The Tech

Vol. 83, No. 2 Cambridge, Massachusetts, Wednesday, February 13, 1963 Five Cents

Deficit Expected

Room, Food Rates Steady Despite Rising Costs

By Lyall Morrill

Dormitory room rents and commons meal fees will remain at the present rates next year, said Philip A. Stoddard, Vice-President, Operations and Personnel.

Stoddard made the announcement after the annual January review of rates. He pointed out that despite generally rising costs, room rentals and commons fees have been held constant for the past five years.

Jay L. Marden, Assistant to Mr. Stoddard, said that the Institute has absorbed yearly an increase in labor costs of about 2 - 5 per cent, as well as increases in food costs.

However, various economies have balanced the rising costs. Among these are greater efficiency in the scheduling of help, and new, labor - saving equipment.

When the last rate increase took effect in 1957, according to Marden, it was planned that rates could be held constant for a three-year period.

Income during the second year was expected to balance expenses; and probable deficits in the third year were to be offset by a surplus remaining from a profitable first year.

However, no deficits were incurred until the year before last. Surpluses remaining from 1957-58 and 1958 - 59 will finally be exhausted by the end of the current year.

Marden explained that next year's deficit can be offset by a probable rate increase in 1964-65. In addition, it is hoped that a surplus will remain from the operations in that year.

Morris, Gilman Vie For UAP

Bill Morris '64

Ron Gilman '64

Two men have declared their intention to run for the office of Undergraduate Association President. The election will be held Tuesday, March 12.

The two are Ron Gilman '64, of ZBT, and Bill Morris '64, of PDT. Each must get 10 per cent of the undergraduate student body to sign a petition before he will officially be a candidate for the position.

Petitions for the UAP nomination will be available from Betty Hendricks in Litchfield Lounge beginning Friday, February 15. The deadline for returning completed petitions is Friday, March 1.

Any student who plans to be an MIT undergraduate during the 1963-1964 year may legally run for UAP.

Explaining his decision not to run, Mike Morrisey '64, president of Burton House, said: "I am not running for Undergraduate Association President. Though I had hoped to be a candidate for this office, academic problems have forced me to change my plans."

Along with the UAP election, elections for freshman, sophomore and junior class officers and senior class permanent officers will be held on March 12. The three lower classes will each elect a president, vice-president and secretary-treasurer.

The Senior Class elects a permanent president, vice-president, secretary and treasurer who will be in charge of alumni affairs after the Class of '63 has graduated. Nomination petitions for all offices must contain one-tenth the names of the voting body in signature; petitions will be due at 5:00 p.m. on March 1st. These petitions will be available from February 15 in Litchfield Lounge, 50-110. Any questions should be referred to Jack Downie '64, chairman of Elections Division of Secretariat.

'The Tech' invites statements (with pictures) from candidates for UAP and for class offices. for UAP or for class president should be limited to 500 words, and those from other candidates should not exceed 150 words. Statements will be edited when necessitated by space considerations.

Friday W W Dance Changed; Now Semi-Formal

A semi-formal dance is now scheduled for Friday, February 22, Winter Weekend Committee has announced. The affair was to be formal, but now suits and ties will be appropriate.

Tickets for the entire weekend will be available in the lobby of Building 10 for $12.50 up until the first day of Winter Weekend.

These tickets include admission to Jackie Washington's folk-sing in Baker House Lounge and the Chi Phi cocktail party, both Saturday afternoon.

IFC Elects Downie, Pinkerson

Jack Downie '64 was elected chairman of the Interfraternity Conference at its meeting February 7.

Bill Pinkerson '64 was elected vice-president. Don Shulman '65 was chosen treasurer, and Drew Roskes '65 purchasing manager.

Two additional vice-presidents will be elected later this month by direct vote in the 28 fraternities. These men, along with Downie, will act as IFC representatives to Inscomm.

Together, the six officers will constitute the executive board of the IFC. A seventh, non-voting member of the board will be appointed to serve as secretary.

UN Committee Discusses Killian's Paper

Governments of emerging nations should receive careful scientific guidance from advanced countries, according to a paper authored by Dr. James Killian, Chairman of the MIT Corporation.

The paper, which was used as a basis for discussion at the United Nations Conference on the Applications of Science and Technology for the Benefit of Less Developed Nations, emphasized two ideas:

First, less developed nations should attempt to incorporate science into their culture practically, without expecting "a quick-acting, sovereign remedy . . . . They must not be bemused by some of the more glamorous or prestigious aspects of science, which may be of little use to them until later, if at all."

Second, the advanced nations must provide emergent nations with an integrated scientific-social-cultural program, and must "base their technical aid programs on the most thorough research and study, lest these programs turn out to be more hindrance than help."

Killian mentioned the Presidential Science Advisory Committee of the United States. This Committee provides a multitude of ideas for using technology to develop industry, agriculture, and the general economy. He suggested that such a committee might be a device useful to young countries.

Referring to the less developed nations, he concluded, "They should remember that our systems—and, indeed, our countries—have all evolved from much simpler beginnings. The important thing is that a beginning be made, however simple or primitive it may need to be."

Center Will Coordinate Work Of 5 Departments

The new Materials Science Center will coordinate research activities in several departments, according to Scottish physicist Robert Allan Smith, administrative head of the Center.

Delivering the main address at the MIT Student House initiation banquet last Saturday, Smith outlined the problems of modern materials research. The work involves close cooperation among the associated disciplines of physics, metallurgy, electrical engineering, chemistry and physical chemistry.

MIT Highly Flexible

Most universities have traditionally maintained strict separation of departments, Smith pointed out. As a result, multi-discipline research is carried on mainly by the government and by private industry.

MIT, though, is highly flexible. Smith demonstrated that the Institute readily absorbed the Radiation Laboratory into its existing framework shortly after World War II. He described MIT as "less departmentalized than most universities." Thus a research center encompassing several fields will have a natural role in MIT's organizational structure.

Expensive Equipment

In addition, materials research necessitates the full utilization of expensive equipment such as microprobe analyzers, electron microscopes, spectrometers, crystal pullers and electron diffractometers.

The new Center will help to coordinate the research work of various departments, and will prevent unnecessary duplication of facilities.

Construction will begin on the five-story building, second largest at MIT, in March. When completed, the Center will be staffed by members of the Division of Sponsored Research, by faculty members, and by students.

Creator Of Li'l Abner

Capp To Speak Tomorrow

Al Capp, the creator of L'il Abner, will present a free public lecture in the Kresge Little Theater at 8:00 tomorrow, under the sponsorship of the Lecture Series Committee.

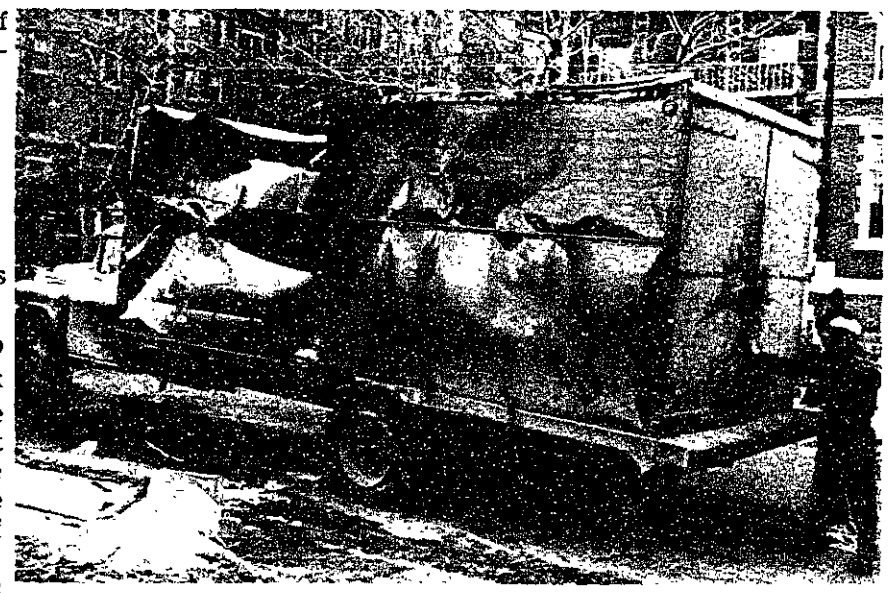
The syndicated cartoonist, who lives in Cambridge, will speak randomly on topics of the day. "He told us he wouldn't know what the speech would be about until five minutes before he begins," said Dan Spiers of Lecture Series Committee.

Mr. Capp, who participated in the President's People-to-People program of international cultural exchange in 1956, studied drawing at the Pennsylvania Academy of Fine Arts.

INDEX

Due to the holiday February 22, the next issue of "The Tech" will appear Tuesday, February 19. The news deadline is 7 p.m. Sunday.

Truck Of The Week



This week's Memorial Drive traffic accident occurred Saturday afternoon at 5 P.M. and involved this truck of the T. & L. Moving Company, seen being towed from the scene. The vehicle was proceeding south on Massachusetts Avenue by the Graduate House when it veered to the right onto Memorial Drive, out of control, flipped onto its left side, and slid to a gashing halt. —Photo by Joseph Baron

Overdue Library Books?

All overdue library books, regardless of time overdue, may be returned without penalty tomorrow and Friday.

No questions will be asked; no fines are to be collected. The amnesty period extends over these two days only.

'Urban Studies' Project

MIT's Friedmann Guides Development Of Venezuela

By Anthony Pappas

For many years the development of backward regions has been denoted primarily in economic terms. Policy aims have generally been either to raise per capita income or to increase a nation's productive capacity. In a lecture last Thursday Professor John Friedmann of the Department of City and Regional Planning discussed some of the other factors which must be considered when a program of development is evolved. In particular, he stressed the inter-regional effects and the importance of spatial organization.

Last summer Professor Friedmann was in Venezuela where he was associated with a regional development plan. The Venezuelan government had formed an autonomous body, patterned somewhat on our own Tennessee Valley Authority, to develop an area in east-central Venezuela. The region was potentially rich in natural resources. Two nearby mountains were the site of mining operations by American steel companies. A large area to the south was sparsely populated and seemed to afford further opportunities. The moment seemed propitious for the establishment of an industrial center in the region. The proposed city would serve as a magnet for people and capital. Finally, it was expected to decrease the rapid growth of Caracas and the consequent centralization. Venezuela turned to the Joint Center for Urban Studies of MIT and Harvard University for assistance in this project. As a result, Professor Friedmann proceeded to work on the problem.

Professor Friedmann analyzed the historical and demographic trends in Venezuela. Using the available data, he made projections for the end of this century and used these in his recommendations.

In colonial times the pattern of development in Venezuela was simple. There were a few small cities on the seacoast which traded with the hinterland to the south. Each city was an autonomous and self-sufficient unit. Contacts among the cities were meager.

During the next period, into a good part of this century, the capital city of Caracas overshadowed the others. The pervasive influence of Caracas was reflected in the slow growth of the rest of the nation. As people migrated to and capital flowed into the capital, the concentration of the nation's affairs was accentuated.

For the past few decades another pattern has been emerging. A few cities like Maracaibo and Valencia have begun to develop. Maracaibo, for instance, is in the center of the rich oil-producing region.

Professor Friedmann hopes that by the establishment of new growth poles Venezuela can become a mature industrial nation. He envisages the complementary development of new regional centers and their beneficial linkage to the older, more developed cities.

By 1995, Professor Friedmann predicts Venezuela will have a population of approximately twenty to twenty-five million. Such a large increase from the present population of six million necessitates great changes in the present structure. If the problems are sufficiently understood by economists and regional planners, Professor Friedmann thinks they can be overcome.

Recitations Abandoned As 8.041 Experiments With Problem Sessions

Physics 8.041 has replaced recitations with large problem-working classes in 26-100 in order to free professors to provide individual counseling in the laboratories.

The program, said Prof. D. H. Frisch, 8.041 administrator, is an experiment designed to permit more efficient use of the time of staff members and to benefit tthe students. By working problems for the larger groups, professors will be freed to spend time in the laboratories where students can receive special attention.

Another reason for the change is that it was felt the same basic questions were asked in almost all recitation sections. Questions may still be asked at the problem sessions, but more people are informed in a shorter time. Students with special problems may consult the lab instructor, who is responsible for their progress.

Cherchez la Femme: Mixers Offer Social Opportunities

MIT was the scene of two mixers this week; at the left is the Baker House mixer held Friday evening, and at the right is the Burton House Mixer held Saturday.—Photos by William Park (l.) & Saul Mooallem (r.)

By John Schwartz

After an absence of several weeks duration, Cherchez la Femme is back by popular demand. The social front in the surrounding territory has some interesting possibilities for the next few weeks.

Brandeis — Square dance, Kutz Hall, Friday, 8:00 p.m.; free.

Cambridge City Hospital School of Nursing— Valentine mixer, 16 Camelia Avenue, Friday, 8:00-12:00 p.m.; 99 cents.

Franklin Square House— 11 E. Newton Street, tonight, 8:00-12:00 p.m.; orchestra; admission free, but tickets from social chairmen are a must.

Grad House, MIT— Spring Acquaintance Dance, Campus Room, Friday, 8:30-12:00 p.m.; refreshments; $1.25 donation; women admitted free.

Hampshire House — Democrats will sponsor a Valentine's Dance, 84 Beacon Street, Thursday, 8:30-12:00 p.m.; meet Francis X. Bellotti and other officials; 99 cents.

Mt. Auburn Mixer— 330 Mt. Auburn Street, Margaret Jewett Hall, Friday, 8:00-12:00 p.m.; refreshments; $1.00.

Stephen Jones Hall— 5 Davenport Street, Saturday, Feb. 23, 8:00-12:00 p.m.; refreshments; sponsored by the Holy Trinity Russian Orthodox Cathedral of Boston; $1.50 donation.

Wellesley— Outing Club square dance, Alumnae Hall, Friday, 8:00 p.m.; 75 cents.

To Be Apr. 3-6 — *Government: How Much?*

50 Colleges To Be Represented At Conference Here

"The Federal Government: How Much?" Social-science students from over fifty colleges across the nation will convene at MIT in April to investigate this question.

Six speakers have agreed to present major addresses at this Intercollegiate Conference, which will take place April 3-6.

Paul McCracken, Professor of Economics at the University of Michigan and a former member of President Eisenhower's Council of Economic Advisors, and Abba P. Lerner, Economics Professor at Michigan State University, will address the first plenary meeting. It is scheduled for 9:00 am Thursday. The topic will be "The Maintenence of Economic Growth and Stability."

The topic for the second plenary meeting, 7:30 pm Thursday, is "Scientific Research, Development, and Planning." Addresses will be given by Dr. William O. Baker, Research Vice-President at Bell Laboratories, and MIT Prof. Jerome B. Weisner, President Kennedy's Special Advisor on Science and Technology.

"The Role of the Government in Labor-Management Relations" will be considered at the third plenary session, at 2:00 pm Friday. George P. Schultz, Dean of the Business Graduate School at the University of Chicago and former MIT Professor of Industrial Labor Relations, and Mr. Saul Wallen, professional labor mediator, will address the delegates.

Panel Discussions

Following the lectures at each session, the speakers will be joined for a panel discussion by the following MIT professors:

First session: Edgar C. Brown; Robert Solow; and Paul R. Samuelson, Special Advisor to the President on Economics.

Second session: Gordon S. Brown, Dean of the School of Engineering.

Third session: D. V. Brown and Abraham Siegel.

The four-day conference will open April 3 with a welcoming address by President Julius A. Stratton in Kresge, where all the general sessions will be held.

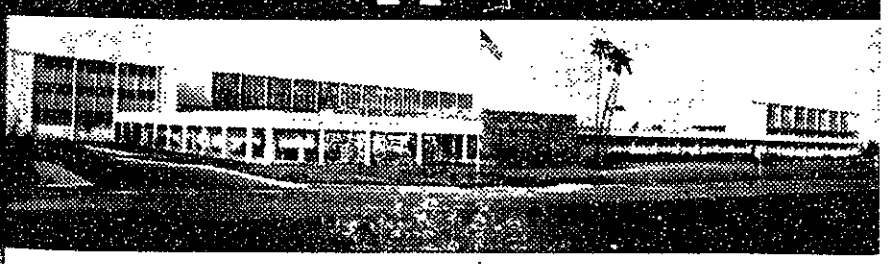
Then the series of lectures and panel discussions will begin. A guest speaker will deliver a summarizing address at the closing meeting, Saturday, April 6.

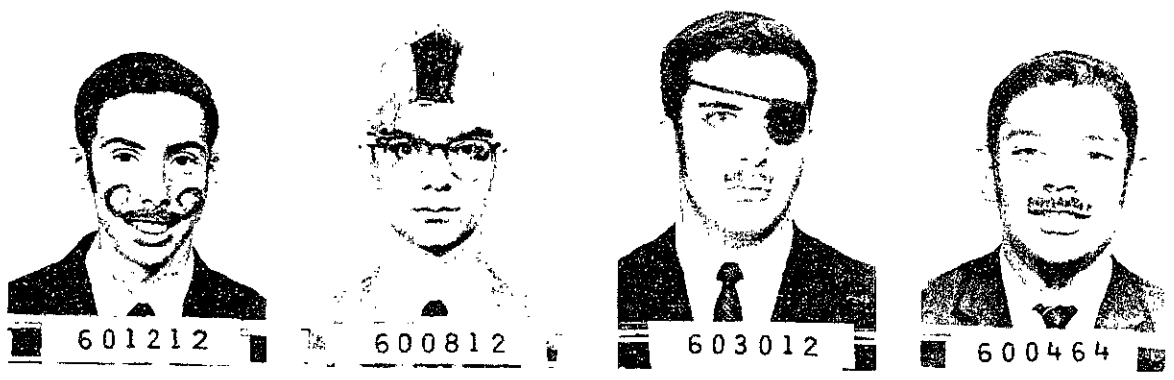
Workers Needed

In addition to 12 MIT delegates, the Intercollegiate Conference Steering Committee wants about 30 upperclassmen to serve as guides, workers, and planners. Also, 15 discussion leaders and 15 recorders are needed for the group discussions. Recorders must present summaries of their notes on the sessions.

Those interested in the above positions should contact the ICSC in 50-110, Walker Memorial.

The plenary sessions in Kresge are open to the public. In case of overflow crowds, first preference will be given to Techmen.





THE TECH

Vol. LXXXIII No. 2 Feb. 14, 1963

Unsigned editorials in THE TECH constitute the opinion of the newspaper's Board of Directors, and not that of MIT. The newspaper welcomes letters from its readers. Space permitting, such letters will be printed in whole or in part, if deemed by the editor to be of sufficient interest or benefit to the community. Brevity increases the chance of publication. Anonymous letters will not be printed. Names will be withheld upon request.

Activities: Passe?

Just before the end of last term, Activities Council announced the offering of a special section of 15.11, Introduction to Industrial Management, during the second term. A prospectus invited leaders of student activities to register for the section, which would include study of activities management as well as the standard 15.11 material.

As a marketing problem, for example, students could investigate how VooDoo might expand its off-campus sales. Last term many student leaders were optimistic that this subject would improve the quality of leadership in student activities and thereby strengthen the activities system.

What happened? Only three students interested in the activities section of 15.11 went to the first class. When they arrived they found that the professors had not set up the promised activities section, and that any discussion of activities would be outside of class. In short, neither the faculty nor the students showed any concrete interest in the activities section.

This is not surprising. We feel that it is another example of a general de-emphasis on activities that has been the trend of recent years. Until the 1920's, activities were strongly supported by students in many engineering schools. The Depression and World War II gave people more important things to think about, and activities suffered as a result.

Recently, the increased demand for maximum professional competence in all technical fields has made study the primary activity of most MIT students. We expect this emphasis on academic work to continue in the future.

Bell Telephone, one of the nation's largest employers, studied the college records of 17,000 management employees and found: "The single most reliable predictive indicator of a college graduate's success in the Bell System is his rank in his graduating class."

On the subject of activities, the study said, "It is only real compus achievement that seems to have any significance. Mere participation . . . does not."

Summer Session

Should MIT expand its summer session? There are good reasons to think so.

The two chief advantages are economic efficiency and improved educational opportunity to students.

The present summer session consists mainly of second-term freshmen and sophomore subjects given for students who failed them; subjects for cooperative students; and short, specialized programs for professional people. MIT is particularly well equipped for these intensive subjects because of its superb laboratory facilities.

The present summer session is not designed for students who wish to get ahead in their academic work. Prof. James Austin, Director of the Summer Session, says our summer session is the bare minimum in scope.

Students who study during the summer can shorten their undergraduate career by about one year. Dr. Grayson Kirk, President of Columbia University, points out that earlier entrance into graduate school or a profession adds to the student's working lifetime during his most productive years. Studies have shown that scientists do their most creative work during their early years, usually before thirty years of age.

MIT has a large investment in classrooms, laboratories, and libraries. Rapid progress in the scientific world means that most labs and books become technically obsolete before they are physically worn out . . . Thus most of the depreciation of MIT's labs and libraries is a function of time rather than use, and little is gained by having them lie idle during the summer.

Many colleges and universities, for educational or economic reasons, have made substantial changes in their academic calendars in order to achieve a year-round operation. Two popular systems are the trimester system with three fifteen-week terms and the quarter system with four eleven-week terms.

MIT had experience with year-round academic work during World War II. Commenting on this experience, Alden Thresher, MIT Director of Admissions Emeritus said we learned that "people get fagged out from non-stop study. People are more efficient when they get a change of environment."

After World War II, MIT maintained a full-coverage summer session for several years. It was reduced to its present "bare minimum" level about ten years ago to give the faculty more time for writing and research.

One of the reasons for MIT's excellence is its outstanding professors—people who could earn far more money in industry.

To maintain competence in their fields, the faculty must be given the time and facilities to do independent research.

Although the regular faculty cannot be required to teach summer session subjects, Dr. George Harrison, Dean of the School of Science, is confident that MIT could find qualified summer instructors to teach many of the regular undergraduate subjects.

We suggest that MIT give consideration to the possibility of expanding the summer session to include the Institute-required subjects and some of the basic subjects in each course. We don't think that summer sessions should be made compulsory, but they should be available to students who wish to accelerate their education.

Letters to The Tech

Errors in The Tech

To the Editor:

I am sorry to see that you did not carry a story on the retirement of my old friend Professor Barnett. I am sure that if you had consulted Vice President Kispant he would have urged this story. Perhaps the staff of the **TURK** was too busy attending the reception honoring Italian students from India.

Very truly yours,
P. M. Chalmers
Adviser to Foreign Students

Editor's Note: We apologize for the errors to which Mr. Chalmers has called attention. Of course, it is Prof. BARTLETT in the Humanities Department, and Mr. KISPERT who is Vice President of Academic Administration. INDIAN students come from India. We believe THE TURK is a Chalmers original.

Police Brutality

To the Editor:

The arrest of Jackie Washington last December, an Emerson College student and folk singer with an outstanding record of civic activity, has drawn new interest in Boston to the protection of citizens against abuses by individual policemen.

While walking home in the early morning, Washington was stopped by two Back Bay policemen. Washington contends that, when he questioned the authority of the policemen, they responded by beating him, causing injury to his face and ankle.

In Jackie's first trial, with no jury, the policemen denied the beating, charging that Jackie had kicked one of them.

Washington was found guilty of assault and fined ten dollars. He appealed this conviction to the Superior Court where he was given a jury trial, and, on February 7th, found not guilty.

He also requested that the arresting officers be brought before the police review board on charges of assault. In this hearing, occurring between the two trials, the officers were acquitted.

However, Washington did not attend the hearing on the advice of his lawyer, Edward Barshak, who has objected to the board's rules of procedure.

Barshak particularly protests the board's practice of assigning its own agent to prosecute rather than giving the complainant (Washington) freedom through counsel of his own selection to present his grievances, cross examine the accused, and defend himself against verbal abuse by the accused.

Barshak's objections have won the editorial support of the Boston Herald. Washington and Barshak are now planning criminal and civil suits against the officers.

A committee called "Citizens Council on Police Practices" has been formed by many civic groups (CORE, NAACP, Commission on Law & Social Action of the American Jewish Congress, American Veterans Committee, and others) to seek a just settlement in the Jackie Washington case, and to investigate alleged police malpractice throughout Greater Boston.

The Council will publicize its findings with recommendations for improvement. It may be contacted through Alan Gartner, chairman of Greater Boston CORE.

Robert Saenger, for the
MIT Civil Rights Committee.

Inside Inscomm

Inscomm Considers Conferences And Foreign Study Opportunities

By Woody Bowman

Activity reached a low ebb in student government circles during the month of January. Tasks are now being resumed again and the program for the next two months is fairly definite.

The next Inscomm meeting will be tomorrow. On the agenda is a resumption of the discussion of the Freshman Council, its purpose and projects. The Committee on Entrepreneural Activity will be presenting a report. The possibility is good that conclusions will be reached regarding some items of policy.

The major discussion of the Entrepreneurs problem will come on February 28. The question of payment of commissions to participants in activities will also be considered then.

There are still some loose ends: the ultimate resolution of the differences of jurisdiction between Activities Council and the Secretariat, the adoption of a set of bylaws for the International Programs Committee and cleaning-up of the bylaws of the other standing subcommittees.

Administratively, there are two major items left to deal with: foreign opportunities and conferences.

The spectrum of employment and educational opportunties abroad has been investigated for two years now. The problem which seems to plague the investigation was the lack of information sources.

L. H. Bishoff of the Dean's Office was invited to a conference in New York just before Christmas to discuss foreign study programs

(Please turn to Page 5)

PEANUTS appears daily and Sunday in the Boston Herald.

Kibitzer

By MICHAEL LINAH

	NORTH ♠ A 10 8 2 ♥ 7 4 ♦ Q 5 ♣ A J 10 5 3	
WEST ♠ 4 ♥ K 8 ♦ K J 4 2 ♣ K 9 8 7 6 2		EAST ♠ 6 5 3 ♥ Q J 10 9 ♦ 10 9 8 7 ♣ Q 4
	SOUTH ♠ K Q J 10 7 ♥ A 6 5 3 2 ♦ A 6 3 ♣ —	

The Bidding:

SOUTH	WEST	NORTH	EAST
1♠	Pass	3♠	Pass
6♠	All Pass		

Opening lead: Nine of Clubs

There are certain times when it is necessary to have certain information available immediately, and this is true at bridge as well as in many other situations. Today's South, whose bidding is bold to say the least, failed to know simple suit-break probabilities, and thus went down in a cold contract.

South saw two lines of play for the contract. One involved finding the hearts breaking three-three, the other finding the diamond king on side. These plans are obviously mutually exclusive, as South can only try one.

But South did not know which plan to use, since he did not know whether finding the hearts breaking three-three was more probable than finding the diamond king on side. Finally, he decided to go after the hearts. He played the Jack of clubs to the first trick, and ruffed East's Queen.

Next he led the Ace of Hearts, and then a small heart. West was in with his King of hearts, and he exited with a trump. South won in his hand, and ruffed a heart on the board. When West discarded a club, South knew he was in trouble.

There was now no way to make the contract, since he needed three ruffs in dummy (two hearts and a diamond) and could not pull trumps. Thus a diamondloser remained. He tried to sneak a diamond through, but West rose with the King. Down one.

South should have made his contract. At trick two he should lead a diamond toward the Queen. If West rises with his King, South can win the return, cash the Queen of Diamonds, pitch a heart from dummy on the Ace of Diamonds, ruff three red cards in dummy, pitch a red card on the Ace of clubs, cross-ruffing the rest of the hand.

Eight trump tricks, two diamonds, a heart and a club give him twelve tricks. If West ducks, South goes with the Queen of Diamonds, gives up a heart and makes twelve tricks by cross-ruffing, as above.

If South had taken time to remember that with seven cards between the two hands, the outstanding six cards will break three-three only about one third of the time, whereas finding the King of diamonds on side will occur an obvious fifty per cent of the time, he would have taken the right line of play. South's partner had a caustic remark to the effect that South should learn to play them as well as he bids them.

Inside Inscomm

(*Continued from Page 4*)

and a whole wealth of information has been discovered. The problem reduces to publishing this information in a concise, unified form.

There is an additional and more exciting prospect however, namely designing a program specifically for MIT students. Such a program would prevent the loss of academic time at the Institute and keep the costs down for the student.

I am firmly convinced that sending MIT delegates to conferences at other institutions is a worthwhile project and should be expanded. We should include more conferences, more delegates, and more preparation of the delegates beforehand in our program.

The latter point is especially important in the Model United Nations type of conference which is becoming more common. A committee will be established to handle these problems in the future. It is too large for one person, which, at present, is the UAP.

Making the Scene

THIS WEEK
MUSIC

Piano Concert—New England Conservatory, Jordan Hall, 8:30, Feb. 13; Haydn Sonata in F major, Schubert Impromptu in B-flat major and Impromptu in F minor, Chopin Sonata in B-flat minor, Berg Sonata, Copland Sonata 1941; free.

Erica Morini—violinist, tonight, 8:30, Symphony Hall.

Lorin Hollander—pianist, with the Boston Symphony Orchestra, Feb. 15, 2:15, Feb. 16, 8:30; Haydn Symphony No. 52, Dello Joio "Fantasy and Variations for Piano and Orchestra, Strauss "Ein Heldenleben".

Berkshire Woodwind Trio — Feb. 17, 3:00, Gardner Museum; Haydn's "London Trio No. 3," Milhaud's "Suite d'apres Corrette," Beethoven's Variations on a theme of Mozart, Ferroud's "Trio E major (1933)", and Mozart's "Divertimento No. 4"

Music of Stravinsky—and Leos Janacek, Feb. 17, 8:30, Kresge Auditorium free, by tickets only; Concertino for piano and Chamber Orchestra by Janecek, Stravinsky's Duo Concertant for Violin and Piano, "Serenade En La," and Septet.

Rudolf Serkin — Feb. 17, Symphony Hall, 3:00; Beethoven's Sonata in C major and Sonata in E major, Schubert's Fantasy in C major and two impromptus

THEATRE

"The Zoo Story"—by Edward Albee, Feb. 14-16, Loeb Experimental Theater, 8:00; Free

"The Crucible"—contemporary opera, Loeb Drama Center, Feb. 14-16, 8:30; tickets $2.00

LSC Classics Series—"Kanal," Feb. 15, Room 10-250, 6:30, 9:00
Andrzej Wajda's film depicting the fate of the Poles during the Warsaw uprising in 1944. It contains gripping scenes of the group's attempts to escape through the sewers of Warsaw. Winner of the Grand Prize at Cannes, Poland 1956.

LSC Entertainment Series—"The World, the Flesh, and the Devil," Feb. 16, Room 10-250, 5:15, 7:30, 9:45;
Harry Belafonte, Inger Stevens, Mel Ferrer.
Belafonte becomes convinced that he is the only living person on earth after a nuclear war until he is joined in the completely deserted New York City by Inger Stevens and Mel Ferrer. There results a romantic triangle which for a time threatens bloodshed.

"Face to Face"—MIT Civil Right Committee, Feb. 18, 7:30, Room 10-105; documentary; free

MISCELLANEOUS

Al Capp—comments on current topics, Feb. 14, 8:00, Kresge Audit.; free

IDC Mixer—Feb. 15, 8:00, Walker Memorial; gals $.75, guys $1.00

H.D.F. Kitto—author of the 21.01 text, Feb. 19, **Wellesley College**

Paintings of Robert Motherwell — through March 3, Hayden Library Gallery

Ice Follies—Feb. 14-24, Boston Garden; Feb. 14-15, 8:00; Feb. 16, 1; 5, 9:00; Feb. 17, 2, 6:00; Feb. 18, 1, 8:00; Feb. 20-22, 2, 8:00; Feb. 23, 1, 5, 6:00; Feb. 24, 2, 6:00; tickets $2.00, $2.50, $3.00, $3.50, $4.00

S	M	T	W	T	F	S
			13	14	15	16
17	18	19	20	21	22	23
24	25	26				

NEXT WEEK
MUSIC

Yasuko Tsukamoto—pianist, Feb. 20, 8:30, New England Conservatory, Jordan Hall; Beethoven's Sonata in E-flat major, Schumann's "Fantasie" Bartok's "Improvisations," Chopin's "Mazurka in C-sharp minor," "Masurka in F minor" and "Fantasie"

Poznan Choir — Polish men's choir, Feb. 22, 8:15, Symphony Hall; tickets $2.50, $3.00, $4.00, $5.00

Anthony Smetona—pianist, Feb. 24, 3:00, Gardner Museum; works of Haydn, Beethoven, and Chopin

George London — Feb. 24, Harvard Square Theatre

BSA Open Rehearsals—Feb. 28, 7:30, Symphony Hall

THEATRE

"Please Don't Walk Around in the Nude"—Loeb Experimental Theatre, Feb. 21-24, 8:00, free.

"The Pageant of Awkward Shadows" —by Thomas Babe, Loeb Drama Center, Feb. 28, March 2 and 6,9, 8:30; tickets $1.50 except Fri. and Sat., $2.00

"On the Town" — music by Leonard Bernstein, Boston University Theatre, Feb. 28.

On Campus with Max Shulman

(Author of "I Was a Teen-age Dwarf," "The Many Loves of Dobie Gillis," etc.)

THE CURSE OF THE CAMPUS: NO. 1

Hate me if you will, but I must speak. We college types are far too complacent. Sure, we've got plenty to be proud of. We've got atom smashers, we've got graduate schools, we've got new peaks in scholarship, new highs in academic honors. And yet, in the midst of these triumphs, we have failed dismally to make any progress in solving the oldest and most horrendous of all campus problems: we've still got roommates.

To be sure, *all* roommates are not bad. There is the well-documented case of Hilquit Glebe, a student at the Manhattan College of Agriculture, majoring in curds and whey, who admitted publicly that he actually *liked* his roommate—an odd admission when you consider that this roommate, Mervis Trunz by name, was frankly not too winsome a fellow. He practiced his tympani in his room, he kept an alligator, and he collected airplane tires.

But, on the other hand, Mervis bought two packs of Marlboro Cigarettes every day and gave one of them to Hilquit and—I ask you—who can stay mad at a man who gives you Marlboro Cigarettes? Who, upon tasting that flavorful blend of Marlboro tobaccos, upon drawing through that pure white Marlboro filter, upon exulting in this best of all possible cigarettes, Marlboro—who, I say, can harden his heart against his neighbor? Certainly not Hilquit. Certainly not I. Certainly not you, as you will find when you scurry to your nearest tobacconist and buy a supply. Marlboros come in soft pack or Flip-Top Box. Tobacconists come in small, medium, and large.

But I digress. Roommates, I say, are still with us and I fear they always will be, so we better learn how to get along with them. It *can* be done, you know. Take, for instance, the classic case of Dolly Pitcher and Molly Madison.

Dolly and Molly, roommates at a prominent Midwestern girls' school (Vassar) had a problem that seemed insoluble. Dolly could only study late at night, and Molly could not stay awake past nine o'clock. If Dolly kept the lights on, the room was too bright for Molly to sleep. If Molly turned the lights off, the room was too dark for Dolly to study. What to do?

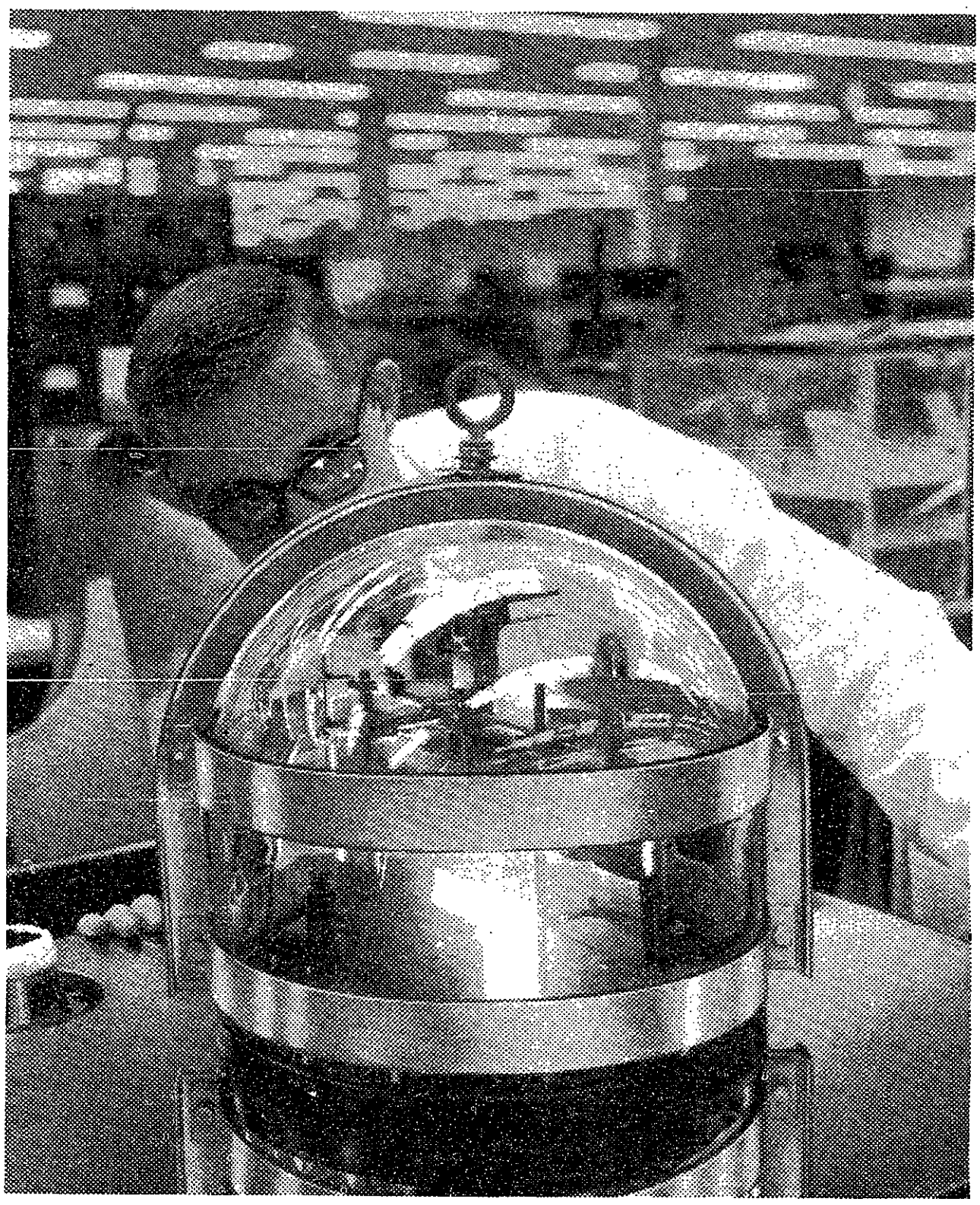
Well sir, those two intelligent American kids found an answer. They got a miner's cap for Dolly! Thus, she had enough light to study by, and still the room was dark enough for Molly to sleep.

It must be admitted, however, that this solution, ingenious as it was, had some unexpected sequelae. Dolly got so enchanted with her miner's cap that she switched her major from 18th Century poetry to mining and metallurgy. Shortly after graduation she had what appeared to be a great stroke of luck: while out prospecting, she discovered what is without question the world's largest feldspar mine. This might have made Dolly very rich except that nobody, alas, has yet discovered a use for feldspar. Today Dolly, a broken woman, squeezes out a meagre living making echoes for tourists in Mammoth Cave.

Nor has Molly fared conspicuously better. Once Dolly got the miner's hat, Molly was able to catch up on her long-lost sleep. She woke after eight days, refreshed and vigorous—more vigorous, alas, than she realized. It was the afternoon of the annual Dean's tea. Molly stood in line with her classmates, waiting to shake the Dean's hand. At last her turn came, and Molly, full of strength and health, gave the Dean a firm handshake—so firm, indeed, that all five of the Dean's knuckles were permanently fused.

The Dean sued for a million dollars, and, of course, won. Today Molly, a broken woman, is paying off her debt by walking the Dean's cat every afternoon for ten cents an hour.

* * *



theatre . . .

'Oh Dad, Poor Dad' At The Charles

By Charles Foster Ford

The original Harvard production of "Oh Dad . . ." was done by a group of dedicated amateurs, some of whom seemed to have parts written especially for them. They played it with almost vaudevillian style, strictly for laughs (which are many). I hear the London production attempted to be a serious social comment, and fell flat.

At the Charles, the play doesn't get off the ground. It is encumbered by strange casting, inadequate rehearsal, and gross technical errors . . . all of which are obvious to even the untrained. The play's artistic qualities, comic and serious, have a hard time shining through these handicaps.

The action of the play concerns Jonothan's awkward emergence from his coccoon. A stammering, inhibited boy at twenty-three, his mother has smothered him almost out of existence. Rosalie, a girl Jonathan watches with his telescope, is invited in to talk to him. Madame Rosepettle wants to show him what the outside world is really like. Rather than feeling disgusted, however, Jonothan falls in love with her.

Frank Sugrue and Michael Murray present OH DAD, POOR DAD, MOMMA'S HUNG YOU IN THE CLOSET, AND I'M FEELIN' SO SAD, a pseudoclassical tragifarce in a bastard French tradition, by Arthur Kopit. Directed by Neal Kenyon, Costumes by Susan Webb, Scenery by Richard Guillicksen, Lighting by Walter Dolan. Musical Consultant Joe Raposo. Special effects designed and executed by Hugh E. Lester. Production Supervisor Aloysius Petrucelli

THE CAST

Madame Rosepettle . . Nancy Zalla
Jonathan ..... William Hammond
Rosalie ..... Susan Reiselt
Commodore Roseabove . . . . G. Wood
Head Bellboy ..... Garry Phillips
Bellboys . . . — John Brown, David Barber, Peter Gerety, Peter Russell, David Tabor

When Madame Rospettle tells the story of her marriage to Commodore Roseabove (a nine-page monologue), Jonathan is eavesdropping. This grotesque vision of love and marriage unsettles the boy; he attacks his mother's venus-flytraps with an axe, and murders her pet piranha fish.

At this moment Rosalie returns, and entices Jonathan into his mother's room, where he has never been allowed. There, she strips off her innocence, and most of her clothes, and tries to seduce him. She reveals herself as the depraved thing Madame Rospettle said she was, and also as a possessive counterpart of the Madame herself. Then, like a prophecy of the result of marriage, Dad sprawls out of the closet. Terrified, Jonathan smothers Rosalie, and retreats into his own room to await his mother's return.

"Oh Dad . . ." is a perfect example of what has been called Theatre of The Absurd. The setting of the play is unreal, the characters incredible, the dialogue and action logical extensions of irrational premises. The whole must be held together by the vigor and style of performance.

Still, under the ridiculous surface, and almost subliminal seriousness is at work. The comic occurrences are actually caricatures of the modern world. Jonathan, completely mother-dominated, must observe the outside world with his home-made telescope. His mother locks him in his room not to keep him in (which would be heinous), but to keep him from going out (which is beneficial). Madame Rosepettle married her husband because he was someone she could possess completely: she could love him, she could marry him, she could kill him, because he belonged to her.

Madame Rosepettle's grotesque description of her courtship and marriage is an extreme parody of modern love. This loveless union of grotesque figures is a compendium of all the unpleasantness possible in marriage.

William Hammond and Susan Reiselt play Jonathan and Rosalie quite well. Their first scene together captures the air of oddly believable strangeness which should characterize the whole play. Nancy Zala makes an indifferent Madame Rosepettle. Her hesitance and confusion in the opening scene was embarrasing. Her monologue was quite effective, however, and her performance may improve generally once she has learned the opening lines better.

Neal Kenyon considers the play a grotesque comedy. His emphasis on the closing line, "I ask you, as a mother to a son, what does this all mean?" proves he feels it means nothing, which it does not. The set-changes, to the bedroom and back, are performed on a darkened stage by noisy, clumsy stagehands.

"Oh Dad . . ." is an interesting play. It deserves better treatment.

Summer Employment For Foreign Students To Be Meeting Topic

Foreign students may find summer employment by contacting the Student Personnel Office (1-380) or the Placement Office (1-173). In addition, there will be two meetings at which job opportunities will be discussed.

The first of these meetings will be tomorrow at 5:00 in Room 10-108; the second will be next Wednesday at 5:00 in Room 10-275.

Visas will permit employment if the student is returning next fall and if the MIT Foreign Student Office approves.

movie schedule

Wed., Feb. 13 through Tues., Feb. 19
(Unless otherwise stated, the Sunday schedule is the same as the weekday schedule except no movies are shown before 1 p.m.)

ASTOR—"The Longest Day," 8:15; Wed., Sat., Sun., 2:00; Sun., 7:30
BEACON HILL—"Term of Trial," 9:35, 11:35, 1:35, 3:35, 5:35, 7:35, 9:35.
BOSTON CINERAMA—"The Best of Cinerama," eves., 8:30, mats. Wed. 2:15, Sat. and Sun., 1:30, 5:00.
BRATTLE—"The Lady with the Dog" plus short subjects, 5:30, 7:30, 9:30, matinees Sat. & Sun. 3:30.
CAPRI — today, "Boccaccio 70," "Temptation of Dr. Antonio" 10:00, 12:45, 3:30, 6:15, 9:00, Sun., 1:00, 3:45 6:30, 9:15 "The Job" 10:55, 1:40, 4:25, 7:10, 9:55, Sun., 1:55, 4:40, 7:25, 10:10, "The Raffle," 11:50, 2:35, 5:20, 8:05, 10:50, Sun. 2:50, 5:35, 8:20, 11:05; starting Feb. 14, "Freud," 9:25, 11:50, 2:15, 4:40, 7:05, 9:30; Sun., 1:15, 3:50, 6:25, 9:00.
EXETER — "Billy Budd," 2:00, 4:15, 6:35, 9:00.
FINE ARTS — today, "The Cranes are Flying," 5:30, 8:45, mat., Sat., Sun., 2:00; "Kind Hearts and Coronets," 7:00, 10:10, mat. Sat., Sun., 3:45; starting Feb. 14, "Cleo from 5 to 7," no times available.
GARY—"Lawrence of Arabia" eves., 8:00, mats., Wed., Sat., Sun., 2:00.
HARVARD SQUARE—Garbo in "Anna Karenina," 3:10, 6:30, 9:45, "The Thin Man," 1:30, 4:45, 8:10. Starting Sun.: "Jumbo," 1:45, 5:20, 9:00. "Stowaway in the Sky," 3:45, 7:30.
KEITH MEMORIAL — through Feb. 15, "Forty Pounds of Trouble." Mon.-Thurs., Sat., 11:12, 2:39, 6:06, 9:33; Fri., 11:21, 2:57, 6:33, 10:09; Sun., 2:42, 6:00, 9:36; starting Feb. 16, "To Kill a Mockingbird," no times available. 9:33; Fri., 11:21, 2:57, 6:09, 9:36; starting Feb. 16, "To Kill a Mockingbird," no times available.
LOEW'S ORPHEUM—"Diamondhead," 9:50, 11:45, 1:40, 3:40, 5:35, 7:35, 9:30; Sun., 1:15, 3:10, 5:05, 7:05, 9:00
MAYFLOWER — "Gypsy," 9:50, 12:30, 3:20, 6:00, 8:50; Sun., 1:00, 3:25, 5:50, 8:45
MIT—Friday, "Kanal," Room 10-250, 6:30, 9:00; Saturday, "The World, the Flesh, and the Devil," Room 10-250, 5:15, 7:30, 9:45
MUSIC HALL — "The Rage of the Lion," 10:15, 12:05, 2:00, 4:00, 5:55, 7:55, 9:50; Sun., 1:40, 3:40, 5:35, 7:30, 9:30.
PARAMOUNT — through Feb. 18, "Who's Got the Action?" 9:20, 12:20, 3:25, 6:30, 9:35, Sun., 1:00, 3:55, 6:55, 9:55; "Where the Truth Lies," 10:55, 2:00, 5:05, 8:00, Sun., 2:30, 5:30, 8:30; starting Feb. 19, "Son of Flubber," 9:00, 11:25, 1:50, 4:15, 6:40 9:10
PILGRIM—"The Hook," 9:05, 12:10, 3:20, 6:30, 9:40; Sun., 2:55, 6:10, 9:25; "Cairo," 10:40, 1:45, 4:50, 8:05, Sun., 1:20, 4:35, 7:50
SAXON—"Mutiny on the Bounty," eves., 8:15, mat. Wed., Sat., Sun., 2:15
WELLESLEY COMMUNITY PLAYHOUSE — Feb. 13-16, "Jumbo" and "The Cruise of the Eagle," eves., 7:45, mats., Sat., 10:00, 2:00; Feb. 17-19, "Lobo," "The 300 Spartans" eves. 7:45, mats., 2:00.
UPTOWN — "Phaedra", 1:10, 5:20, 9:30, Sun., 1:00, 5:05, 9:15; "Cape Fear," 11:20, 3:25, 7:35, Sun., 3:10, 7:20

Theatre Schedule

CHARLES PLAYHOUSE — "Oh, Dad Poor Dad, Mamma's Hung You in the Closet and I'm Feelin' So Sad," Feb. 6, 8:00; Tues-Fri., 8:30; Sat., 5:30, 9:00; Sun., 3:00, 7:30.
CHARLES CABARET THEATER — "Two by Two," Tues.-Fri., 11:15; Fri Sat. 9:00, 11:00, Sun., 10:15.
COLONIAL—"Tovarich," eves. 8:30, mats. Thurs., Sat. 2:30.
EMERSON COLLEGE THEATER — "A Clearing in the Woods," Feb. 19-21, 8:30
IMAGE — "One of the Same Kind" and "All That Jazz," two new one-acts, Tues.-Fri., 8:30, Sun., 5:00, 9:00
LOEB DRAMA CENTER—"The Crucible," contemporary opera, Feb. 14-19, 8:30
LOEB EXPERIMENTAL THEATER — "The Zoo Story," Feb. 14-16, 8:00
TUFTS ARENA THEATER—"Children of Darkness" Feb. 14-16, 8:00
WILBUR—"The Riot Act," Mon.-Sat. eves. 8:30, mats. Wed. and Sat. 2:30

Tech Show To Be 'Sins And Needles'

"Sins and Needles," the 1963 Tech Show, will be given February 28 and March 1, 2, 8, and 9 at 8:30 p.m. in Kresge Auditorium. Those with major roles are Wendy Wolfe, of Jackson, in her third year with the show; Mike Jacobs; Ron Bechtol; and Howie Ellis.

The play, written by Mike Jacobs and Deloss Brown, is a musical comedy about life in a large metropolitan hospital.

Writers of the music and lyrics include Ken Estridge, Fred Prahl, and Steve Stellman. The director is Rob Lanchester. Surrounding schools which have contributed girls to the show include Boston University, Emerson, Jackson, Leslie, Simmons, Garland, and Radcliffe.

Tickets for the performances may be purchased in the lobby of building 10; reservations may be made by calling UN 4-6900, extension 2910.

movies . . .

New Russian Film Opens At Brattle

By Gilberto Perez-Guillermo

"The Lady with the Dog" is a splendid adaptation of the Chekhov story, carefully directed by Josef Kheifetz in a conventional but extremely natural style which faithfully recreates the Chekhovian spirit.

To my taste, the opening scenes at Yalta, where the lovers meet for the first time, are the best in the film. Anna Sergeivna (Ya Savina) and Dmitri Gurov (Alexei Batalov) have an extramarital affair where they find love for the first time. An alternation of close-ups and brief lines successfully sketches their first encounter in a cafe. They start seeing each other. Incidents are inserted that add a touch of humor to the story and contribute to the superb ambientation. Kheifetz' natural use of montage, his rejection of camera movements, his skillful use of the landscape and of moving objects (a carriage, a boat) in creating varied moods fit his human material perfectly. His compositions, within a conventional frame, are simple, imaginative, and almost always effective. The relation between the lovers is subtly outlined in a spontaneous, yet concise fashion.

The lovers depart. Dmitri goes to Moscow and to his wife, his job, and boredom. This deliberately slow, perhaps too slow sequence culminates in a new meeting of the lovers, where an acceleration of the pace, in contrast to the previous happenings, is used to great advantage. (A similar device was employed at Yalta to depict the succes of the love affair.) Anna goes to Moscow and meets Dmitri for the last time — they face their unavoidable separation. Words being almost unnecessary, Kheifetz' camera, from outside a window, gives a superb rendering of this moment.

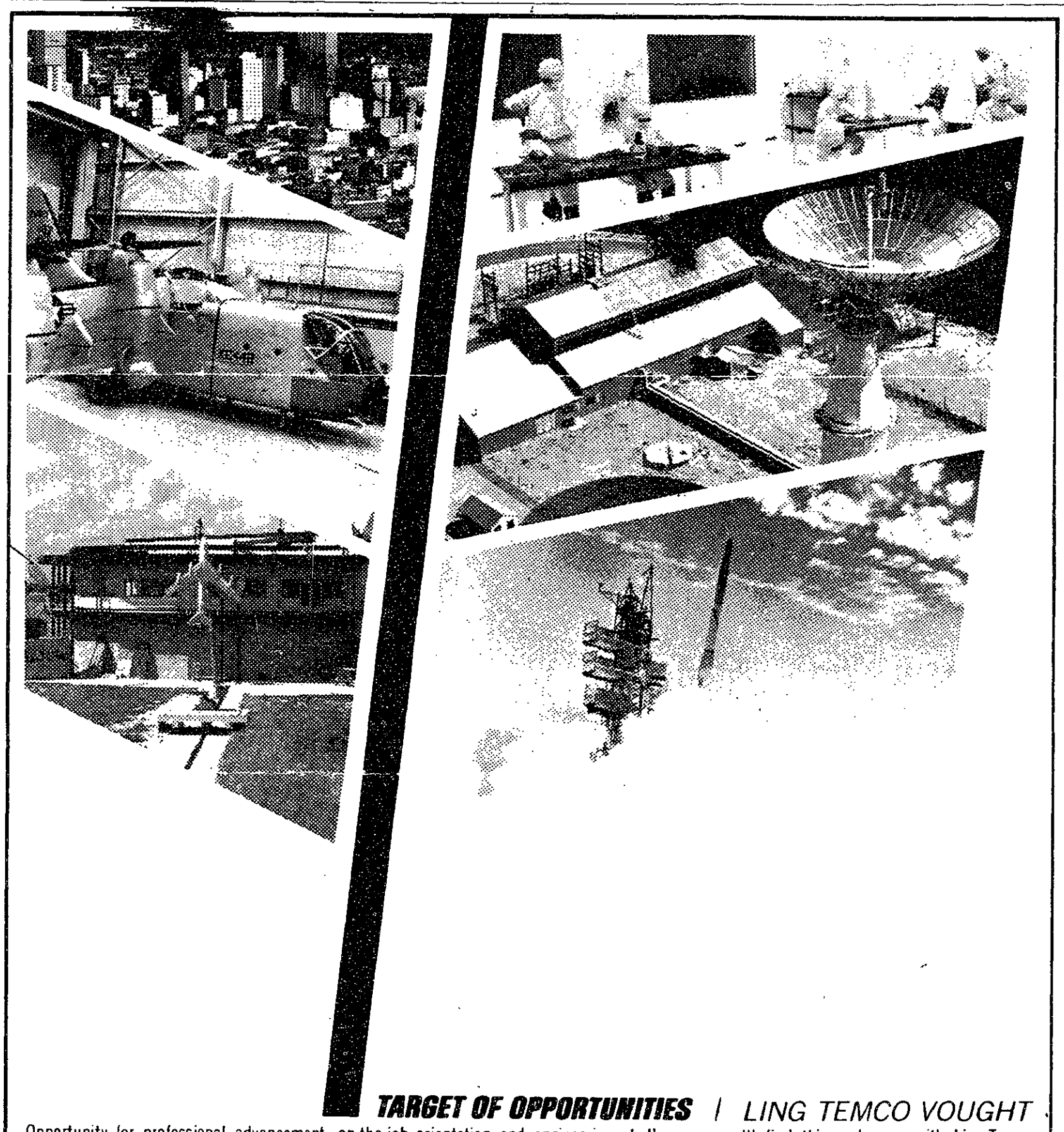
The acting is flawless — Ya Savina's sensitive performance as Anna deserves special mention.

This film's rigourous style, its formal beauty and natural simplicity, the absence of camera tricks and of cheap sentimentality, give it a unique place among recent Russian films. Not since Eisenstein's second "Ivan" have I seen a Russian movie of comparable quality. It is a showing worthy of the Brattle Theatre's Tenth Anniversary. Some notable Russian films are being shown in conjunction with this event, among which "Potemkin," "The Childhood of Maxim Gorky," "Alexander Nevsky," "Ivan the Terrible" and "The Lady with the Dog" are highly recommended.

THE LADY WITH THE DOG; produced by Lenfilm Studios; screenplay and direction by Josef Kheifetz; based on a story by Anton Chekhov; photographed by Andrei Moskvine and Dmitri Meschiev; edited by S. Derevlansky; art direction by B. Manevich and I. Kaplin; music by N. Simonian; sound by A. Shargarodsky; at the Brattle theatre, Cambridge.

Cast

Anna Sergeivna ..... Ya Savina
Dmitri Gurov ..... Alexei Batalov
Madame Gurov .... Ala Chostakova
Von Didenitz ..... Peter Krimov
Frolov ..... Dmitri Zebrov
Natasha ..... Maria Safonova
A Russian film, with English subtitles.



WTBS Schedule

Wednesday
8 am—Rise and Shine; News at 8:30 and 9:30.
9:45—Sign Off; (Music Library on audio lines)
5 pm—Music USA
6.00—News, The Jay Martinson Show
8.00 Departures in Music (New Classical Releases)
10.00 News, Masterworks
12.00 News, Jazz at Midnight
1.30 Sign Off

Thursday
8-9 am—Morning same as Wednesday
5 pm—Music USA
6.00 News, Tempo
7.00 Folkside
8:00 Arab Club Show
8:30 Limelight Review
8.50 News
9.00 Evening at the Opera
12.00 News, Jazz at Midnight
1.30 Sign Off

Friday
8-9 am—Morning same as Wednesday
5.00 Like Young
6:00 News, Like Young
7:00 Jazz Special
9.00 Raising a Ruckus Tonight — Folk Music from Cafe Yana
10.00 News, Night Owl (Telephone Request)
12.00 News, Night Owl
2.00 News, Sign Off

Saturday
3.00 Rock and Roll Memory Time
5.00 Jazz Spotlight
7.00 Theatre Tonight
8:50 News
9:00 Night Owl (Telephone Request)
12.00 News, Night Owl
2.00 News, Sign Off

Sunday
5.00 This is the Blues
6.00 Music at MIT
7.00 Omnibus
9.00 News, Classroom Concert
12.00 News, Jazz at Midnight
1.30 Sign Off

Mondays
8-9 am—Morning same as Wednesday
5 pm—Perloo, Stomp, and Glee
6.00 News, The John C. Heine Show
8.00 Masterworks
10.00 UN News Review, Masterworks
12.00 News, Jazz at Midnight
1.30 Sign Off

Tuesday
8-9 am—Morning same as Wednesday
5.00 Music USA
6.00 News, Tempo.
7.00 Ramblin' Round
8.50 News
9.00 Masterworks
12.00News, Jazz at Midnight
1.30 Sign Off

WTBS Schedules Live Folk Music

Station WTBS will broadcast a program of live folk music every Friday at 9:00 this term. This cooperative venture of WTBS and WTBU, the on-campus station at Boston University, will feature interviews with performers at the Cafe Yana and discussions of the more technical aspects of folk music.

WTBS will also broadcast a United Nations News Review in cooperation with United Nations Radio. It will be every Monday night at 10:00.

Motherwell Paintings At Hayden Library

An exhibition of paintings and collages by Robert Motherwell will be on view through March 3 in the New Gallery, Hayden Library.

A member of a group known as the Abstract-Expressionists, Motherwell paints with few colors, often only black and white. He has traveled in Mexico, Spain, France and Germany, and many of his paintings are landscapes, real and imaginary, of these countries.

Serkin To Give Symphony Hall Concert Feb. 17

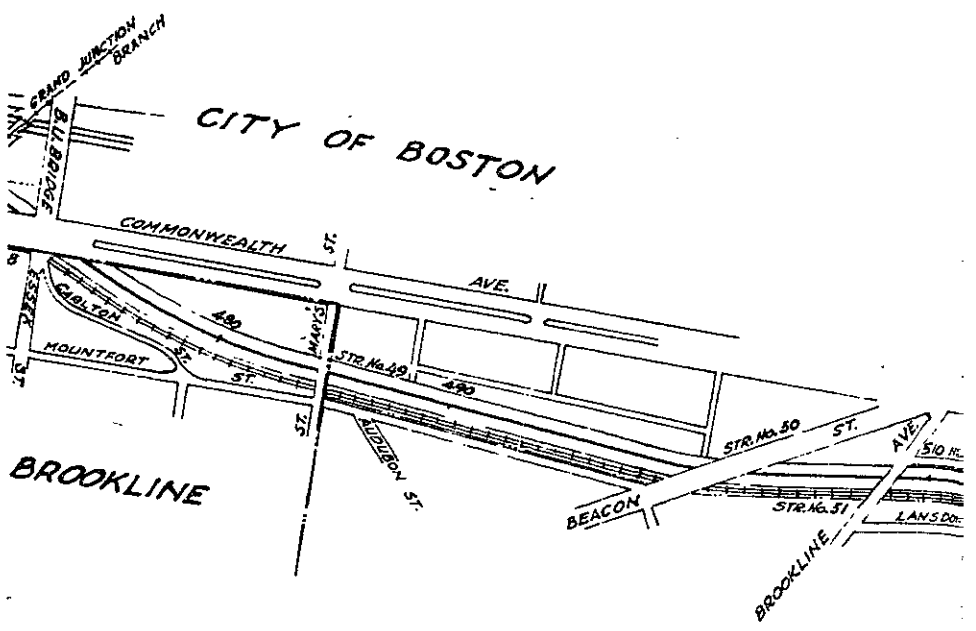
Rudolf Serkin will give a concert February 17, in Symphony Hall, at 3:00 p.m.

The recital is sponsored by the South End Music Centre, whose student aid fund will receive the benefits from the event.

The program will include Beethoven's Sonata in C major and Sonata in E major, and Schubert's Fantasy in C major, and two Impromptus from opus 142.

Looking west from the Prudential Tower, the proposed route of the new Mass. Turnpike extension can be seen paralleling the New York Central Railroad tracks. Boylston Street is in the foreground; while Kenmore Square, Commonwealth Avenue, and the B.U. Bridge over the Charles River are in the upper right.
—Photo by Conrad Grundlehner

Construction Of T



Extension Being Built Along T

By Dick Schmalensee

A direct route west from downtown Boston will be provided by the Boston extension of the Massachusetts Turnpike. The multilane highway will create 12 miles of no-stop-light right-of-way from South Station to Route 128.

The extension is being built on the roadbed of the New York Central Railroad, purchased last spring for $8 million. The railroad will retain two tracks parallel to the turnpike; but shifting present tracks to make room for the extension will add another $4.8 million to total costs.

To widen the existing right-of-way, a great deal of adjoining property—$33 million worth—is being torn down.

The wrecking on Boylston Street near Massachusetts Avenue represented only a small portion of this expense.

1700-Foot Tunnels

The closest interchange to MIT will be at Mass. Ave. and Boylston, where cars from Mass. Ave. may go west on the turnpike. The Turnpike Authority says an estimated 2000 vehicles daily will use this ramp.

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Have you ever wondered why Caltech admit coeds as undergraduates? Well, coeds are responsible for this.

According to the **California Tech**, seven ago Caltech actually did consider admitting as undergraduates and at that time did a erable amount of research on the subject. jor sources for this study were the MIT which MIT opened completely to Caltech MIT was chosen because it was consid most comparable school to Caltech in the States.

The study showed that a large perce women who received their undergraduate got married soon afterwards and did no a career related to their degrees. Becaus proportion of educational funds come from sources, Caltech decided it would be wis strict admission to men, who would not Caltech's resources by pursuing non-goals.

Two other points were also considered in cision. One of these is that a woman who a degree and doesn't use it is depriving a the opportunity to have this education.

The other reason took into account the coeds to men at MIT, and found that if were admitted there would be only abou the undergraduate student body. This wou new housing requirements, and considerable es in school policies, facilities, and expens would not be justified by the small nu women.

The same study showed that women in work generally used their education in p careers, and it was decided to continue a them into the graduate school.

89-50-90

Wesleyan University, a man's school in town, Connecticut, has a different solutio female problem. Wesleyan appoints them staff.

The latest position to be filled by a w that of assistant director of projects of We College of Quantitative Studies. The app Muguette Fabris, formerly instructor of m tics at the Bel-Air Lycee for girls in Ang France.

But Mlle. Fabris is no ordinary run-of math instructor. At the age of 22, she has j chosen Miss France. **The Middletown P** portedly said that she left Bel-Air because too sexy for the position she was filling. Ti azine described her as 89-50-90 (translat centimeters: 35-20-35).

At Wesleyan, she will have responsib designing experiments to test certain con abstract mathematics, such as normal sub

The Wesleyan Argus reported that Rob enbaum, director of the CQS, had received from Mlle. Fabris, but that the message w er garbled in transmission. It seems th Fabris expressed some doubts as to whe American college student knows where t Rosenbaum stated that he was a little u to whether or not she was speaking in an a sense.

Lab Minimizes Radioactivity Dangers

The danger of radioactive contamination has been minimized at MIT's Central Radioisotone Laboratory and Storage Facility, thanks to an elaborate control system. The lab, located in the basement of Building 6, has not had a serious accident in its three-year history.

The facility is directed by radiochemist Tom Martin and technician Dominic DiMartino, of the MIT Occupational Medical Service. The lab serves two purposes. First, it is used as a "hot" lab by Institute staff members and students. Its special facilities permit experimenting with larger amounts of radioactive substances than would be safe in ordinary labs.

Isotope Storage

Second, the lab serves as a storeroom for radioactive material. Small amounts of low-hazard materials are kept readily accessible on a shelf in the laboratory.

A storage room contains larger amounts of alpha and beta emitters. This material is stored in secondary containers inside cans.

More dangerous isotopes which are non-volatile and which have no gaseous daughter products are stored in eighty-six pipes which are sunk into concrete and capped with lead tops. Tubes mounted inside the pipes make this material, too, readily accessible. A track around the storage area allows the materials to be wheeled directly into the working hood in the laboratory.

Highly hazardous gamma emitters, such as cobalt 60 and cesium 137, are stored in pipes which are covered by lead bricks in addition to the regular caps. Volatile materials are kept in shielded containers under a hood.

As a result of these safety measures, the radiation level in the storage room is only slightly higher than it is in the other parts of the laboratory.

Lab Used Continuously

Laboratory work has nearly tripled since the facility's inception. At the present time, the lab is in almost continuous use. Besides its use for independent research, the lab is utilized by students in 22.41, Nuclear Reactor Physics Laboratory.

Safety equipment in the lab includes three-inch-thick shielded lead hoods, lead bricks, two glove boxes, and stainless steel working surfaces. To prevent possible contamination in the event of a leak, a low air pressure is maintained inside the glove boxes. Strippable paint on the insides of the boxes permits the removal of contamination, and eliminates the need for cleaning the boxes.

The sinks are of stainless steel, and, as a precautionary measure, are operated by foot controls. Also available are two lab monitors — Geiger counter arrangements which check the lab and its personnel for possible contamination.

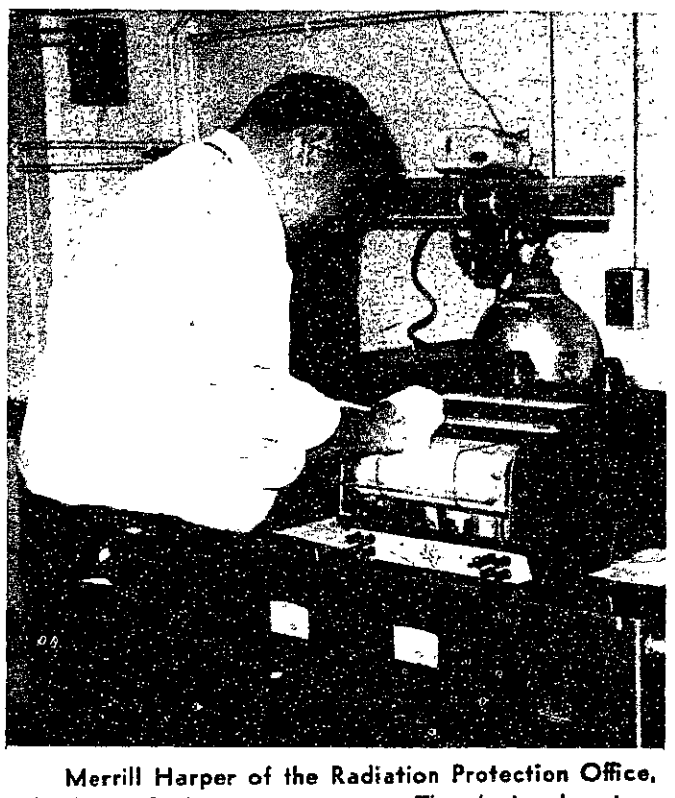
Radiation Level Checked

An air sample is taken daily to determine the level of radioactivity in the laboratory. When work involving volatile substances is in progress, a gas-flow proportional counter is used to check the radiation level. This device, which can distinguish alpha and beta rays, sounds an alarm when a present level is exceeded.

Absolute filters, which are effective in removing particles even smaller than a micron, are used to eliminate particulate radioactive materials. Gases are discharged into the atmosphere above Building 6 through a controlled exhaust system, maintaining a level of radioactivity well below the danger point.

Every user of the lab receives a dosimeter which measures radiation exposure. The dosimeters are read before and after use of the lab. Inside the lab, rubbers and lab coats afford additional protection. Before leaving, users have their hands and shoes examined for contamination.

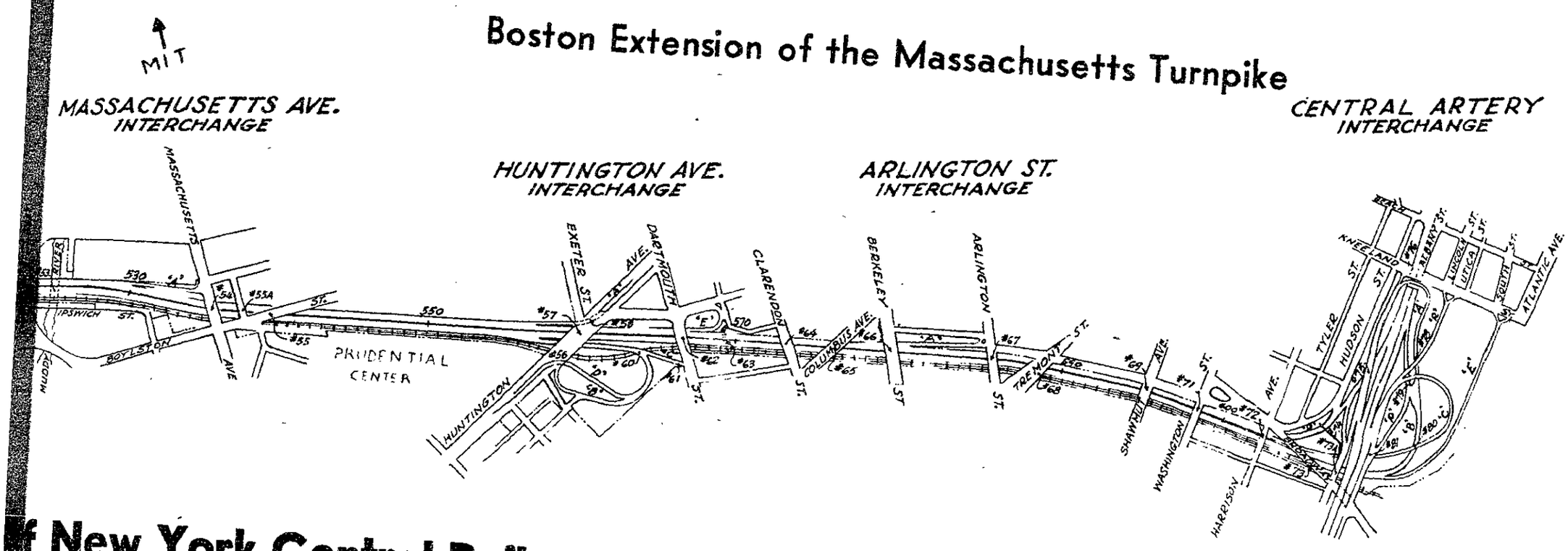
Before assuming his present duties last July, Martin was head of the radiological safety department at Controls for Radiation, Inc. DiMartino, who has been with the facility since its opening, was affiliated with an Atomic Energy Commission lab in Winchester, Mass., before coming to MIT.



Merrill Harper of the Radiation Protection Office, checks a dual-count ratemeter. The device has two red lights on top, the left of which will flash if a sudden increase in Alpha or Beta radiation is recorded, and the right if a similar increase in Beta radiation occurs. In addition the machine keeps a graphical record of radiation in the air.
—Photo by Conrad Grundlehner

ike Extension To Link Boston With West

Boston Extension of the Massachusetts Turnpike



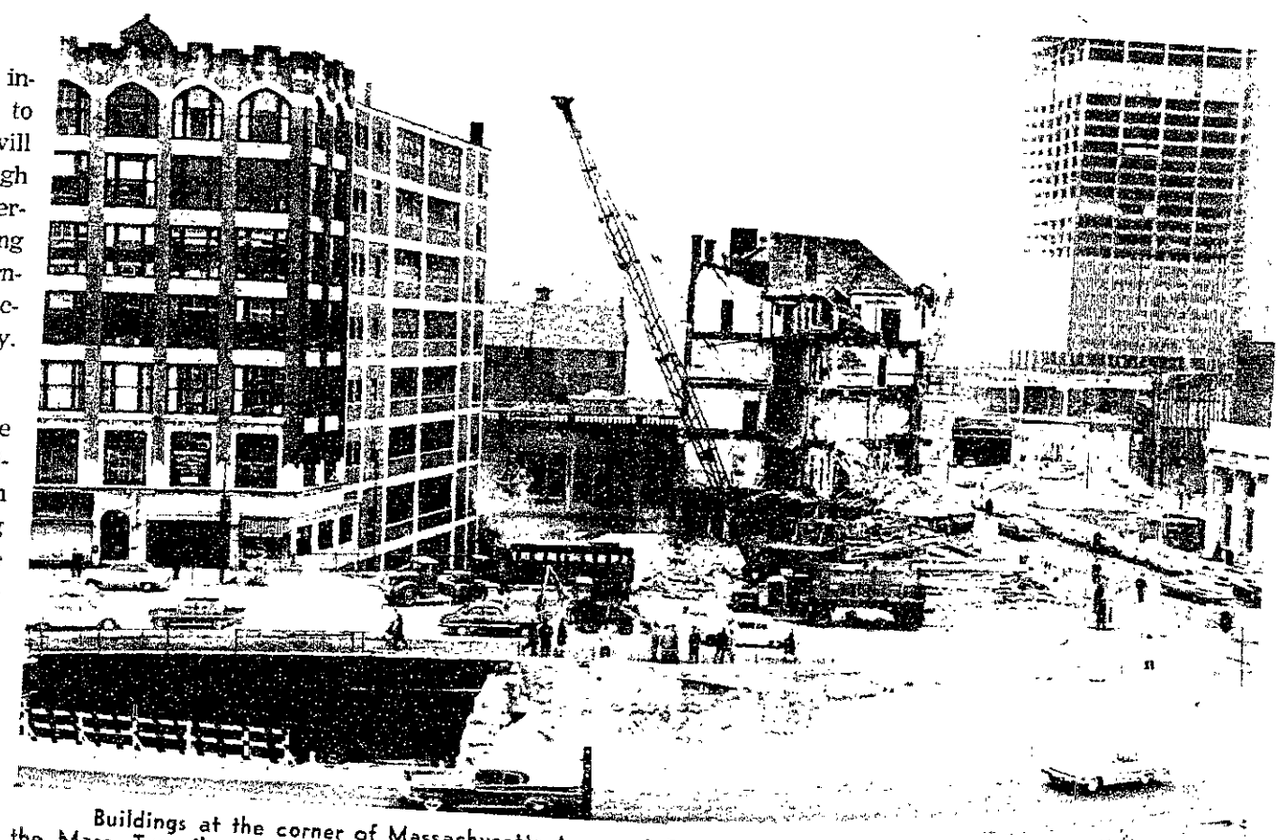
f New York Central Railroad

neath Drive and, to a lesser extent, on 1964, Mass. Ave. and Memorial Drive. d for The new Prudential Center has n al- figured very importantly in plans hority for the extention. Originally, an rrow interchange was to be constructed on the site of the Center; the interchange has been moved to Huntington Avenue. Traffic will move beneath the Center through 1700-foot tunnels, 3 stories underground. Two tunnels are being built for the six lanes of the turnpike; a third is under construction for the railroad right-of-way.

Totals $148 Million

Construction costs alone on the extension will amount to $91 million; total expenditures will reach $148 million. Funds are coming from the sale of bonds by the Turnpike Authority; no government investment is involved. Interest payments on the bonds will be met by toll collections-50 cents for the 12-mile trip.

One of the major tasks involved in construction is the replacement of the 42 bridges that now span the extension's route. All are being replaced by wider- flat-surfaced spans.



Buildings at the corner of Massachusetts Ave. and Boylston St. are being razed to clear the route of the Mass. Turnpike extension into Boston. Shown being levelled is the building adjacent to the now-closed "Mass. Station" bus terminal. In the upper right is the Prudential Tower, scheduled for completion next year. The turnpike extension will pass under the Prudential Plaza

—Photo by Conrad Grundlehner

By Toby Zidle '63

oeds At Caltech
oeds Marry Early

I can say without fear of serious con- hat we are all waiting the next step with pation," he added.

Protect The Students

mother at the University of New Hamp- "I feel it is my job to protect the boys sort of thing." No, she wasn't referring h instructors. She was speaking of the m inspections by the UNH Housing Di- epic of much editorial criticism in **The pshire.**

with a tape recorder and soft-soled sing Director Francis Gordon descended H dormitories during Christmas vaca- ust three days, he went through every ampus. **The New Hampshire** strongly o Gordon's apparent overzealousness, g on some of his remarks:

ve picture from wall . . .' No one but ordon has seen any picture on this par- l this year.

antenna indicating portable T.V.' This pe of antenna used for F.M. radios.

ay in room looks very much like UNH r lounges.' The implication is clear but e quite incorrect."

orial continued:

ordon clearly illustrated that he is cap- g very picayune. Example: 'Ash trays .' Or: 'Close screen or window and way.' Why? Only Mr. Gordon knows. ost frequent quote resulting from this was 'Remove scotch tape from wall, $.50 each.' The List of Things Wrong ther budgetary items apparently calcu- for the new women's dormitory."

Hampshire advocated that "until Mr. ates intelligible practical rules for dor- dents to follow, it might be a good idea dents to flatly refuse to pay the fines st them."

Protect The Faculty

ado State University the students don't otection; it's the faculty that does. The essors at the university's botany and athology farm have accused the Eng- ors of raiding the farm's vegetable oying many experimental projects.

ewspaper, **The Collegian,** quoted an the farm as saying the English teach- ded his pumpkins. "There was quite them," he said. "They brought their ids."

lish faculty member explained: "The was a misunderstanding. Some of us mor that the vegetables at this farm plowed under. Now I ask you, what have done? We went over there and esh vegetables."

Protect The Tourists

must need protection, too, as evidenced wing UPI release in **The Florida Alliga-**

, Fla.—The smouldering fight over the of Boulogne flared up again yester- e Nassau County legislators said they a determined effort to abolish the town was operating as a speed trap.

Biologists Investigate Nerve Stimuli

By Barbara Cohen

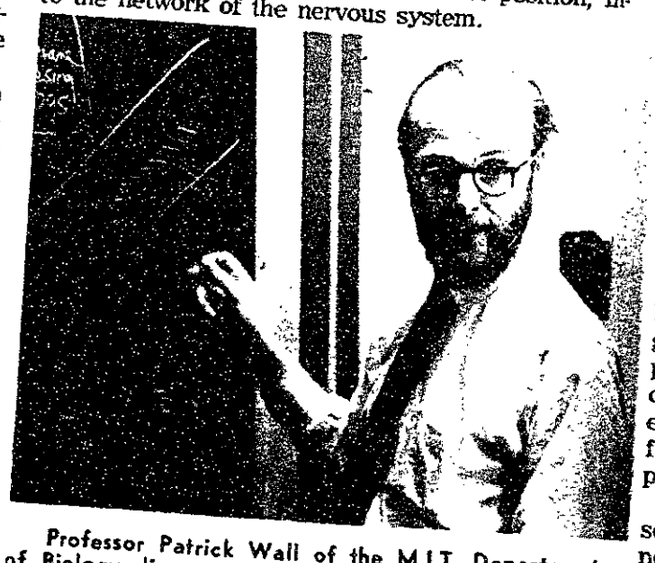
Many MIT scientists in diverse fields are presently engaged in research on the nervous system. One of the biologists working in this area is Dr. Patrick D. Wall, Professor of Physiology.

Dr. Wall, who works in association with Dr. Jerome Lettvin, Associate Professor of Biology, and Dr. Warren McCulloch, of the Division of Sponsored Research, was assisted by Karl Kornacker, Joel Brown, and Arthur Taub. The team has performed a number of intriguing experiments in neurophysiology.

One fundamental problem they have attempted to solve is the question of what language the nervous system uses to convey sensory information. How does the nervous system know where on the body tissue some stimulus which impinges on it is located?

False Stimuli

In order to crack this code they have used the device of sending artificial, false messages, or correct messages, sent from an incorrect position, into the network of the nervous system.



Professor Patrick Wall of the M.I.T. Department of Biology diagrams the propogation of an impulse down the spinal column of a frog.

—Photo by Joseph Baron

To do this they took a tadpole, cut out a band of skin covering the back and stomach, and grafted it on again upside down, underside to the back. The tadpole grew into a frog, and proper connections between the reversed patch of skin and the nervous system developed.

Normally, when the skin of a frog is irritated, it will raise its hind leg to scratch that area. The frog with the skin graft, when touched on the patch of underskin grafted to the back, scratched its stomach on the patch of back skin, and vice versa when the skin from the back was touched. In other words, the frog acted as though the skin had never been reversed. The experiment implies that it is not the location of the stimulus which is transmitted, but rather the nature of the skin which has been stimulated.

Extra Eyes, Less

Similar experiments were done with salamanders. A third eye was grafted onto the head of a young salamander. Nerves from the surrounding skin grew into the eye. When the grafted eye of the adult salamander was touched, the normal eye on that side of the head blinked.

An extra leg was grafted onto the head of another salamander. Salamander limbs have the ability to regenerate themselves when cut off, and this ability was retained by the grafted limb. When the originally grafted limb was touched, nothing happened. But when the grafted limb was cut off and the regenerating area touched, the eye blinked. When the limb was fully regrown, it ceased to give this response.

Apparently the nerve can tell what sort of tissue it is in, and where it should normally be located. Phenomena of this sort have been known for about twenty years, but the techniques Prof. Wall has been using to study them are new.

Glass Microelectrodes

He uses microelectrodes to tap directly into the transmission lines of the nervous system. These electrodes have tips only one half micron broad, small enough to make contact with a single nerve fiber.

They are made of glass tubing, drawn to a tiny point at one end, and filled with a concentrated electrolyte solution to conduct the signal. The voltages recorded inside a nerve cell may be relatively large, as much as one tenth of a volt, but usually Prof. Wall works with signals ranging from a millivolt to ten microvolts. The biggest problem is to record the signal without distorting or destroying it. The tiny electrodes are surrounded by a massive array of electronic equipment designed for this purpose.

A grid of microelectrodes may be formed over the area being examined, the points of the electrodes being placed as little as 25 microns apart. Nevertheless, the network of nerves is so fine that this gives only a crude picture of the impulses emerging from an area.

Nerve Endings

The central nervous system of many animals have been examined by Dr. Wall's group with microelectrodes to see where nerve fibers terminate. The evidence from these studies indicates that one coding unit used by the nervous system may reside in the fine anatomy of the nerve endings, rather than in their physiology. There is a spectrum of nerve fiber diameters, all of which grow toward the skin. Only a small range of these diameter sizes manage to get into the skin, and make successful contact with the outside world. The size of a fiber determines the area in which it will terminate, and the type of tissue with which it will communicate.

(Please turn to Page 14)

movies . . .

"Long-Distance Runner" At Coolidge Corner

By Gilberto Perez-Guillermo

THE LONELINESS OF THE LONG-DISTANCE RUNNER; produced and directed by Tony Richardson; screen play by Allan Sillitoe, based on a story of his own; music by John Addison; starring Tom Courtenay, Michael Redgrave; at the Coolidge Corner, Brookline.

Tony Richardson's "The Loneliness of the Long-Distance Runner" is perhaps the most conspicuous example of the influence exerted by the French "New Wave" on British movie-making. The story parallels Truffaut's "Four Hundred Blows:" a portrayal of a boy finding a hostile adult world. The camera techniques and unconventional cutting resemble Truffaut's more recent and technically advanced films. Resnais' influence is also present, particularly in the frequent employment of the abrupt flashback (as in "Marienbad"). "The Loneliness of the Long-Distance Runner" certainly does not measure up to its models, but it is worth seeing nonetheless.

The film opens with a group of boys being taken to a reformatory—camera movement recreating the motion of the vehicle in which they travel. Our attention is focussed on a boy of nineteen who had stolen money from a bakery, and the lack of communication between the boy and his environment is quite apparent. The boy, convincingly played by Tom Courtenay, is a good runner. This calls the attention of the reformatory headmaster (Michael Redgrave) who hypocritically befriends him. What follows is a conflict between their characters, which somehow lacks the necessary depth: the headmaster is hardly a symbol of the adult world, his character being far too sinister. Frequent flashbacks bring back the boy's early life, presumably upon his remembrance of it. The boy is lonely—as is effectively expressed in his early-morning runs through the country. Running is a symbol of his desire to escape from a world he does not comprehend.

A "free camera" style is present throughout. It is often effective, but it seems overdone sometimes, always lacking the fluidity of Truffaut's or the visual beauty of Resnais'. The same can be said of the frequent use of the flashback. It is somewhat disruptive in a story that necessitates an emotional involvement on the part of the audience. Scenes in the boy's early life which successfully depict his conflict with the adult world—as the television incident with his mother's lover—seem isolated, and this detracts from their dramatic power. However, sometimes the flashback is used to splendid advantage—as when the boy remembers his early life during the decisive race.

"The Loneliness of the Long-Distance Runner," with all its weaknesses, remains a good film, perhaps Mr. Richardson's best. The story, with its basic human interest, is adequately filmed. It is always more refreshing to see mistakes as a result of experiment than of adherence to established techniques, even if Mr. Richardson's experiments are not wholly original. The film is recommended, specially to those who have not seen "Four Hundred Blows."

Hungarian Pianist Nagy To Give Music Lectures

Hungarian-born pianist Bela Boszormenyi-Nagy will give a series of six lecture-demonstrations on piano technique beginning tomorrow at 8:15 in Room 102 of the Boston University School of Fine and Applied Arts

The first demonstration will analyze "Piano Technique: Old and New." The following lectures will be:

Feb. 21: "Some Aspects of Memory."

Feb. 28: "Phrasing."

April 4: "Style and Performance."

April 11: "Bartok: His Place Today."

April 18: "Time Economy in Teaching and Practicing."

All lectures will be free and open to the public.

Panel Reports On Academic Training Of Teachers

What does the future school teacher need to know about the subject he will teach?

To guide college students planning careers in education, four panels were drawn from the Twenty-nine College Cooperative Plan. This group of liberal arts colleges cooperates with the Harvard Graduate School of Education in attracting undergraduates into careers in education.

In their report, "The Academic Preparation of Secondary School Teachers," the panelists stressed three requirements for all teachers:

(1.) The ability to communicate orally and in writing.

(2.) The "particular tool of analysis and communication" provided by mathematics.

(3.) An acquaintance with each of the central scholarly fields: "All should be sensitive both to the rigor of statistical analysis and to the intuition of artistic appreciation."

Mathematics

The Mathematics Committee offers a five-point course of study:

(1.) A three-semester sequence in analytic geometry and calculus.

(2.) Two semesters in abstract algebra.

(3.) Two semesters of probability and statistics.

(4.) Two semesters beyond analytic geometry.

(5.) Two semesters of elective courses.

This program, the committee says, differs from the usual undergraduate math major in two ways: The stress on analysis is reduced, and no course in advanced calculus or differential equations is suggested.

Natural Sciences

The committee suggests that the student take from one-third to one-half of his course in the science he plans to teach. Courses in the history and philosophy of science should be included. Mathematics, work on an independent laboratory problem, and attending a summer institute are also recommended.

For adequate preparation to the earth sciences — astronomy, geology, meteorology, and oceanography — at least a year's course in astronomy or geology should be undertaken.

The future physics teacher will probably have to teach another science course as well. His training, therefore, should include two years of math and chemistry, and a year of biology or geology.

The students who plans to teach chemistry will take approximately the same undergraduate courses as a chemistry major.

"The Biology teacher will need to study physics and organic chemistry, not only for their theoretical value but also for their practical help in the use of simple apparatus, the making of solutions, and the performance of chemical tests" according to the report.

Skolnikoff Returns To MIT For Political Science Work

Eugene B. Skolnikoff, who served as an assistant to three Presidential science advisers, starting with James R. Killian in 1958, has left his post to return to MIT as a research assistant in political science.

Prof. Miller Outlines Aims Of Engineering Education

Engineering teachers should concentrate more on training students how to think and solve problems, and less on imparting sheer knowledge, according to Prof. Rene Miller, professor of aeronautics.

Prof. Miller, in a paper before the Institute of Aerospace Sciences in New York City, said the primary goal of engineering education is not knowledge as such, but the training of students to pursue knowledge on their own. "This training can only be accomplished by the student himself at his desk through painful and intensive mental exercise solving difficult problems and deciphering by his own effort complex analytical expositions," Professor Miller said.

With science and technology exploding, Professor Miller said, the knowledge that any engineering school can impart to a student is at best transitory, but "the training we give him and the thought processes which we develop in his mind will last him a lifetime."

"Our aim should not be to produce a good learner who can pass examinations in neatly bound educational packages, but rather a good doer, a 'self starter,' a creative engineer."

Filtration Of Inputs Studied

(*Continued from Page* 11)

Messages Filtered

Another of the problems Prof. Wall is studying is that of how the nervous system filters and focuses the images it receives from the sensory neurons.

At least two kinds of filtering go on in the nervous system. It is first of all obvious that the brain does not deal with all the messages entering it simultaneously. It has the ability to focus attention on particular areas: the hand, the ear, the eye. Somehow it must be able to filter incoming signals — to amplify some and exclude others.

A second kind of filtering is made necessary by the fact that the sensory organs usually produce distorted and fuzzy images, which must be focused further on in their travels through the nervous system.

For example, when a sharp edge is pressed against the palm of the hand, the individual perceives it as a thin, rather than a broad, object with no difficulty. On the palm are many sensitive pressure receptors. Of these, a great many more fire off impulses than lie under the edge, because of tension in the skin. Yet we perceive only the one sharp edge. Prof. Wall has found a possible explanation for this phenomenon.

Sharp, Focused Pattern

When a nerve makes contact with another nerve (a synapse), which happens at the spinal column for most tactile nerves, its message, or electrical impulse, is not necessarily transmitted whole or unchanged. What happens is that each nerve is "asked" by its neighbors what sort of message it carries. If it carries a barrage of impulses smaller than those of its neighbors, it is ordered not to transmit it. Therefore, while a broad and fuzzy outline of a sensation is actually received by the tactile neurons, it is filtered down to a sharp, focused pattern in the spinal column and at later synapses.

Prof. Wall reported that his group had found masses of very small cells surrounding the synaptic region. These probably do the filtering.

None of these experiments have been published in the professional journals as yet.

Prof. Wall, who was born in England, received his education at Oxford and went on to take a medical degree. Before coming to MIT he worked at Yale and the University of Chicago. He moved here at the invitation of Prof. Jerome Weisner, who has been instrumental in establishing MIT as a center for neurological studies.

First Baseball Meeting

Varsity and freshmen baseball will commence with a meeting for pitchers and catchers Monday, February 18, from 4 to 5 p.m. in the DuPont Conference Room.

Debate Tournament February 22 - 23 May Be Largest Yet

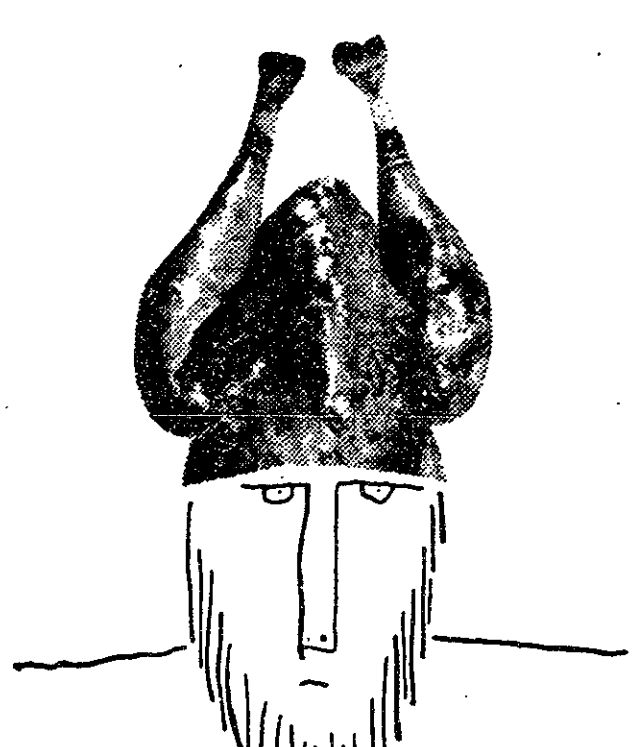
Plans for the Eighteenth Annual MIT Debate Tournament, to be held February 22 and 23, are now near completion.

The Tournament Chairman, Steve Wanner '63, said the tournament, which is the oldest annual debate conclave in New England, will probably be the largest on record.

Over 20 New England schools have accepted invitations, and there are still almost two weeks until the final date for entering.

After six elimination rounds, a semi-final round will be held at 1:30 pm Saturday, February 22, followed by a final round at 3:30. Those rounds will take place in the Kresge Little Theater.

All members of the MIT community are invited to attend these final rounds.



Tahitian Journey Of Bounty II Told

By John Montanus

Dr. Luis Marden, staff writer and photographer for the National Geographic Society, presented a film and lecture in 10-250 Thursday. The crowded hall listened to a description of Dr. Marden's latest voyage, "Via **Bounty II** to Tahiti."

The wreck of the original **Bounty** was discovered off Pitcairn Island in 1956. When Dr. Marden, one of the discoverers, learned that a Hollywood movie was to be made on the subject, he asked to be affiliated with the work. A model of the **Bounty** was built in Nova Scotia, the only place where the old shipbuilding skills are preserved.

The new **Bounty** was similar to the original in every respect, except she was 18 feet longer to accomodate the electrical generators aboard. A crew of 24, as compared to Bligh's crew of 48, sailed the ship through the Panama Canal to Tahiti.

25 Cents A Month

Dr. Marden came aboard at Panama, and for a salary of 25 cents a month he signed on as third mate. He brought with him a shoot from one of the breadfruit trees which Captain Bligh had originally brought from Tahiti. This tree shoot he later planted by the house of the widow of James Norman Hall, the author of "The Bounty Trilogy."

After an uneventful sea voyage, Dr. Marden arrived at the black volcanic-sand beaches of Tahiti, where he was greeted by fishermen of the reefs and by dugout canoes, just as Cook and Bligh had been before him. The people still subsist on a diet of fish and taro root, and still dress in the single-piece garment that they used before the coming of white civilization.

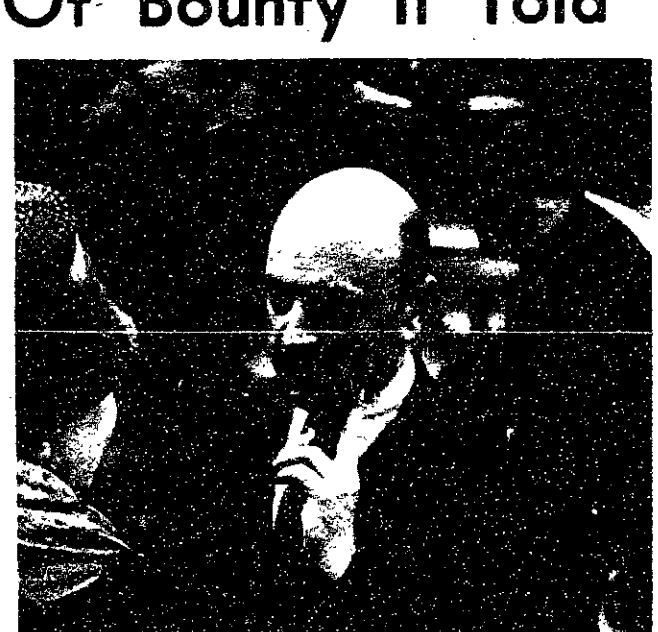
In a beautiful and effective film series, Marden compared the paintings of the expatriate Frenchman Paul Gauguin to the island beauties who are possibly descendants of his models. The painter's son still lives on the island, largely unaware of his father's fame.

Island Paradise

The island itself is a volcanic skeleton; the jagged peaks which comprise the uninhabited interior were once lava which had flowed into the craters. The original craters have eroded away, leaving only the bizarre needles of harder rock.

The entire population of the island uses the interior to grow grain and vegetables, which are left untended after planting and are harvested randomly.

This informal spirit and common sharing is part of the island's character which has resisted the coming of the white man. Tahiti is still an island paradise, but Dr. Marden remarked, "You'd better hurry." Still, the French government is taking steps to preserve the beauty and simplicity of this island, the destination of the ill-fated **Bounty**.



Luis Marden re-emphasizes a point after his appearance as LSC lecturer last Thursday. Mr. Marden discussed and showed a film made during a voyage of the Bounty II. —Photo by John Torode

Science Conference At BC May 2, 3, 4; Research To Be Theme

"To Excel in Research" is the theme of the Seventeenth Annual Eastern Colleges Science Conference. Outstanding scientists have been invited to address the conference, which will be held May 2, 3 and 4, 1963, on the campus of Boston College, currently celebrating its centennial.

Faculty and students at MIT and 14 other colleges have been invited to attend. BC will provide all facilities for the affair. The main feature of the conference is the presentation of undergraduate research papers in a forum, although it is not necessary to have such a paper to attend the conference.

Further details are available in the Office of the Dean of Student Affairs, 7-133.

No Added Student Stickers

New Garage To Be Built

A parking facility will soon join the list of buildings being constructed at MIT. Although the building will have space for 425 cars, there will be no increase in the number of student parking permits issued.

The building will be erected west of the Metropolitan Storage Warehouse and next to the New York Central railroad track. It will be an open structure with five levels (four above ground level) and 188,000 square feet of parking space.

No additional student parking permits will be issued because the new facility will barely compensate for the parking space lost due to other new construction, according to Vice-President Phillip Stoddard.

Bids for the Materials Science Building are due February 26. A decision will probably be made within two weeks after the bids are received.

The new cyclotron building is almost completed. It is already in limited use.

$1,000 Offered In Library Competition

$1000 is available through the Amy Loveman National Award for the best personal library of a college senior. A local award will qualify the winner for the national contest.

Entrants must write brief essays on "How I Would Start Building a Home Library," "The Next Ten Books I Hope to Add to my Collection," and "My Ideas for a Complete Home Library." Also, an index must accompany the library.

Entry blanks for the local contest, which closes April 20, are now available at the desk on the second floor of Hayden Library. The local contest, unlike the national competition, is open to sophomores and juniors, as well as seniors.

On Martian Atmosphere

Goody Of Harvard Speaks In Compass Seminar

By Claire Fetrow

Dr. Richard Goody, Harvard meteorologist, presented an analysis of the atmosphere of Mars at the first of the new series of Compass Seminars.

The main problem today, he said, is to develop a model to suggest profitable experiments to be performed by space probes. The probes, he pointed out, are too expensive to use indiscriminately.

More is known about the atmosphere of Mars than about that of any other planet except the earth.

Mars has surface areas of three basic types. One third of the surface is covered by dark green or gray areas. The red color of Mars results from light red areas, called deserts, which evidently consist of a red powder or dust. The polar caps, the third type of surface composition, closely resemble ice.

Atmospheric Layers

Dr. Goody discussed in some detail the problem of determining the composition of the atmosphere as a function of height. He explained the analysis of the ionization layers with thermodynamics and photochemistry.

Each layer shields the layers below it from certain bands of radiation. The reactions taking place in each layer depend on conditions of temperature and pressure. For example, ionized atoms could not remain ionized in the denser layers of the atmosphere, since recombination is too easily effected.

Spectroscopic measurements show that carbon dioxide makes up about two per cent of the Martian atmosphere, nitrogen about 85 per cent. Molecular oxygen constitutes only about 0:14 per cent of the atmosphere; water vapor occurs in similar amounts.

If it is assumed that the polar caps are ice, the theoretical value for the water-vapor content of the atmosphere is about twice the value determined by spectrograph measurements.

Cloud Analysis

Martian cloud analysis also casts doubt on the theory that the polar caps are ice. Several types of clouds have been photographed and classified by their typical colors.

Yellow clouds, which polarization studies show to be composed of dust, have been photographed when contrasted against the dark areas of the planet.

Blue and white clouds have been identified by polarization and reflectivity studies to be ice clouds. The white clouds are composed of larger crystals than the blue ones.

The clouds found around the polar caps, however, are a mystery. Calculations indicate that an infinitely thick layer of them would have a reflectivity of only 0.3. However, ice and water never have a reflectivity less than 0.8.

Martian Haze

Mars has a haze layer similar to the haze on the earth. It does not pass wavelengths shorter than 4500 angstroms. Although surface features cannot be seen in these wavelengths, the haze clears on rare occasions.

Called a reversing violet layer, this haze is attributed to dust of the same nature as that in the yellow clouds.

The total clearance of the Martian atmosphere which has been observed has not been explained. Such a phenomenon occurs only locally on the earth.

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New Flight Transportation Program To Modernize Training For Airlines

A new graduate program in Flight Transportation is to be headed by Prof. Rene H. Miller, N. H. Slater Professor of Flight Transportation.

The program will encompass students and faculty of the Departments of Aeronautics and Astronautics, Civil Engineering, Electrical Engineering, and Industrial Management.

The new program is considered of major importance to the aviation industry, which has been plagued with problems resulting from technological progress and increased competition. Its purpose is to train engineers to aply modern techniques and system analysis to problems in air and space transportation.

Specific areas considered by the program's courses include computer approaches to airline scheduling, safety and vehicle design, and the economics of modern jet aircraft. Sponsored - research topics will include supersonic and vertical-take-off aircraft air traffic control, and the effects of aircraft's noise. One of the program's courses is specifically concerned with vehicle instrumentation and guidance.

Graduate students in the program are working toward advanced degrees in Aeronautics and Astronautics, Civil Engineering, and Industrial Management.

MIT Fencers Downed By Cornell, 14-13

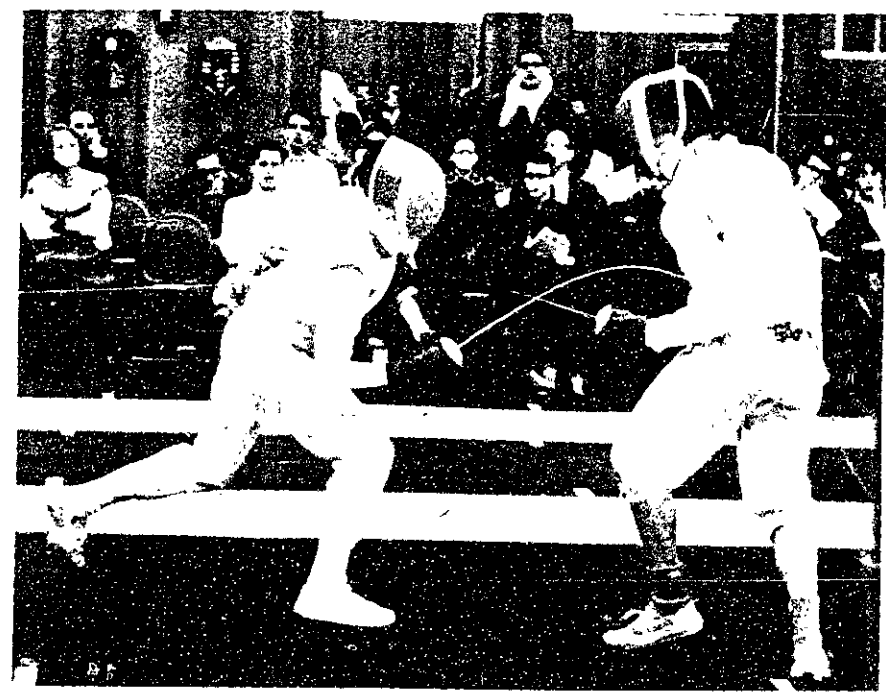
Cornell's fencers edged MIT 14 to 13 in a closely fought match last Friday. The loss extended Tech's losing streak to 4 matches.

In a disappointing performance the foil team lost to a relatively inexperienced Cornell squad 7 to 2. Junior Ralph Zimmerman, dropped two of his three bouts. Junior Mickey Wilber, usually in epee, was substituted against Cornell's third foil, Abramson, and won his bout 5 to 4, although Abramson previously had defeated Zimmerman and senior Barry Rosof, each 5 to 2.

Eppe Squad Wins

The epee team won, 7 to 2, in an admirable display of fencing ability and stripmanship. Senior Deve Snow easily won all three of his bouts, and seniors Dave Juncker and Steve Miller each won two out of three. Miller lost his last bout, the twenty-fifth of the match, 6 to 5, in an overtime sudden-death playoff. This win gave Cornell their decisive fourteenth bout, winning the match. Prior to this bout, the match lead had seesawed between the two teams.

The sabre team lost, 5-4 against fair competition, despite the return of senior Bob Mason, who was absent last semester on a co-operative program. Both senior Steve Reznek, and junior Art Best were defeated in two out of three bouts.



Norman Cohler (right) makes unsuccessful parry in his foil match against Cornell's Peterson Friday night. The Engineers were edged by Cornell 14-13. —Photo by Joe Baron

Tech Plays Harvard Next

The Techmen are slated to meet Harvard in an away match Wednesday night. Harvard lost to Cornell 14 to 13 last Saturday and the upcoming Harvard-MIT match should be very close. The next match at DuPont is with Brandeis at 4 p.m. next Saturday. The MIT Freshmen meet Harvard, away at 2 p.m. the same day.

Riflemen Edge Maine Despite Late Surge

The MIT rifle team finished this year's competition in the New England College Rifle League with a one-point victory over the University of Maine last Saturday.

MIT had a good margin going into the last relay, and it appeared that Maine would be unable to post high enough scores from their last two riflemen to challenge the Tech lead. Their last two men, however, fired 285 and 286, to bring Maine's aggregate to 1419, their highest of the season.

MIT was somewhat handicapped by the inability of three shooters to make the overnight trip to Bangor, but the seven who made the trip shot well. The high five were Dick Ludeman '63, 287; Dave Hamada '65, 287; Jerry Skinner '63, 285; Jim Downward '65, 281; and Karl Frederick '65, 280, for an aggregate of 1420.

Next Saturday MIT will participate in the Coast Guard Invitational at New London Connecticut. Some 20 teams will attend from the New York and Boston areas.

Hoopmen Score Over Bates, RPI

MIT's basketball team extended its latest winning streak to three games by defeating Bates and RPI last week. The Tech hoopmen have now won 9 of their last 11 games.

Tech Easily Downs Bates

The Beavers jumped out to an early lead against Bates last Wednesday, led all the way, and won by 66-49. Bates tried an all-court press, but this proved ineffective. Except for a short spurt by Bates in the third period, MIT had little trouble. High scorer for MIT and the game was Bill Eagleson '64, with 20 points.

MIT Outshoots RPI

In a clash of technological institutes, the Techmen of MIT downed RPI's Engineers, by 66-55 on the Dupont court last Saturday night. This game started out as a very tight contest, and the score was knotted at 14-14 with 7 minutes remaining in the first half. At this point Eagleson, who along with Jack Moter '64 had accounted for 10 of Tech's 14 points, committed his fourth personal foul and had to be taken out of the game. Despite this loss, MIT tightened its defense, scored 8 points in a row, and spurted to a 31-23 halftime lead.

Techmen In Double Figures

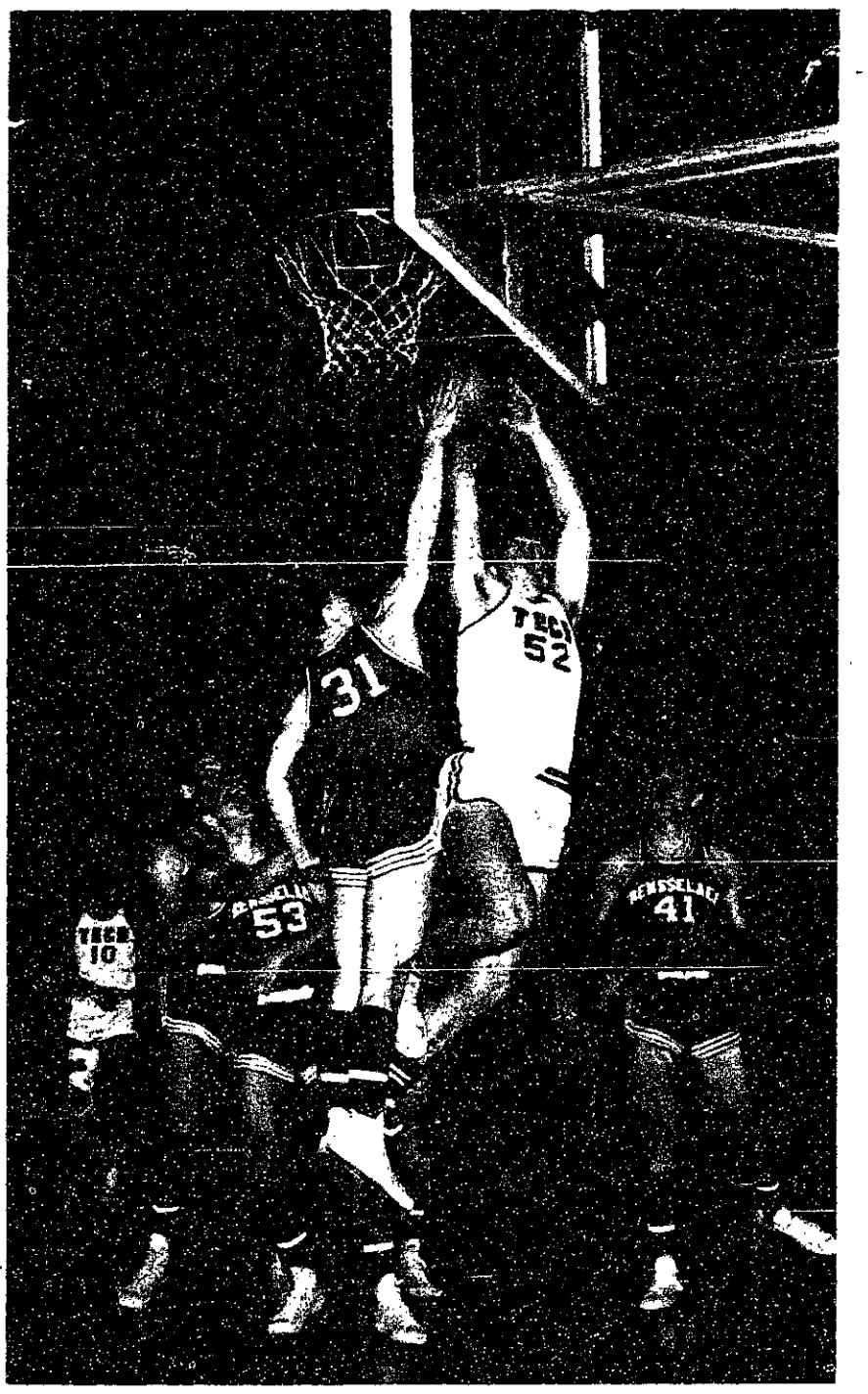
Don Alusic, '64, started for Eagleson in the second half, and tossed in ten clutch points as RPI threatened several times to close in on MIT. Accurate shooting on the part of all five Tech cagers built up a 61-46 lead with 5 minutes remaining, and MIT continued on to win by 66-55.

Five Beavers hit double figures in this contest, as Bob Grady '65, senior co-captains Kent Groninger and Jeff Paarz, Moter, and Alusic, each registered at least ten tallies.

Intermission Features Judo

A novel and interesting halftime show featured two members of MIT's Judo Club, Don Morrison '66 and Dana Lasher '65, who demonstrated judo techniques. Morrison defeated Lasher in a short exhibition match.

The MIT cagers seek to continue their winning ways in a home contest against the Lowell Institute of Technology tonight.



MIT's George McQuilken (52) goes up for two points in Saturday's game against RPI as Frank Yin (10) looks on. Tech won the contest by the score of 66-55. —Photo by Joe Baron

On Deck

Today, February 13

Basketball (V)—Lowell Tech, Home, 8:15 P.M.
Basketball (F)—Exeter, Home, 3:30 P.M.
Fencing (V)—Harvard, Away, 7:30 P.M.
Hockey (V)—Massachusetts, Home, 7:00 P.M.
Hockey (F)—Lawrence Academy, Home, 4:00 P.M.
Squash (F)—Middlesex School, Home, 3:00 P.M.
Wrestling (V)—Wesleyan, Home, 5:00 P.M.
Westling (F)—Wesleyan, Home, 3:30 P.M.

Saturday, February 16

Fencing (V)—Brandeis, Home, 4:00 P.M.
Fencing (F)—Harvard, Away, 2:00 P.M.
Hockey (V)—Bowdoin, Away, 7:30 P.M.
Pistol—Intercollegiate Sectionals at West Point
Squash (V&F)—Trinity, Away, 2:00 P.M.
Swimming (V)—Amherst, Away, 2:00 P.M.
Swimming (F)—Wellesley Senior High School, Home, 2:00 P.M.

Saturday, February 16

Indoor Track (V&F)—Bates, Home, 12:30 P.M.
Wrestling (V)—Springfield, Home, 3:30 P.M.
Westling (F)—Springfield, Home, 2:00 P.M.

Tuesday, February 19

Basketball (V)—WPI, Away, 8:00 P.M.
Basketball (JV)—WPI, Away, 6:30 P.M.
Basketball (F)—Wentworth, Home, 6:30 P.M.
Swimming (V)—Tufts, Home, 8:30 P.M.
Swimming (F)—Tufts, Home, 7:00 P.M.

MIT 4th In GBC Track Meet

An accumulation of 26 points gave the MIT cindermen a fourth place finish in the Greater Boston Championships track meet at Tufts last Friday and Saturday. The Techmen were bested by Boston College, Northeastern, and Harvard, who took the first three places.

In the field events Friday night, MIT's only tallies were in the pole vault. Gary Lukas '64 and Ken Morash '65 placed third and fifth, respectively, in this event.

Tech Hurdlers Outstanding

The MIT hurdlers dominated the field in Saturday's competition. Al Tervalon '65, Terry Dorschner '65, and Jim Flink '64 finished first, third and fifth, respectively, in the high hurdles, and second, third, and fourth in the same order in the low hurdles. The other scorer for the Engineers was senior Tom Goddard, who took third places in both the mile and the two-mile events. The mile was won in 4:17.5, a new meet record.

Frosh Win Relay

Saturday's schedule also included a freshman mile medley relay. Tech's frosh entry of Larry Schwoeri, Charles Epps, John Rible, and William Brown ran the course in 3:46.6, taking first place on Brown's fine two-minute anchor half-mile, the best of his career.

Pistolmen Overcome Brown By 1233-1054 Margin

The MIT pistol team defeated Brown University in a home match on Saturday, Feb. 9. In the 1233-1054 victory the high five for MIT were Scott Graham, '65, Bob Vogler, '65, R. B. Melton, '64, Dave Root, '65, and Tom English, '63.

The engineers are now firing a heavy practice schedule in preparation for the intercollegiate sectionals at West Point this weekend.

Fall To UConn 51-44

Mermen Down Trinity

Tech's varsity swimmers split two meets last week, losing 51-44 to the University of Connecticut and scoring over Trinity College 53-41. The team's season record now stands at 7-3.

St. Peters Wins Twice

Dick St. Peters '65 scored the first victory against U. Conn. with a time of 2:03.8 in the 200-yard freestyle. Sprinter Wayne Matson '64 placed third in the 50-yard freestyle. In the 200-yard individual medley Eric Jensen '64 placed second with Bill Brody '65 third. Steve Colburn '63 edged out his Connecticut opponent in the one meter diving, placing 1st with 54.17 points; Lou Thompson '63 placed third in the event. Brody and Ron Matlin '63 swept the 200-yard butterfly, with Brody winning in 2:35.5. Bob Sundberg '65 placed third against the U. Conn. sprinters in the 100-yard freestyle. In the 200-yard backstroke Frank Mechura '65 finished second with Bob Geroch '64 taking third. St. Peters returned to win the 500-yard freestyle in 5:50.2 while Jensen placed third. Tech swept another one-two victory in the 200-yard breaststroke with Charley Einolf '63 winning in 2:34.2, as Lauren Sompayrac '63 followed closely for the second spot.

Medley Squad Scores In 4:12

The Engineers began the Trinity meet by winning the 400-yard medley relay, as Mechura, Sompayrac, Matlin, and Joe Schrade '63 registered a 4:12 clocking. In the 200-yard freestyle St. Peters moved out in front to win in 2:06.4 with Geroch coming in from behind to place third. Another victory was taken in the 50-yard freestyle with Matson first in 24.6 and Blanchard third. Jensen and Brody swept the 200-yard individual medley, with Jensen first in 2:32.4. Thompson again finished first in the one-meter diving, this time with 50.70 points and with Colburn finishing second. In 100-yard freestyle Sundberg placed a close third. Mechura moved well ahead in the 200-yard backstroke to win in 2:26.6. St. Peters returned in the 500-yard freestyle to win in 5:50.1 with Bachrach, one of the team's sprinters, placing third. Mike Huke '65 placed third in the 200-yard breaststroke.

MIT, Harvard Co-sponsor Meet For Ski Squads

After spending seven days training at Cannon Mountain, the Tech Ski Team co-sponsored with Harvard a 62-gate slalom on February 1, and a 22-gate downhill on Feb. 2 at Thunder Mountain in the Berkshires. There were thirteen college teams racing, representing Princeton, Bowdoin, Amherst, Tufts Northeastern, and others.

Tech Finishes 2nd In Slalom

The slalom had to be set around the many ice patches making a very jumpy and difficult ski course. Skiing under poor conditions, MIT's three best times totaled 431.5 seconds, second only to Bowdoin and only 10.3 seconds slower than the winning time. Individually, Geovani Emo '65 came in 6th and Karl Kehler '65 finished 4th.

Icy Trail Slows Downhill

Sunday's downhill was more suited for skates than skis: it rained all Saturday night, and then froze early Sunday morning. Emo won the third place trophy helping the Tech skiers to come in third, only 7.3 seconds behind first place Keene Teachers College.

How They Did

Basketball

MIT 75—Kings Point 60
Wagner 90—MIT 72
MIT 62—BPI 43
MIT 66—Bates 49
MIT 66—RPI 55

Fencing

Newark 14—MIT 13
Columbia 32—MIT 4
NYU 20—MIT 7
Cornell 14—MIT 13

Pistol

MIT 1233—Brown 1054

Rifle

Navy 1444—MIT 1422
Army 1436—MIT 1425
CCNY 1426—MIT 1415
Maryland 1422—MIT 1399
MIT 1425—Kings Point 1412
MIT 1425—Canisius 1355
MIT 1420—Maine 1419

Hockey

Army 8—MIT 0
MIT 1—Lehigh 1
Rutgers 10—MIT 5
Pennsylvania 13—MIT 3

Squash

Williams 9—MIT 0

Swimming

MIT 52—Kings Point 43
MIT 62—BPI 27
Connecticut 51—MIT 44
MIT 53—Trinity 41

Indoor Track

MIT 68—Tufts 45

Wrestling

MIT 24—Kings Point 8
MIT 31—Hunter 3
MIT 29—U. Mass. 3

Grapplers Topple UMass For Sixth Straight Win

Tom Gerrity works Best of UMass to a fall in Saturday's wrestling meet. Tech won 29-3. —Photo by John Eulenberg

A successful trip to the University of Massachusetts produced an impressive 29-3 victory for the MIT grapplers last Saturday. The win was the sixth in a row for the Techmen, and brought their season record to 8-2.

Senior co-captains Jim Evans and Tom Gerrity, and Terry Chatwin '63, all extended their unbeaten streaks in this meet. Evans pinned his man in 3:15 for his eighth pin out of ten wins. Gerrity scored his fifth pin in ten wins, and Chatwin scored a very impressive decision over a tough opponent to bring his season record to 9 wins, one tie, and no losses.

The closest match of the meet was sophomore Bob Wells', hard-fought 2-1 decision over Kelley of Massachusetts. Mike Williams, returning to MIT after a year's absence, scored a very impressive pin in his first match. Armen Gabrielian '63 met a strong opponent in Chevore, but registered a solid 12-4 victory. Tom McAuley performed well although dropping a 4-1 decision to Rivers.

Wt.	Class	MIT	U.Mass.
123	Gabrielian 12	Chevore	4
130	McCauley 1	Rivers	4
137	Evans pinned	Israel	3:15
147	Chatwin 12	Sisson	0
157	Gerrity pinned	Best	1:24
167	Williams pinned	McAughlin	2:59
177	Wells 2	Kelley	1
unlim.	Sloat won by forfeit		

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