . . are largely due to the averaging of '1's' and '5's,'" at least giving the user some idea of where the numbers came from.

Equally often, they try to correlate the comments with the numerical results, noting, in one case, that the low rating are due to the lecturer's difficulty with English and a dull text, among other things.

In addition, the authors of the Guide provide a user with additional information to help him understand the data they supply, noting for example, that a certain poorly-graded course was the only offering last term satisfying part of the upper-class humanities requirement and that "many people thought that the topic would have been interesting if the lecturing had been good and they had had the proper background."

Conclusions

"The 1972 MIT Course Evaluation Guide" is certainly a useful document, a good effort to assist students in selecting their courses. It still has many limitations, however. A large number of second term courses are not included since they were not offered first term. In addition, the Guide was published too late for most students to use it in their planning for this term, and by next year, copies of the Guide are likely to have been lost.

Yet the Guide does point out the direction in which future course evaluations should be aimed if they are to serve as consumer guides. Combined with the catalogue and face-to-face discussion with instructors, it provides a useful aid to the student who wants to do more than simply follow the "suggested curriculum." Should the Guide be continued on a term-by-term basis, students might eventually be able to pursue that oft-invoked ideal of a well-rounded education without having to travel blind.

Letters to The Tech

To the editor:

Perhaps innocently, Professor Pinson distorts the facts in his recent letter to *The Tech* about the dismissal of Mrs. Valda Maeda from the Rotch Library. There have been long-continued problems with the slide collection in Rotch, both for our department and also for the Department of Architecture. I summarized those complaints, as far as they affected our department, and passed them to the library via Professor Susskind, who is our library representative. I assume that is the "confidential dossier" to which Pinson refers. Susskind, incidentally, acted only to transmit my comments, and has no responsibility for their accuracy. I do. They were based on a whole series of experiences by various users, or would-be users, of the slide collection.

Far from being a secret accusation, I have discussed the problems with Mrs. Maeda, and so have users in Architecture. After Pinson's letter appeared, Professor Millon of Architecture and myself offered to go over them again in detail with Professor Pinson and/or Mrs. Maeda, but were turned down. I still believe that a public recounting of all those difficulties, which would be possible, would be no service to Mrs. Maeda, toward whom I

feel no ill will.

Professor Pinson is convinced that the dismissal has a political motive. I have seen no evidence of that, in any inquiry I have made. I, at least, was completely unaware of Mrs. Maeda's political opinions and actions before now. From Pinson's description of them, they seem perfectly proper to me. The dismissal was based on the importance of that slide collection for teaching, and I concurred in it, although I am not myself sure that such a summary action was necessary. Professor Millon, a heavy user of the collection, also feels that a replacement of Mrs. Maeda, at least by the end of the academic year, was a necessity.

I agree with Pinson in one thing: the whole affair makes clear the need for regular grievance procedures for untenured staff, and perhaps for union organization. It is unfortunate that in pressing for this Pinson must use distorted evidence, and that Mrs. Maeda must take the brunt of it.

Kevin Lynch,
 Professor, Department of
 Urban Studies and Planning

To the editor:

Professor William Pinson (in his letter of January 26th) has intentionally chosen

to present a distorted picture of my role in the dismissal of Mrs. Valda Maeda.

There is absolutely no basis in fact for his allegation that Mrs. Maeda's firing was in some way politically motivated.

Lawrence Susskind
 Assistant Professor of
 Urban Studies and Planning

(MIT has issued to the press the following statement concerning the dismissal of Valda Maeda — Editor):

At the request of the President, a review of the causes and the circumstances surrounding the dismissal of the Rotch Slide Librarian was conducted by the Dean of the School of Architecture and Planning. This review, which was completed on January 27, concluded that there was full justification for the termination, as had been recommended by the Rotch Librarian, and that there was no evidence of political or other discrimination involved in the dismissal. The review further recommended that due to unclear termination procedures at the time of the final notice one month's additional compensation should be paid.

The President and Chancellor, upon consideration of the review, support and concur with the review's conclusions.

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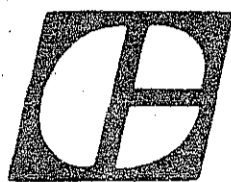
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THE KIBBUTZ SHOW, songs and acts by the Israeli Kibbutz Ensemble and a talk with Muki Tzur will take place on Wed. Feb. 9, 1972, at 7:30, at MIT building 9-150, of Mass. Ave. FREE.

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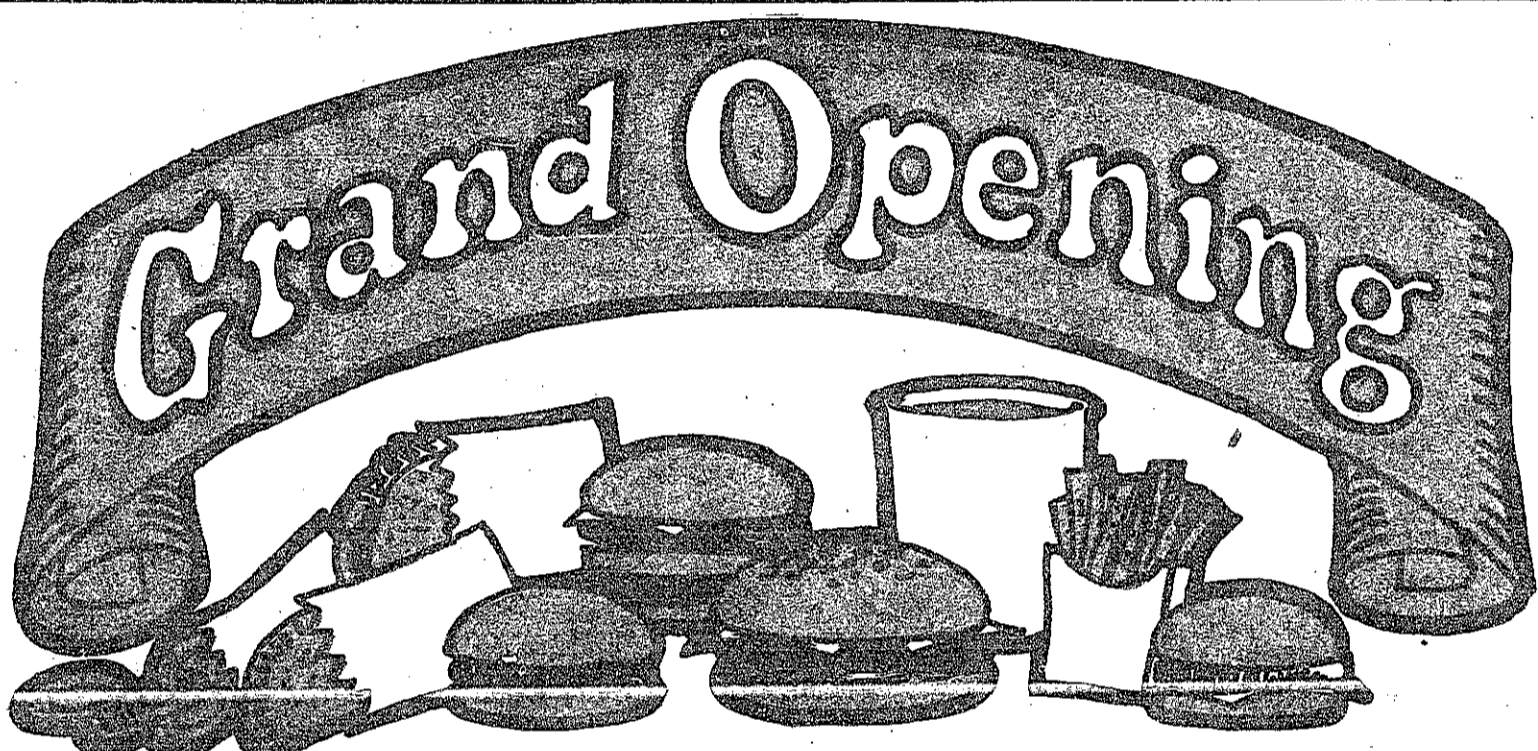
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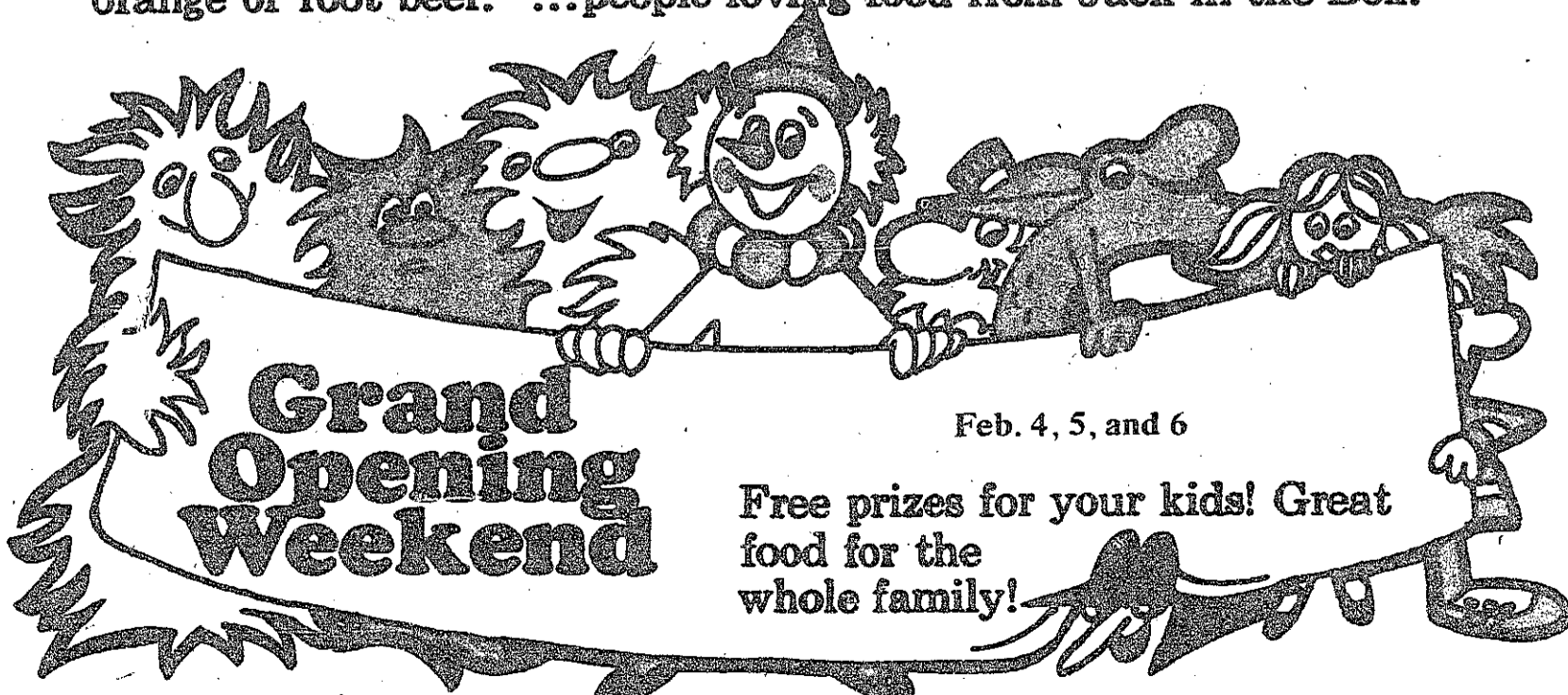
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LINAC passes tests; trial run set for March

(Continued from page 3)

ceives more than the permissible annual dose. For a young man, the maximum is five rems per year; an older one with no radiation experience may receive more, though Dr. Masse hopes to hold exposure to below half that. This is the bottom limit at which the chance of genetic mutation is doubled; no danger to the individual's health occurs at this level.

When in full operation, not only the RF Gallery but also the Control Room will receive small amounts of radiation so all areas and workers are monitored. Several areas that are now open to permit access by heavy equipment will be blocked off with shielding to further cut down radiation. The level at the fence which surrounds the entire complex must conform to AEC standards, which have been varying greatly lately as the AEC sways to public opinion and misinformed fears of radiation. One standard that the AEC has been considering is unreasonable: it is less than the seasonal variation at the site or the positional variation within the state. Likely, the limit will be set at four times the normal background rate, one tenth of the LINAC staff maximum.

High voltage can be as deadly and much quicker than radiation exposure so the engineers have provided for an extensive system of interlocks to prevent electrocution. All of the 160 kilovolt areas are surrounded by fences; the opening of the gate dumps all power into ground within milliseconds.

All of the transmitter consoles are provided with numerous safety devices and off and emergency stop switches. If someone were to intentionally get inside, there is a "crowbar" that fires to short out the high voltage and, incidentally, causes a detectable dimming of installa-

tion lights and backsurge at the power substation. The crowbar, composed of two hollow spheres carrying the potential with an air gap and arc-sparker centered between, has saved at least one man's life in the past.

Additionally, most personnel have passed an extensive first aid course including treatment of electric shock and rescue in radiation contaminated areas.

These precautions will stop anyone from getting injured except an individual who is determined to commit suicide. In the words of electrical engineer and group safety officer Dick Keating, "We've made this system foolproof, but nothing can be made damn fool proof."

Outlook for the future
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film

Paulene Kael says that Welles' Citizen Kane is so shallow, it's a masterpiece...

Citizen Kane, Orson Welles' rococo classic, seems to be at another apex in its perennial revival. It played the Harvard Business School a few weeks ago, and can currently be seen (through Tuesday, with Truffaut's *Les Mistons*) at the new Pru Cinema, which will be devoting itself to classics. More significant for film connoisseurs is the recent publication of *The Citizen Kane Book* by the *New Yorker's* Pauline Kael, one of the finest reviewers writing today.

Kael is a sociological critic, more likely to compare a film to a Hollywood product of the Thirties than to a classic by a name director. Her reviews often castigate a film on moral or political grounds; *Clockwork Orange* was condemned as a misrepresentation of Burgess' book in which director Stanley Kubrik glorifies a punk's "ultraviolence" because it is perpetrated upon an inhuman society; Sam Peckinpah's *Straw Dogs* was seen by Kael as fascist and sexist in its treatment of violence.

The Citizen Kane Book is a concatenation of the previously unpublished shooting script of the film, and Kael's lengthy essay on the film and its antecedents, which appeared in the *New Yorker* several months ago.

Kael's over-all view of the film is rather refreshing. *Kane* is a "shallow masterpiece"; one relishes watching it for the cleverness of the script's construction, not for any profundity or depth of insight into human character. What is marvelous about the film is the enjoyment its creators took in the gimmicky unfolding of the story, the utilization of backlighting, shooting from below, and other devices to make an inexpensively-made film appear to be a spectacle, and the film's newspaper background itself.

For Kael sees the film as an outgrowth of the Hollywood of the Nineteen Thirties, when Eastern newspapermen migrated to the movie studios and sold their souls, when, in fact, the best writers in America, up to and including Faulkner, were turning out highly literate if uninspired movie scripts for incredible salaries. The Thirties saw the production of a nearly brilliant series of comedy movies, with fast-talking manic heroes created from the New York writers' superegos. And among these movies were films whose heroes were newspapermen themselves.

The *Kane* script was authored by Herman Mankiewicz (though Orson Welles claimed the credit, or tried to), a friend of William Randolph Hearst, until the film's appearance; friends of Hearst offered an incredible sum for the

film's destruction, and his newspaper's columnists may have been responsible for its initial lack of success.

Mankiewicz's script, as Kael sees it, was in part a commentary on the changing business of journalism. The parody of a newsreel on Kane's death that opens the film is an extraordinary hack: it is the death of Hearst Journalism, as reported by the news regime that had risen to take its place, Henry's Luce's *Time*. The voice-over on the newsreel is a delicious satire of *Time* magazine's prose style, in which a verb, in convoluted past tense, meekly follows a noun's object clause.

The Kael essay abounds in small revelations: Kane's second wife is modelled after Hearst's kept woman, even including her penchant for jig-saw puzzles; Welles feared that he was a cold actor, and was immensely pleased when he managed to lose control of himself in the scene requiring Kane to go berserk. *Kane*, treated so freshly and so carefully, though in a deceptively informal prose style, amazingly gains in interest, despite one's having seen it over and over for humanities courses, film courses, or, beer in hand, on the late, late show.

~~~~~Peter Schneider~~~~~

**Sadists shouldn't go to The Hot Rock, unless they're masochists...**

When Robert Redford gets into a movie, it would be *work* to make it go sour. But much more is at work in Paul Yates' film, *The Hot Rock*. For one thing Paul Yates, most recently of *Bullitt* and *John and Mary*, is the director. For another, William Goldman, of *Harper* and *Butch Cassidy and the Sundance Kid*, is the writer. Together, they have come up with a very engaging flick.

Probably the best thing about *Rock* is that it is just plain entertaining, which is a nice change after a multitude of directors promising a deluge of personal and often tiring ideologies. It is a simple caper yarn, a serious comedy.

The real star of the picture is the caper itself — it is taken seriously, but is really just a joke. To be sure, that huge lump of diamond is real, but they just don't seem to be able to hold on to it.

The plot twists in and out, and just when you think they have everyone but you fooled — bam! the "bam" is figurative, because, as the ad says, "no sex, no violence..." And, believe it or not, a film without sex and/or violence does not have to be dry. It is a good caper flick, and a good caper parody to boot.

Don't let the mild rating scare you off (it's GP). This is a fine film. Be prepared to be entertained without having your mind boggled.

~~~~~Alan Razak~~~~~

music

Captain Beefheart for the masses: he has very structured noise...

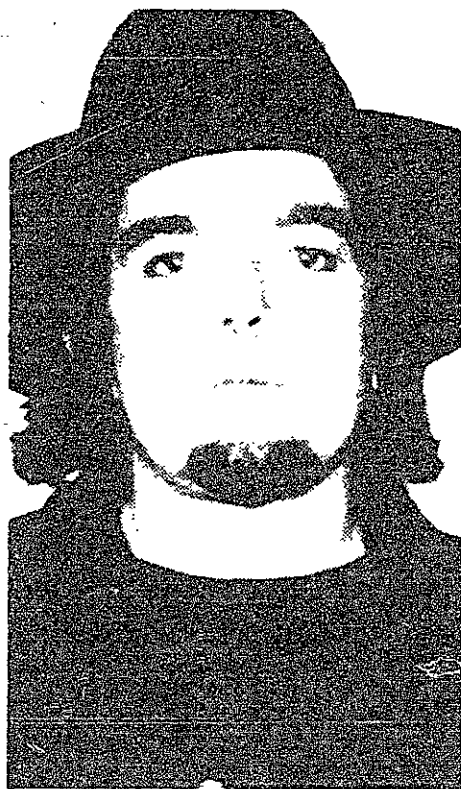
Now, for the first time, there exists Captain Beefheart for the masses, in the form of a record entitled *The Spotlight Kid*, in which the listener can appreciate the writing/arranging/singing talents of Don Van Vliet and marvel at the competence and creativity of his four co-musicians, collectively known as the Magic Band.

Present Beefheart fans might shudder or wince or cry "Sell-out!" at the mention of an accessible, yea, a commercial album by CB, yet they need not fear. This album is no slouch, and it is still all unmistakable Beefheart. Who else could sing a note so low that the bass player thinks he has made a mistake? What other group has the drums sounding like they are being played backwards? The lyrics on this record could have come from nobody else (except Beefheart's wife, who wrote the words for one song). But a blues tinge gives this whole album a good, strong unity which should please a wider range of tastes than did the band's other five albums. Beefheart himself thinks this is his best album.

His career hasn't exactly been a stellar one. Most of Beefheart's songs are of such a nature that the band members must each be taught the proper parts, which are all explicitly written out. When a member of the Magic Band quits, the replacement must be taught the songs. The delays in time this takes have cost the Captain many chances for earlier stardom, including causing him to miss the Monterey Pop Festival in 1967, which would have exposed him to a wide audience, as happened to Janis Joplin and Jimi Hendrix, among others. Manager troubles and recording troubles have beset the band, but slowly and surely the Captain has managed to triumph over all the setbacks and is finally starting to receive some popularity.

He is more pleased with this version of the Magic Band (Zoot Horn Rollo, guitar; Rockette Morton, bass; Winged Eel Fingerling, guitar; and Ed Marimba, drums) than with any of its several incarnations. Just how together the band is is easily seen at one of their performances. Live, they can produce energy that would blow out your speakers if played on a record.

Rockette Morton opens with just the bass line from a song, which is recognizable as "Hair Pie," one of their better instrumentals. (How many Beatles' songs can you recognize by just the bass part?) With his amp turned way up, each note shakes the seats. The name "Rockette" fits him well, the way he steps around the stage. After he finishes, the band slowly comes out and does their full set. They do several songs from *The Spotlight Kid*, including steamroller versions of "Click Clack" and "I'm Gonna Booglarize You Baby."



This man wants to booglarize you.

You can see Zoot Horn and Winged Eel and Rockette practically move as a unit. Ed Marimba, with each crash of the cymbals, acts as if his head was right underneath the cymbals themselves. The beat they create is tremendous. It is exhausting just to watch them.

Over this monster rhythm comes the Captain, as he growls out the words. As they get more intense, so does he. His power and vocal range are awesome. On John Lee Hooker's "Black Snake Blues," sung unaccompanied, the amps distort from the strength of his vocal alone. He moves around somewhat on the stage, but these aren't just theatrics. You can see how involved he is. He sometimes plays games with the lyrics, reversing the order, turning them around, getting the complete feel of them. He lets the harmonica ring out with fierce intensity. Or he just stands back and lets his band churn awhile. Or he strides up to the mike, swallows it up in his saxophone and does what he refers to as "just blowing my nose" (he thinks John Coltrane was inhibited and insists that scales be left to the fish).

The total result to the listener is staggering. It might sound like a lot of unstructured noise at first but a closer listen will reveal that the musical structure is very solid and that the band knows exactly what to play. But if you listen even closer, you'll realize that isn't true either; each of the four members introduces subtle variations to the framework. So the same song will never really be the same twice. But it still sounds as tight as ever each time. Then you will believe that this is no ordinary bunch of musicians. This is truly a Magic Band.

The closing number of "Alice in Blunderland," which gives Winged Eel Fingerling a chance to tear off the ceiling for a few minutes. Then, the song comes to its smart end. The audience cheers until Ed Marimba and the Captain return for their encore, "Spitball Scalped Ah Baby," a

drum and sax improvisation. The Captain finishes first and packs up his instrument. Ed pokes about on the drums for a few minutes, and then abruptly gets up. It's over. The band will be up for hours to come, until they can calm down to normal. Likewise, the audience.

The fact that Beefheart and his ban can reproduce so accurately live his recorded songs (of such an unusual nature) is a good recommendation for the group. And the material they have done so far is like the tip of an iceberg compared to the amount that Beefheart actually has created. He claims that he wrote all of the songs for the band's next album in a car the other night. He has a book of poetry, a novel and a film coming out in the future. These are all just as imaginative as his music. While he may at first appear to be crazy, a good listen reveals that he makes eminently good sense more of the time than most of us do. And he is finally sharing some of these insights with the world. Let us truly rejoice. A Don Van Vliet doesn't come along too often.

~~~~~Jay Pollack~~~~~

**Cooder is definitely coming through...**

*Into the Purple Valley* — Ry Cooder (Reprise)

Ry Cooder has long been known as one of the best bottleneck guitarists ever, and he has played back-up for the likes of the Rolling Stones, Neil Young, and Crazy Horse.

He has also put out two solo albums, *Into The Purple Valley* being his latest effort. His first record featured his usually brilliant guitar work, but his vocals were weak. His second album has changed that; his singing has developed to a point where it blends perfectly with his outstanding bottleneck, the material fits his style ranging from Leadbelly's "On A Monday" to Woodie Guthrie's "Vigilante Man," and the backing musicians are some of the best (Jim Keltner, Van Dyke Parks, and Fritz Richmond). "Money Honey" is a good little rocker, and "F.D.R. in Trinidad" is great. *Into the Purple Valley* is a fine record by Ry Cooder, who ranks, along with John Fahey and Leo Kottke, as a master of the solo guitar; possibly, he is the most eminently listenable (without lapsing into boredom) of the trio.

~~~~~Neal Vitale~~~~~

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Fuller to speak Thursday

By Larry Wilson

Buckminster Fuller asks himself fundamental questions, answers them in terms of his own experiences, and proceeds to reduce his problem-solutions to practice for the benefit of humanity. He radiates a personal warmth, humility, and a sense of urgency concerning the state of mankind. His philosophy is utterly simple and selfless; in his book entitled, *Utopia or Oblivion*, he says, "I go along with the 5000-year-old philosophy of the Bhagavad-Gita which says: Action is the product of the qualities inherent in nature. It is only the ignorant man who, misled by personal egotism, says: 'I am the doer'."

Dr. Fuller was born in 1895, grew up in Milton, Mass., and spent his summers on Deer Island, off the coast of Maine. He spent one unhappy term at Harvard, and in 1917 enrolled in the U.S. Naval Academy. In the same year he married Anne Hewlett, daughter of a prominent New York architect.

At the Naval Academy, Fuller was educated as a comprehensive. The training which he received in ballistics, logistics, navigation, and gaming techniques greatly influenced his thinking. Fuller would agree with the statement that Albert Einstein once made, that, "there is no physics and there is no chemistry, biology or mathematics. God did not create these divisions; man did. All science is one science; there is only endeavor." Fuller looks upon academic disciplines with the same contempt that he feels for concepts such as national sovereignty, race, and social class. All of these artificially divide mankind and bear no relation to natural law.

Fortunately, says Fuller, the computer is saving us from extinction due to overspecialization. It is quickly making man obsolete as an intellectual specialist - or brain slave. However, the integrative, or intuitive functions of mind will not be rivalled by any machine for many years. Fuller's inventions reflect his

philosophy of comprehensive-ness, as well as the principle of doing more with less. His Dymaxion house came equipped with air conditioning, dry toilets, a recycling water supply system, automatic cleaning with compressed air, and sold for \$1880 in 1928 (about \$5000 today). His Dymaxion car used a 1930 Ford engine, reached 120 miles per hour, carried 10 passengers, and was able to get 70 miles per gallon of gas. The geodesic dome uses about one tenth the amount of material as a conventional structure, becomes more efficient the larger the span, and is light enough so that a helicopter can lift one that is large enough to cover Shea Stadium. His Synergetic geometry, a 60-degree-coordinate isotropic vector system, is based upon the tetrahedron - the arrangement of closest packing of spheres - and allows any child to visualize problems in the fourth dimension.

His latest project is called the World Game - or "how to take care of everyone without taking advantage of anyone." It is played by reversing the Von Neumann rules of game theory, which assume a zero-sum game. The World Game is played as a non-zero sum effort; winning solutions are those which achieve the goal of providing for all of the needs of humanity in the shortest possible time. Solutions consist of comprehensively-designed world-wide service industries and facilities.

Fuller is also acutely aware of the limitations of science and technology. He was deeply influenced by Thoreau and by his famous great-aunt, Margaret Fuller. Life is metaphysical; poets try to describe what life is, while science discovers what life isn't. He would agree with the statement of Vannevar Bush that science only heightens the mysteries of life. Technology, says Fuller, cannot produce a healthy society, but it can permit, or allow life to regenerate, much in the same way that the superb technology of our digestive, circulatory, and nervous systems

allow us to grow and regenerate. The purpose of technology is to eliminate resistance to life. As we progressively do more with less, our technology will become more and more invisible, automated, and unobtrusive.

Buckminster Fuller is neither optimistic nor pessimistic about the future. Time, and the forces of evolution will decide our fate, he says. In the meantime, the individual can function as a trim tab. (This is a device which controls the rudder on a ship or plane. Although it is a tiny part of the ship, it exerts an influence far out of proportion to its size, by creating a small vacuum which draws the ship around.) Fuller sees himself functioning as a trim tab aboard Spaceship Earth. He has boundless faith in youth, and firmly believes that the approaching revolution is one of consciousness: for the first time in its history, all of mankind can be a success.

Dr. Fuller's books are on sale in The Coop. He is the subject of an excellent interview in the January '72 issue of *Playboy*, and is also featured in this month's issue of *Architectural Forum*.

He will be available to meet with some students on the afternoon of Thursday, Feb. 10, before his evening address in Kresge. For more information, call 354-5420.



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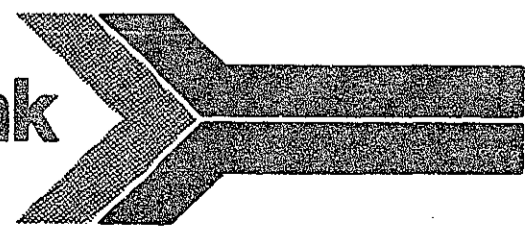
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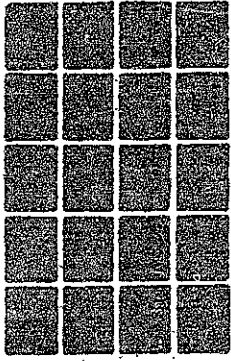


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IAP office begins analysis

By Storm Kauffman
 In the early analysis, the Institute's second Independent Activities Period was a great success. Generally, the events were oversubscribed and some have created so much enthusiasm that there are plans to continue them into the spring term.
 According to Joel Orlen, IAP coordinator, and his assistant Kathleen Fox, "there was a surprisingly large percentage of students on campus: approximately seventy percent." Although it is not yet known how many of these actually participated, few sponsors of activities have reported poor turnouts.
 The IAP Policy Committee has sent out questionnaires to the students to allow them to prepare a statistical analysis of IAP participation. The office has also contacted about three-quarters of the sponsors for the some 620 events; of the half that have so far responded, only about fifteen have said that they were disappointed. Probably, no report will be published as for the 1971 IAP.
 Most of the major programs had standing room only crowds while the smaller ones had to turn many interested students away. The sessions in classical guitar, intensive-study Mandarin,

and outdoor medicine were very popular as were those in the occult sciences and Afro-American dance. The numerous "how-to" groups - glassblowing, auto repair, computer programming - found many anxious to prove their manual dexterity.
 Asked whether short activities running for no more than a week or those long term projects that required a month-long commitment were better received, Mr. Orlen replied that he did not know but that it was a good point into which he intended to look. However, he added that during last year's IAP the longer programs tended to peter out toward the end. It would appear that MIT students take the more than ample opportunity to sample the many disciplines offered during IAP, and Mr. Orlen hopes IAP will not fall into a monotonous pattern but that "each IAP will have its own flavor." Of course, very popular activities will likely be repeated to enable new students to participate and allow repeaters to become more proficient.
 Among those activities that are being continued is the Women's Forum, which will hold biweekly meetings during the term. The IAP browsing library, with a turnover of twice that of

the permanent facilities, was well received that there is presently a search underway to find an accessible location for the term. There was so much interest in plants that organizers are hoping to get authorization for a green house on campus although this may be preceded by the formation of a horticultural club. Students showed much enthusiasm in the art workshop and it is hoped that the display of some of the creations in the Hayden halls, on the Building lobby erector sets, and other places will encourage the artists to continue. A gathering of German students may develop into a German House similar to the relocated Russian group. The faculty will investigate the possibility of turning the weekly attended seminars of Energy Week into an educational search program on the subject.

The IAP Policy Committee has \$10,000 which it distributes to fifty-nine individuals amounts ranging from twenty-five hundred dollars. Mr. Orlen said that while he would have liked to have had more, (requests totalled four times the funding) he believed that the competition necessitated close investigation of the proposals to assure that the more rewarding activities got first crack. The IAP group suggested money savers and handled the account for the student organized event such as the Mandarin course, and has been in closest contact with these groups. One student stated that his activity would not have been possible without the Institute funding and the lack of pressure from regular courses.

The volume of events was not the result of any prodding on the part of IAP workers. They were surprised at the great number of listings that were received for the November guide, especially as many professors had complained previously that they hadn't the faintest idea of what they would want to do in January. Next year the guide may include a day-by-day calendar of activities to permit students to more efficiently and easily organize their time.

The only apparent negative aspects of the 1972 IAP were in the area of student participation in the coordination of IAP itself. Few students were active but a great deal of credit must go to Bill Orchard '74 and Dana Cloutre '74 who helped out everywhere. Mr. Orlen hopes for the aid of five or six students next year. They will probably sit on the Policy Committee to help make decisions based on their knowledge of student life, to track down and sort proposals to put up posters, and to man booths. The booths were the failure of this IAP; they just got no response and it was practically impossible to find volunteers to run them.

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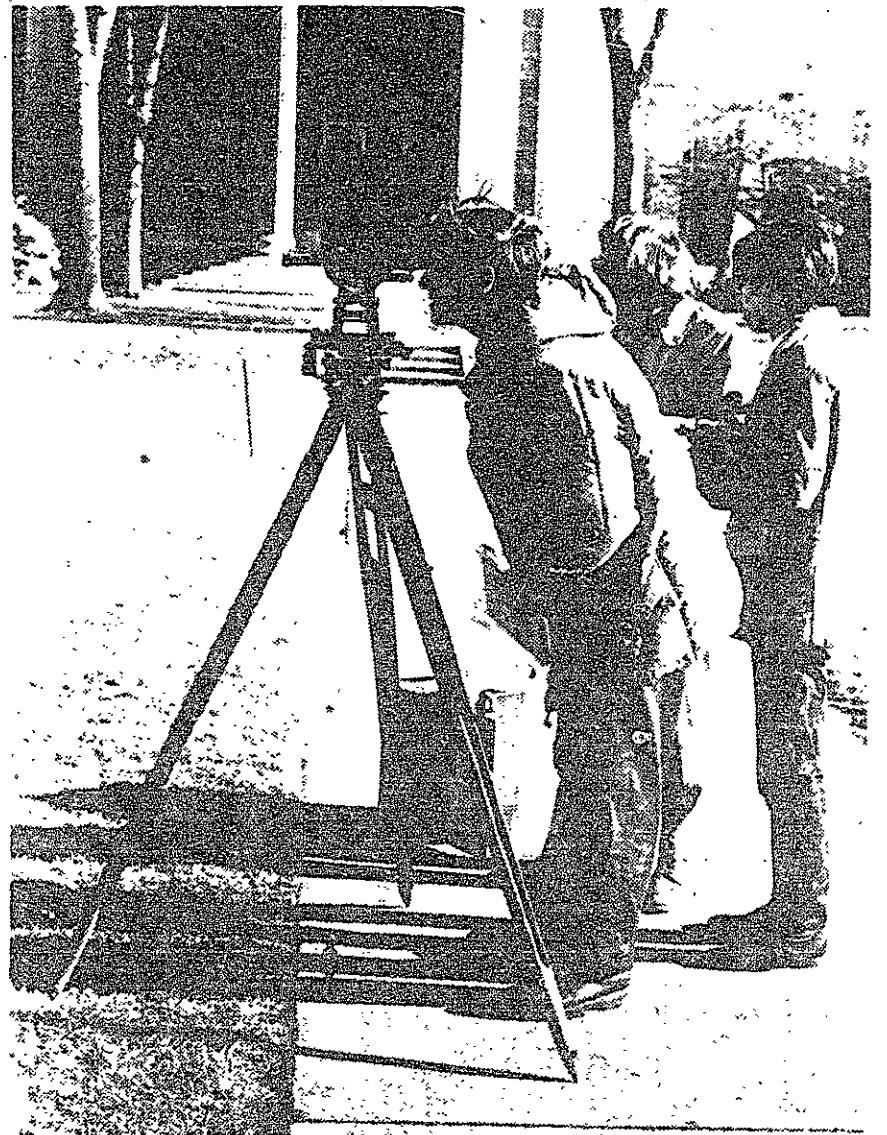
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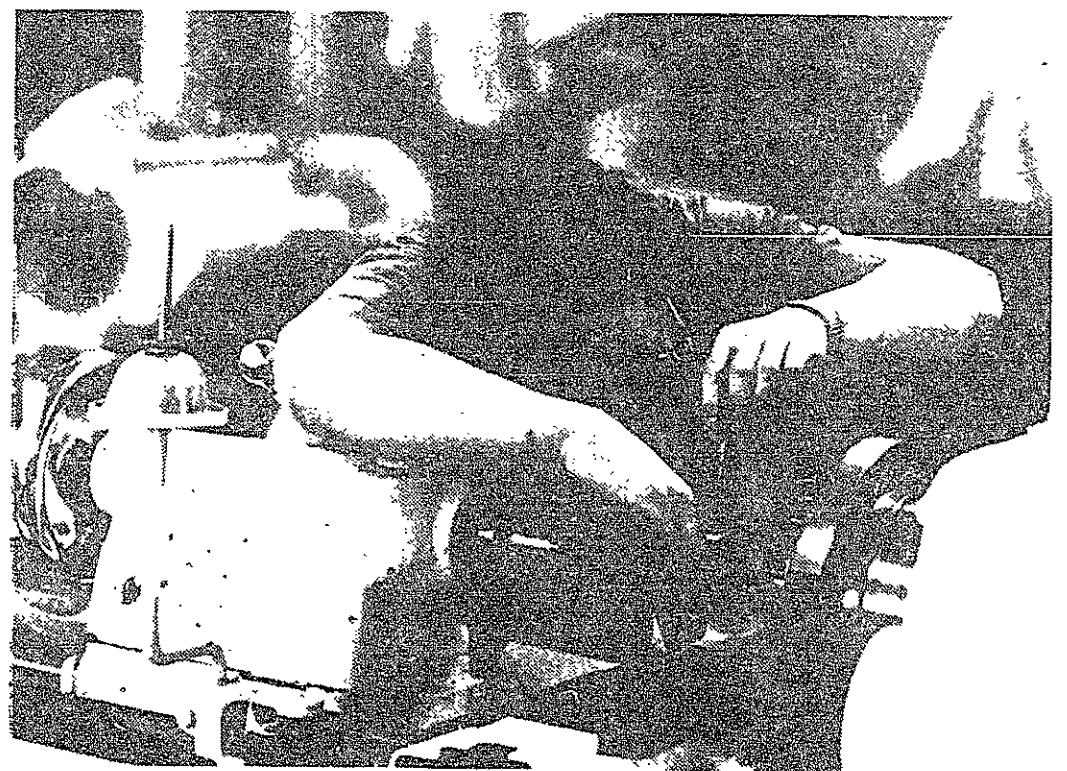
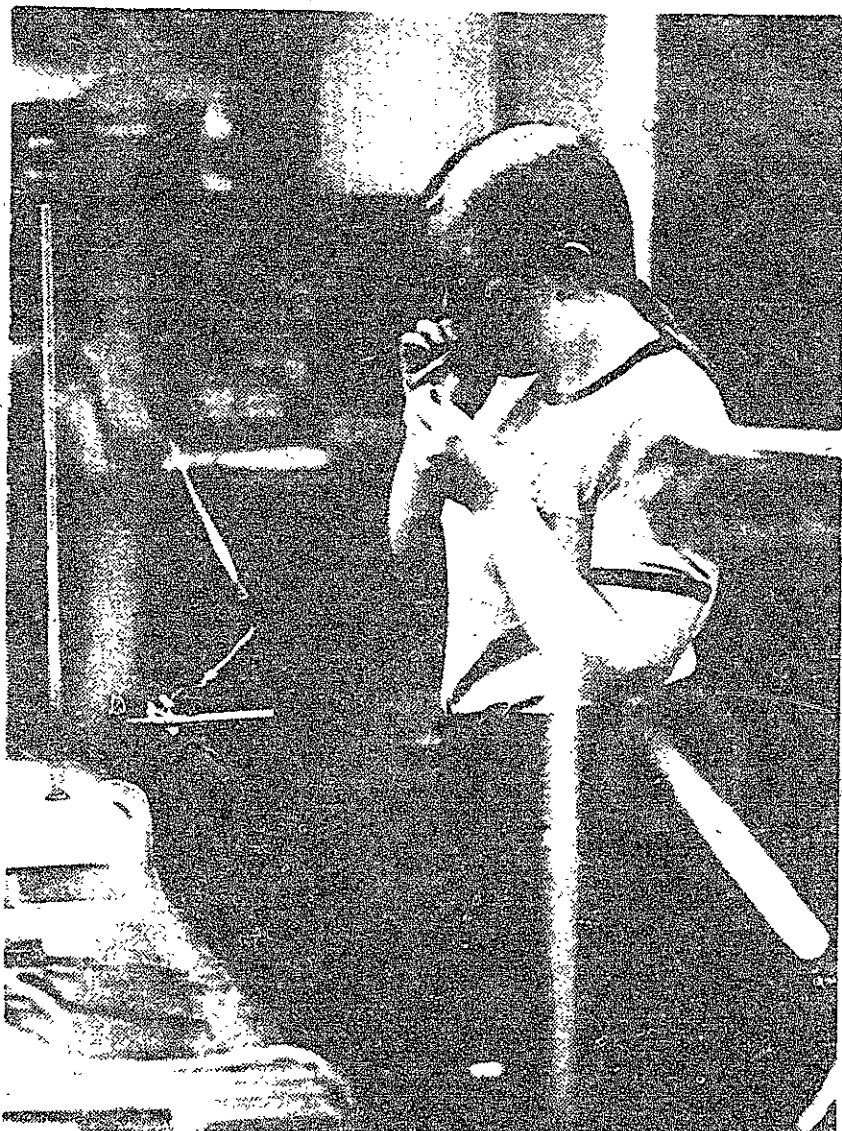
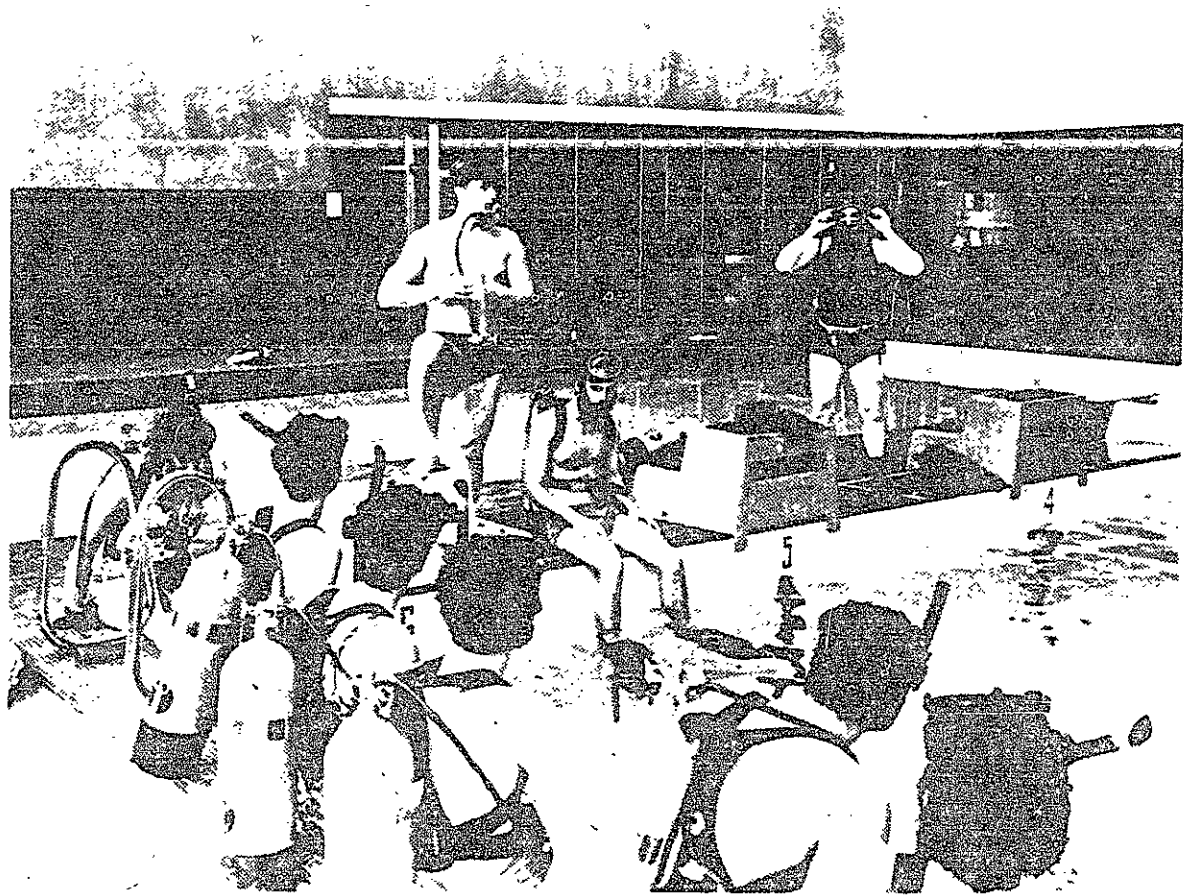


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IAP



Cynics might claim that the success of IAP this year was the result of a lack of skiing weather, but both the number of participants and the increase in activities offered indicate that the popularity of the January institution is definitely on the rise.



Photos by Sheldon Lowenthal

Post-Florida b-ball activity

By Mike Milner

MIT's basketball varsity has compiled a record of five wins against two losses during IAP, since returning from their Florida trip. Two of the games went into overtime, with MIT winning one of them. Highlighting the basketball action was co-captain Harold Brown '72, who moved into second place on the all-time career scoring ladder. Brown has now totalled 1236 points, moving ahead of Alex Wilson's (1964-67) 1224 mark. Next move for Harold is to top all-time leader Dave Jansson's high

of 1457 points.

Lowell Tech

MIT slipped behind 7-1 early in the first half, but Minot Cleveland '72 and Ray White '74 hit jumpers to pick up the sagging offense. Minot used his hot hand (3-3 from the floor and 5-6 from the line in the half) to keep MIT moving. White scored twice on fast breaks while Brown hit a half-dozen of his favorite jumpshots sending the Engineers to the locker room up 44-31 at the half.

Well aware of what Lowell's press had done to MIT in a

similar situation two years ago, the Engineers came out running in the second half. The press backfired on Lowell, as MIT broke through for easy buckets or got across the ten-second line and worked for a good inside shot. Lowell, frustrated by their inability to beat the Engineers with their press, began to foul. MIT pulled away, and only the referees kept the game from becoming a total rout. Jerry Hudson '73, primary victim of the officiating, completely shackled Lowell's captain and high scorer Mike Camuso. Hud blocked several of Camuso's shots early in the game and held him in check until Coach Barry began clearing the bench. Co-captain Bill Godfrey '72 played his usual strong game, getting 13 points, 10 rebounds, 5 loose balls and a few blocked shots.

Overtime

The Techmen split in two consecutive games that went into overtime. The team upset Wesleyan by the score of 63-61, but couldn't repeat against Colby. Leading 36-34 at the half, the team failed to return to first-half form after the intermission. The Techmen came back from the lockerroom to shoot 9-36 from the floor against Colby's triangle-and-two defense. Only good defense and poor shooting by Colby kept the game in doubt until the last minute. Final score after overtime: Colby 66, MIT 62.

Yale

The Engineers gave Yale a battle for twenty minutes as MIT led by as much as six points with balanced scoring and aggressive rebounding. When the half ended, MIT was down by four, 36-32. Yale began to click in the second half as MIT fell apart. Lacking on both defense and offense, the Engineers were outplayed 19-1 in the first seven minutes. Yale's taller guards shot over the Tech defense, and their beefy front court took total control of both boards. By the time the final horn sounded, the tally was an embarrassing 79-56.

New York trip

The New York trip saw the varsity twice victorious as they rolled over Yeshiva and New York Maritime, to post a season record of 9 wins and 6 losses. Both games were clearly no contest from the outset as MIT substituted extensively in the first halves. The Yeshiva game was highlighted by a 19 point performance from Ray White '74, who scored 13 of MIT's first 20 points. Bill Godfrey hauled in 17 rebounds and

Grapplers win three; WPI, BC slaughtered

A week ago Wednesday night, the fight went right as MIT's grapplers edged Amherst, 21-16. The meet made the Beavers believers that shape sharpens one's power to pin.

Edgy Ed Hanley started the strongarms slicing through the meet, and when the mele was over Amherst was served its just desserts, a 20-3 defeat. 126-pounded Jon Backlund ran through the next opponent as a matter of course, but MIT's team lead was cut to 7-3 as Chuck Meeder, pierced with pain from his hyperextended elbow, sank to defeat, though never surrender.

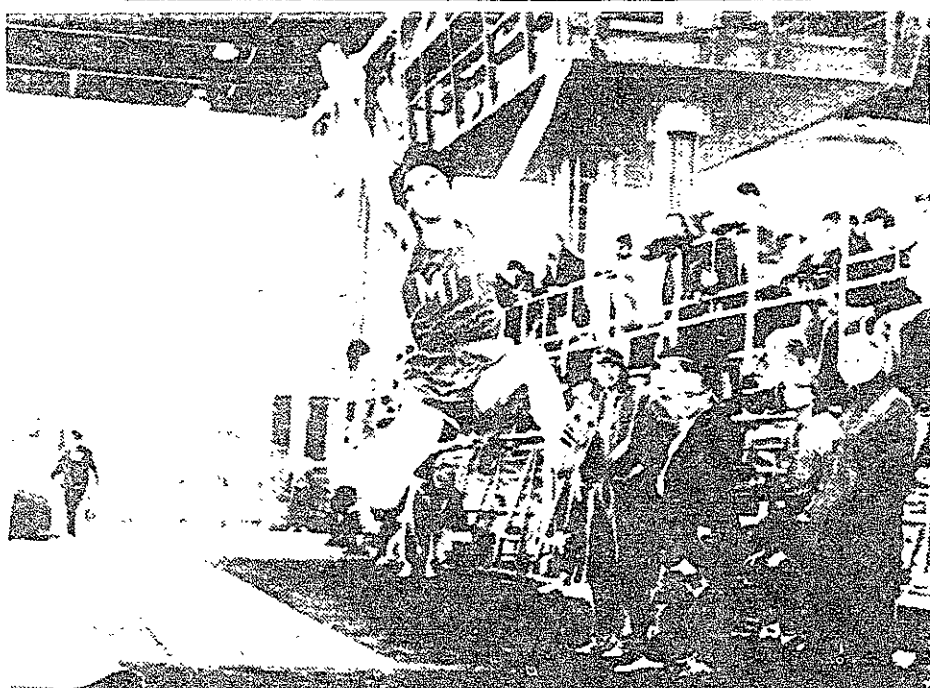
Then Bob Gahl pointed the way to winning as he struck his foe with his patented "safety" pin, a double grapevine. Big Brother Billy burdened Amherst with yet another defeat. But 158-pounded Loren Dessonville couldn't hack his way out of his

man's ride, dropping a close match, 4-2. Dynamite Dave Keuntz worked to a 1-1 tie against his foe, and undefeated Paul Mitchell came from behind to sever all hopes of an Amherst victory. Mike Murphy at 190 pounds was caught and pinned during one of his rolls, and heavyweight Gary Pullar dropped a close match to his heavier foe, 12-9.

WPI was next to suffer a staggering setback, 50-2. Ed Hanley, Paul Hochfield, Bill Gahl, Dave Kuentz, Paul Mitchell, and Gary Pullar all registered pins for MIT.

And Tuesday, with the aid of four forfeits, the grapplers crushed Boston College 52-0. Dave Kuentz won the pin pool with a 35-second pin.

The team will meet Hofstra, C.W. Post, and Wesleyan Friday at 12 and 4 and Saturday at 2 in DuPont.



The varsity indoor track team crushed Bowdoin last Saturday, 88-21. MIT won every event but the 1000 yd. run, to bring the track team's record to 5-2. Co-captain Al Lau '72, above, placed in the long jump, high jump, and the 45 yd. HH. Photo by Dave Tenenbaum

Skiers second at Plymouth

Last weekend MIT's Nordic ski team drove to Plymouth, N.H., for the Plymouth Relays. After spending Thursday and Friday practicing on the 30 meter jump at the Holderness School and in the field, for the cross country team, the Nordic squad prepared for the competition with six other colleges: Bowdoin, Norwich, Franklin Pierce, St. Michaels, and Keene State.

A jumper's score in ski jumping consists fifty percent on distance and fifty percent on style, based on the best of two out of three jumps. MIT jumpers placed 8th, 10th, 13th, 20th, 23rd, and 24th, in a field of 31 collegiate jumpers. The best jump of the meet was made by Hosick of Franklin Pierce College, who sailed 34 meters. Hosick eventually won the meet, with 145.5 out of a possible 160 points. Bob Collier '74, turned in the best MIT jump of 27 meters, with 23.5 out of a possible 40

style points. Collier finally finished 8th with 110.1 points. Lew Jester '72 was tenth, with 108.3 points, from jumps of 25.5 and 26 meters. Evan Schwartz '75 jumped 25.5 and 25 meters for 104.1 points and 13th place.

The team score, made up of the best three jumpers, was thus 322.5 points or 82.9%, which gave MIT third place, behind Franklin Pierce (90.3%) and Bowdoin (88.1%). Norwich was fourth, St. Michaels fifth, and Keene State was sixth. Plymouth State only had two jumpers, and so did not figure in the team standings. (For an explanation of the percentages see last week's *The Tech*.)

Other MIT jumpers were Drew Jaglom '74, 20th place, Mike Sayers '75, 23rd place, and Dave Boscardin '73, 24th.

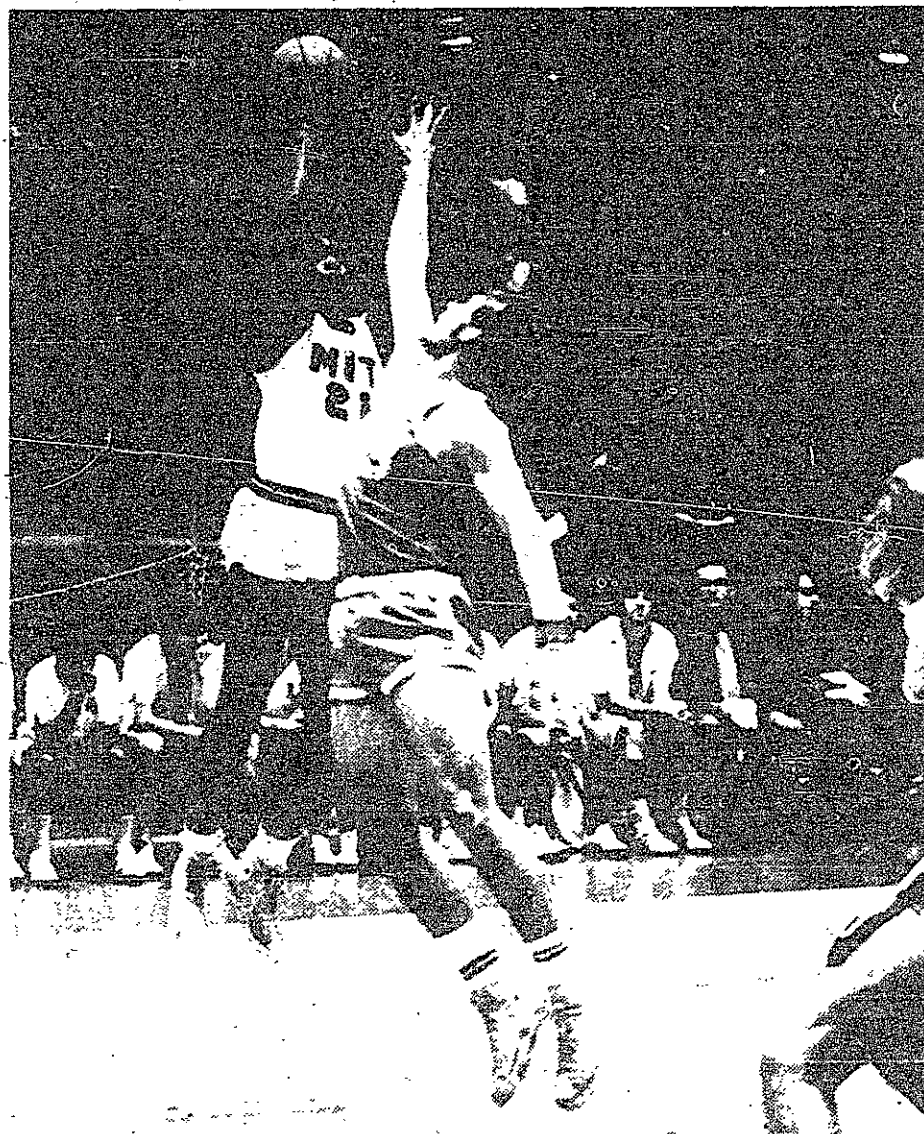
That afternoon, the 3x10 km cross-country race was held. The MIT team, consisting of Scott Weigle '74, Jester, and Collier,

running in that order, did quite well. Leading into the last leg by over two minutes, they could not keep up with Bowdoin's Hayward, who turned in by far the best time of the meet, with 38' 29". The Bowdoin team time was 129' 31", and MIT was second in 132' 30". The second and third best individual times were both turned in by MIT racers, Jester and Collier. The final team finish was Bowdoin first, with 97.7%, MIT second, with 95.5%, and Norwich third, with 88.7%.

The MIT cross country squad has markedly improved in the last few weeks. At the Dartmouth Relays three weeks ago the team finished ten minutes behind the same Bowdoin squad, instead of the small three minute margin at Plymouth.

In the combined results, Bowdoin was first with 185.8%, MIT second with 178.4%, and Norwich third with 170.4%.

SPORTS



Harold Brown '72, varsity co-captain, up for a jumper, his favorite shot. Harold just moved into second place in career scoring. Dave Jansson '68, first from right, Tech's all-time scoring leader, looks on from the bench. Photo by Sheldon Lowenthal

blocked shots left and right. He joined White, Harold Brown and Jerry Hudson in double figures. By the time the game ended, Tech had run up 92 points to Yeshiva's 69.

New York Maritime saw more of the same, as Hudson and Brown were overpowering inside, hitting five field goals each

in the first half. Godfrey continued to bat down shots while Cleveland and White hawked the Maritime guards relentlessly. By the half, the Engineers' inside game and several neat thefts had built up a 36-17 bulge. Everybody but the manager played in the second half, as the Techmen ran the score to a 78-33 final.

Pete Close wins post as NESIDA president

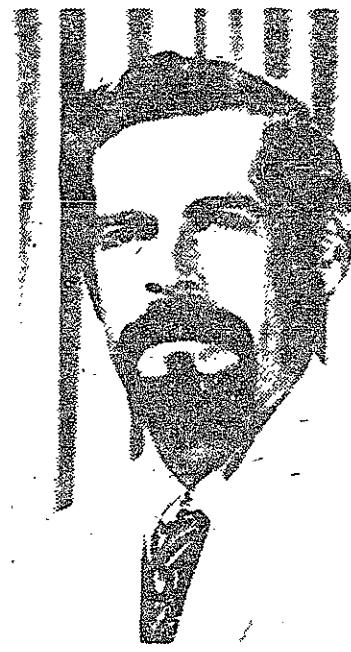
Pete Close, MIT's colorful Sports Information Director, the man who gets the stories of Tech's athletes into the big local newspapers has been elected president of the New England Sports Information Directors Association.

Everyone has seen Pete, recently bearded and mustachioed and constantly on the telephone, around duPont, but few know any of the details of his illustrious athletic career before he came to MIT. Pete, a native of Hartford, Conn., graduated from St. John's University in 1959 and was one of the nation's outstanding trackmen. At St. John's, he was the winner of the 1958 and '59 IC4A indoor mile run and was named to the '57 and '58 All-American Collegiate Cross Country Team and in '59 the All-American Collegiate Track Team.

The highlight of Pete's track career came in 1960 when he won a place on the US Olympic Team for which he ran the 1500 meter run in Rome. At the time, Pete was in the Marine Corps, and was competing all over the world. He won decorations for middle distance events in Greece, Canada, Ethiopia, Morocco and Liberia.

He joined MIT in 1962 as SID and has been active in all fields of collegiate sports. He served as Chief Press Steward at the Eastern Sprints from 1963-71 and held the same office at the NCAA Fencing Championships in 1966 and 1970.

Pete was varsity track coach at MIT in 1964, has been a physical education instructor, and currently is also director of the MIT Day Camp.



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