

Stratton Denies Inner Belt Quote; Toomey Stands Firm On Remarks

A dispute has arisen between President Julius A. Stratton of MIT and State Representative John J. Toomey, Democrat of Cambridge, over remarks allegedly made by Stratton at a meeting in 1959. The meeting, according to Toomey, concerned the proposed Inner Belt road through Cambridge and the various possible routes.

The Inner Belt has recently come into the news with announcement by the Massachusetts Turnpike Authority that it had raised the necessary funds and was going ahead with construction of a toll road link from the present Massachusetts Turnpike to downtown Boston. Traffic engineers have long felt that full utilization of the new link could not occur without a means of siphoning off out-bound traffic before it reaches the exits in mid-Boston.

Railroad Track Proposed
At a recent committee hear-

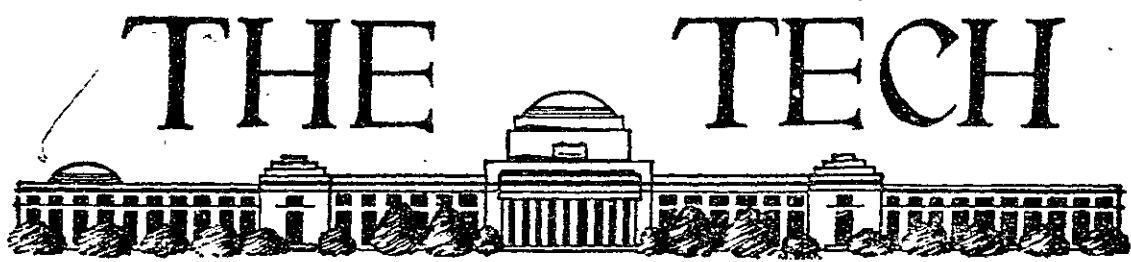
ing of the General Court (the Massachusetts legislature) Rep. Toomey claimed that at a meeting held in the MIT Faculty Club, with President Nathan Pusey of Harvard in attendance, Dr. Stratton had said that the Inner Belt could not be built along the Boston & Albany Railroad track in back of MIT because "we have enough influence to stop it." The remark apparently caused an uproar at the hearing.

The railroad track route is one of at least three that have been proposed for the road. Of the other two, one would send the road down Memorial Drive, dislocating a minimum number of families, and the other would have the road cross the river at the Boston University Bridge and go down Elm St., dislocating a large population.

Stratton Denial

In a statement subsequent to the General Court hearing, Dr. Stratton denied Toomey's charges. The MIT president said in a statement to several Boston newspapers that "I think that even Mr. Toomey will have to agree that it would be difficult to find any institution that has shown as much concern for the larger Boston community — not only Cambridge — than has MIT. . . . We did sit down and talk about the general problems of Cambridge and MIT and we did point out that the proposed

(Please turn to Page 12)



Established At MIT In 1881

Vol. 82, No. 1

Cambridge, Mass., Wednesday, February 7, 1962

5 Cents

Johnston To Support Mississippi Race Stand In Civil Rights Debate

Eric Johnston, public relations director of Mississippi, will speak tonight at 8 p.m. in Kresge Auditorium in defense of his state's stand in favor of the "separate but equal" doctrine. His talk is sponsored by the Civil Rights Committee; audience participation is expected.

Last month, on Jan. 11, the committee held a meeting in preparation for this talk, with the purpose of assuming "that there are enough people in the audience who are capable of asking carefully constructed, intelligent questions."

Next week, on Feb. 15, a rebuttal speech will be given by James Larmer, the national director of the Congress of Racial Equality, in Room 26-100 at 8 p.m. In answer to this week's talk, Larmer will discuss a non-violent approach to the problem of race relations.

Both meetings are open to all, with no admission charge.

'I Hate Cops' VooDoo Brings Police Complaint

The police departments of Cambridge and Boston have officially registered complaints with the Dean's Office about the "I Hate Cops" issue of VooDoo. However, it appears un-

likely that any official action will be taken in the matter, since no specific police department was mentioned.

Last Thursday two detectives, one from the Boston police and one from the Cambridge police, approached the MIT Security Force and asked them to obtain copies of the issue for them (the police). After reading the issues, they then contacted the Dean's Office and made their complaints.

According to Al Cameron, general manager of VooDoo, the staff had foreseen the possibility of possible libel suits, and had contacted an Institute lawyer to ascertain just how far they might go in insulting the police. This resulted in their eliminating their planned front cover and in a careful editing of the whole magazine to make sure that no specific police department was mentioned. Thus, there are no official grounds for a libel suit, and little possibility that the Institute will take any official action.

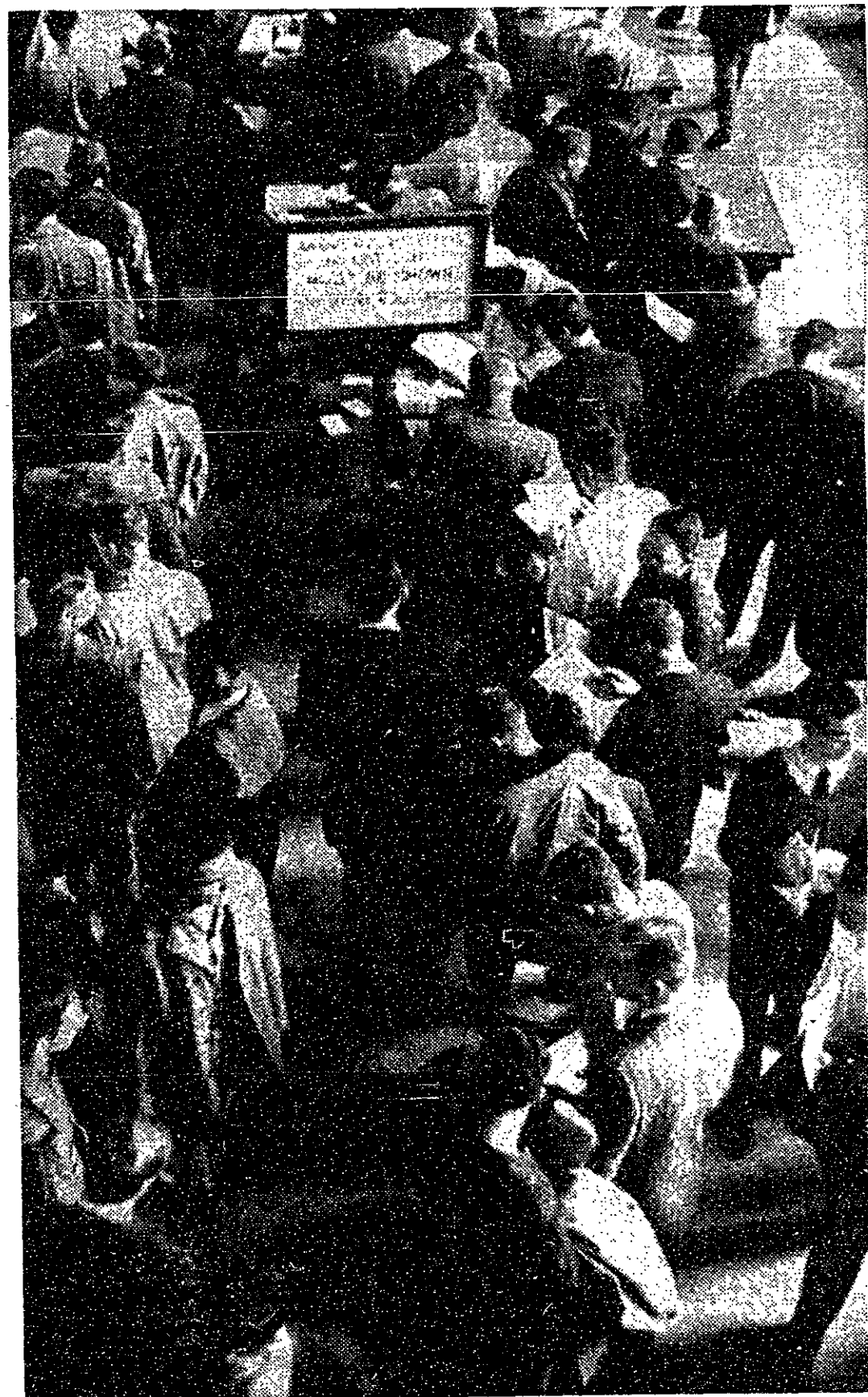
Levy, Bowman Declare In UAP Race; March Elections Are Stated

Woody Bowman '63 and Frank Levy '63 have announced that they will run for the office of Undergraduate Association president in the forthcoming elections this March.

Almost any undergraduate student who will be at MIT for all of the 1962-63 academic year may legally run for UAP. Candidates, however, must have a petition signed by at least 10 per cent of the undergraduate student body and comply with other Inscomm regulations.

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Increased Use Of Computer Speeds Registration



By Thomas F. Arnold '64
Freshman registration ran fairly smoothly Monday due to an increased use of the IBM 7090 in MIT's Computation Center. The computer prepared programs for all but a handful of freshmen, including those with split sections and those who had advanced standing in freshman subjects. Less than a dozen freshmen had programs so unusual that they had to be made out by hand.

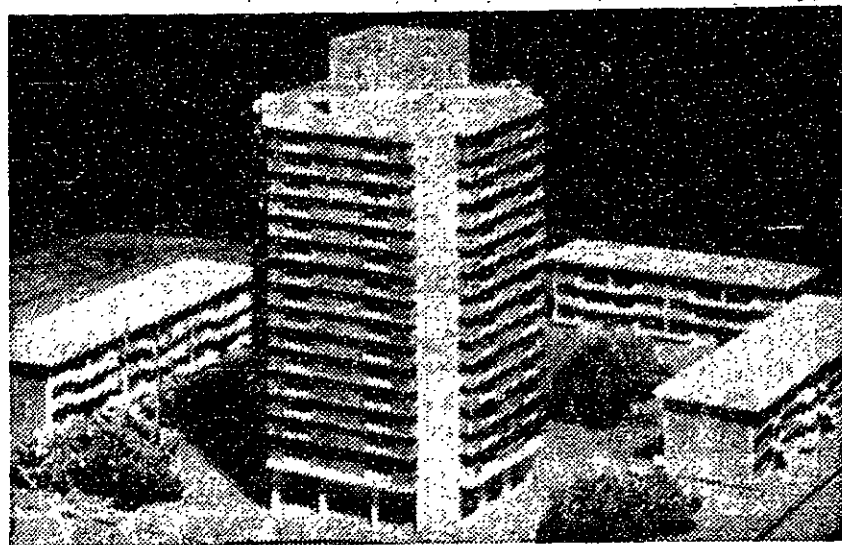
Freshmen received cards, punched and printed by the computer, which had printed on them the courses to be taken and the times they would meet. With the exception of those who had changed their minds about the subjects they were going to take, registration in Walker became very easy, the

(Continued from Page 14)

Registration Day was marked once again by long lines, notably in the lobby of Building 10 (left), in which roll cards were being distributed (below). An apparently perplexed sophomore (right) tries to comprehend an automatic (?) device which stamps schedule blanks on the backs of roll cards for 8.04 registration.



Married Students Housing



Housing complex for married students to be built on West Campus.

Work will start immediately on the construction of five buildings to house married students at MIT. They are to be completed by the opening of the academic year in the fall of 1963, under a contract awarded to the Wexler Construction Company of Newton, Massachusetts. The project, to cost \$2,900,000, was made possible by a self-liquidating loan from the Federal Housing and Home Finance Agency.

The housing complex will consist of a concrete and brick 16-story tower, containing 150 apartments, and four three-story buildings, having a total of 60 apartments. It will be located near Memorial Drive at the West end of the MIT playing field. This area was formerly occupied by wooden barracks erected at the end of World War II to house married students. One-fifth of MIT students are married.

Since the basement of the tower will be approximately 30 feet below the surface of the Charles River, the water table at the site will have to be lowered by pumping before an excavation can be started, according to Phillip Jackson, Wexler vice president and general manager. A "floating" foundation will support the tower, the weight of the structure approximating the weight of earth displaced by excavation. A special crane, which will jack itself up as the building rises, will be imported from Europe for use on the job.

The married students' housing is not a part of the Second Century Program, under which MIT is raising \$66,000,000 for the advancement of education, the amount to include more than \$30,000,000 in new buildings.

WHDH, WBZ To Announce Unexpected School Closings

If the Institute is forced to close because of bad weather, radio stations WHDH (850) and WBZ (1030) will carry the announcement during the regular "no school" broadcasts between 6:30 and 8:30 a.m.

This radio coverage, announced Vice-President Philip Stoddard, is intended to prevent the main switchboard from becoming jammed.

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Phone Cable Repaired After Being Severed By Steam Shovel

The cable connecting the East Campus and West Campus telephone lines was severed by a steam shovel at the beginning of the construction of the Earth Sciences Building.

Although the line was not expected to be repaired until next June, a satisfactory system was established as of February 3. The cable was rerouted through a duct from Building 8 to Walker Memorial. From Walker, the line runs to the East Campus parallels and then to Senior House.

It was announced that, if funds can be appropriated, East Campus will have dial phones, replacing the outdated switchboard there by the end of next summer. This would complete the installation of dial phones in the dormitory system, and all inter-dormitory calls will then be direct dial.

The new cable connecting East Campus and West Campus now follows the conduits of the Institute phone system and can carry 25 calls at a time. At present, five lines connect East Campus to Baker House and ten connect East Campus to Graduate House. When the dial system is completed, more lines from this new cable will be utilized.

Holes Bored Using Water



High pressure water is used to bore holes in the Earth Sciences construction site. Pipes sunk in these holes will be attached to the large horizontal pipe and will be used to drain the site of water when large-scale digging commences.

Appear In N. Y. Times

MIT Profs Letters Oppose Shelters, Unlimited Tests

By Don Goldstein '65

Two letters to the editor from MIT professors were printed Jan. 18 and Jan. 20 in the New York Times. They concerned, respectively, fallout shelters and a policy for testing nuclear weapons.

Criticize Earlier Letter

The letter on shelters was a response by Professors Cyrus

Levinthal of Biology, Salvador E. Luria of Microbiology, and Associate Professor of Electrical Engineering William F. Schreiber to an earlier letter in the Times supporting the federal government's proposed fallout shelter program. That letter, which was sent by Ward B. Chamberlin Jr. and published Jan. 1, had attacked the Nov. 10 Open Letter to President Kennedy on civil defense (signed by 183 Boston area faculty members, including 61 from MIT) as "specious" and so much academic "eyewash," and had claimed that its signers had "failed to think the matter through."

Levinthal, Luria and Schreiber pointed out that the original letter, together with its re-printings in 20 newspapers by other groups, had gained the public support of about 4,000 members of college faculties and several hundred professional people and other concerned citizens. Stating that Chamberlin "did not question our argument as to the ineffectiveness of most conceivably feasible shelter programs," their reply went on to criticize Chamberlin's only argument: that a widespread shelter program does not increase the likelihood of nuclear war, as the Open Letter had claimed.

Debunks "Shelter Rattling"

The professors stated that many advocates of the shelters saw in the program a way of lending credibility to the American nuclear deterrent, which would permit a hardening of American foreign policy and an increased use of military threats, rather than negotiations, in dealing with the Soviets. "This 'shelter rattling,' in fact, makes the civilian population a dangerously exposed pawn in the strategic game of deterrence, if the shelter program is as ineffective as we many others believe."

The recent letter also questioned Mr. Chamberlin's statement that the United States is currently pursuing "quite effectively" a positive program for peace, advocated by the Open Letter.

Arms Limit Proposed

The letter on nuclear testing policies was authored by Professor of Physics David Frisch, who recently edited the book "Arms Reduction: Program and Issues." It proposed a limitation of American deterrent firepower "around the level of 100... one-megaton warheads," deliverable by hardened or mobile weapons systems, "while we seek a broader solution to the arms race."

Professor Frisch also warned of the dangers implicit in an "anti-missile missile," because of the enormous yet unpredictable offensive capabilities such a defense would have to combat, and in a pure fusion bomb, which could very easily spread to smaller nations. He concluded that the US should "only test present systems, and only to the minimal extent necessary to maintain an invulnerable deterrent at a declared level," and that such tests be open to international inspection, except for the warheads themselves.

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Gigacycle Computer Planned

Gigacycle computers may be constructed within the next few years, it was reported at conference of the American Institute of Electrical Engineers last week in New York City.

Megacycle computers are the fastest available at the present time. Their dimensions are huge compared to the proposed gigacycle computers, which must be enclosed in a box of much more than six inches long. This is because an electrical impulse in a gigacycle computer circuit will travel from six to ten inches in one-billionth of a second.

Because the computers will be smaller in size and will require fewer components, they will be much more economical. In addition, they will facilitate the solution of problems which are beyond the powers of present-day computers. Weather analysis and handwriting recognition are among these.

West Ford Launching Tentatively Planned Says Labs Spokesman

Contrary to information published in the *New York Times*, there have been no tentative plans made for a second try at launching a load of dipoles into orbit under Project West Ford. The article quoted a "spokesman" for the Lincoln Laboratories as saying that tentative plans were being made. However, when contacted, the spokesman stated that although plans were naturally being made for the future, there would be no official or unofficial date set for launching until the White House issues a directive. Thus, there will probably be no launching within at least the next few months.

Gerhard L. Hollander, a computer consultant of Fullerton, California, and vice-chairman of the institute's subcommittee on computing devices, stated that construction of gigacycle computers would be practical. This, he claimed has been determined by five years of research in Project Lightning, sponsored by the Navy Bureau of Ships.

It is likely, according to Mr. Hollander, that by late 1963, construction of such computers will have begun. He predicted that the first ones will use tunnel diodes, while later models will have super-conducting cryotrons operating close to absolute zero.

"What it all boils down to," he asserted, "is that this year is the first in which we can be sure that gigacycle computers can actually be built."

Professor Uram Killed In Plane Crash In Peru; Food Toxicologist, 35, Was On Tropical Study



Professor Jerome Arnold Uram

Dr. Jerome Arnold Uram, Associate Professor of Food Toxicology at MIT, and his wife were killed late Sunday when the DC-3 in which they were flying crashed in Peruvian mountains, in a wreck which killed a total of eighteen people. Dr. and Mrs. Richard J. Block of New York, distinguished protein chemists, were also killed in the crash, which was believed to have occurred when the plane was hit by lightning during a heavy rainstorm.

Drs. Uram and Block went to Peru two weeks ago on behalf of the Institute and the Nutrition Study Section of the National Institutes of Health. At the time of the accident, they were flying to Pulcallpa, a village at the headwaters of the Amazon River, where field trials were to be made of a new low-cost protein-rich vegetable mixture under severe tropical conditions.

Dr. Uram, 35, joined the Department of Nutrition, Food Science, and Technology last July. Before that, he had been the Executive Secretary of the Nutrition Study Section of the NIH, and had also been a biochemist for the Division of Nutrition of the Food and Drug Administration in Washington, D.C.

Dr. Uram, who received his Sc.D. from Harvard, was a consultant to the Food and Agriculture Organization of the United Nations, and had also been a consultant to the Pan American Health Organization, an affiliate of the World Health Organization.

Faster Than 709

7090 Answers Increased Computation Demands

A new all-transistor IBM 7090 data processing system is now in operation in the Computation Center. Installed by International Business Machines Corporation for use at the center, the machine, valued at \$4,500,000, is available at no charge for the educational and research use of MIT and other New England colleges.

The 7090 is up to six times faster than the

center's previous machine, an IBM 709, yet occupies approximately half as much space. In the reduced area, the new computer accommodates 19 magnetic tape units, as against 13 with the former machine. Some processing speeds of the 7090 are: additions or subtractions at an average rate of 229,000 per second, multiplications at 39,500 per second, and divisions at 32,700 per second. Input

and output of data with the new computer will be facilitated with two smaller, auxiliary IBM 1401 computer systems. A feature of the 1401 is a printing unit that converts data, from magnetic tape at a rate of 600 lines of printing a minute.

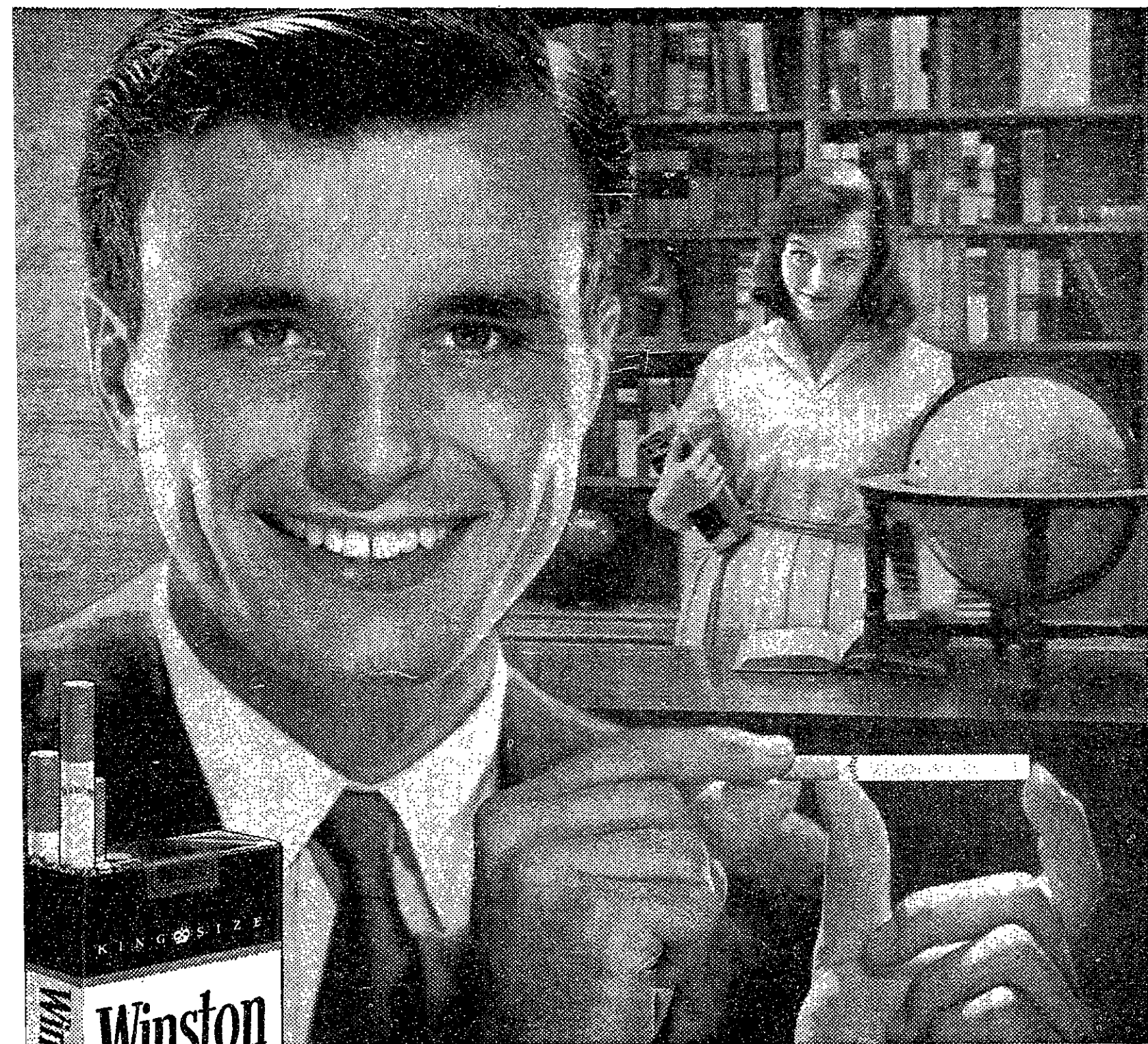
The expanded computing facilities at MIT reflect increasing demands for computer time which in turn are the result of growing skills in computation techniques among rising numbers of students and faculty at MIT and at the Computation Center's cooperating colleges.

Established in 1956 for educational purposes, the center began operation with 12 participating New England colleges and universities. The number now stands at 39, of which 19 New England institutions have now acquired or ordered computers of their own.

At the same time, activity at the Computation Center has increased markedly. In the center's last semi-annual report, Dr. F. J. Corbato, associate director, noted that the first six months of 1961 represented the period of heaviest activity ever experienced at the center. The computer was used around the clock and, in periods of peak activity, seven days a week. In 1961 alone, computer usage was equivalent to that of the entire first three years' operation of the Computation Center.

Professor Morse also reported that the use of the Center's facilities in class education has been expanding rapidly. "We estimate that, by the fall of 1962, more than 1,000 students per year will have direct contact with the equipment, via some regular class in which they have registered, in addition to the 300 or more students per year using the machine for their thesis research."

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The Tech



Vol. LXXXII No. 1 Feb. 7, 1962

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 Features, Letters to the Editor, Photography, Sports, noon
 Sunday. News, 7 p. m. Monday.

Make-up: Editorial, Sports, Entertainment, Features —
 Sunday, 1-4 p. m. News — Monday, 7-11 p. m.

Office Hours: Monday, 2-4, 7-11; Tuesday, 11-1; Wednes-
 day, 12-1; Thursday, 10-12; Friday, 2-5; Sunday, 1-5.

Unsigned editorials appearing 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.

The Board of Directors of THE TECH is
 pleased to announce the appointments of Jason
 Fane '63 as Acting News Editor and Howard
 Ellis '65 as Acting Sports Editor.

The Board has accepted the resignations of
 Roger Weissinger '62 as Acting News Editor and
 John W. Salmon '63 as Sports Editor

Sic Transit...

With this 24 page edition begins the
 eighty-second volume of *The Tech*. Vol-
 ume eighty-one passes, leaving more than
 its share of history to the annals of the
 newspaper. In the last brief year of its
 publication *The Tech* has come from its
 position as a financially desperate, dan-
 gerously unsteady newspaper to a publi-
 cation which for the first time in our
 memory begins to represent a true cross-
 section of the myriad activities of the
 MIT community. This was not an accom-
 plishment without effort, and special cre-
 dit belongs to the managing board which
 worked willingly when the future of the
 paper looked grim indeed. The personal
 performances of these people were note-
 worthy. To Carl Wunsch, whose opinions
 gave *The Tech* real editorial validity, to
 Peter Thurston, whose diligent financial
 management made *The Tech* solvent, and
 to the rest of a fine staff, our congratu-
 lations. But the reward for the staff of
 Volume eighty-one will not be in our
 words of praise, it will be rather in the
 continuing growth of a sound newspaper
 for MIT, and this is the task we have
 undertaken.

Our goals in this volume are quite
 simple to state. We wish to provide more
 and better coverage of all items of inter-
 est to every member of the MIT commu-
 nity. Since ours is an undergraduate
 newspaper, our first concern will be for
 the undergraduate body. But we believe
 no basic conflict of interest exists, and
 that news and comment concerning MIT
 will be of equal interest to faculty, staff,
 and student. This page will be used to
 state opinion, both that of *The Tech* and
 that of our readers through their letters
 to the Editor. In this context we invite
 our readers to use this means of obtain-
 ing a hearing for their ideas and criti-
 cism. In addition, we will welcome criti-
 cism and suggestions for the newspaper
 as a whole. It is our intent to satisfy so
 far as possible the requests of our read-
 ers. In return, we expect your support
 and continued readership. Only by
 achieving these aims can *The Tech* be a
 newspaper of the caliber MIT deserves.

Student Union

With the construction of MIT's new
 Student Union facility will come some of
 the direly needed commercial facilities
 for this campus. They have been, and
 will be, too long coming. With the burn-
 ing of the hardly adequate Hennessy
 Block, the nearest drug store to the MIT
 on-campus living groups is at least one
 mile away. During weekends this is the
 case for all stores and restaurants. Even
 when the Student Center is complete, the
 number of commercial operations will be
 limited; their proprietors must be select-
 ed carefully and well. The Harvard Co-
 op has been designated to receive the
 major portion of the retail selling space,
 with an operation much like their Har-
 vard Square store. In addition there will
 be a drug store, a barber shop, perhaps
 a bank branch, and several other small
 retail outlets. These stores will be oper-
 ating essentially without competition, so
 that it is imperative that their policies
 be acceptable to the MIT community be-
 fore they occupy the building. They
 should remain open on Saturday. They
 should operate under short term leases
 whereby they will be forced to provide
 satisfactory services to insure renewal.
 They should be prepared to tailor their
 lines of merchandise to meet MIT needs.
 It is felt that the Coop can do this in
 an expanded facility, but the selection of
 other retailers who can will not be an
 easy task. This is an area in which stu-
 dent government could work effectively
 to point out needs and make suggestions.

The Student Union will probably have
 at least two restaurant establishments.
 The operation of these facilities is also an
 open question. There is no need to as-
 sume that they will be operated by Stauf-
 fer's Catering, the organization which
 serves other campus dining rooms. We
 recommend that they are not. By and
 large the Stouffer's organization does a
 satisfactory job, but there are few com-
 panies which cannot benefit by a little
 competition, and Stauffer's is not one of
 them.

LSC

It seems to be increasingly difficult to
 lodge complaint with the Lecture Series
 Committee without being accused of
 "getting on the bandwagon," but without
 reference to the quality of the entertain-
 ment series movies, it should be noted
 that the fare of lecturers this organiza-
 tion has brought to MIT of late has been
 pretty bland. The cancellation of the So-
 viet Ambassador was regretful, but with
 all due respects to the difficulty of ob-
 taining good speakers, it seems unfortu-
 nate that one cancellation should remove
 the only really controversial figure from
 the schedule. The LSC should remember
 that MIT is liberal enough so that it
 does not have to limit itself to speakers
 like Norman Rockwell. If Malcolm X
 wishes to speak at MIT, let him. Even the
 most radical of political forces often pro-
 vide food for thought.

RADP

"We believe, that as citizens of a
 democracy, we are each personally re-
 sponsible before humanity and our na-
 tion if we do not do all in our power to
 amplify, disseminate, and implement our
 beliefs." It is our sincere hope that
 RADP will not join the ranks of the hun-
 dreds of other letter combinations which
 briefly flourish in the liberal atmosphere
 of college campuses and then die a quick

but natural death. If this
 organization is not to go
 the way of the others, it
 must fulfill some of the
 requisites they have not. It
 must define clearly its
 goals, in specific terms, and
 must offer alternatives for
 their attainment. The fail-
 ure of groups like this one
 to be effective voices in the
 decisions of government is
 usually in their lack of co-
 herency and direction. The
 ideals of disarmament and

lasting peaces with justice
 cannot be foreign to the
 mind of any reasonable per-
 son, so that agitation in this
 behalf is like carrying coals
 to Newcastle. If, however,
 the organization can offer
 mature and intelligent sug-
 gestions for the determina-
 tion of policy, and can do
 so consistently, then its ac-
 complishments should be
 on a par with its motiva-
 tions.

Letters To The Tech

In Defense Of the LSC

To the Editor:
 It seems to us high time that
 someone spoke out in answer
 to the torrent of adverse criti-
 cism which has been heaped
 upon the Lecture Series Com-
 mittee in recent weeks. We re-
 fer in particular to Mr. Lieber-
 man's diatribe in the January
 10 issue.

Mr. Lieberman stated that
 the LSC used "deceit" to "fat-
 ten their treasury" and that the
 LSC is "an organization ex-
 tracting so much money from
 the MIT community." Appar-
 ently Mr. Lieberman is under
 the mistaken impression that
 the LSC is a profit-making or-
 ganization. On the contrary, the
 LSC is a service organization
 which presents a program of
 lectures to the MIT commu-
 nity. After expenses for the film
 series are paid, the greatest
 part of LSC's money is put in-
 to fees for lecturers. The more
 renowned of these lecturers,
 such as T. S. Eliot and Wernher
 von Braun, command fees up-
 wards of one thousand dollars.
 The money which has been "ex-
 tracted" from the MIT commu-
 nity is thus put back in the
 form of (well-attended) lec-
 tures, for which there is no ad-
 mission charge.

We feel that the average
 audience at an LSC movie is
 more "disgustingly infantile"
 than the films which are shown.
 It is not valid to use the "hoots,
 whistles (and) catcalls" as a
 measure of the quality of the

movie. These expressions of im-
 maturity from the audience
 can be heard during the most
 excellent of presentations.

If Mr. Lieberman would like
 to escape from the "investives
 (being) pelted at the screen"
 and see a high quality movie,
 may we suggest that he try
 attending the LSC Classic film
 series which attracts a re-
 freshingly different type of
 audience.

Roy L. Komack '63
 Harry Kaplowitz '63

Speed Reading

To the Editor:
 An MIT education is ob-
 tained largely through reading.
 The quality of this education
 and the amount of time spent
 studying depends to a great ex-
 tent on how fast and how well
 the student reads. Some stu-
 dents are forced to spend many
 extra hours on their studies
 because of their inability to
 read rapidly.

With professional instruction
 and with newly developed me-
 chanical aids, most people can
 increase their reading speed
 and improve comprehension.
 At Tech, however, there is no
 opportunity for the interested
 student to gain this help. I be-
 lieve that there should be some
 form of Rapid Reading course
 offered here. One possible way
 would be to offer such a course
 as a freshman elective, or it
 might be possible for the TCA,
 which already conducts typing
 classes, to have a speed read-
 ing course.

Name Withheld

Kibitzer

By Steven Levy '63

In this week's column West
 was both hero and goat. Over
 South's one heart opening West
 jumped immediately to four
 hearts. He felt reasonably safe
 because of favorable vulnera-
 bility and his partner's original
 pass. The hand belongs to
 North-South so West decided to
 cramp their communications.
 A three heart bid would not
 have been as effective. North
 invited to slam and South ac-
 cepted because he thought his
 high cards were excellently
 placed. The problem in the play
 is, obviously, how to make two
 club losers into one.

Since there are not finesses
 and no squeeze threats to ac-
 company the clubs, South's
 only hope is for a favorable
 distribution in the club suit. If
 either hand has two honors
 alone there is a chance for an
 end play. Declarer took the
 opening heart king, drew trump
 and ruffed out the last of dum-
 my's hearts. Then he played all
 the diamonds sluffing a club.
 Now he laid down the ace and
 a small club and hoped. And
 declarer made his slam because
 West did not unblock the queen
 West did not unblock, the queen
 of clubs under the ace and so
 was end-played. West should
 have avoided the trap. He can
 count South's hand on the ba-
 sis of the play. He has 5 spades,
 1 heart, 3 diamonds so he must

NORTH			
♦ A J 6 3			
♥ A 5			
♦ K Q 10 8			
♣ 10 9 3			
WEST			
♦ 10 4	♠ 8 5		
♥ K Q 10	♥ J 9 7 6		
8 3 2			
♦ 9 5 3	♦ 6 4 2		
♣ Q 8	♣ K J 7 5		
SOUTH			
♦ K Q 9 7 2			
♥ 4			
♦ A J 7			
♣ A 6 4 2			
North-South vulnerable			
Bidding:			
East	South	West	North
P	1♠	4♥	5♠
	6♣	All Pass	
Opening lead: ♥K			

have started with 4 clubs. He
 can't have the king of clubs
 for then the slam is cold any-
 how. With the jack of clubs
 declarer would have taken two
 finesses in clubs (85% chance),
 but he hasn't done so. Partner
 must hold king, jack of clubs
 if the slam is to be defeated.
 So West must unblock his
 queen of clubs. After West
 goofed, East, if he was alert,
 could have tried a fancy ma-
 neuver by overtaking partner's
 queen and throwing back a low
 club. It shouldn't succeed, but
 is still a good effort

The Bookworm

The Displaced Person's Almanac

Modern day society seems to be much like the proverbial weather — everybody complains about it, but nobody seems willing to do anything for it. Foremost among today's complainers is John Pairman Brown, whose **The Displaced Person's Almanac** pokes fun(?) at modern day life and customs.

The witty, oftentimes hypercritical, Mr. Brown seems to be disgusted with almost everything and everyone, and appears ready, like Mr. Thoreau, to retire into seclusion. However, many of his points are very well taken and are worth much consideration.

His primary source of displeasure seems to be nuclear testing, and a belief that we are ruining the world. For, "if we gum up this planet, our Father in Heaven isn't going to rush out and buy us another." However, he has many more things to complain about: from religion to fanaticism to sex. And, most of his complaints are valid, showing the degeneracy that has come not only to our country, but to the world as a whole.

The motif for Mr. Brown's book is the zodiac, and the time of the year that is connected with each individual sign. From impressions of the physical world around him, however, he quickly changes the subject to his thoughts and ideas about the world. Since these are in no

The Displaced Person's Almanac
John Pairman Brown
Beacon Press
\$3.50 135 Pages

particular order, and are not even all together, one has to read the whole book to get a good grasp of his ideas, and then do some back-checking to correlate all Mr. Brown has written.

But, since the book can be read in an evening or two, it would be well worth the while of anyone who would like a little light entertainment plus a new outlook on the world around them.

The Guns of August
by Barbara W. Tuchman
The MacMillan Press
\$6.95

The shock of the opening clash in August, 1914, and the thirty days of battle which followed determined the course of the First World War and the shape of nations in our time; its tense drama is the subject of **The Guns of August**, by Barbara W. Tuchman.

The German, French, English, and Russian General Staffs had their plans for war completed as early as ten years before the hostilities began. None of these plans allowed for the contingencies of the others' or recognized their own intrinsic errors, even though, for perhaps five years in advance of the fighting, each General Staff knew what the others would do.

All was planned: Europe was a heap of swords piled as delicately as jackstraws, and not one could be drawn out without upsetting the others. Still, national wills were prouder than they were wise, and the impetus and hopes contained in each nation's plans were stronger than the impulse to negotiate.

The bloody catalogue of the battles of that August includes the almost mythical names of Liege, Tannenberg, Mons, the Battle of the Frontiers, and Charleroi, each battle signifying careers made or broken, opportunities grasped or missed, individual heroism, or personal blindness.

Mrs. Tuchman has made the most of the drama in this tragic month. It was a holocaust that led to four bitter years of deadlocked war that cost a generation of European lives. But it is the human touches, the valor and indiscretion, the ardor and stupidities that bring this book of our history to life. And, representing all wars, Mrs. Tuchman has revealed the human reasons for human battle.

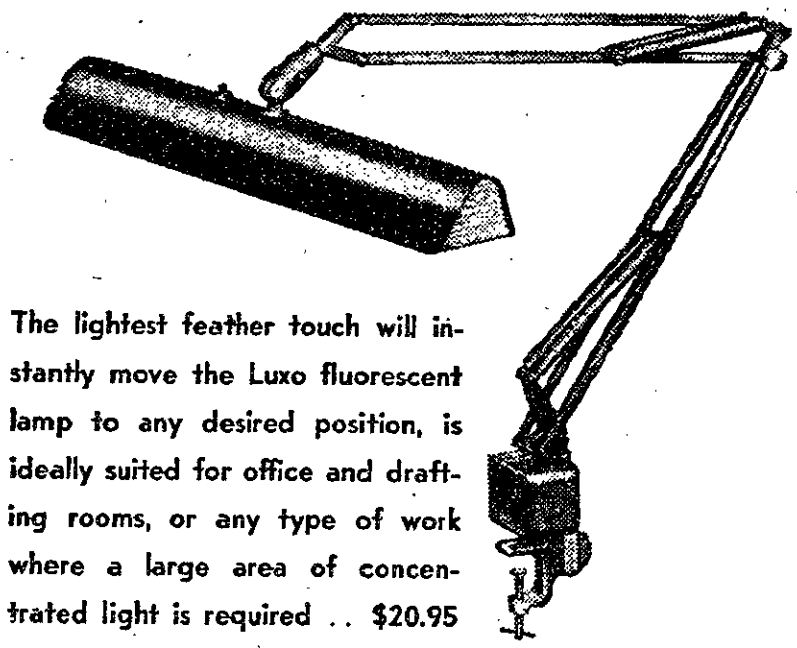
Style Manual for Technical Writers
by S. J. Reisman, et al.
The MacMillan Press
\$8.00

Also newly published last month was the **Style Manual For Technical Writers**. Edited by S. J. Reisman and his compatriots at the Lockheed Research Laboratories, the text represents a long-needed handbook for technical and scientific writers and editors. This book describes the various kinds of scientific documents—the report, the proposal, the manual—and provides criteria for evaluating them editorially. It explains how to handle Format: headings and pagination, tables, illustrations, mathematical and other symbols, footnotes, references, and bibliographies. A final section is devoted to the mechanics of writing and editing.

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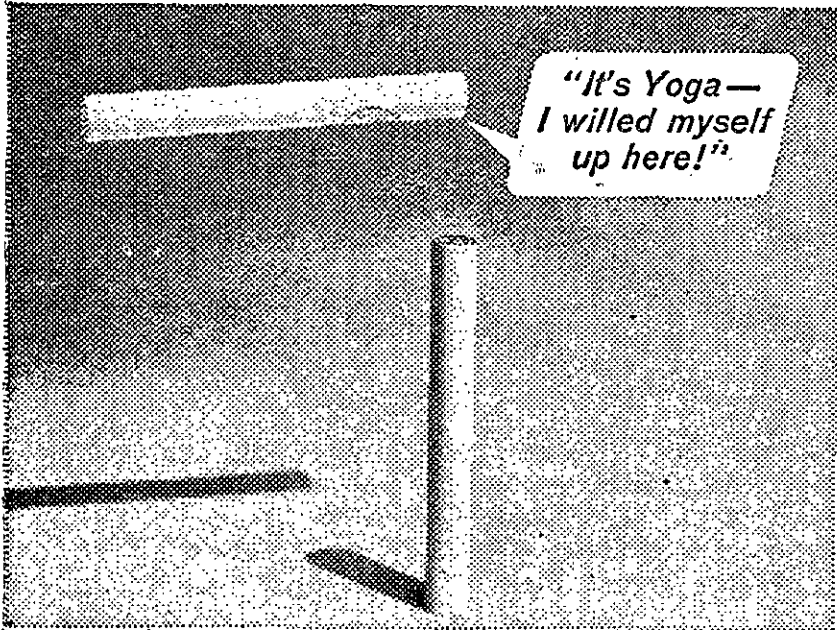
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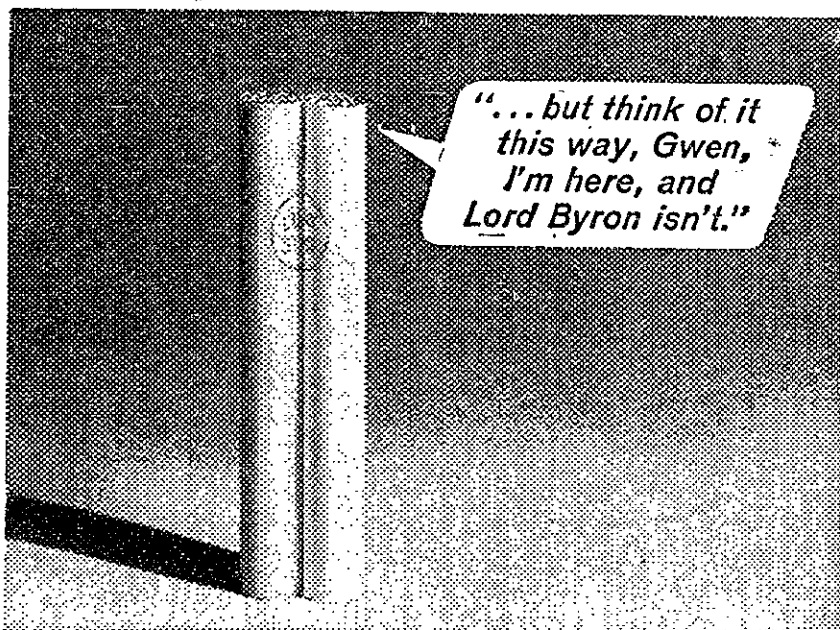
Tech Coop

LUCKY STRIKE presents: LUCKY LUFFERS

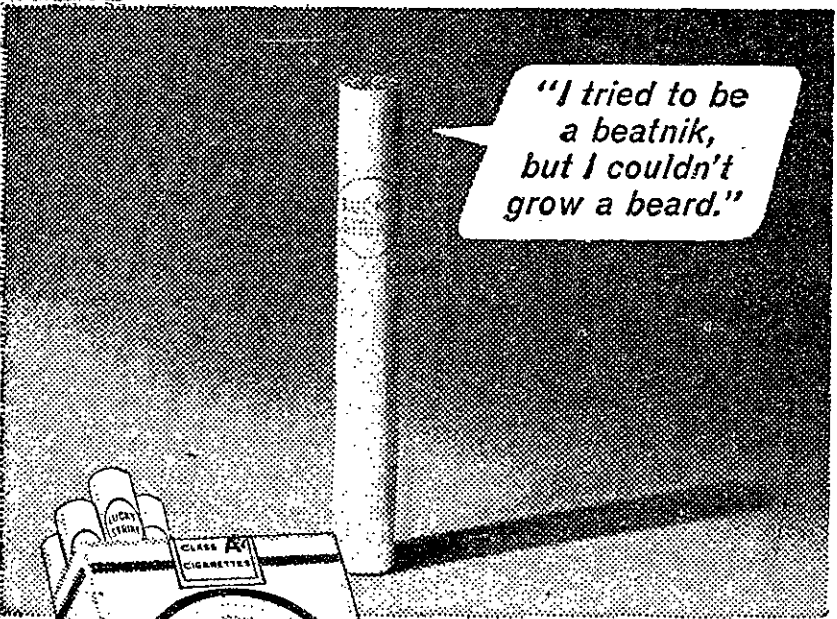
"THE INTELLECTUALS"



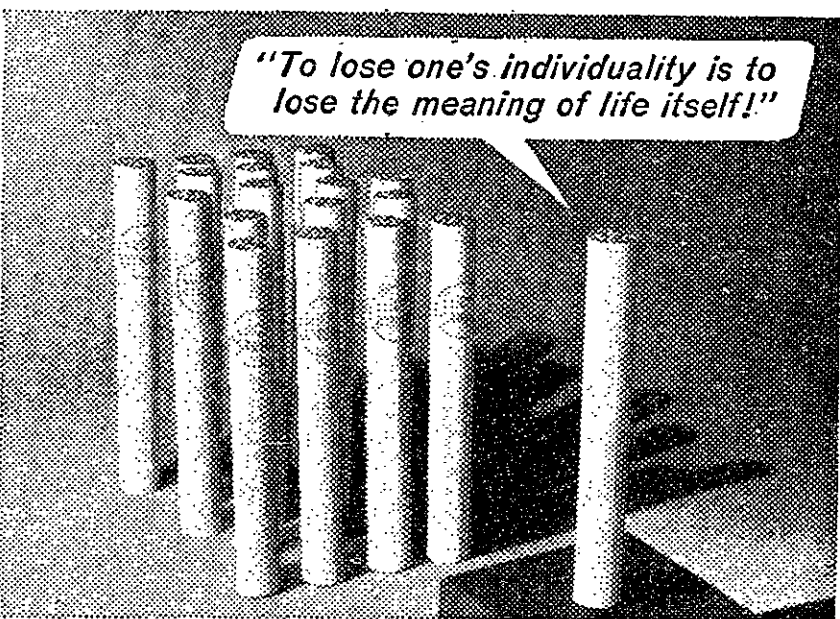
"It's Yoga— I willed myself up here!"



"... but think of it this way, Gwen, I'm here, and Lord Byron isn't."



"I tried to be a beatnik, but I couldn't grow a beard."



"To lose one's individuality is to lose the meaning of life itself!"



IF YOU'RE AN INTELLECTUAL, be thankful you're living at the right time. The climate of our contemporary culture is sympathetic to new voices, new ideas. The new age of enlightenment explains, among other things, the popularity of Luckies on college campuses. Deduce this yourself: Enlighten up a Lucky. As its heady aroma swirls about you, reflect on this profundity: College students smoke more Luckies than any other regular.

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Book By Bloomfield

Prof Writes On Space

"In the end, space will affect everyone," writes Lincoln Bloomfield, associate professor of political science at MIT, in his introduction to "Outer Space: Prospects for Man and Society," published yesterday. The book, of which Professor Bloomfield is editor and co-author, analyzes the issues raised for man and society by the "Space Revolution."

"Already the lives of millions of Americans and Russians are affected indirectly, as they provide the staggering sums of money to finance space activities," Professor Bloomfield says. "Human beings everywhere will be even more directly affected if the military nightmare comes true of multi-megaton weapons, carried by earth-circling satellites, deliverable to the ground below by a coded radio command."

"Yet thus far in its brief life-span outer space, more than any other of the lengthening reaches of contemporary activity, has belonged, so to speak, to the few who knew its language. This revolution, because of its complex and specialized nature, is in the hands of an elite whose knowledge, has so far been only feebly communicated to mankind at large. This will not do. It will not do because of the effects of space, present or potential, on every man."

Professor Bloomfield sees as a key issue of the space age the public's lack of understanding of the implications — economic, social, political — of the new space technology. Ultimately, he claims, it is the voter and taxpayer who decides whether America should make a greater or lesser commitment to space—and he needs help in doing so. Even if he cannot become an expert, the layman can become informed.

Chapters in the book contributed by MIT people are: "The Technical Prospects" by H. Guyford Stever, head of the department of Naval Architecture and Marine Engineering; "Arms and Arms Control in Outer Space" by Donald G. Brennan of the Lincoln Lab.; "Shaping a Public Policy for the Space Age," by James R. Killian, Chairman of the Corporation of MIT; and "The Prospects for Law and Order," by Lincoln Bloomfield.

Professor Bloomfield is director of the Arms Control Project at MIT's Center for International Studies and was director of the Center's United Nations Project from 1957-1961. He has served in the US State Department in a variety of capacities related to US participation in international organizations, most recently as the department's policy planner on UN matters. He is the author of a number of books on international politics and foreign policy and has published widely in political and foreign affairs journals. He has been at MIT since 1957.

Szent-Gyorgyi To Talk At SSRS At Harvard

A meeting of the Society for Social Responsibility in Science on Tuesday, February 13, at 8:00 p.m. will feature an address by Nobel Prize-winning biologist Albert Szent-Gyorgyi entitled "Scientists and Bombs." The talk is open to the public, and will be held in Harkness Commons, Harvard University, which is located on Oxford Street in Cambridge.

Future Role of Science

Dr. Szent-Gyorgyi will speak on the occasion of the founding of a new chapter of the Society for Social Responsibility in Science at Harvard University. He will discuss how far science is involved in the present troubled state of the world, how far science is responsible for it, and how far science can help guide us towards a better future.

Director of the Institute for Muscle Research (Woods Hole, Mass.) since 1947, Dr. Szent-Gyorgyi received the Nobel Prize in 1937 for his work on oxidation and the isolation of vitamin C. In his native Hungary, he actively fought against the incursions of Hitler, leaving only after the war and the advent of Stalinism.

Peace Corps To Give Placement Examination At Harvard Sunday

The Peace Corps will give placement tests at Harvard University's Memorial Hall, 8:30 a.m., February 11. Memorial Hall is located at Kirkland and Cambridge streets in Cambridge.

In order to work with the Peace Corps on projects in Africa, Asia, and Latin America, this spring and summer, applicants must take the test and complete a questionnaire.

Two types of tests will be administered; one is for applicants with bachelor's degrees who wish to be considered for positions as secondary-school or college teachers.

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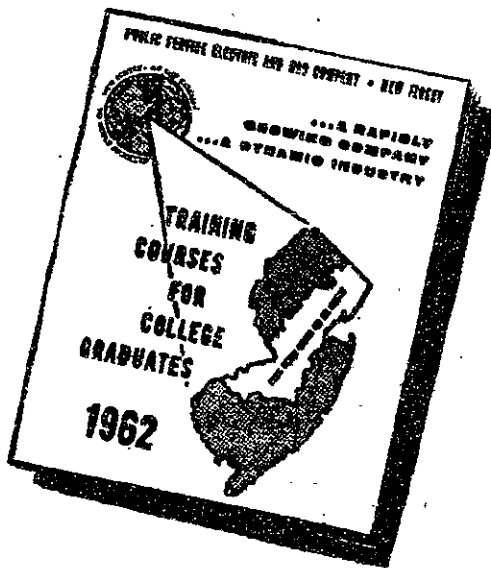
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Gas Conditioning Equipment.....	1
Boiler Plant Equipment.....	2
Control Room Operation—Gas Mixing.....	1
Laboratory Operation.....	1
Maintenance of Plant Equipment.....	5
Office and Storeroom Procedures.....	1
Special Assignments—Plant.....	3
	<hr/> 24
Gas Distribution Department	
Construction, Operation, and Maintenance of Distribution Piping Systems.....	12
Installation of Meters and Appliance Servicing..	10
District Office Operations.....	4
Division Office Operations.....	3
Special Assignments—Division.....	2
	<hr/> 31
Engineering Department	2
Commercial Operations Department	
District Commercial Office.....	2
Commercial Operations Department Course—G.O.	1
Vice President and Comptroller's Department ... 2	
Miscellaneous Assignments	
Network Analyzer.....	1
Utilization Laboratory.....	3 days
Meter Repair Operations.....	1
Appliance School.....	2
Street Department School.....	2
Gas Dispatching Operations—Meter Stations...	1
Instrument Engineer.....	1
Planning Engineer.....	2 days
Underground Piping Protection	
Corrosion Control.....	1
Corrosion Surveys.....	3 days
Distribution Design Engineer.....	4 days
Customer Service Engineer.....	3 days
	<hr/> 19
Special Assignments.....	2
Vacation.....	2
	<hr/> 21
Total	78

COOP Celebrates 80th Anniversary This Month

By Tom Maugh '65

Part I of Three Parts

Prices were on the rise in Harvard Square, and poor boys, who were continuing to come to Harvard, were finding it difficult to meet the expense of room, board, and living costs in addition to Harvard's large \$150 tuition. Many could barely afford to eke out an existence. Lack of paying off charge accounts, the habit of buying goods without asking the price, and the distance from Boston proper had contributed to bring a ruinous situation on the Harvardmen.

Thus it was that on February 22, 1882, Charles Hayden Kip, a junior at the time, called a meeting of some of his fellow students in an attempt to alter the situation. From this meeting emerged the roots of the corporation that was to become one of Harvard and MIT's greatest assets, the Harvard Co-operative Society, better known to most students as simply the Coop.

Provides Varied Services

The first Coop was little more than a shelf in a Harvard Square fruit store, but it provided its members with the following services:

- (1) Sale of goods on hand—blue books (2 or 3 cents), notebooks (two-thirds the usual price), stylographic (fountain pen) ink, stationary (at one-third to one-half off the usual price).
- (2) Sale by order—books (10 to 33% discount), periodicals, and tennis equipment (\$5.00 rackets for \$3.75 if 12 persons left orders).
- (3) Purchase at affiliated stores—30 firms listed, the saving being from 5 to 33% (discount justified because all sales were for cash).
- (4) Orders for coal and wood. The coal was to be provided by a Boston firm at a savings of 30¢ a ton on anthracite and \$1.00 on soft coal.
- (5) Sale of furniture and second-hand books for members at a commission.
- (6) Storage of furniture against the owner's return in September (free, if the furniture had been bought through the society).

From these meager beginnings developed what is today an \$8 million business that provides a much wider range of goods and services.

Incorporated in 1903

Although the Society was beset by financial troubles for its first few years (due mainly to a lack of adequate bookkeeping and auditing), it managed to hold together and in 1903 incorporated, adopting the pres-



The main floor of the Technology Store as it appeared when it was first opened in 1937.

ent constitution and by-laws. (It was also during this same period—1893—that the membership fee was lowered from its original \$2.00 to the present \$1.00).

In that same year, the medical school branch of the Society, located on Boylston Street, was sold, thus ending the Coop's first attempt at branching out. (Other branches included Thurston's-at-the-Square, which operated from 1909 to 1920, a store in Plattsburgh, New York, which lasted from 1917 to 1918, the School of Business store, which was opened in 1927, and the Technology Store.)

Enter MIT

MIT had apparently set up a co-operative society in 1886, while it was still in Boston, but this was a loosely-knit organization which operated through an adjacent book and stationary store. The manager, a former Tech student, sold to all comers at the prevailing prices, but offered a 10% discount to anyone who could prove that he was a member of the Technology Co-operative Society.

When MIT moved in Cambridge during the period from 1914 to 1916, Institute officials began looking for a new store to provide goods for the students. Since a bill had been passed through the Massachu-

setts legislature providing for the marriage of MIT to Harvard, officials asked the Society to set up a branch in Cambridge. Although the proposed marriage of the universities was never completed, the Coop became a growing reality.

In WGBH Building

The first Technology Store was established in the recently destroyed WGBH building in 1916. It did a thriving business, and soon became an integral part of the Society.

In 1937 a new Technology store was finished and occupied on the present site. It contained the store and storehouse, a barbershop and a luncheonette. "Before the building was completed, somebody painted across the front of the store in large letters, 'Tech Is Hell.' This is an affectionate translation of the Institute's motto, *Mens et Manus*."

The Technology Store has stayed much the same since that day in 1937, with the exception of the expansion of most of the departments and the installation of food-vending machines in place of the luncheonette. The building itself has been overcrowded for years, and has grown progressively worse; however, little has been done to ease the situation because of the projected plans for the inclusion of the store in



Lyceum Hall, the third home of the Harvard Co-operative Society, which was on the present site of the main store.

the new Student Union building. This subject will be carried further in the third installment of this series.

Technology Services

The present Technology Store offers many services which are relatively unknown to the average student. In addition to maintaining a barbershop and the food-vending machines, the Coop sells magazine subscriptions, binds magazines and theses, takes in laundry and dry-cleaning, both repairs and rents typewriters, repairs shoes, develops and prints films, and repairs fountain pens.

In addition, the member may go to the Harvard Square store for tailored clothing, luggage, home furnishings, electrical appliances, optical needs, perfumes and cosmetics, picture framing, cashing checks, and having papers notarized.

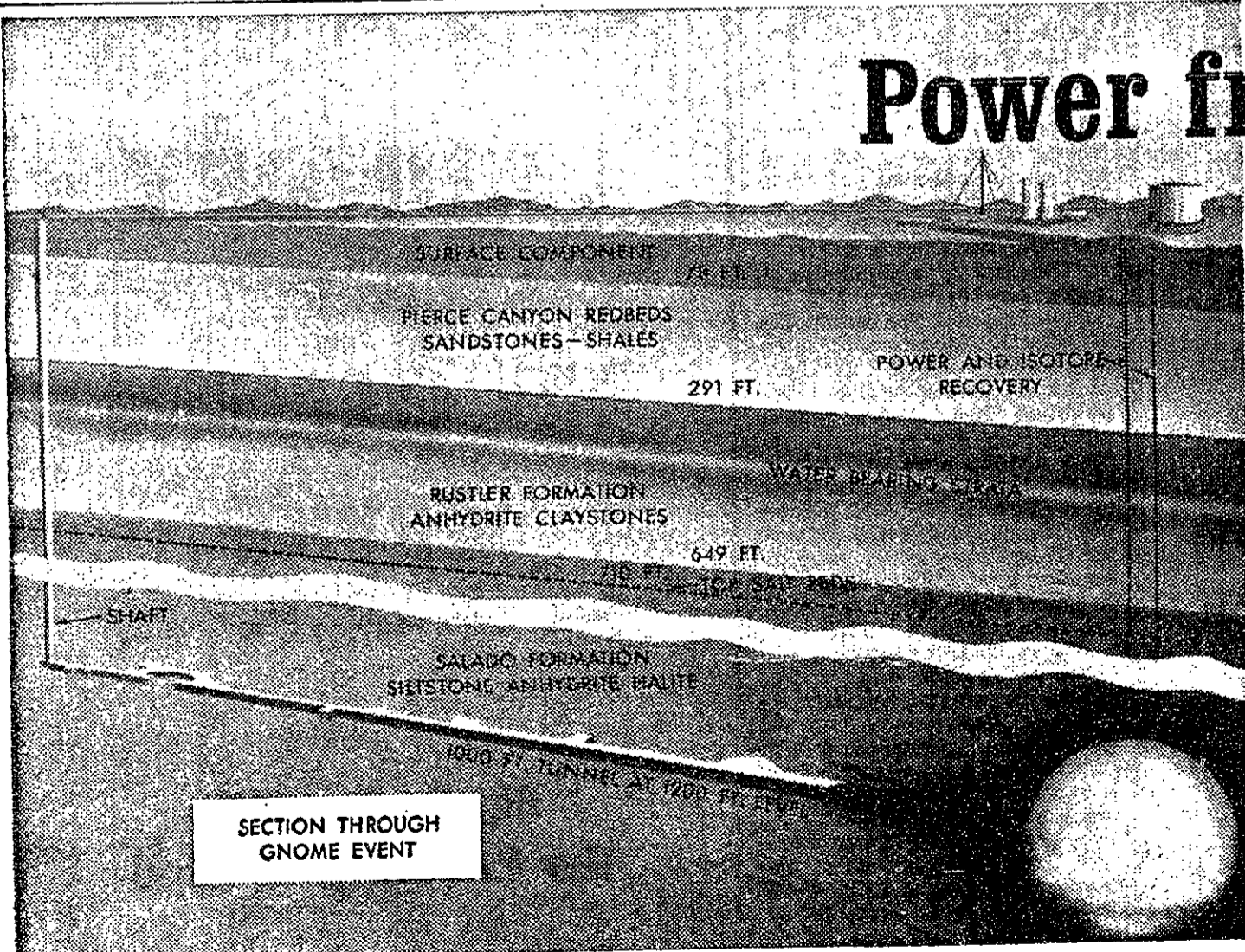
Moreover, there are at present two Coop-associated gas stations which offer patronage refunds to the members.

The Coop has performed many other valuable services also. It was the long-term lease which the first Technology Store took out that enabled the construction of the old WGBH building which recently burned to the ground. Moreover, the Coop's large amount of advertising has undoubtedly helped many a campus publication to remain on its own financial legs.

Truly, the MIT and Harvard communities owe an indubitable debt to the Harvard Co-operative Society.

(Ed. note: Next week the author will investigate the structure of the Society's government and management.)

Power from below



SECTION THROUGH GNOME EVENT

An artist's conception of Project Gnome, a step toward providing power and isotopes from underground thermonuclear detonations. This area of endeavor is part of Project Plowshare, initiated at the Lawrence Radiation Laboratory of the University of California. Other Plowshare projects under study include the excavation of an experimental harbor in Alaska, production of oil from tar sands, control of groundwaters, mining applications, and other novel ideas using the energy of nuclear explosives.

The Lawrence Radiation Laboratory is working in the areas of Nuclear Propulsion, Controlled Thermonuclear Reactions, Nuclear Explosives for Industry and Defense, Space Physics, and other advanced problems in Nuclear Physics and Engineering.

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Congressmen To Receive Peace Walk Proposals

The official policy statement of the Walk in Washington project is not without its shortcomings, but as a whole represents a forceful and mature documentation of widespread student disenchantment with present United States cold war policies, coupled with specific proposals for a reversal of the trend embodied in the unlimited arms race. The statement, which will be given by Walk participants personally to Congressmen and other government officials and distributed to the public during the demonstrations on Feb. 16 and 17, has already won the endorsement of many leading Americans, such as Eleanor Roosevelt, James R. Newman and Norman Cousins.

The seven page paper is brief and concise, considering the broad area it covers and the many propositions it defends. It is divided roughly into three sections: (1) an analysis of the many dangers involved in the arms race; (2) a discussion and rejection of "two false steps," nuclear testing and civil defense; and (3) a program of initiatives open to the United States for furthering the "peace race."

Arms Failure Cited

The analysis of the arms race is not a moralistic but a rationalistic one, contending that the essentially militaristic responses of the U. S. to Soviet tactics have simply failed to achieve their supposed aims: the containment of communism and the preservation of freedom in the world.

"The Soviet Union has challenged the world with a dynamic ideology and an expansionist foreign policy. The United States has responded to this challenge by fighting a rear-guard action around the world. It has merely opposed communism and desperately sought to maintain the status quo, even to the extent of appeasing governments and tolerating social and political conditions completely repugnant to the principles it is trying to defend."

Eggs In One Basket

The accumulation of weapons on both sides of the cold war, spelling mutual suicide in case of a conflict, is in essence the strategy of mutual deterrence. Pointing out the dangerous ex-

posed to which all our eggs are placed in the shaky basket of deterrence, the paper emphasizes the following oft-repeated but frighteningly real danger:

"All equipment is supposed to function perfectly; but sometimes there is a technical malfunction. Men on many levels of command are supposed to remain rational and responsible; but sometimes men at even the highest level act irrationally. The undeniable possibility of human or mechanical failure, increasing each year with the inevitable decentralization of control over nuclear weapons, is regarded as a necessary evil. But we must face the fact that,

RADP To Meet Thurs. To Discuss Peace Walk

The MIT Student Organization for a Rational Approach to Disarmament and Peace will hold a business and discussion meeting at 5:00 p.m. tomorrow, in the Miller Room, 3-070. An election of new officers will be conducted and there will be further discussion of participation by MIT students in the Walk in Washington demonstration scheduled for February 16 and 17.

as more nations acquire these weapons, the chances of a fatal mistake increase."

Freedom Really Secure?

The internal dangers of present defense strategy, which are usually ignored and even encouraged by the superpatriots, are then analyzed briefly but effectively:

"... even if the United States continues the arms race and somehow avoids a war, its freedom is already threatened by the arms race itself... we have seen the rise of a dangerously powerful military-industrial complex... and of a new extremism which erodes the foundations of our democracy. This revival of "know-nothingism" in American life is an irrational but inevitable result of an arms race... the freedoms and human values to which we are deeply committed are un-

Policy Statement Shows Realistic Compromises, Considerable Maturity

By Don Goldstein '65

determined by the suspicion, fear and frustration resulting from protracted tensions... Schools, hospitals, medical research projects are shunted aside while billions are spent for instruments of war. Millions of men spend their lives designing and building these instruments, who might be freed to wage war against disease, hunger and ignorance."

The first section of the statement concludes with a rejection of the arms race as rational policy and an appeal for disarmament. Strongly implied is a fundamental proposition which has gained increasing credence in the past few years: that most of the pressing problems facing us around the world today are not the causes of the arms race, but rather the products of it.

Nuclear Testing Opposed

The "two false steps" deplored by the policy statement, resumption of nuclear testing in the atmosphere and the inauguration of an extensive civil defense program, are next analyzed in considerable detail owing to their current importance on the political scene. The recent bomb tests of the Soviet Union are condemned as a nakedly terroristic act of frightful irresponsibility, and the proposed American tests are opposed on the same grounds. The "only significant argument that has thus far been advanced in the defense of testing," that they are necessary for the development of an effective anti-missile missile, is considered but rejected because the two basic problems of distinguishing actual missiles from decoys and of aiming anti-missile missiles appear to be insoluble at present.

Summarizing its position on testing, the paper asks, "At a time when both major powers have a sufficient nuclear capacity to destroy each other several times over, is it not close to insanity for either to continue to multiply and perfect such weapons at the cost of human lives (from fallout)?"

CD Protection Marginal

Concerning civil defense, the Walk's policy statement characterizes the present limited fallout shelter program as offering only marginal protection. But the additional fallacies and dangers of civil defense are underscored even more boldly:

"The loss of virtually every major city and over half the population, and the destruction of effective government agencies would produce a condition of shock, chaos, violence and profound social disorganization among the few survivors. We have already seen an ominous sign of this disintegration in the open discussion by civil defense officials in California, Nevada and New Jersey of the need for forming special 'defense guards' to shoot down Americans seeking refuge from fallout."

Oppressive Regimentation

"It is doubtful that a free society can survive preparations for total war, much less the war itself... Without proper indoctrination an attack warning would produce a national stampede. To prevent this an iron framework of central control, with obedience made habitual by constant drill, would have to extend to every school, office, church and home in the United States. The discipline required of civilians would in fact be the discipline of military combat."

Furthermore, the strategic danger of widespread civil defense preparation is clearly pointed out. The Soviets prob-

ably would follow suit with their shelter program and then both sides will increase their destructive capacity to offset the other side's "protection." Finally, shelters are indicted on the ground of their probable psychological effect in making nuclear war less "unthinkable" than it actually is: "By creating the illusion of public safety, civil defense thereby encourages public support for the kind of 'hard' foreign policy being urged by extremists and thus hasten the United States into a nuclear war against which there is no real defense."

Common Interests Emphasized

The list of specific, positive

I. F. Stone To Address Walk Briefing Session

A briefing session for students planning to visit Congressmen in connection with the Walk in Washington demonstration will be held February 10 beginning at 7:00 p.m. I. F. Stone, a popular Washington newspaper reporter, will address Boston area students concerning the Walk's policy statement. They will also receive detailed instructions for their Congressional appointments from members of the Boston Co-ordinating Committee.

proposals for American cold war initiatives is introduced by a brief statement of their general character and rationale: "The United States must act to create conditions in which attempts to settle the myriad of issues where common interest overrules opposing interest can succeed."

"The list of proposals is intended to exemplify an approach which we believe can secure a meaningful peace and sustain and extend the freedoms we are trying to uphold. None of these proposals involves a weakening of our deterrent capability; but each would implement our desire to limit the arms race wherever possible, and would provide the necessary complement to sustained and serious negotiations. The ultimate goal of such negotiations must be a structured

peace: a disarmed world under international law."

UN Atom Surveillance

The suggested initiatives themselves encompass the following areas:

1) Public announcement by the U. S. of no atmosphere testing, establishment of a UN inspected test-monitoring system on our territory as a precedent for future agreements, and requests to the other three nuclear powers that they do the same. Proposal by U. S. to smaller nations with nuclear reactors (e.g., Israel, Egypt) accept UN surveillance to guarantee their use for peaceful purposes only. Pledges by U. S. not to give nuclear weapons to a new nation or alliance, and not to be the first nation to put nuclear weapons in space, with invitations to other nuclear powers to make similar commitments.

2) Withdrawal of missile bases overseas which are so vulnerable as to be useless except for a first strike; to keep present commitments to countries like Turkey we would seek other guarantees of their security; e.g., UN presence at Soviet border.

Berlin Possibilities

3) Initiation of talks on Berlin problem based on a goal of demilitarization and general disengagement in central Europe; we should also explore the ways in which the UN could be used immediately to relieve some of Berlin tension.

4) Expansion of technical, economic and educational aid channeled through UN, with challenge to the USSR to start a similar program.

5) Strengthening of the U. S. Arms Control and Disarmament Agency by giving it sufficient funds and personnel, and increased responsibilities.

6) Expansion of research on the economic aspects of disarmament, including concrete plans for conversion of industry from military to non-military production.

7) Enlargement of Food for Peace agency to distribute food surpluses under UN auspices to all needy areas of the world.

8) Others: Purchase of \$10 million in low interest UN

(Please turn to Page 9)

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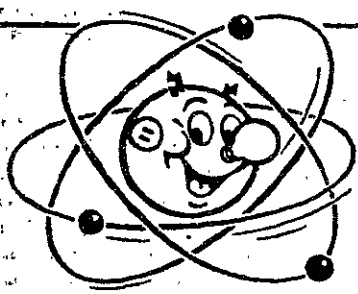
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INTERVIEWER: Robert O. Bigelow

DATE: Wednesday, February 14

NEW ENGLAND ELECTRIC SYSTEM

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BOSTON, MASS.

Advocate Turn Toward Peace

Peace Walkers Offer Berlin Solution

(Continued from Page 8)

bonds; repeal of Connally Amendment, which allows the United States to determine whether international disputes in which it is involved fall under the jurisdiction of the World Court; encouragement of informal conferences of Soviet and American citizens, like recent Pugwash and Stowe conferences; opening of U. S. media of communication to spokesmen of foreign countries, especially the USSR, with the explicit request that the Soviets allow us to be heard more widely in their press, radio and TV.

Some Serious Weaknesses

As mentioned at the outset, the Walk in Washington policy paper is a sweeping and forceful statement but does have serious shortcomings. These assets and liabilities were discussed by the author with Ken Porter of Harvard, a leading member of the Boston Coordinating Committee which had the major responsibility in drafting the statement.

Porter commented significantly during our conversation, "It's much easier for many different

people to agree in opposing than in proposing." This inevitable fact of politics shines clearly through the Walk's policy, which was produced from the varying views of many national and local groups who originally agreed only on generalities. The negative aspects of the paper—its censure of the arms race and rejection of civil defense and atmospheric testing—are far stronger and better supported than the positive aspects and concrete proposals. The deep and careful analysis given to the arms race and to civil defense is strangely lacking, for example, from the proposals concerning withdrawal of vulnerable U. S. missile bases and the Berlin problem, both of which are vague and unsubstantiated. This weakness results not from a lack of understanding or research into the problems, but probably from a lack of full agreement on the specifics; unfortunately, the impression conveyed to an objective reader is the former rather than the latter.

Documentation Lacking

A second and more serious

shortcoming is the total absence of documentation in the form of references, statistics, authoritative quotes, and the like. At one point, "studies of major disasters" are mentioned, but one wonders which studies are meant and what they specifically showed. In much the same way, there is a lack of specific examples used to prove the points that are brought up. Especially in the arguments which indict the arms race as a gross failure, examples would provide immeasurable strength in convincing the skeptical reader.

Generalities Avoided

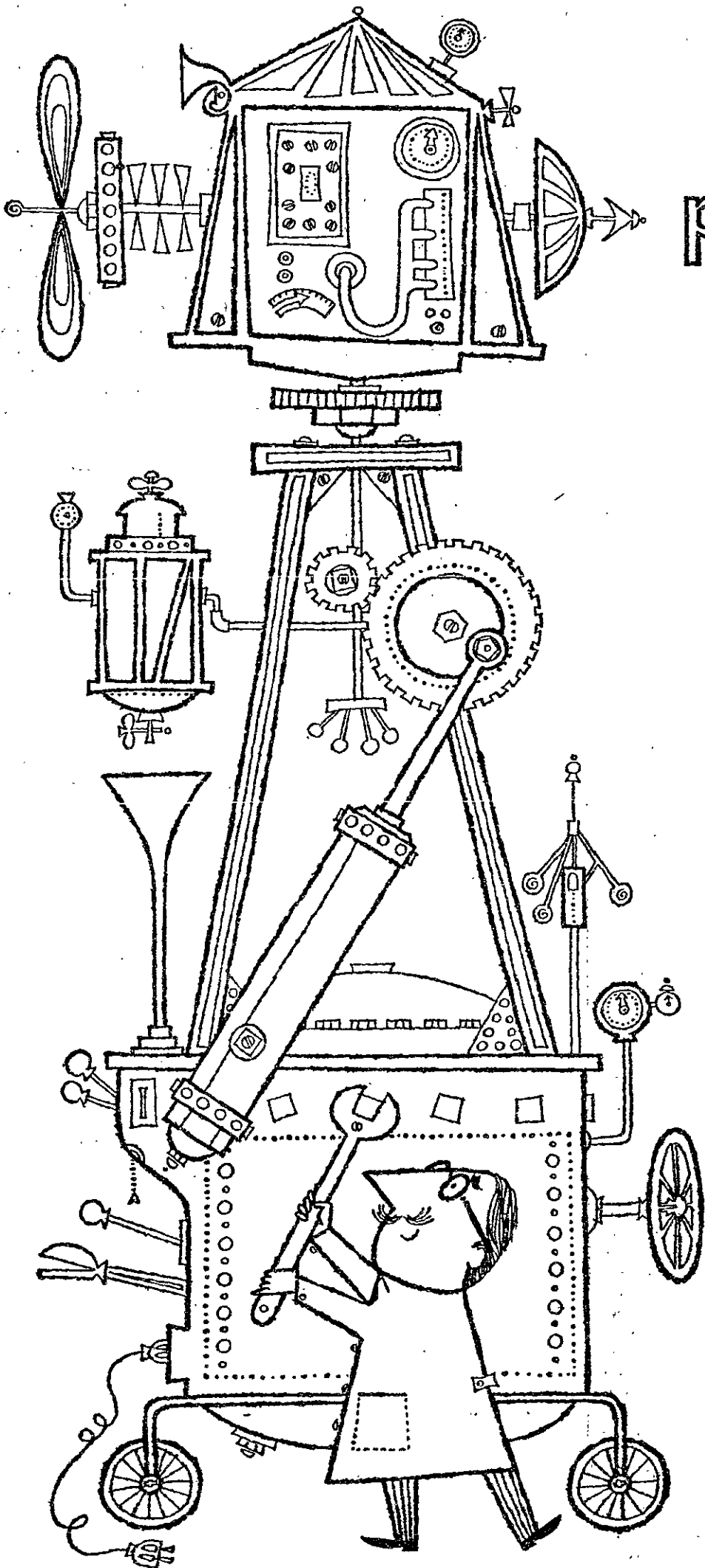
Balanced against these criticisms is a very important asset: the paper is generally effective and specific without being long and technical to the point of boring or confusing the reader. Its points are easy to understand while, at the same time, the reasoning is mature and sophisticated.

Another big asset is that the positive proposals, though not as detailed as might be desired, are still concrete, meaningful and realistic. The avoidance of gross generalities like "we want peace and disarmament with inspection" is a sign of considerably more maturity and realism than has characterized many previous student formulations. Finally, the proposals are not based upon an optimistic estimate of Soviet motives, and for this reason represent steps which could gain us much in the form of worldwide prestige and possible Soviet cooperation, but at worst would lose us nothing.

All In All . . .

The policy statement, when viewed as a compromise between divergent views from all over the nation, and as a student "first" in terms of its breadth and depth of analysis, deserves careful study and considerable praise. Hopefully, it will serve as a "jumping off point" for serious discussion and debate of American foreign and defense policies on campuses, on Capitol Hill, and across the nation.

The Walk in Washington must do more than write a policy statement, however, to become a real success. The problems of money raising, transportation, appointments with government leaders, obtaining the endorsement of distinguished Americans and, above all, encouraging students to actively participate in the Walk, are considerable and certainly unprecedented on a national scale. They will be considered in next week's issue of *The Tech*.



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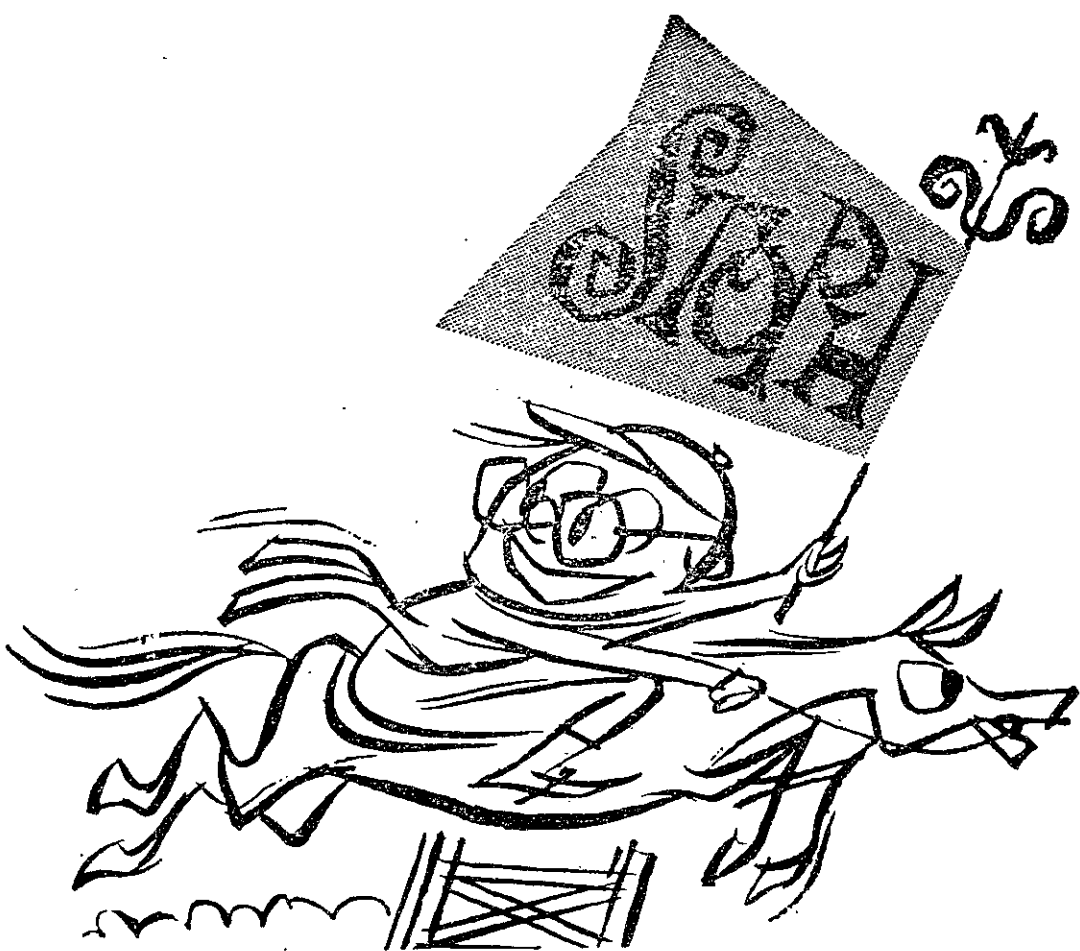
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IM Prof. McGregor Wins Award For Book

Douglas M. McGregor, Professor of Industrial Management, has been named the winner of the second James A. Hamilton-Hospital Administrator's Book Award, for his book, **The Human Side of Enterprise**. Professor McGregor received a special medallion for his book, "adjudged an outstanding contribution to the literature on administration" at an Awards Luncheon in Chicago, Saturday.

Professor McGregor, whose book was published in 1960 by the McGraw Hill Book Co., is a nationally prominent leader in the field of industrial human relations. His specialty is social psychology and its application to personnel and industrial administration. He has been in his present position at MIT since 1954.

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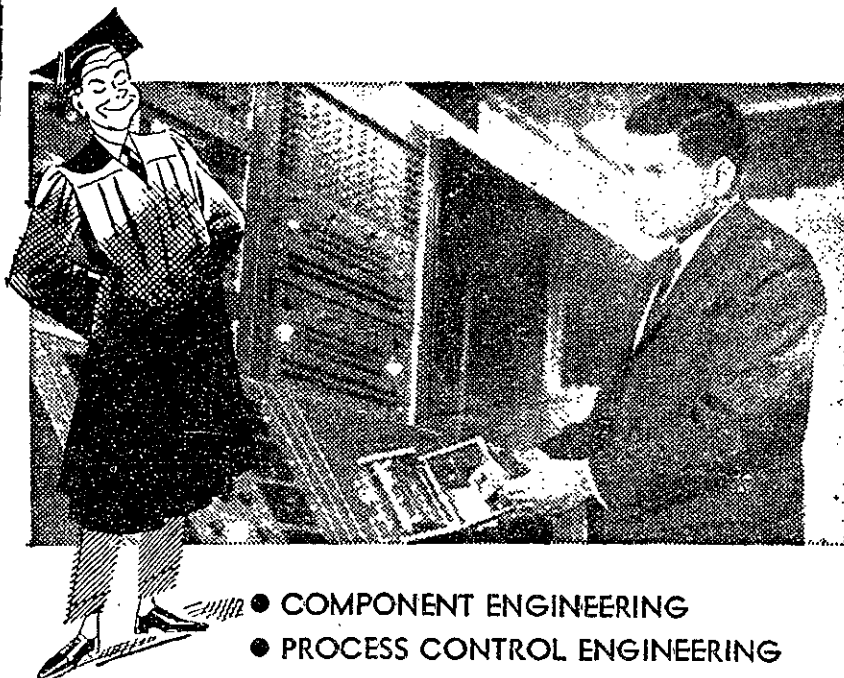
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ON CAMPUS INTERVIEWS

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Placement Interviews

Interview appointments are obtainable at the Student Placement Bureau, 1-173. Course numbers eligible are listed in parentheses. All degree levels sought unless otherwise indicated. Abbreviations: S.B.-(B), S.M.-(M), Ph.D. or Sc.D.-(D).

February 7

Raytheon (2, 6, 8); Sperry Gyroscope (6, 8); Sperry Microwave Electronics (6, 8); Central Intelligence Agency (2, 3, 6, 8, 10, 12, 14, 15, 16, 18, 19, 21, 22); Avco (2, 3, 5, 6, 8, 16, 18); Bell Aerosystems (1, 2, 6, 8, 10, 16, 18); Bell Telephone Laboratories (all engineering, physical sciences, 18); Sandia Corporation (2, 6, 16; 8, 18-D); Continental Can (2, 6, 15-B); Hooker Chemical (1; 2, 10-B, M); Perkin-Elmer (2, 6, 8); Sikorsky Aircraft (2, 6, 10, 16, 18); U.S. Rubber (2, 5, 6, 8, 10, 15-B, M); Xerox Corporation (2, 6, 8); National Aeronautics and Space Administration (2, 3, 5, 6, 8, 10, 18, 22); Kordite Company (2, 5, 10, 15-B, M).

February 8

Bell Aerosystems Company (1, 2, 6, 8, 10, 16, 18); Bell Telephone Laboratories (all engineering, physical sciences, 18); Sandia Corporation (2, 6, 16; 8, 18-D); Western Electric (1, 2, 3, 6, 8, 10, 15, 21); Bell Operating Companies (1, 2, 6, 8, 15, 18, 21); National Aeronautics and Space Administration (2, 3, 5, 6, 8, 10,

18, 22); Alco Products (2, 3, 6, 8, 22-B, M); American Can (14, 15-B, M); Associated Spring Corporation (2-B); California Texas Oil (2, 6, 10-B, M); Cleveland Electric Illuminating Co. (1, 2, 6, 15-B, M); Clevite Transistor (2, 3, 6, 8, 10-B, M); General Aniline & Film Corp. (5, 10-B, M); FMC Corp. (5, 10); Leeds & Northrup Co. (2, 3, 6, 8, 10); Mechanical Handling Systems, Inc. (2-B); Minnesota Mining and Manufacturing (2, 6, 10, 15-B); McDonnell Aircraft (1, 2, 3, 6, 8, 10, 15, 16, 18).

February 9

Minnesota Mining and Manufacturing (2, 6, 10, 15-B); Airsearch Manufacturing (2, 6, 8).

FEBRUARY 12

New York Life Insurance (18, or math minor-B); Norton Company (2, 3, 5, 10, 14, 15); Bethlehem Steel (all engineering-B); Carrier Research and Development (2, 3, 6, 10-M, D); University of Chicago, Fermi Nuclear Institute (6-B, M); du Pont de Nemours (2, 3, 5, 6, 8, 10, 15-B, M); Eagle-Picher (2, 3, 10-B; 15-M); Edgerton, Germeshausen and Grier (6, 8, 18); Ex-Cell-O (2, 3, 6, 10, 15-B, M); Farrel-Birmingham (2-B); Ford Motor Co. (2, 3, 5, 6, 8, 15, 18); Joy Manufacturing (2, 6, 16-B); Mallinckrodt Chemical (10, 15 with 10 option-B); Northwest Paper (6, 10, 15-B); Plax Corporation (2, 5, 6, 8, 10-B, M); Republic Aviation

(6, 8); Scientific Engineering Institute (5, 6, 8); Sinclair Research (10-B, M); Space Technology Laboratories (6, 18; 2, 10, 16-M, D); Union Carbide Chemicals and Olefins (1, 2, 3, 5, 6, 10, 15-B, M); United Aircraft Research Laboratories (3, 6, 8, 16, 18; 2, 5, 15-M, D); National Aeronautics and Space Administration (1, 2, 6, 8, 10, 16); Reflectone Electronics (6-B, M).

FEBRUARY 13

Bethlehem Steel (all engineering B); du Pont (2, 3, 5, 6, 8, 10, 15-B, M); Ford Motor (2, 3, 5, 6, 8, 15, 18); Space Technology Laboratories (6, 18; 2, 10, 16-M, D); Union Carbide Chemicals and Olefins (1, 2, 3, 5, 6, 10, 15-B, M); NASA (1, 2, 6, 8, 10, 16); General Dynamics/Electronics (2, 6-B); Kaiser Aluminum and Chemical (2, 3, 6, 10, 15-B, M); Newport News Shipbuilding and Dry Dock (2, 6, 13-B, M); Philco (2, 6; 5, 8-M, D); Procter and Gamble, Central Engineering (1, 2, 3, 6, 10, 17-B, M); Procter and Gamble, Research and Development (5, 10, 15, 20); Shell Chemical (2, 5, 6, 10-B, M); Shell Oil, Manufacturing (2, 5, 10-B, M); Smith, Kline and French (8, 15, 18-B, M); Sprague Electric (2, 8; 5, 6, 8, 10-B, M); Boston Naval Shipyard (2, 6, 13-B); Radio Corporation of America (2, 6, 8, 16-B, M); RCA Laboratories (6, 8-B, M); Underwater Sound Laboratory (2, 6, 8, 18-B).

FEBRUARY 14

DuPont (2, 3, 5, 6, 8, 10, 15-B, M); Sinclair Research (10-B, M); Space Technology Laboratories (6, 8; 2, 10, 16-M, D); General Dynamics/Electronics (2, 6-B); Procter and Gamble, Plant Management (1, 2, 3, 5, 6, 8, 10, 14, 15, 18, 20, 21-B, M); Procter and Gamble, Overseas (all engineering, 5, 15, 20-B, M); Shell Chemical (2, 5, 6, 10-B, M); Shell Oil, Manufacturing (2, 5, 10-B, M); Allegheny Ludlum Steel (2, 3, 6, 15-B); Dow Chemical (2, 3, 5, 10-B, M); Eastman Kodak (2, 5, 6, 8, 10, 15, 18-B, M); Ebasco Services (2, 6-B); General Precision (6); New England Electric (1, 2, 6, 15, 22-B, M); Pfaunder Permutit (5, 10-B, M; 3, 5, 8-M, D); Pittsburgh Plate Glass (6-B, M; 2, 5, 8, 10); Pratt and Whitney Aircraft (2, 3, 6, 8, 10, 16, 22); Texas Instruments, Apparatus Division (2, 7, 8, 15); Texas Instruments, Metals and Controls (2, 3, 6, 8); Texaco, Refining Department (1, 2, 10-B, M); Texaco, Research and Technical Department (2, 6, 10; 5, 8, 12, 18-M, D); Radio Corporation of America (2, 6, 8, 16-B, M); RCA Laboratories (6, 8-B, M).

FEBRUARY 15

DuPont (2, 3, 5, 6, 8, 10, 15-B, M); Procter and Gamble, Industrial Engineering Division (1, 2, 6, 10, 14, 15, 18, 21-B, M); Procter and Gamble, Advertising (14, 15, 21-B, M); Dow Chemical (2, 3, 5, 10-B, M); Eastman Kodak (2, 5, 6,

8, 10, 15, 18-B, M); Pratt and Whitney (2, 3, 6, 8, 10, 16, 22); Texas Instruments, Apparatus (2, 6, 8, 15); Texas Instruments, Metals and Controls (2, 3, 6, 8); Texas Instruments, Central Research and Engineering (2, 3, 5, 6, 8, 18-M, D); Texas Instruments, Geosciences Division (6, 8, 12; 18-M, D); Consolidated Edison of New York (1, 2, 6, 10-B); Equitable Life Assurance (18-B); General Radio (6, 8); M. W. Kellogg (1, 2, 10); Esso Research and Humble Oil (2, 6, 10-B); Lockheed-California (1, 2, 6, 8, 16, 18); Pennsalt Chemical (2, 5, 10, 15); Raybestos (2, 5, 10, 15-B); Thompson Ramo Wooldridge, Tapco Group (2, 3, 5, 6, 8, 10, 16, 18); Standard Oil of California (2, 6, 10-B, M); Union Carbide Plastics (1, 2, 5, 6, 8, 10, 15-B, M); Whirlpool (2, 6, 15-B, M); Whirlpool, Research (5, 6, 7, 8, 10, 20-M, D).

FEBRUARY 16

DuPont (2, 3, 5, 6, 8, 10, 15-B, M); Eastman Kodak (2, 5, 6, 8, 10, 15, 18-B, M); M. W. Kellogg (1, 2, 10); Lockheed-California (1, 2, 6, 8, 16, 18); Standard Oil of California (2, 6, 10-B, M); American Can (2, 5, 10-B); Anaconda Wire and Cable (2, 6, 10, 15-B, M); Bell Helicopter (2, 6, 8, 16); Beloit Iron Works (15-M; 2, 6, 8); Burroughs (2, 6, 8, 18; 5-D); Continental Oil - 2, 10-B, M); Dewey and Almy Chemical (2, 15-B, M; 5, 10); Diamond Alkali (2, 15-B, M; 5, 10); Gibbs and Cox (1, 2, 6, 13, 22-B, M); Mitre Corporation (6-B, M; 8, 18-M, D); Pillsbury (10, 15-B); 5, 20-M, D); National Starch and Chemical (10-B, M; 5); Polaroid (2, 6, 10-B, M; 5); Stewart-Warner (2, 6, 10, 15-B, M); Wymann-Gordon (2, 3, 15-B, M); United States Steel, Production and Staff (all engineering); U. S. Steel, Comptroller (15, 18-B, M); U. S. Steel, Commercial Research (15 and all engineering, B, M); U. S. Army Ordnance Missile Command (2, 6, 16; 5, 8, 18-M, D); Coast and Geodetic Survey (1, 2, 6, 18-B); U. S. Army Ordnance Corps (1, 2, 3, 5, 6, 8, 10, 15, 16, 18, 19).

SUMMER JOB INTERVIEWS

The following companies are interviewing for summer employment. To determine course eligibility, refer to the general placement list for the corresponding date. Unless otherwise noted, eligibility is limited to juniors and above.

FEBRUARY 12

New York Life Insurance (sophomores and above); Carrier Research and Development; University of Chicago, Fermi Nuclear Institute (5, 6, 7, 8); du Pont de Nemours; Edgerton, Germeshausen and Grier; Mallinckrodt Chemical; Norton Company; Northwest Paper; Union Carbide Chemicals and Olefins.

FEBRUARY 13

Du Pont; Union Carbide Chemicals and Olefins; Smith, Kline and French; Radio Corporation of America; RCA Laboratories (advanced degree candidates only).

FEBRUARY 14

Du Pont; Dow Chemical; Ebasco Services; Texaco, Refining; Radio Corporation of America; RCA Laboratories (advanced degree candidates only).

FEBRUARY 15

Du Pont; Dow Chemical; Texas Instruments, Geosciences Division (advanced degree candidates only); Equitable Life Assurance Society (sophomores and above); M. W. Kellogg; Esso Research and Humble Oil; Pennsalt Chemicals; Thompson Ramo Wooldridge, Tapco Group; Union Carbide Plastics; Whirlpool, Research Laboratories (advanced degree candidates only).

FEBRUARY 16

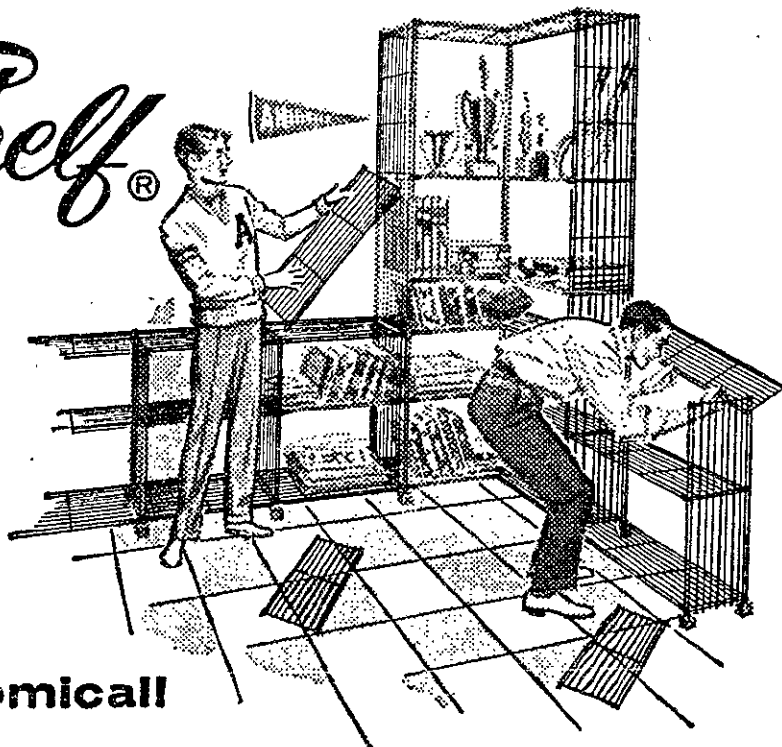
Du Pont; Eastman Kodak; M. W. Kellogg; American Can; Bell Helicopter; Beloit Iron Works; Diamond Alkali; Gibbs and Cox (sophomores and above in 2 and 6 for draftsmen); Mitre Corporation (junior and above in 6; advanced degree candidates in 8, 18); National Starch and Chemical; Wymann-Gordon; U. S. Army Ordnance Missile Command (advanced degree candidates only).

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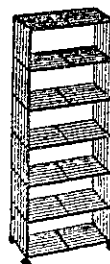
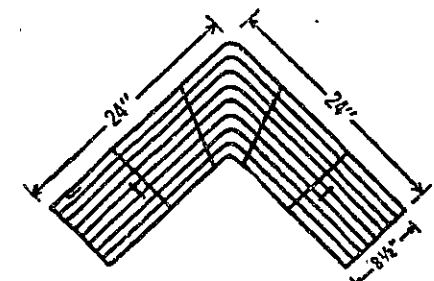
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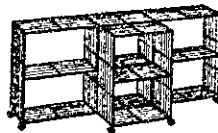
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Corner Panel (24" x 24")	3.99 ea.
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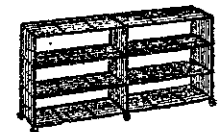
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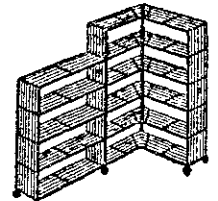
Vertical Bookcase
Consists of 7-20" Panels,
4-30" Panels, 4 Wood
Bases. Assembled Size
60" H x 22" L.



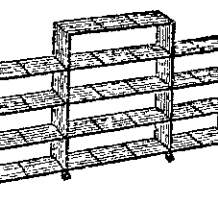
Television and
Photo Unit/Bookcase
Consists of 6-30"
Panels, 6-24" Panels,
6-20" Panels, 8 Bases.
Assembled Size
30" H x 72" L.



Horizontal Bookcase
Consists of 11-30" Panels,
6 Wood Bases. Assembled
Size 30" H x 63" L.



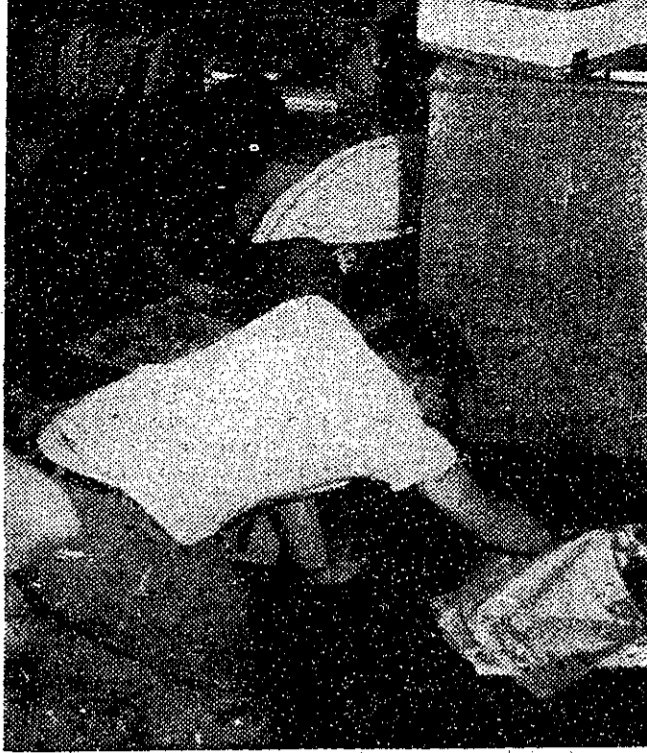
Corner Step-down Wall
Case or Room Divider
Consists of 4-20" Panels,
5-24" Panels, 2-30"
Panels, 6 Corner Panels,
7 Wood Bases. Assembled
Size 50" H x 50" L
x 25" L.



Room Divider/Bookcase
Consists of 4-20" Panels,
8-24" Panels, 7-30"
Panels, 8 Wood Bases.
Assembled Size
40" H x 82" L.

Technology Coop

East Campus Men Use Vacation Constructively;



During the between-term vacation a group of students in East Campus filled George Martin's ('64) room with ten inches of water and eight goldfish. In the first picture (left), the victim works at the

switchboard, unaware that preparations are being made to flood his room. The plotters spread polyethelene plastic on the floor to hold the water and suspend the room's furniture on coke bottles (left center); stu- ter; stu- one

Inner Belt Creates Dispute Over Quote

(Continued from Page 1)

railroad route for the Inner Belt would mean the raising of many, many millions of dollars."

Dr. Stratton said that the railroad route, while reducing the number of people that would have to be moved, would destroy many MIT laboratories, including the reactor, as well as the Institute power plant. The initial idea of elevating the highway was ruled out almost immediately by traffic engineers as being far too costly. Stratton further denied ever having threatened to use his influence in the manner indicated by Mr. Toomey. His version of the meeting was corroborated by Raymond McLay, who, as chairman of the Cambridge Citizens Committee, sponsored the meeting between Toomey and Stratton.

Federal Financing Seen

If the road is to be built the federal government will put up 90 per cent of the funds and it was undoubtedly the Institute's Washington influence that the representative had in mind. In an interview with a *The Tech* reporter, Dr. Stratton said that he had indicated to Toomey that he felt he had to defend MIT's interests just as Toomey had to defend those of his constituency. The MIT president said that he did not think the railroad line to be a feasible route, and did not think that an expanded Memorial Drive would serve the purpose of the Inner Belt.

Dr. Stratton is concerned with the effects that a through road, carrying heavy truck traffic down a Memorial Drive route, would have on the Institute as a place to live. But he did say that if studies showed this to be the best route in terms of Cambridge as a whole, he would probably not oppose it.

In a conversation with Mr. Toomey last Monday night, *The Tech* elicited the statement that "I have always questioned the necessity of an Inner Belt. There are lots of other roads in Cambridge that should be fixed first." Mr. Toomey said he would stand on his remarks as quoted in local newspapers.

RCA

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February 13, 14

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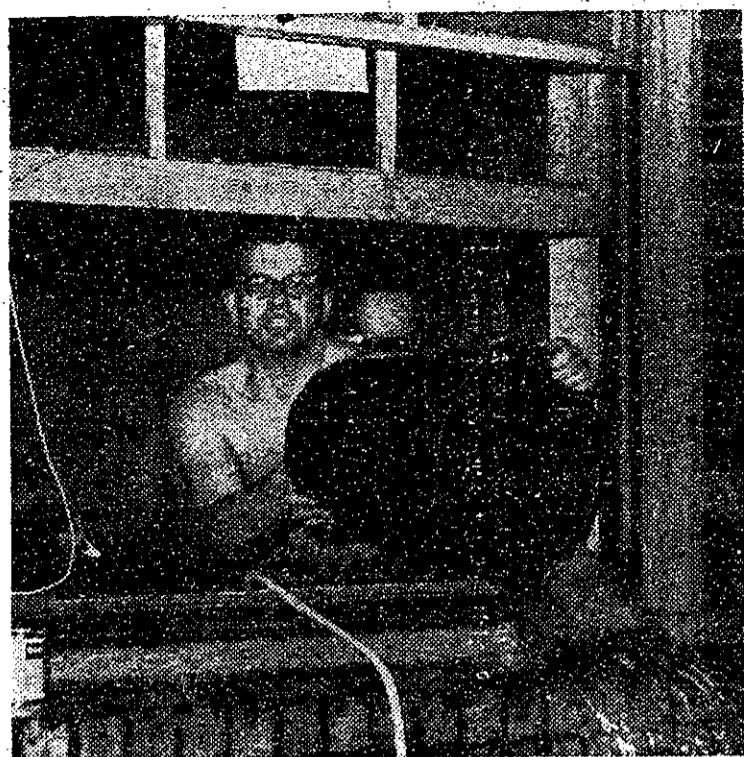
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Irrigation Project



is filled up from the sink (right center). Accepting the technically, George bails out his room to make it habitable (right).
—Photos by Conrad Grundlehner '64

College World

Univ. Of Chicago Inherits Ghosts; Also Willed Estate Near Bat Cave

By Toby Zidle '63

Slowly but surely, the MIT campus shows signs of expansion. A check with the Treasurer's Report of 1961 reveals that MIT now owns real estate as far away as Plattsburg, New York. But, also, we have been outdone! According to *The Chicago Maroon*, the University of Chicago is now able to offer genuine Southern hospitality at its newly-inherited pre-Civil War mansion in Natchez, Mississippi.

The University has been left the half-million dollar estate of a retired Chicago high school French teacher. In addition to the 141-year-old Mississippi manor and its 56.03 acres of land, the estates includes "Skyband", a 400-acre cotton plantation near Charleston, Mississippi; one-half interest in "Idalia", a thousand acre property next to "Skyband"; and eleven acres of what is described as "mountain property" near Bat Cave, North Carolina. But that's not all. Provisions of the will call for the establishment of six memorial scholarship funds from a bequeathed \$65,728 in cash and \$273,191 in stocks and bonds.

Soldiers, Ghosts, And Cows

When the Natchez mansion was purchased by the high school teacher in 1925, it was in such poor condition that even itinerant farmers refused to rent it. It was built in 1821

by William St. John Elliot, a wealthy cotton broker. Deterioration of the building set in and was greatly accelerated by the Civil War. At one time, Union troops were housed in the mansion. In the ensuing years, the Elliot manor, gray and neglected, became known locally as "The Haunted House". As time passed, the ghosts of the two Yankee soldiers hanged at the mansion during the war became more and more adventurous. By 1925, the once-luxurious halls at Natchez were providing shelter for a number of neighborhood cows.

Since 1925, however, thirty-five years have been devoted to restoring the manor to its original splendor. The manor has become a major attraction of the Natchez Pilgrimage, a period when the stately pre-war homes of the Natchez area are opened for public inspection. Last year, about 800 people daily for a four-week period visited the University of Chicago's newly-acquired Southern estate.

A Future Campus?

When North moves South, naturally South must move North. *The Tulane Hulla-baloo* reveals that Tulane owns an island in the middle of St. Mary's River. The island was donated to Tulane in 1932 for a biological or scientific research center, a summer recreational or study center, or for any other purpose Tulane might devise.

Harbor Island, as far as river islands go, is rather large, being seven miles in circumference. The island has a sheltered harbor and is teeming with deer. It has become a favorite mooring spot for yachtsmen on summer cruises. Harbor Island, incidentally, is about as far north as one can get in the United States, being in Michigan, only four miles from the Canadian border.

Up the Mississippi

How does one get to this island? Tulane has come up with the answer. Swim! Tulane's physical education department, in co-operation with the Red Cross, has come up with a new physical fitness program.

The goal for each person in the program is, by the end of the term, to have swum fifty miles. To get credit toward the goal, however, one must swim a minimum of one-quarter mile — eighteen laps — at a given time. Those completing the program will be given an inscribed medal. Tulane's swim coach says, "Nothing is more satisfying than a short swim after a hard day's work."

New Dorm

While Tulane students may be swimming from New Orleans to northern Michigan, Michigan State feels that students should not have to walk that far for classes. In fact, why walk at all? So, 1,200 lucky students will live in a new \$5,000,000 dorm and will attend classes in the same new dorm.

According to Michigan State's chief academic advisor, "One of the objects of this new academic program is to help cut down the amount of travel a student has to do on campus." This is being achieved in part by holding social science, language, and natural science classes right in the new Case Dorm.

Included in the five-story building are multi-purpose rooms for classes and social activities, space for a library, and dining facilities. The dorm will house about 550 men and 650 coeds.

New Auditorium

Caltech is now in the process of building a new auditorium. *The California Tech*, in a recent issue, described the groundbreaking ceremonies. Dr.

(Please turn to Page 21)

Sign up for
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And right away,
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Because you know, as an officer,

your military service will be a stimulating and rewarding experience. You will enjoy the pay, the prestige, the traditional privileges of an officer...

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And then, of course, there is the warm sense of accomplishment you will feel in June 1963 when the gold bars of a Second Lieutenant are pinned on your Army uniform.

TEMPEST

CALENDAR of EVENTS

*Open to the public

Wednesday, February 7

OPERATIONS RESEARCH CENTER.
Seminar: "Automated Instructions Decisions Systems." Dr. Richard C. Smallwood, Bedford Air Force Base. Room 8-205, 2:00 p.m.
MIT HILLEL SOCIETY.
Study group: "Toward a Social Philosophy."
317 Memorial Drive, 3:00 p.m.
CIVIL ENGINEERING DEPARTMENT.
Soil Engineering Seminar: "Stress Wave Propagation in Soils." Dr. Paul Weidlinger and Dr. M. L. Baron, Weidlinger and Associates, New York. Room 3-370, 4:00 p.m.
MIT CIVIL RIGHTS COMMITTEE.
Debate on Racial Equality—Part I: Lecture, "The Case for Segregation." Mr. Earle Johnston, Public Relations Direc-

tor, Mississippi State Sovereignty Commission. A question period will follow. (Part II: "The Case for Integration" will be presented on February 15, in Compton Lecture Hall at 8:00 p.m.)
Kresge Auditorium, 8:00 p.m.
MIT HILLEL SOCIETY.
Israeli Dancing. Admission 50c. Walker Memorial, Room 201, 8:30 p.m.

Thursday, February 8

ORGAN RECITAL.
Noonday organ recital. Victor Mattfeld, MIT Organist. Admission free. Kresge Auditorium, 12:15 p.m.
DEPARTMENT OF AERONAUTICS AND ASTRONAUTICS.
Fluid Mechanics Seminar: "Some Properties of Suspensions in Shear Flows." Professor James W. Daily, Department of Civil Engineering, MIT. Coffee in the duPont Room (33-207) at 3:30 p.m.

Room 33-319, 4:00 p.m.
DEPARTMENT OF PHYSICS.
Colloquium: "Evaporation and Direct Processes in the (p, α) Reaction at XVII MEV." Dr. R. Sherr, Princeton University. Tea in the John Picker Kolker Room at 3:30 p.m.
Room 26-100, 4:00 p.m.
MIT HILLEL SOCIETY.
Study group: "Basic Concepts of Judaism."
317 Memorial Drive, 4:00 p.m.
DEPARTMENT OF MATHEMATICS. BRANDEIS-HARVARD-MIT MATHEMATICS COLLOQUIUM.
"On the Compactness of Arithmetically Defined Homogeneous Spaces." Professor George D. Mostow, Yale University. Tea in the Common Room at 4:00 p.m.
Room 2-390, 4:30 p.m.
TECHNOLOGY CATHOLIC CLUB.
Theology Lecture Series: "What are the

Sacraments." Father William Sullivan, C.S.P.
Room 7-108, 5:00 p.m.
PROTESTANT CHRISTIAN ASSOCIATION.
Discussion group: "Contemporary Fiction." Mr. Bloy.
317 Memorial Drive, 5:00 p.m.
SCHOOL FOR ADVANCED STUDY.
Dinner-meeting. "Adventures of a Web-Footed Chemist." Professor D. E. Carritt, Department of Geology and Geophysics, Woods Hole Oceanographic Institution.
Room 2, Faculty Club, 6:30 p.m.
UNITARIAN-UNIVERSALIST MINISTRY.
Open seminar in existentialistic thought. "What is Existentialism."
317 Memorial Drive, 6:30 p.m.
WATER POLO CLUB.
Meeting.
Alumni Pool, 6:30 p.m.

Friday, February 9

TECHNOLOGY CATHOLIC CLUB.
Philosophy Lecture Series: "The Nature of Metaphysics." Father William Wallace, O.F.
Room 3-133, 5:00 p.m.

LECTURE SERIES COMMITTEE.
Classic film series: "The Blue Angel" and "St. Louis Blues." Admission by subscription ticket only.
Room 10-250, 6:30 and 9:00 p.m.
INDOOR TRACK.
Greater Boston Indoor Track Championship.
Rockwell Cage, 7:00 p.m.
CONCERT.
Concert by the MIT Symphony Orchestra, Concert Band, and Brass Choir. Admission: \$1.00. Tickets without charge for the MIT Community are available prior to the concert in the lobby of Building 18.
Kresge Auditorium, 8:30 p.m.

Saturday, February 10

INDOOR TRACK.
Greater Boston Indoor Track Championship.
Rockwell Cage, 2:00 p.m.
MIT HILLEL SOCIETY.
Discussion group: "The Torah Portion of the Week."
317 Memorial Drive, 2:30 p.m.
LECTURE SERIES COMMITTEE.
Entertainment film series: "A Raisin in the Sun." Admission: 30c.
Kresge Auditorium, 5:15, 7:30 and 9:45 p.m.

Sunday, February 11

PROTESTANT CHRISTIAN ASSOCIATION.
Breakfast for Protestant Students.
West Dining Room.
Graduate House, 10:00 a.m.
HUMANITIES SERIES CONCERT.
The Juilliard String Quartet. Fourth concert in a series. Admission: \$2.00 or by series ticket.
Kresge Auditorium, 3:00 p.m.

Monday, February 12

APPLIED MATHEMATICS AND MECHANICS COLLOQUIUM.
"Gravitational Instability in Spiral Galaxies." Dr. Alar Toomre, Mathematics Dept., MIT. Tea in Room 2-290 at 3:30 p.m.
Room 2-390, 4:00 p.m.
MIT HILLEL SOCIETY.
Study group: "Judaism and Modern Science."
317 Memorial Drive, 4:00 p.m.
MIT OUTING CLUB.
Meeting.
Walker Memorial, Room 306, 5:15 p.m.
MIT HILLEL SOCIETY.
Study group: Gemara class.
317 Memorial Drive, 7:00 p.m.
CHORAL SOCIETY.
Rehearsal.
Kresge Auditorium, 7:30 p.m.
MIT HILLEL SOCIETY.
Study group: "Elementary Hebrew."
Room 5-231, 8:30 p.m.
SEMINAR SPONSORED BY THE PROTESTANT MINISTRY.
Graduate Seminar. Mr. Russell.
317 Memorial Drive, 10:00 p.m.
TECHNOLOGY DAMES.
Talk. Dr. M. Bulin, "Methods of Child-birth."
Hayden Library Lounge, 8:00 p.m.

Tuesday, February 13

DEPARTMENT OF MECHANICAL ENGINEERING. ENGINEERING PROJECTS LABORATORY COLLOQUIUM.
"Axial Flow Compressors in the Free Molecule Range." Mr. John Maulbetsch.
Room 3-351, 12:00 noon
TECHNOLOGY CATHOLIC CLUB.
Seminar for Unbelievers.
Room 7-108, 12:00 noon
COMPUTATION CENTER.
Seminar: "List Structures and Associative Memory." Dr. Rex Seaber, IBM.
Room 26-168, 3:00 p.m.
DEPARTMENT OF CHEMICAL ENGINEERING.
Seminar: "Intrinsic Viscosity Polymers." Professor W. H. Stockmayer, Dartmouth University.
Room 12-102, 3:30 p.m.

(Please turn to Page 15)

Registration Material Prepared By 7090 Reduces Waiting Time

(Continued from Page 1)

average freshman spending less than 20 minutes in 50-340.

The registrars, on the other hand, were prepared for most of the unusual happenings because of several lists printed by the computer which, along with the registration material, were checked before registration day.

Thus, by the time a freshman walked into 50-340, there was a note attached to his registration material saying that he was on probation and had to see Dean Speer, that his 5.02 advanced standing had not been granted, that he had failed 5.01 and 8.01, that he had a conflict, that he had taken too many electives, or that he had forgotten to have his advisor sign the card.

This left the registrar with practically nothing to check or change, and meant less waiting time for the freshman. The final result was that about 90 per cent of the freshmen had been registered by about 2 p.m.

Naturally, despite the computer, freshman and registrar alike managed to cause some mix-ups. For instance, one freshman coed's registration material couldn't be found. Someone had filed it under "M" for "Miss."



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Physical Electronics
Low Temperature Physics
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Chemical Reaction & Kinetics
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Electronic Instrumentation
Machine Computation

INTERVIEWS:
Monday, February 12

See your College Placement Officer for an appointment and further information.

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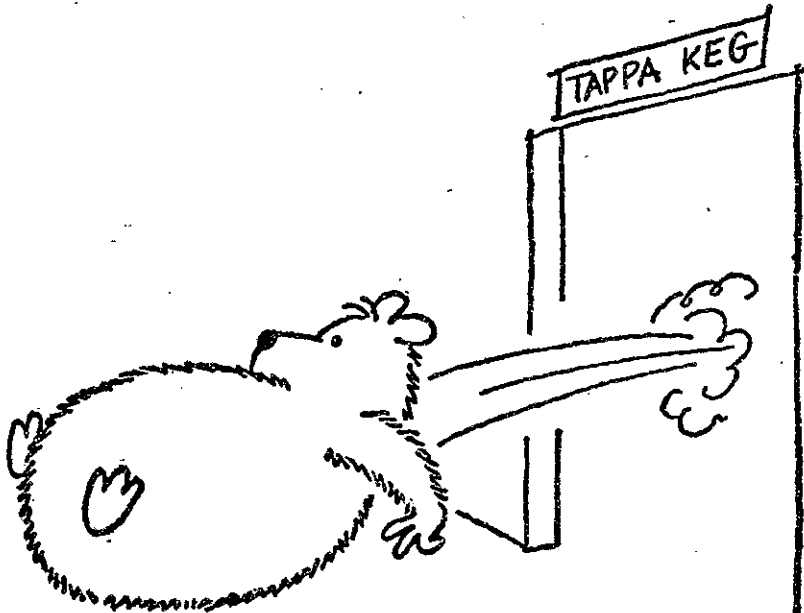
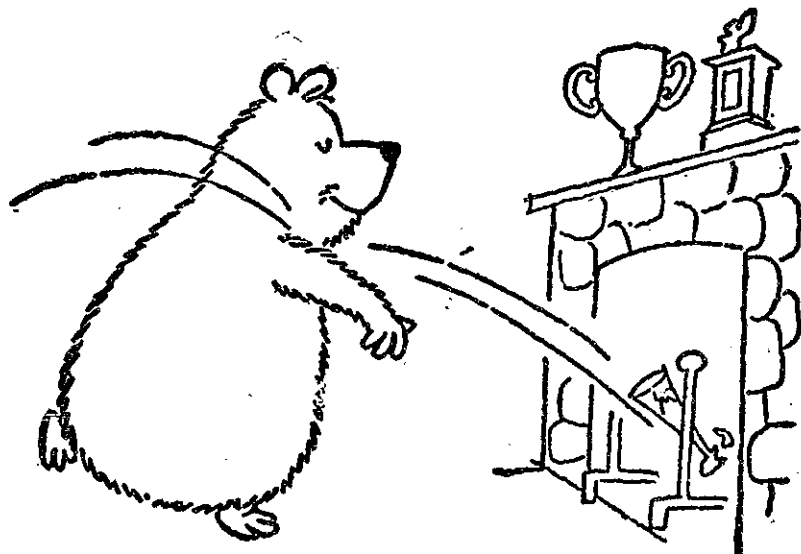
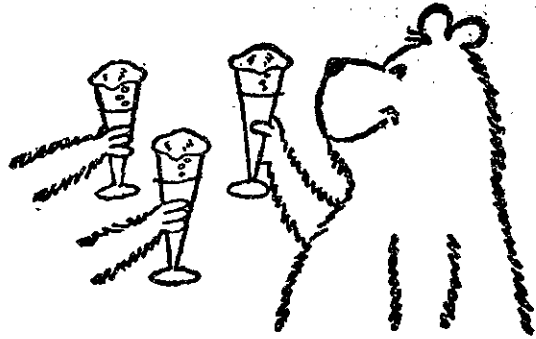
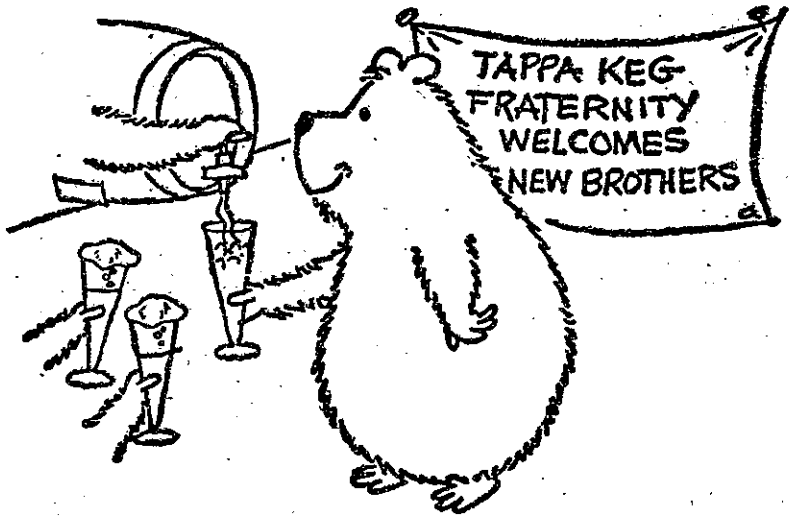
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Calendar of Events

(Continued from Page 14)

DEPARTMENT OF NAVAL ARCHITECTURE AND MARINE ENGINEERING.*
Seminar: "The Mechanics, Physics and Chemistry of Sea Ice." Dr. Andrew Assur, Chief, Applied Research Branch, U. S. Army Cold Regions, Research and Engineering Laboratory. Coffee in Room 5-311 at 3:30 p.m.
MIT HILLEL SOCIETY.
Seminar on Jewish History. 317 Memorial Drive, 4:00 p.m.
Study Group.
Morss Hall, Walker Memorial, 5:00 p.m.
SOCIETY OF AMERICAN MILITARY ENGINEERS.
Reorganization meeting. Applications will be taken for trip on February 24 to the New York Harbor. Membership open to engineering students and ROTC members. Miller Room, 3-070, 5:00 p.m.
PROTESTANT CHRISTIAN ASSOCIATION.
Study group: "Protestantism in America." Mr. Roelofs. Open to students of all nations. 317 Memorial Drive, 5:00 p.m.
TECHNOLOGY CATHOLIC CLUB.*
Meeting, "World Communism." Jim Angevin, *The Pilot*. Vannevar Bush Room, 5:00 p.m.
PROTESTANT CHRISTIAN ASSOCIATION.
Study Groups. 317 Memorial Drive, 5:00 & 7:00 p.m.
Dinner. West Dining Room, Graduate House, 6:00 p.m.
SEMINAR SPONSORED BY THE PROTESTANT MINISTRY.
Graduate Seminar. Dinner-meeting. "Spirit of Protestantism." Mr. Holtzapfle. Room 5, Faculty Club, 6:15 p.m.
WATER POLO CLUB.*
Meeting. Alumni Pool, 6:30 p.m.
MIT HILLEL SOCIETY.
Study group: "Elementary Yiddish." Room 5-203, 8:00 p.m.

MIT FACULTY PISTOL AND RIFLE CLUB.*
Club Match. Rifle Range, 8:00 p.m.

Wednesday, February 14

OPERATIONS RESEARCH CENTER.*
Seminar: "The Construction of Reliable Computers from Unreliable Components." Professor Dean Arden, Department of Electrical Engineering, MIT. Room 8-205, 2:00 p.m.
MIT HILLEL SOCIETY.
Study group: "Toward a Social Philosophy." 317 Memorial Drive, 3:00 p.m.
MIT HILLEL SOCIETY.*
Israel Dancing. Admission 50c. Walker Memorial, Room 201, 8:30 p.m.
ORGAN RECITAL.*
Donald McDonald, First Congregational Church, Montclair, N. J. Tickets: \$2.00. Kresge Auditorium, 8:30 p.m.

Organ Recital*

An organ recital by Donald McDonald, First Congregational Church, Montclair, N.J., will be given on Wednesday, February 14, at 8:30 p.m. in Kresge Auditorium. Admission: \$2.00. Tickets may be obtained at Kresge Auditorium, Room 61-026 or by telephone: UN 4-6900, extension 2910.

Exhibits*

GRAPHIC ARTS GALLERY (211 Massachusetts Avenue).
Photographic salon prints by Nelson L. Murphy, APSA, Washington, Pa. Exhibit consists of varied subjects. Displayed through February 28.
HAYDEN MEMORIAL MUSIC LIBRARY.
Exhibit of ancient European musical instruments from the Leslie Lindsay Mason Collection loaned from the Boston Museum of Fine Arts. Displayed through February 9.
FACULTY CLUB.
Prints by Patricia de Gogorza. Japanese prints on loan from MIT staff members.

IMPORTANT ANNOUNCEMENT TO CANDIDATES FOR BACCALAUREATE AND ADVANCED DEGREES

ELECTRICAL ENGINEERS PHYSICISTS MATHEMATICIANS

Technical representatives of the MITRE Corporation will be conducting interviews on campus

February 16, 1962

MITRE now has openings for talented men who want to work in the challenging new field of system engineering . . . a set of skills defined in only the most recent reference books. With MITRE, system engineering embraces such electronic command and control systems as the NORAD Intelligence Function and the manned bomber defense, SAGE.

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Appointments will be made principally in the Suburban Boston area. Openings are also available at facilities in Washington, D. C. and Colorado Springs, Colo. Brochures describing the activities of The MITRE Corporation are available on request at the placement office.

ARRANGE FOR AN INTERVIEW THROUGH THE PLACEMENT OFFICE.

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'Raisin In The Sun' First Presentation In Sat. Nite Series

The much-heralded film, "A Raisin in the Sun," will be shown in Kresge Auditorium this Saturday night as the first program in the Lecture Series Committee's entertainment film series for the spring term.

The film, which won the New York Drama Critics' film award, stars Sidney Poitier, Claudia McNeil, Ruby Dee, and Diana Sands.

Miss McNeil appears as the God-fearing matriarch of a crowded Negro household, which she shares with her son, his wife and child, and her daughter, an ambitious medical student. When she receives \$10,000 of her husband's life insurance, Poitier (the son) pressures her to set him up in business in a liquor store. She finally decides to split the money three ways: to open the liquor store, to finance her daughter's education, and to purchase them a home in an all-white neighborhood. Trouble develops when Poitier's partner makes off with \$6500 of the money, leading to some soul-searching for all involved. This film should make for some very interesting viewing.

Shows are at 5:15, 7:30, and 9:45.

WTBS Program Schedule

WTBS broadcasts on the FM band at 88.1 mc frequency and to the MIT dormitories at 640 kc on the AM band.

Sunday	
2:00 pm	Sunday Theatre
5:00	News
5:05	Sunday Serenade
7:00	Folk Music
8:00	Music at MIT
9:00	News
9:05	Classroom Concert
12:00 am	Jazz at Midnight
1:00	Sign Off
Monday	
7:30 am	Rise and Shine
8:00	News
8:05	Rise and Shine
8:45	Sign Off
5:00	News
5:05	Evening Interlude
6:00	Swingin' Easy
7:00	News
7:05	Fiesta
8:00	Incomm Open Line
9:00	News
9:05	The Baroque Era
12:00 am	News
12:05	Jazz at Midnight
1:00	Sign Off
Tuesday	
7:30 am	Rise and Shine
8:00	News
8:05	Rise and Shine
8:45	Sign Off
5:00 pm	News
5:05	Evening Interlude
6:00	Swingin' Easy
7:00	News
7:05	Lenny Silver Show
9:00	News
9:05	Music Romantique
12:00 am	News
12:05	Jazz at Midnight
1:00	Sign Off
Wednesday	
7:30 am	Rise and Shine
8:00	News
8:05	Rise and Shine
8:45	Sign Off
5:00 pm	News
5:05	Evening Interlude
6:00	Swingin' Easy
7:00	News
7:05	Special Events (to be announced)
9:00	News
9:05	Music of the Modern Masters
12:00 am	News
12:05	Jazz at Midnight
1:00	Sign Off
Thursday	
7:30 am	Rise and Shine
8:00	News
8:05	Rise and Shine
8:45	Sign Off
5:00 pm	News
5:05	Evening Interlude
6:00	Swingin' Easy
7:00	News
7:05	Folk Music
8:40	Limelight Revue
9:00	News
9:05	Departures In Music
12:00 am	News
12:05	Jazz at Midnight
1:00	Sign Off
Friday	
7:30 am	Rise and Shine
8:00	News
8:05	Rise and Shine
8:45	Sign Off
5:00 pm	News
5:05	Evening Interlude
6:00	Jazz Special
7:00	Folk Music
8:00	News
9:05	Night Owl
11:30	News
11:35	Night Owl
2:00 am	Sign Off
Saturday	
5:00 pm	Rock & Roll Memory Time
5:00	News
5:05	Jazz Spotlight
7:00	News
7:05	Saturday Pops Concert
9:00	News
9:05	Night Owl
11:30	News
11:35	Night Owl
2:00 am	Sign Off

Della Reese To Perform At Donnelly Theatre Feb. 17

Della Reese, one of America's great song stylists, will appear at the Donnelly Memorial Theater on February 17 in a concert performance. Miss Reese will present a full one woman show entitled "From the Gospel to the Blues—Portrait of Della Reese."

This marks the first concert appearance in Boston of the famous gospel and blues songstress, who has been highly acclaimed for her many record albums, the latest of which is "The Classic Della."

Della began singing in choirs in her hometown of Detroit at the age of six. When she was thirteen, the great gospel singer Mahalia Jackson, heard her and hired her to sing with the Jackson troupe. Since then, Della has risen to fame via television, radio, night club appearances, and records.

On the stage of the Donnelly Theater, Miss Reese will be backed by a full orchestra, conducted by Duke Ellington's son, Mercer Ellington. In addition, the Meditation Singers, which Miss Reese founded, will perform with her.



Della Reese

APD Plans Concert By Limelighters In April

The Limelighters, a trio of folk singers, will give a concert of folk music at Kresge Auditorium Saturday, April 14 at 8:30 p.m.

Ticket prices are \$3, \$2.50 and \$2. Call Ext. 2910.

Von Arx Publishes New Text On Oceanography

Doctor William S. von Arx, Professor of Oceanography at MIT, has recently published a new book entitled Introduction To Physical Oceanography. The book is intended for use as a textbook or a supplementary reference for a first course in physical oceanography, offering an orientation in the field for those with some previous training in the physical sciences, the life sciences, or engineering."

During 1945 Dr. von Arx, who is also Physical Oceanographer at the Woods Hole Oceanographic Institution, was a physicist with the Columbia University Radiation Laboratory. He has also been a consultant to the National Science Foundation and to various industrial firms. He is a member of the American Geophysical Union, the American Meteorological Society, the American Society of Limnology and Oceanography,

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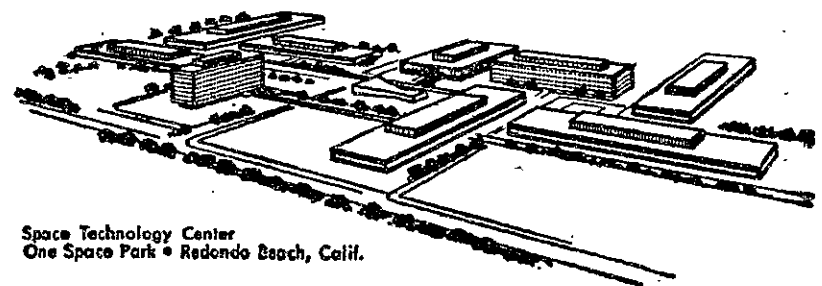
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FEBRUARY 12, 13, 14

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PROGRAMS. Research, development, design, and construction of three Orbiting Geophysical Observatories (OGO), and project coordination and systems planning for Project Relay, both for NASA. Design, fabrication and test for the Air Force-ARPA VELA HOTEL Program to detect nuclear explosions in space. Studies for the Air Force-ARPA BAMBBI Project, a multi-satellite system which can identify and destroy enemy ICBM's shortly after launch. Systems engineering and technical direction of the Atlas, Titan, and Minuteman weapon systems for the Air Force. Original and applied research in a broad spectrum of technical disciplines: particle physics, solid state theory, guidance, space physics, communication theory, propulsion and power, and electromagnetic systems in the infrared, ultraviolet and microwave regions.

FACILITIES. Nearing completion on a 110-acre site at Redondo Beach, close to Los Angeles International Airport, is the STL Space Technology Center comprising ten buildings specially designed for research and development in missile and space systems, for the fabrication and environmental test of subsystems and components, and for the production of scientific and technical devices derived from STL's sustained research program.



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| EXPERIMENTAL PHYSICS | SOLID STATE PHYSICS |
| APPLIED MATHEMATICS | DIGITAL COMPUTERS |
| SPACE COMMUNICATIONS | COMPUTER DESIGN |
| RADAR SYSTEMS | GUIDANCE & NAVIGATION |
| ANTENNAS AND MICROWAVES | TELECOMMUNICATIONS |
| INERTIAL GUIDANCE | ELECTROMECHANICAL DEVICES |
| ANALOG COMPUTERS | ENGINEERING MECHANICS |
| AEROPHYSICS | APPLIED AERODYNAMICS |
| PROPULSION SYSTEMS | SYSTEMS ENGINEERING |

Please make arrangements with your placement office for interview appointment. Or, if unable to see our representatives, you may write to: College Relations, Space Technology Laboratories, Inc., One Space Park, Redondo Beach, California. STL is an equal opportunity employer.



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Theatre**

Entertainment-wise

'View From The Bridge' To Kenmore

By Tom Maugh '65
Tomorrow night at 10 o'clock, Carl Sandburg, noted poet and scholar, will discuss "Lincoln's Prairie Years." The famed Lincoln historian will walk the prairie soil that nurtured the Civil War President and will re-create in song and story the frontier that helped make Lincoln great. It should be very worthwhile.

"A View From the Bridge," Arthur Miller's play about a New York longshoreman, will open in a film version at the Kenmore Theater today. This adaptation of the award winning play features two relative unknowns, Morris Carnovsky and Raf Vallone.

Other new shows arriving in town include "Judgement at Nuremberg," "Sergeants 3," and "The George Raft Story," which details the actor's many romantic involvements.

In conjunction with their exhibit, "The Civil War: The Artists' Record," the Museum of

Fine Arts is currently showing two films, "The Red Badge of Courage," and "Lincoln Speaks at Gettysberg." Although the exhibit costs fifty cents, the films, which are shown at 2:30 every day except Sunday, are free to the public.

While you're there, examine the Museum if you've never been through it before. You'll find it's really a fascinating place.

"The Fantasticks," currently showing at the Charles Playhouse, has been extended until February 18. Starring Barbara Quaney, Will Mackenzie, Richard Curry, David Vaughan, and Stanley Hay, the play is the first musical-comedy that the Charles has ever attempted.

The original production of musical is currently in its 21st month at the Sullivan Street Playhouse in New York, making off-Broadway's second longest running show. Take my advice and don't miss it. It's fantastic! (Pardon me.)

Donald McDonald will give the third recital of MIT's major organ series on Wednesday, February 14, at 8:30 p.m. in Kresge Auditorium.

Mr. McDonald is Minister of Music at the First Congregational Church in Montclair, N.J., and is on the faculty of the Westminster Choir College.

The series is sponsored by the MIT Department of Humanities. Tickets are \$2 and may be obtained at the Kresge Box Office.

The Boston Public Library currently has several interesting exhibits on display (That is, if you are a bibliophile.)

Keeping with the season, they are showing an exhibition of antique valentines from America and Europe. It might be an interesting place to take your best girl.

The exhibits also include a selection of arts and crafts work by members of the Cambridge Center for Adult Education; a showing of books selected by the publishers for

their excellence in design, binding, and typography; modern color reproductions of old manuscripts; drawings and lithographs of American people and scenes by George Bellows; and an exhibit of selections from chief treasures of the library, including many of the choicest, rarest, and most beautiful items in the library's collections.

MIT will have a full week this week, at least as far as music is concerned. Friday evening, the MIT Symphony Orchestra, Concert Band and Brass Choir will present a combined performance in Kresge. These are three excellent groups, and should present a good evening's entertainment. Tickets to the concert are free if obtained prior to the concert.

Sunday afternoon, the Juilliard String Quartet will present the fourth in their series of concerts. Sponsored by the MIT Department of Humanities, this should make a very good program. Tickets are \$3.00.

For those of you who like to combine science and music, the New Arts Orchestra will present a Concert of Electronic Music tonight. Directed by Milton Babbitt, this should be quite different, to say the least. Tickets for the performance, to be held at the Boston Conservatory Auditorium, will be priced from \$1.00 up.

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CAMPUS INTERVIEWS

February 19, 20 & 21, 1962

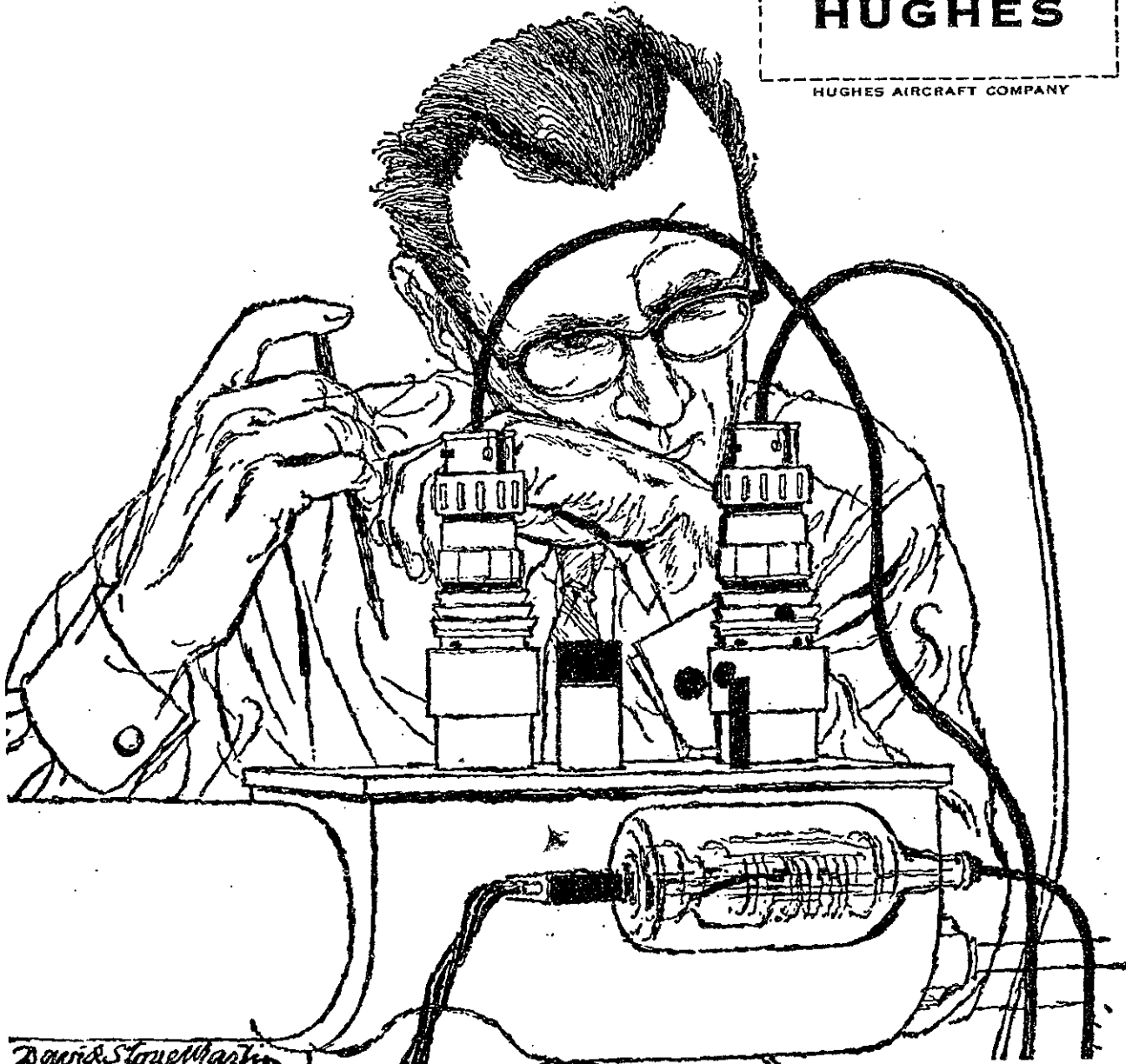
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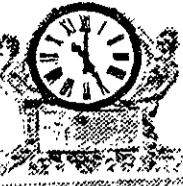
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CHARLES—"The Fantasticks," Tues. Wed., Thurs. at 8:30, Sun. at 3 & 7:30, Fri. 8:30, Sat. at 5:30 and 9:00.
COLONIAL—"La Plume de ma Tante," Evenings at 8:30; matinees Wed. and Sat. at 2:30.
SHUBERT—"The Music Man," Evenings (except Sun.) at 8:30; matinees Wed. and Sat. 2:30.



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"WHERE EVERYONE MEETS UNDER THE CLOCK"

Classic Film Series To Feature Live Piano Music For Silent Films

Several films with accompanying live piano music will be featured in the Lecture Series Committee's spring classic film series. At least three of the films will have a pianist playing appropriate music, bringing to memory the days of the nickelodean.

The first of this spring's programs will be "The Blue Angel," showing February 9. Starring Marlene Dietrich, this German film, made in 1929, is the story of a middle-aged man who falls in love with a young and beautiful cafe entertainer. (This film was recently re-made in a new version starring May Britt.)

Other notable films in the spring list include: "Destry Rides Again," "The Headless Horseman," "The Magnificent Seven," "Mexican Bus Ride," and "All Quiet on the Western Front."

Blocks of tickets will be on sale in Building 10 during the first two weeks of classes, and at the door during the first two movies.

Movie Schedule

ASTOR—"El Cid," Matinees Wed., Sat. and Sunday at 2; evenings at 8:30, except Sunday at 7:30.
BEACON HILL—"One, Two Three," 1:30, 3:30, 5:30, 7:30, 9:30. For an indefinite engagement. Starring James Cagney, Horst Buchholz, Pamela Tiffin, and Arlene Francis. Written and directed by Billy Wilder, based on a play by Ferenc Molnar. Music by Andre Previn and Aram Katchaturian.
BOSTON—"Cinerama," Evenings at 8:30 except Sun. at 7:30; matinees Wed., Sat., Sun., at 2:30.
CAPRI—"Majority of One," 2:15, 4:45, 7:00, 9:30.
EXETER—"La Belle Americaine," 2:00, 3:45, 5:40, 7:30, 9:20.
FENWAY—"The Mark," 1:00, 3:07, 5:14, 7:21, 9:28.
FINE ARTS—"Ballad of a Soldier," 5:30, 8:00, 10:15. "Stars of the Russian Ballet," 7:00, 9:30.
GARY—"West Side Story," Evenings at 8:30; matinees Wed., Sat., Sun. at 2:30.
KEITH MEMORIAL—"Flower Drum Song," 1:00, 3:50, 6:30, 9:15.
KENMORE—"A View From the Bridge," 1:15, 3:25, 5:30, 7:40, 9:45.
LOEW'S ORPHEUM—"The Happy Thieves," 1:00, 3:50, 6:40, 9:30. "Sainly Sinners," 2:25, 5:15, 8:05.
MAYFLOWER—"Back Street," 2:35, 5:45, 9:00. "Trouble in the Sky," 1:15, 4:30, 7:45.
METROPOLITAN—"Tender Is The Night," 1:00, 3:40, 6:25, 9:10.
PARAMOUNT—"The Innocents," 2:45, 6:20, 9:45. "Upstairs and Downstairs," 1:00, 4:30, 8:00.
PILGRIM—"Spartacus," 1:25, 4:45, 8:20.
SAXON—Evenings at 8:30 except Sun. at 8:00; matinees Wed., Sat., Sun. at 2:30.
TELEPIX—Daily except Sunday: "The Sand Castle," 11:30, 2:20, 5:28, 8:27. "Shane," 12:34, 3:33, 6:32, 9:31. Sunday: "The Sand Castle," 1:00 3:59, 6:58, "Shane," 2:44, 5:03, 8:02.
UPTOWN—"Town Without Pity," 2:35, 6:00, 9:25; "Errand Boy," 1:00, 4:20, 7:45.

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On Campus with Max Shulman
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THE TRUE AND TRAGICAL TALE OF HAPPY JACK SIGAFOOS

Who would have thought that Happy Jack Sigafos, the boy the sky never rained on, would teeter on the edge of a life of crime?

Certainly there was no sign of it in his boyhood. His home life was tranquil and uplifting. His mother was a nice fat lady who hummed a lot and gave baskets to the poor. His father was a respected citizen who could imitate more than 400 bird calls and once saved an elderly widow from drowning in his good suit. (That is, Mr. Sigafos was in his good suit; the elderly widow was in swimming trunks.) Happy Jack's life was nothing short of idyllic—till he went off to college.

Here Happy Jack quickly became a typical freshman—tweedy, seedy, and needy. He learned the joys of rounding out his personality, and he learned the cost. His allowance vanished like dew before the morning sun. There were times, it grieves me to report, when he didn't even have enough money for a pack of Marlboro Cigarettes—and you know how miserable that can be! To be deprived of Marlboro's matchless flavor, its easy-drawing filter, its subtly blended tastiness, its refreshing mildness, its ineffable excellence, its soft pack or flip-top box—why, it is a prospect to break the heart in twain!

Marlboro-less and miserable, Happy Jack tried to get more money from home. He wrote long, impassioned letters, pointing out that the modern, large-capacity girl simply could not be courted on his meager allowance. But all Jack got back from



She simply could not be courted on his meager allowance.

home were tiresome homilies about thrift and prudence.

Then one dark day a sinister sophomore came up to Jack and said, "For one dollar I will sell you a list of fiendishly clever lies to tell your father when you need some extra money."

He gave Jack the list of fiendishly clever lies. Jack read:

1. A bunch of us fellows are getting together to buy a new house for the Dean of Men.
2. A bunch of us fellows are getting together to buy a headstone for Rover, our late beloved dormitory watchdog.
3. A bunch of us fellows are getting together to endow a chair of Etruscan Art.
4. A bunch of us fellows are getting together to build our own particle accelerator.

For a moment poor Jack was tempted; surely his father could not but support all these laudable causes. Then Jack's good upbringing came to the fore. He turned to the sinister sophomore and said, "No, thank you. I could not deceive my aged parent so. And as for you, sir, I can only say—fie!"

Upon hearing this the sinister sophomore broke into a huge grin. He whipped off his black hat and pasty face—and who do you think it was? None other than Mr. Sigafos, Happy Jack's father, that's who!

"Good lad!" cried Mr. Sigafos. "You have passed your test brilliantly." With that he gave Happy Jack a half million dollars in small bills and a red convertible containing power steering and four nubile maidens.

Crime does not pay!

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Our interviewers will be here at M. I. T. FEBRUARY 15

to tell you about the unusual job opportunities Con Edison can offer you.

Be sure to speak with one of our interviewers when they visit the campus. Meanwhile, pick up a copy of our book, "Con Edison—The Right Place To Build Your Future". You'll find copies in the Placement Office.

Con Edison OF NEW YORK

Money and girls haven't changed Happy Jack. Except for the minor bulge in his cashmere jacket caused by (1) a pack of Marlboros and (2) a box of Marlboros, he's the same old Sigafos.

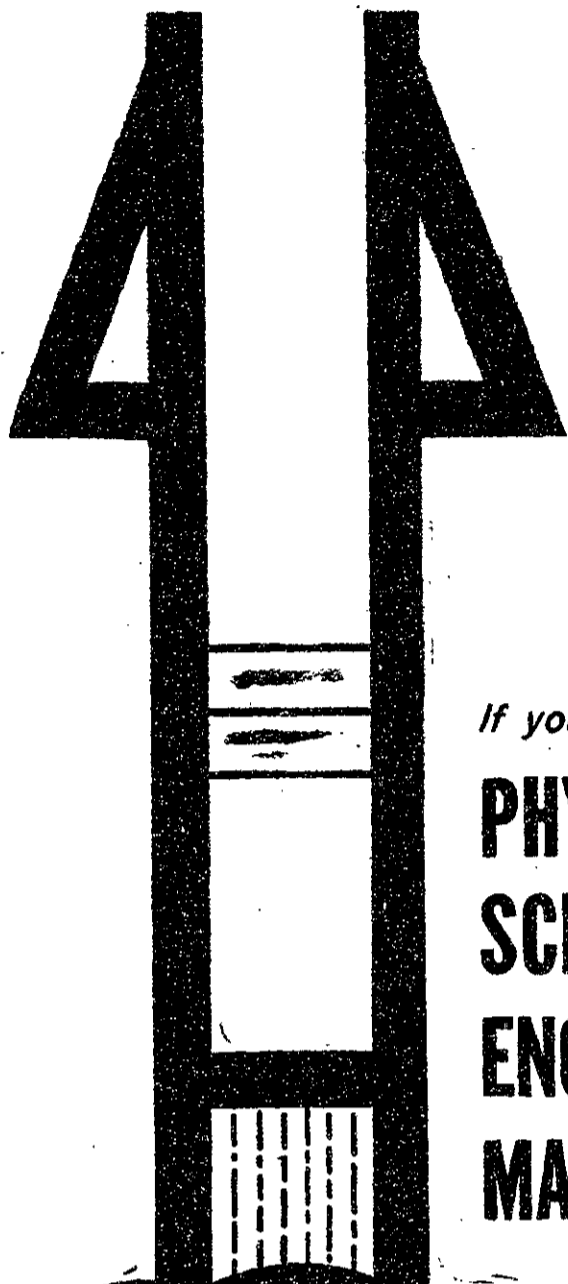
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NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY; NEW YORK TELEPHONE COMPANY; operating companies of the Bell System responsible for engineering, construction, operation and maintenance of communication facilities

Our interviewers will be glad to discuss opportunities in other regional operating companies in the United States and Canada.

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movies . . .

Cagney Leads Confusion

By Bostwick Wyman, '62

James Cagney plays a different sort of villain in this shameless political satire. The scene is West Berlin; the Coca-Cola plant in West Berlin of which James Cagney is the (stinking imperialistic capitalist) boss.

Cagney is busy trying to seduce his secretary (quite harmlessly and basically wholesomely), and sell Coca-Cola to the (stinking subversively Marxist) Communists, and land the big job in London, and put up with his wife (Arlene Frances), and keep tabs on the boss's daughter (Pamela Tiffin) just in from Atlanta, Georgia ("Atlanta is Siberia with mint juleps"), who of course falls madly in love with a misguided East Berliner (Horst Buchholz).

And in the midst of all this infinite confusion everybody gets out. Capitalists are insulted. Communists are insulted. Yankees are insulted. Southerners are insulted. Liberals are insulted. Conservatives are insulted. Federico Fellini is insulted. And even the shadows of the Nazis fall on the heel-clicking office staff and are thereby insulted.

All of the ingredients for good comedy are present. The plot starts off thick and soon congeals to a hilarious, hectic mess with seven or eight subplots, each of which turns out to be an ideal vehicle for invective. The action accelerates, backed by an appropriate sabre dance, into a mad dash dominated by Cagney, snapping out orders with a "One-Two-Three."

(After all, the title has to come from somewhere.)

The movie abounds with good lines (in English, except for a little German in the background). I laughed the hardest when the Georgian heroine, in support of her boyfriend's attack on capitalist imperialism, screamed out "Africa for the Africans!" But then, I'm a southerner, too.

The plot, of course, is utterly ridiculous. The whole movie is utterly ridiculous. The acting is not noticeable, and therefore good. Fraulein Ingeborg and Herr Schlemmer, Cagney's two flunkies, do very well in their supporting roles.

"One-Two-Three" is not really a seeable-twice movie. Nor was it written to last. But it is very funny and fine entertainment, and a refreshing look at international politics.

Take no kols with you, for they will be smashed with a few deft words; but go.

Spring Weekend Planned For May 4, 5, 6; To Have Formal Dance, Parade

Spring weekend, planned for May 4, 5, and 6, will be the first of what is hoped to become an annual event.

Plans for the weekend include a formal dance Friday night, a float parade sponsored by the IFC, Saturday afternoon, an entertainer Saturday night, and Tech Night at the Pops, Sunday afternoon.

The total cost for the weekend is expected to be \$10 to \$13. Neil Wetherby and Eric Ippen head the committee in charge of planning the weekend.

TELEPIX

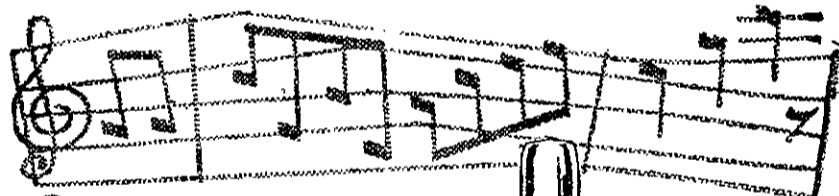
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RANDOM OBSERVATIONS

By Mary Gail Menzel

A Kennedy-Watcher Recalls The Year

The impression made by John F. Kennedy and his various familial and political allies on the American scene after one year in office was driven home recently when Time Magazine chose him as their "Man of the Year." Time's own definition of this honor requires that it go to the man who "dominated the news of that year and left an indelible mark—for good or evil—on history." Since Time's criticism of the President has not been quite extreme enough to justify the latter adjective, it must be assumed that Henry Luce and his editorial board consider Mr. Kennedy a good influence, a radical enough appraisal considering the magazine's estimate of some Democrats, and another indication of the Kennedy impact. His popularity with the general public is reflected in a recent Gallup poll which found that the Kennedy administration enjoys the approval of 78% of Americans. Even Grandma Moses, mothers and Ivory Soap were never that popular, though Ivory's percentage of purity might be difficult to equal.

Great consideration has been given to the "Kennedy effect"—perhaps to M.I.T. students, a matter of slightly less importance than the Miller effect—particularly in the recent year-end epidemic of evaluations by columnists and broadcasters of his first year in office. But relatively little attention has been devoted to the "Kennedy side-effect", which if not newsworthy is at least noteworthy.

For example, consider the boon to the garment industry. Not only has Mrs. Kennedy's taste in fashions become de rigueur for any red-blooded American girl, but more important to 7th Avenue, her preference for the short skirt was instrumental in introducing the new-accepted and widespread exposure of the feminine knee. It has been estimated that a manufacturer can now get an extra skirt or two out of a bolt of material (while prices are a little higher than they were in the days of the street-sweeping New Look).

The President's father left his mark on our way of life also. Last year it was widely reported that the senior Mr. Kennedy spent some time on a golf course in France where his caddy was a young French girl. Immediately recognizing this as something of an innovation and probably suitable for American import, an enterprising Miami man has announced that he plans to open a school for female golf caddies and has already imported the original to head the teaching staff. This ploy will probably help reduce the hordes of imitators who are sure to follow, since who wants to play second fiddle under Jack Benny when she can have Issac Stern? No doubt when the first graduates are ready to prove their mettle on the links, the male caddy will be relegated to the limbo of male secretaries and nurses, and a new American tradition will be born.

Magazine publishers, many of whom are on shaky footing anyway, have had a heyday with Kennedy copy. Caroline graced many a women's-magazine cover during the year, as did the whole family. Some professional models get \$60 an hour and more for posing, a process that sometimes runs into days. It seems certain that Caroline contributes her services without remuneration, a situation which may even have meant the difference between red and black for some publishers. As for copy inside the magazines, there has been no limit to the Kennedy tidbits dug up by resourceful reporters. And high time it was

too, since the oft-repeated Grace Kelly-Prince Ranier tale was wearing a bit thin. Even Princess Margaret-Tony Jones had been thoroughly blanketed from all angles, and the Duke and Duchess of Windsor's story seems to have lost a little of its bite in the retelling. But half the charm of the Kennedy saga is that it's a continuing dynamic thing that readers never weary of. At least, not many of them.

The unemployment problem in one Southern town was nicely disposed of after the President himself was widely photographed sitting in a rocking-chair (which led to the popular joke that Eisenhower, who was supposed to be slowing down, was playing eighteen holes a day while Kennedy, for all his

vim and vigah, had taken to a rocking-chair.) A phenomenal rush on this furniture ensued, no doubt causing a multiplier effect on the economy.

Perhaps the President has been unwittingly the despair of one industry—the hatmakers. Recently however, he has been seen carrying a hat which may at least be a step in the right direction. Then too, Lyndon Johnson's penchant for the ten-gallon hat helps to take up the slack some.

All in all, it's been a fascinating year in which Kennedy-watching easily surpassed bird-watching as a hobby, and if I still haven't played touch football or ridden to the hounds, at least I know what to wear when I do.

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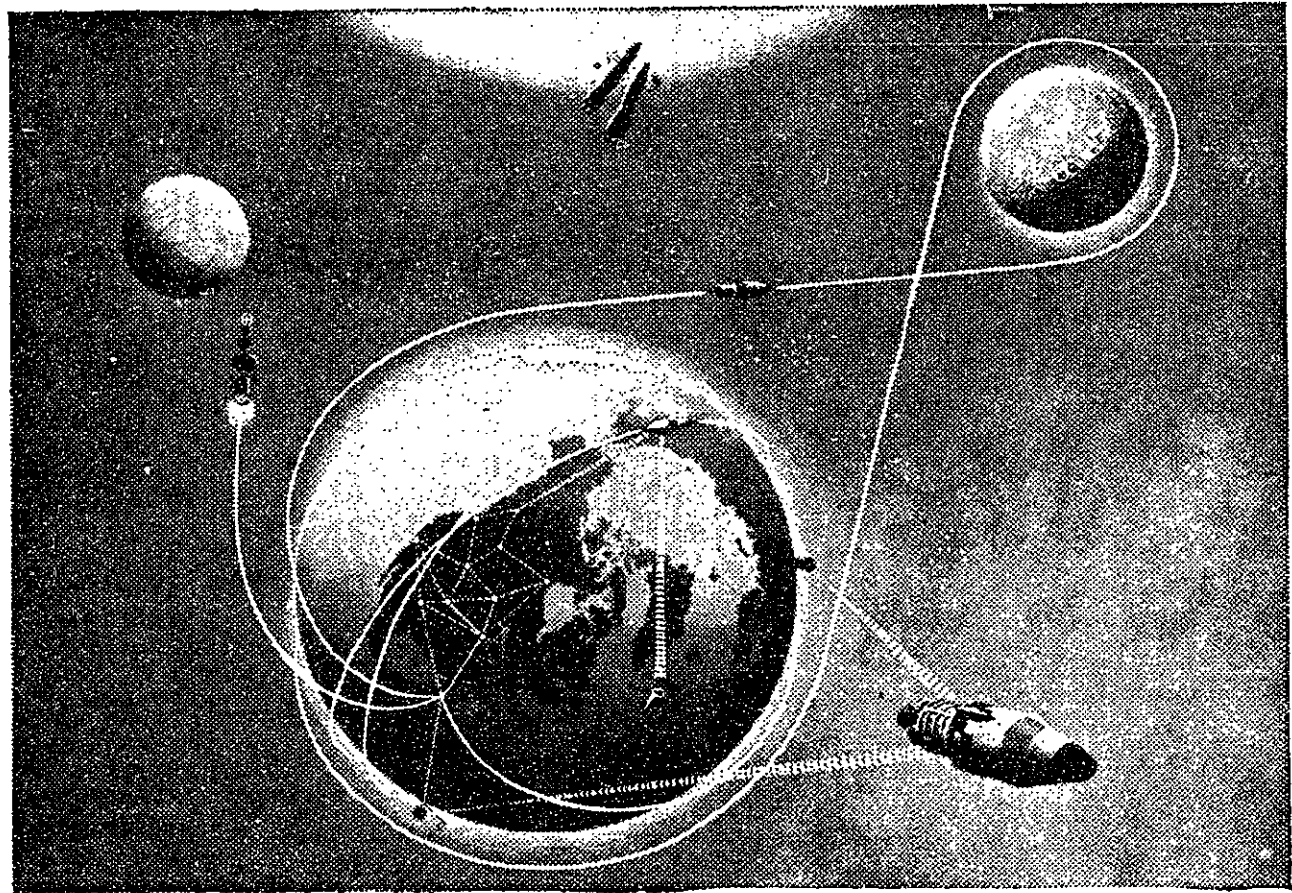
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Lockheed Missiles & Space Company in Sunnyvale and Palo Alto, California, on the very beautiful San Francisco Peninsula, is constantly probing all the sciences related to missiles and space projects. These cover the complete spectrum—from human engineering through celestial mechanics—providing a fascinating challenge to those whose interests lay beyond the ordinary day-to-day job.

Lockheed, Systems Manager for such projects as the Navy POLARIS FBM and the Air Force DISCOVERER and MIDAS Satellites, is also an important contributor to various NASA programs involving some of the nation's most interesting and sophisticated concepts. As one of the largest organizations of its kind, the Company provides the finest technical equipment available; for example, the Sunnyvale facility houses one of the most modern computing centers in the world. Every opportunity is given members of the technical staff to

participate in the initiation of advanced technological developments.

Further, Lockheed strongly encourages continuing education and advanced degree work, maintaining two programs in their support.

- Lockheed's *Tuition Reimbursement Program* remits seventy-five percent of the tuition for approved courses taken by professional and technical people who are working full time.
- The *Graduate Study Program* permits selected engineers and scientists of outstanding scholarship and professional potential to obtain advanced degrees at company expense while employed on research assignments.

SPECIAL CAMPUS INTERVIEWS

will be held

Monday & Tuesday
FEBRUARY 19 & 20

See your placement office for details

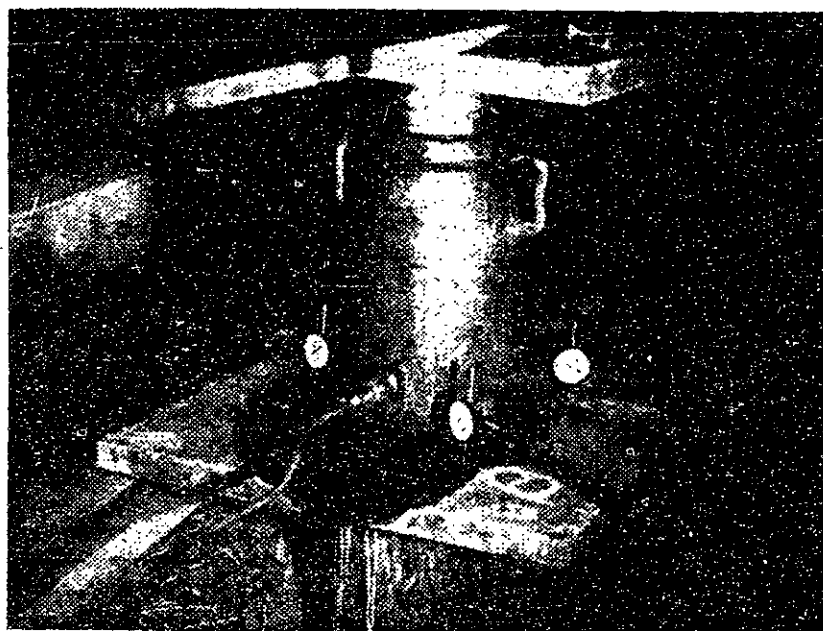
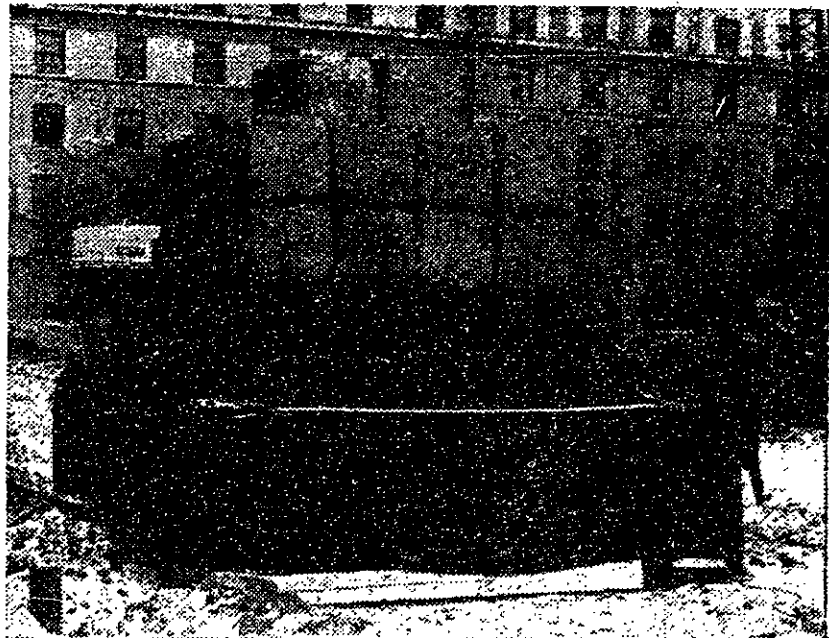
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To test whether a seven-foot-thick layer of hard clay 130 feet down would support the weight of the Earth Sciences building, test piles were sunk and a pressure of 100 tons applied by a pile of cement blocks (left). Underneath the tarpaulin, a constant-temperature environment is maintained. A hydraulic cylinder (right) measures the applied pressure while sensitive instruments measure the change in depth of the pile. If the depth does not change more than twelve one-thousandths of an inch in 48 hours, the layer of clay is considered strong enough to bear the weight of the building.

— Photos by Conrad Grundlehner '64

Underwood

Underwood Corporation, a long established, youthfully aggressive company, has recently joined forces with Olivetti, Europe's largest manufacturer of office machines. With a complete range of electric and standard typewriters, and with distribution of Olivetti calculators, accounting machines, electronic and data-flow systems within the United States, Underwood now offers the most complete line of office machines ever to be available from a single source.

Because of this recent expansion of domestic marketing facilities, and an increase in overseas operations, Underwood has established an accelerated management program for qualified business school graduates. The objective is to place qualified men in corporate management as soon as they have indicated their readiness for this level. Aptitude and inclination will determine whether managerial assignment will be domestic or foreign.

Successful applicants will attend a four-weeks session at the Underwood training center. From here they will be assigned to Underwood marketing areas for on-the-job training. Duration of this training and future appointments are contingent solely on the progress and aspirations of each individual.

For information or to arrange for an interview, contact your Placement Director. A representative of the Underwood Corporation will be on campus Thursday, March 1st.

College World:

Martini Mixer Starts Bulldozer At Groundbreaking

(Continued from Page 13)

Paul C. Eaton, Caltech's Dean of Students, was the introductory speaker. Following was a speech by Dr. Arnold O. Beckman, to whom the auditorium was dedicated. (And the following is directly from *The California Tech* because I just couldn't change it.)

"Upon the conclusion of Eaton's remarks, Dr. Beckman was called upon to comment before starting the ground-breaking ceremonies. Dr. Beckman is president of Beckman Instruments, Inc., and a member of Caltech's Board of Trustees. Beckman's first instrument was an automatic titrator, developed by him while he was on the Caltech staff from 1926 to 1940, and it was to this that he turned his attention. Explaining the need for such a device, he poured some water into a beaker ('we know that it's water because it came from a water pitcher') and dabbed some litmus paper in it. After showing the litmus to an interested crowd, Dr. Beckman explained the color by mentioning that '...this litmus is much like Mr. Nehru—neutral but confused.' He then used a home-grown DuBridge Lemon (as opposed to a Sunkist Lemon) to get, logically enough, DuBridge Lemon Juice. This promptly turned from thymol blue to orange-yellow, and when compared with a basic compound (which was blue), sufficiently moved Dr. Beckman and a colleague of his to sing the University of Illinois 'fight' song (or reasonable facsimile thereof); for he had created (with the help of his assorted 'chemicals') the University of Illinois school colors.

"After thus admirably establishing a need for an automatic titrator, Dr. Beckman mentioned some of the humanitarian aspects of his product. Foremost was that his product bolstered the economy, in that litmus was cheap and his product was expensive. Another important aspect of his titrator, Dr. Beckman felt, was that it presented a challenge to Ph.D.'s ('we always arranged our instructions with certain missions!') Another interesting feature, briefly mentioned, was that his machine could also '...automatically mix a martini.'

"After these remarks, Dr. Beckman set in motion his titrator, which titrated the lemon juice with potassium hydroxide. At a pH of 10, a whir was heard, and a canopy was slowly lifted up to reveal a model of the auditorium. Simultaneously, a bulldozer was started up which broke the ground for the auditorium."

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IS THERE A CHURCH FOR AGNOSTICS?

If you are interested in learning more about Unitarian-Universalists point of view, call Gerry Krick at CO 7-4167 or CO 7-6738; better still drop in on a session of the Liberal Religious Students Sunday, anytime, or Tuesday nights after 7:30. The student center is at 64 Marlborough Street.

Pistol Team Wins Two, Loses Two; New England Sectionals Saturday

The varsity pistol team wound up the first semester in a burst of activity, firing five matches in nine days. On Friday, January 5, the team shot a score of 1375 in a postal match against the Coast Guard Academy, losing by only ten points. On the following Monday a score of 1342 was fired in a postal against Rutgers. The results of this match have not yet been received.

On Tuesday the team won a close match with the Arlington Rifle Club by a score of 1076 to 1074 (four man teams), and on Friday defeated the Merchant Marine Academy, 1362 to 1322, in another postal match.

On January 13, the first big day of the shoulder to shoulder intercollegiate season, MIT ended up at the bottom of a four cornered match against the Air Force Academy, Coast Guard Academy, and University of Massachusetts. Coast Guard won the match with a score of 1399, followed by Air Force (1342), University of Massachusetts (1329), and MIT (1324). The MIT score of 1324 was used in a postal against Villanova.

MIT competed in the New England Gallery Championships on Saturday, January 27, and on the following Tuesday the team left for its annual southern trip and a series of shoulder to shoulder matches against Rutgers, Navy, Villanova, Merchant Marine, and West Point.

This coming Saturday the squad will compete in the New England Intercollegiate Sectionals.

How They Did

Basketball

MIT 69, Sir Geo. Williams 33
MIT 76, Loyola 51
MIT 81, McGill 64
MIT 65, Clarkson 54

Hockey

MIT 5, Boston College (V) 4
MIT 7, Fort Devens 2
MIT 4, UConn 1

Rifle

CCNY 1399, MIT 1398
Navy 1445, MIT 1416
MIT 1422, Villanova 1399
MIT 1428, Merchant Marine 1415
Army 1439, St. John's 1423,
MIT 1408, Buffalo 1398

Wrestling

MIT 29, McGill 3
MIT 17, Clarkson 9
Montreal YMCA 16, MIT 14
MIT 30, St. John Baptiste 0

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THE RED BALLOON

Liberal Religious Students open second semester in a big way on February 11.

1:30 Lunch—75c
3:00 Operation Crossroads — Harvard MIT panel on work-camp in AFRICA.
6:00 Pizza
7:30 Jack Mendelsohn to speak
8:30 "THE RED BALLOON" — 1st of the series.
9:30 Tonic, pastries, and discussion on Critical Appreciation of Films.

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MTA

Professor Lewis Receives Award

Prof. Frank Mendell Lewis, of the Department of Naval Architecture and Mechanical Engineering was awarded the Davidson Medal from the Society of Naval Architects and Marine Engineers at its annual meeting in New York, last November.

The citation for the award said "In this day of large research organizations and giant projects, significant contributions to the frontiers of applied engineering science which can be traced to individual efforts tend to become relatively few in number. Among outstanding contemporary examples of such contributions are those which must be credited to Frank Mendell Lewis.

"In 1918 when he joined the faculty of his Alma Mater, Webb Institute of Naval Architecture, he embarked upon the twin careers of research and education

Provost Talks At Kresge

Townes Speaks On Masers

Dr. Charles H. Townes, internationally known solid state physicist and now a Provost of MIT, was scheduled to deliver the seventh Lincoln Decennial Lecture last night in Kresge Auditorium.

His subject was "Masers," devices that generate and amplify radio waves and light in new ways. Dr. Townes invented the maser and did extensive work in its development and application. The word "maser" stands for Microwave Amplification by Standard Emission of Radiation.

A review of the lecture will be published in the next issue of *The Tech*.



Dr. Charles H. Townes, Provost

Observers Wanted - to work throughout the semester on acoustical experiments. Same two hours every day, M-F.

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On Deck

Friday, February 9

Fencing — Columbia, Dupont, 7:30 p.m.

Rifle — Boston University, Boston College; Away.

Squash — Trinity, Dupont; 7:00 p.m.

Saturday, February 10

Basketball — Lowell Tech; Away; 8:15 p.m.

Hockey — Wesleyan, home rink; 7:30 p.m.

Squash — Princeton, Dupont; 2:00 p.m.

Swimming — Trinity, Alumni Pool, 2:00 p.m.

Indoor Track — G.B.C. Meet; Away.

Wrestling — Massachusetts, Cage; 2:00 p.m.

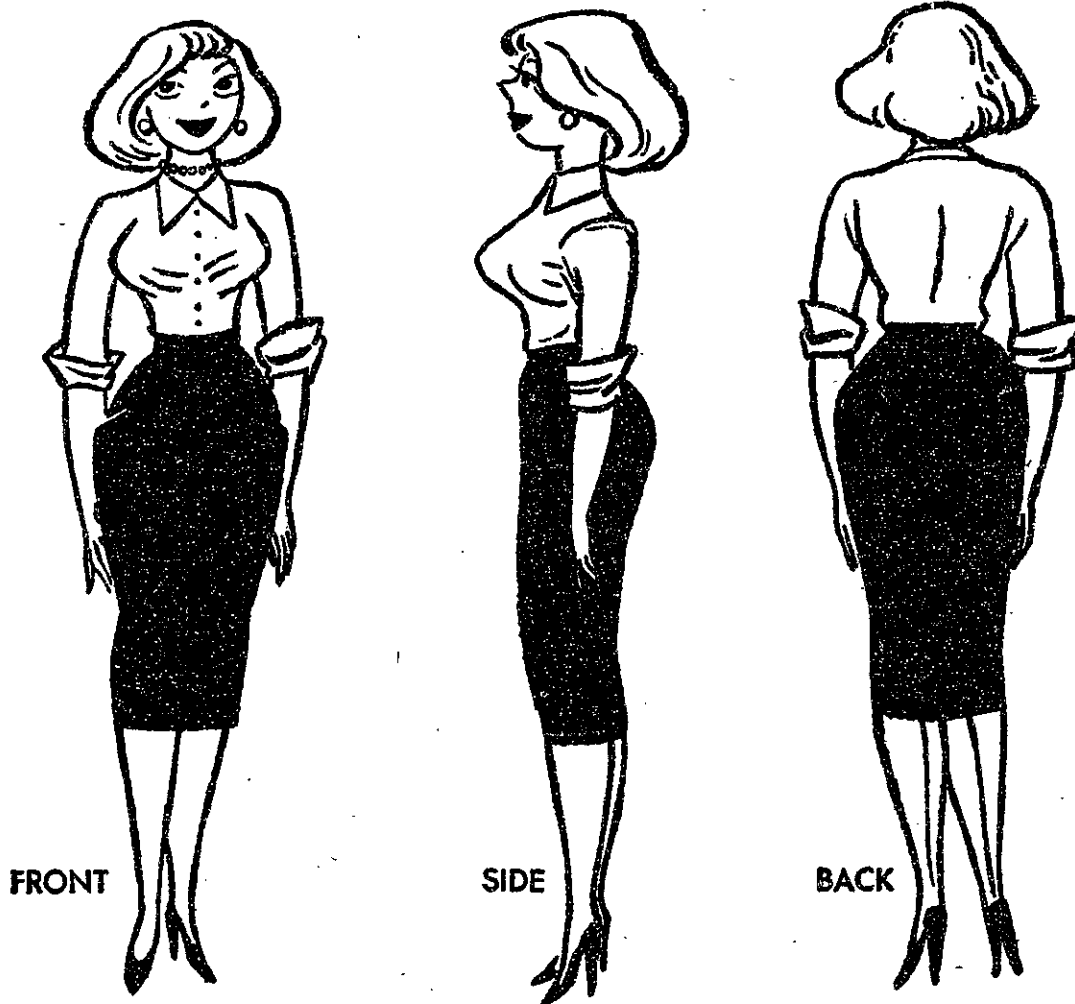
Pistol — Intercollegiate Sectionals; Away.

Monday, February 12

Basketball — Leicester Junior College.

Girl Watcher's Guide

Presented by Pall Mall Famous Cigarettes



FRONT

SIDE

BACK

Three views of an average, healthy girl

LESSON 1 - How to recognize a girl

It is not surprising, in these days of constantly changing fashion standards, that girls are often mistaken for men.

Certain popular items of apparel, such as slacks, baggy sweaters and boxy suits, contribute to this unfortunate situation. Therefore, we suggest that new students of girl watching start with the fundamentals (see above diagram). As you can see, girls are easiest

to identify from the side. However, even the beginner will soon achieve proficiency from front and rear as well.

Advanced students can usually tell a girl from a man at five hundred paces, even when both are wearing asbestos firefighting suits. (You might try offering the subject a Pall Mall, but you won't prove anything. It's an extremely popular brand with both sexes.)

WHY BE AN AMATEUR? JOIN THE AMERICAN SOCIETY OF GIRL WATCHERS NOW!

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Matmen Spend Intercession In Canada

Eleven MIT wrestlers spent the mid-semester vacation on tour in Canada and up-state New York. The grapplers met with two athletic clubs, the Central YMCA and St. Jean Baptiste Loisirs, both of Montreal; and two collegiate teams, McGill University of Montreal and Clarkson College of Technology of Potsdam, N. Y.

Accompanied by Coach Alex Sotir, those taking the trip were Armen Gabrielian and Alan Rogol, both '63 and in the 123-lb class; Eliot Bayly, '63, wrestling at 130 lb.; Don Top-

kis, '64, at 137 lb.; Terry Chatwin, '63, and James Evans, '62, both at 147 lb.; Tom Gerrity, '63, at 157 lb.

Also Paul Olmstead, '62, at 167 lb.; George Barton, '65, at 177 lb.; and Kim Sloat and John Eulenberg, both '64 and in the unlimited division.

They took on the YMCA team January 30. The Canadians used a markedly different style of wrestling from that to which the Techmen were accustomed, and the referee followed an altered set of rules. Matched against a decidedly heavier team

and unfamiliar with the Canadians' style, the Tech wrestlers were edged out of a victory by a score of 16-14.

The following day, after Coach Sotir had initiated at practice a new strategy for dealing with the Canadian wrestlers, Tech dealt a heavy blow to St. Jean Baptiste. This wrestling club, which had shortly before defeated the YMCA team, fell to the Techmen, 30-0. Tech met with the wrestlers of McGill University Thursday, February 1, and scored a healthy 23-3 victory over that team.

After a day of traveling, Tech met the undefeated Clarkson grapplers Saturday afternoon, February 3. A weight problem had developed enroute which resulted in the Techmen again being pitted against much heavier opponents. Having forfeited the 177-lb class and wrestling on a loose patchwork mat, the Institute's matmen lost to Clarkson, 9-19.

Rifle Team Wins Three Matches; Loses To CCNY By One Point

MIT's Rifle Team completed its annual southern trip last week with a three and four record against some of the top college squads in the country. Paced by captain Steve Smith, the Engineers consistently turned in good scores throughout most of the trip.

In the first match, the Techmen lost by a single point to City College of New York. The MIT score of 1398 was the lowest of the trip. Last year MIT also lost to CCNY—this time by the margin of two points.

Next, the squad travelled to Annapolis, Maryland, for a match with the Midshipmen of Navy. Revenging a loss to the Engineers last year, Navy overwhelmed the visitors by a score of 1445 to 1416. The Midshipmen are undefeated this season.

The Techmen came through with their first victory of the trip by whipping Villanova 1422-1399 at the latter's range in Philadelphia.

Heading north for their next match, the team met the strong but somewhat erratic Merchant Marine Academy at New York City. Turning in their second best performance of the season, the Engineers won easily by a margin of 1428 to 1415. Last year MIT set a Merchant Marine range record and the MIT all time school record by posting a score of 1441.

In the final encounter of the tour, the team faced Army, St. Johns, and the University of Buffalo. Army and St. Johns are the top service academy and the top ranking non-service school, respectively. Failing to continue the upward trend,

Tech placed third out of the four competing schools with a team total of 1408. Army was first with a 1439, St. John's finished second with 1423, and the University of Buffalo was last with a 1398.

Steve Smith was the top man throughout the southern swing. High man for Tech in four of the five matches, he averaged an outstanding 287. In addition, he is the only man on the team to fire a 290 this season. This mark was accomplished at Annapolis.

Three other Tech shooters displayed superior marksmanship with averages in the 280's. They are Bruce Peterson '63, 283; Al Gleim '62, 282; and Joe Wyatt '62, 280.

The rest of the squad showed promise but didn't get settled down until the latter part of the trip. They are: Joe Boling '64, Jerry Skinner '63, George Olah '64, Pete Hoffman '62, John Timoshenko '64, and Jim Bridgeman '64.

Skiers Win In Maine; Wessel, Aasnaes Lead In Slalom and Distance

MIT skiers scored impressive victories in two slalom meets at Sugar Loaf Mountain, Kingfield, Maine, Saturday and Sunday. MIT took the first five places Saturday in the Giant Slalom and five of the first six places Sunday in the 40 gates events.

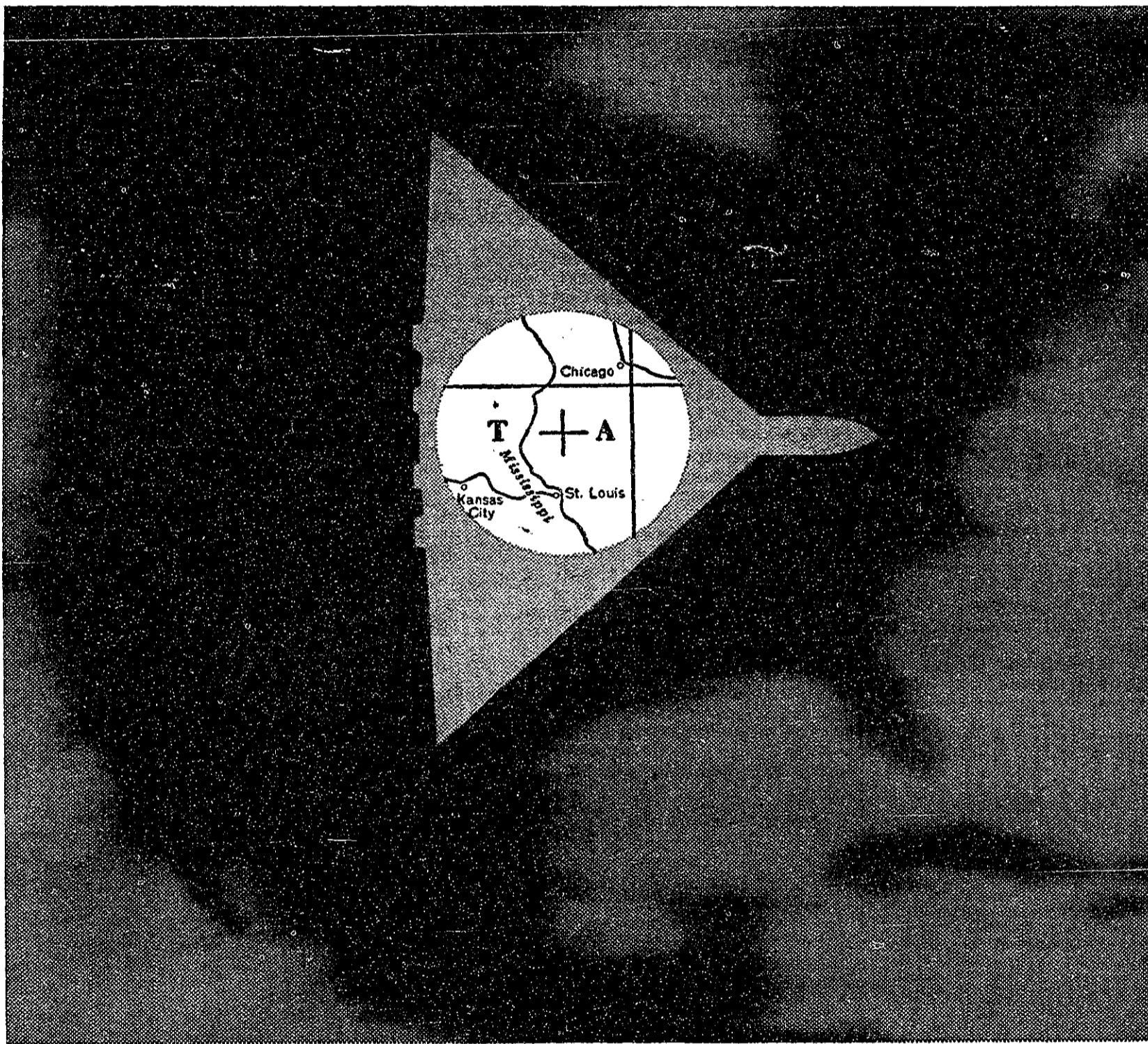
Henrik Wessel '64 led the MIT finishers in Saturday's slalom as rain and wind swept the course. Following were Georgio Emo '62, Peter Goldstern '62, Bent Aasnaes '63 and Captain Roberto Pececi '62. MIT's combined time (for the first four) of 246.5 seconds was a half minute better than Northeastern's. Then came Tufts, Boston College, Boston University and Bentley.

Sunday's competition consisted of two one-fourth mile runs, in which MIT was a 150 second leader over Northeastern, Tufts, BU and BC. Winning the event was Aasnaes with a combined time of 93.0 seconds. Emo placed second and Goldstern and Pececi took fourth and fifth.

Tech Hosts Boston Collegiate Track Meet

MIT will play host this coming weekend to colleges in the Boston area at the Greater Boston Collegiate Track Meet. Field events get underway on Friday evening, 7:00 P.M. at Rockwell Cage. The running events are Saturday at 2:00 P.M.

Due to limited seating, competing colleges have been allocated a set number of tickets. If you wish to attend, free tickets should be picked up in the Athletic Department office by 3:00 P.M. Friday, February 9. Admission by ticket only!



NEW MAP DISPLAY WILL SHOW PILOT WHERE IN THE WORLD HE IS

No matter what the weather, speed or altitude, an IBM navigational display being developed will let pilots find their positions on a moving map. With this new computer display for planes, a pilot will actually be able to see his position though the earth might be totally obscured by a cloud cover.

In developing this display, IBM engineers and scientists solved a unique combination of optical and photographic problems. They were able to produce map images with good resolution on the inside surface of a glass hemisphere. A beam of light illuminates a small section of this hemisphere and projects it onto a screen in front of the pilot. In flight, the computer controls rotation of the hemisphere, correlating it with the plane's supersonic progress and the rotating earth. This approach to a computer-controlled map display suggests further application in a space navigation system, where a star map might be used instead of a map of the earth.

People with backgrounds in the sciences, engineering and liberal arts all contribute to the success of projects like this. At IBM, ideas which create new products and systems can come from anywhere—from research, programming, manufacturing, and systems engineering. If you would like to work where your ideas can be as important as the ability to apply them to vital and exciting areas of development, you should consider the many opportunities at IBM.

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