



'Doc' Draper lifts a champagne glass on high to toast Draper workers at Apollo splashdown.

—Photo by Marc PoKempner

Inside This Week's Issue

"They really did it...and you were there" tells the story of the Apollo years on page 3.

MIT and ABC are collaborating on a series of six television documentaries entitled "What About Tomorrow." See story on page 8.

One critic called the present exhibit in Hayden Gallery "the most important show of late 19th century prints ever held in the United States." Another favorable review of the show is on page 8.

Dr. Wiesner's Christmas message to the community is on page 5.

The Report of the Independent Activities Period Policy Committee is included as a pull-out supplement in this week's paper.

Ancient Volcano's Lava Fills Lunar Landing Valley

Variations in local gravity measured by the traverse gravimeter built at MIT's Draper Laboratory and carried to the moon by Apollo 17 astronauts show that the valley floor where the spacecraft landed is filled to a depth of more than one-and-a-half kilometers with dense basaltic lava that flowed from some ancient lunar volcano.

Moreover, a sharp decline in gravity strength at the edges of the lava bed as measured by the MIT device have helped pinpoint the interface between the dense basalt that fills the valley and the lighter coarse-grained breccia from which the surrounding mountains—South Masif and North Masif—that comprise the walls of the valley are formed.

Sheldon W. Buck of Brookline, technical director of the traverse gravimeter experiment for

Draper Lab who was at mission control in Houston, Tex., during the three surface excursions, said the Apollo 17 astronauts obtained 21 different precision readings from the 28-pound device, the heart of which is a vibrating string accelerometer (VSA).

"Our instrument worked perfectly all three evenings," Buck said. "Of particular note was the fact that the temperature of the sensing element—the VSA—remained right on the nose. It never varied more than .005 of a degree centigrade during all three excursions."

With Buck in Houston supporting the experiment were four others from the Cambridge laboratory—Glenn Mamon of Chestnut Hill, Richard Martorana of Somerville, Robert G. Scott of Quincy and William Vachon of

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Guidance Brings Apollo Home To Cheers and Popping Corks

Cheers went up, speeches were made and champagne corks popped Tuesday afternoon at MIT's Charles S. Draper Laboratory as some 300 Lab workers crowded into a communications room to hear and see their guidance system bring the last of the Apollo astronauts home from the moon to a safe landing in the Pacific Ocean thousands of miles from Cambridge.

"This is a moment the like of which there will never be another," Dr. Charles S. Draper, founder and president of the Lab, told the assembled men and women following splashdown.

There was a time in the late 1950s, Dr. Draper said, when there was only a forlorn hope that the MIT Laboratory would have a chance to participate in the manned lunar landing program. The laboratory did receive the assignment to design, develop and program the on-board guidance, navigation and control systems for both the command module and the lunar module despite early skepticism elsewhere that such a difficult technical problem could be solved, Dr. Draper said.

"All I can say now is You did it," Dr. Draper said. "By all the gods, you did it."

The Apollo 17 command module slammed into the earth's atmosphere shortly after 2pm Tuesday, bored through a period of blackout due to atmospheric heating, and

deployed its parachutes to bring astronauts Gene Cernan, Ron Evans and Harrison Schmitt to a virtually perfect splashdown.

At drogue deployment, the display and keyboard portion of the on-board Draper system told

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Apollo 17: Alas, Few Heeded

(EDITOR'S NOTE: Victor K. McElheny of Cambridge, formerly of *Science* magazine and former science editor of *The Boston Globe*, is now a free-lance science writer. He has covered all manned flights to the moon and filed these thoughts for *Tech Talk* after the last one.)

By VICTOR K. McELHENY
Special to Tech Talk

HOUSTON, Tex.—The day men left the vicinity of the moon after four years of repeated Apollo explorations was a particularly cold and clear one here.

After a blazing sunset, the moon—a planet of surprises—shone with piercing brightness over the coastal plains around NASA's Manned Spacecraft Center here. On a half moon, the now familiar dark expanses of Tranquillity, Storms, Serenity and Rains stood out.

The sight was particularly vivid because, immediately after the crew of Apollo 17 began their ascent out of lunar orbit, they conducted a television tour of the receding surface—including extra-

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'the technological equivalent of St. Crispin's Day'

(Continued from page 1)

ordinarily clear views of the far side crater, Tsiolkovsky, and a long deep valley near the lunar south pole.

This lunar television retrospective had only been conducted once before, early one Saturday morning during Apollo 10. As before, the American people did not get a chance to see the tour they had paid for.

On Apollo 10, nobody was awake. On Apollo 17, all the key events, including three moon walks, occurred in prime evening time during the Christmas season. The result was a virtual blackout, except on Houston's public television channel.

The lack of attention to the last Apollo lunar mission sharply contrasted with the total involvement during Apollo 8's day in lunar orbit on Christmas Eve, 1968. It depressed many hardcore journalists who covered the Apollo 17 mission.

They and many others in Houston, and presumably the three astronauts in the spacecraft, doubted they would ever live so interestingly again. They had lived through the science story of the 20th Century, the one event for which this time will be remembered.

It was apparently no comfort to reflect that they had lived through the technological equivalent of St. Crispin's Day.

No law requires people to pay attention to what powerful groups think they should be interested in. Indeed, there is an inverse law, that people will tire of the subject if it becomes too official, too ponderously significant. The Apollo program became a prisoner of its own size and daring and grandeur.

As the missions grew longer and more productive, public interest waned, and the interest of journalistic organizations which presume to understand public taste waned even faster.

This was a great pity, because the mental experience of living on another world—made astonishingly immediate by television—grew deeper with every visit to the moon.

On Apollo 8, scores of millions could scan the lunar surface via a black-and-white television camera 70 miles up. To be sure, they had only James Lovell's word for it that the moon was essentially gray.

Orbital tours in color were a feature of several subsequent missions. They culminated in a spectacular 20-minute sweep

*This day is call'd the feast of
Crispian;
He that outlives this day, and
comes safe home,
Will stand a tip-toe when this day
is nam'd
And rouse him at the name of
Crispian.
He that shall live this day, and see
old age,
Will yearly on the vigil feast his
neighbours,
And say, Tomorrow is Saint
Crispian;*

*Old men forget, yet all shall be
forgot
But he'll remember with
advantages
What feats he did that day:*

*This story shall the good man
teach his son;
And Crispin Crispian shall ne'er go
by*

*From this day to the ending of the
world,*

*But we in it shall be
remembered—*

*We few, we happy few, we band of
brothers;*

*For he today that sheds his blood
with me*

*Shall be my brother; be he ne'er so
vile,*

*This day shall gentle his condition:
And gentlemen in England now
a-bed*

*Shall think themselves accurs'd
they were not here,*

*And hold their manhoods cheap
while any speaks*

*That fought with us upon Saint
Crispin's day.*

*W. Shakespeare
King Henry V, Act IV, Scene III*

across the tawny Sea of Serenity during the Today Show just before Apollo 15 was to land at Hadley Rille. That was the first and only time an earth viewer could see the moon from 10 miles up.

On Apollo 11, the flat plain of Tranquillity was seen through a relatively crude black-and-white television camera mounted on a tripod linked by cable to the craft in which Neil Armstrong and Edwin Aldrin had landed. In the bright sun of lunar morning, the white suits of the two men "bloomed" in a ghostly way.

Despite this superficial unreality, hundreds of millions of viewers could observe that the experience of being on another planet imposed a kind of exuberance that infected all the men's officially programmed exertions. The exuberance was typical of the 12 American men who explored the lunar surface.

The new environment was not remote or lonely or threatening. But it was different from what had been imagined. This became clear on the last three missions, when a color television camera could follow the astronauts on motorized rock-collecting rounds.

Instead of the jagged peaks painted by Chesley Bonestell in the Museum of Science in Boston, the cameras revealed huge white mountains whose edges had been softened by wintering processes of almost unimaginable duration.

The camera could wander over the scene while the astronauts worked, zooming southwest along Hadley Rille on Apollo 15, poking into the shadows of a house-sized boulder on Apollo 16, or catching sight of orange streaks in the soil of a small crater investigated on Apollo 17.

The camera could show the astronauts learning a new style of locomotion, laboring to drill holes for a heat flow experiment, or show the cables for a magnetometer arc lazily in one-sixth the earth's gravity field. It could show a crack in a boulder, or boot-prints in lunar dust, or even zoom up on the blue and white crescent of the earth.

On their lunar journeys, the astronauts interacted constantly and completely publically with the huge teams of flight controllers, engineers and scientists backing up their missions on earth. The cooperation among the astronauts and their supporters was of a new intensity, differing dramatically from the style of team work which has reached its ultimate cultural expression on the football gridiron. The astronaut's almost unfailing good humor and broad confidence offered at least some models for the complex social collaboration we need now and will need in the future.

JUST ATLANTA, AGAIN

They Really Did It . . . and You Were There

by Robert M. Byers

And now Apollo's over and you are a moon worker and you are remembering a little bit what it was like for them to get there, to achieve it, to really do it.

You remember seven or eight or ten or twelve years ago when you hired on and every now and then you would stand out in the backyard on a clear night looking at the moon wondering, maybe even doubting, but never telling anyone.

Those turned out to be the best years of your life...working on the moon project...the best years of your life, that is, if you count the work you do as a big part of your living.

You remember it all started officially in May, 1961, when President Kennedy gave his famous "In This Decade..." speech, but you never really heard him say it because you were at work that day and you never did read the whole speech, only snatches here and there. Nevertheless, it was a promise, a pledge, a goal and back then everyone felt good about it and wanted to do it and some people even said it was a substitute for war.

Most of all, perhaps, you remember the people you met and worked with and liked and fought with and made up with when the deadlines were met and how they behaved during the hundreds of little crises both you and they survived before we got to the moon and you wonder now if all of that was really necessary and you guess it was because it was people who got to the moon and that's the way people really are. Some even grew old and retired. Some died.

An endless sea of faces stretching back over a decade in time. Names lost in a welter of names. Words lost in a welter of words. So many words. Someone once said if we stacked all the paper in one pile we could climb on that to get to the moon and you believe it.

You remember the government people and the contractor people and how often they seemed so awfully wrong in what they wanted to do or what they wanted you to do and how they turned out not to be so awfully wrong some of the times and how you turned out to be wrong yourself sometimes—surprisingly—and how you never wanted to tell anybody about that, either. There were mistakes, but maybe that's the way it has to be when that many people do a job as big as Apollo. You remember the times when you thought maybe some of them were just trying to make an extra profit or protect their own backside and you wonder now how many times they thought that about you. And maybe that's the way it has to be when so many people do a job as big as Apollo, make a technological investment in the future of the kind Apollo is.

And you remember the meetings...endless meetings...big meetings...little meetings...meetings that never came off...in Houston...on the coast...in Florida...in Washington...and sometimes you forget where else.

You remember the trips in airliners that all seemed the same inside—fair weather, bad weather, holding patterns, missed connections—and you wonder why it is that some people think one airline

is different from another. And the airports that all seem the same and that time between planes when you were sitting in a waiting room and you suddenly couldn't remember where you were and when you checked your tickets you found it was just Atlanta again.

And you remember the boredom of the nights in all those other places away from home and how the neon lit honky tonk strips of restaurants always look and smell the same no matter where they are...California, or Florida, or Wisconsin or Long Island. And all this, you guess, it took to get to the moon, too, these pockets of technological humanity that grew up where there was nothing before—like the oil towns of the 20s and 30s. Hustlers. They were a part of it, too, but you still wish there had been time to look at redwoods, and aligators, and cheese factories and duck farms.

And this was the decade when the kids grew up. The kids you always thought justified your own existence and how things were going to be better for them and how you worried to beat hell for them about Vietnam and how some of them didn't turn out to be just exactly what you wanted them to be and how some of them turned out to be just exactly what you didn't want them to be. Moon children? They never seemed to doubt. Going to the moon for them was just as natural as the vitamin-enriched, fortified corn flakes they ate for breakfast...or artificial orange juice. And how you scrounged around for posters and buttons and booklets and pictures about the moon project to take home to the kids and how you once

got an astronaut autograph and how silly you felt about it and how the kids flipped.

Now it's over. You were part of an army of 300,000—maybe 500,000 counting turnovers and layoffs—working for 3,000 different contractors. And 12 Americans stood on the shoulders of the army and hurled themselves free of the earth and stood on the moon. They really did it.

You remember the neighborhood Christmas party last week and how a neighbor acquaintance said none of it was worthwhile, that there was nothing on the moon he wanted to know about, that the \$28 billion or so would have been better spent on earth and you wondered where he thought it got spent...on the moon? And you also remember how ape he went...and how ape everyone else went...in July of 1969 when Armstrong and Aldrin got there.

And you remember that some people say it was for this one thing...Apollo...that this day, this place, this generation will be rem-

embered through human eternity. You remember reading philosophers saying that the mind of man, the behavior of man, is shaped by his understanding of the universe in which he finds himself at any one time. How it changed him when he found out he's not the center of the universe. Will it change him now that he's left the mother planet?

They say Apollo is but the end of the beginning of the space age and you know it's true. But for now, Apollo...sending men to the moon...is over. They really did it and it's done.

(Robert Byers, former science reporter on The Denver Post and now director of the news office at the Massachusetts Institute of Technology, came to MIT in 1960 when the Charles S. Draper Laboratory was just beginning design and development of the on-board guidance systems that eventually steered Apollo astronauts to the moon and back with unfailing accuracies.)

Faculty To Meet

The faculty will hold its regular monthly meeting today, December 20 at 3:15pm in Room 10-250.

The agenda for today's meeting includes a discussion of a proposed Engineering School degree in environmental engineering; a report of the Committee on Outside Professional Activities; a report of the Committee on Educational Policy on a Discipline Committee matter; and a report of the Standing Committee on the

Special Laboratories.

Also scheduled for the meeting is an initial discussion of the future of IAP; a discussion of issues with regard to the regulation of smoking; and remarks by the President.

The Report of the Independent Activities Period Policy Committee to the Committee on Educational Policy is included as a supplement to this week's paper.



Ashdown dining room closes today, December 20, and Loki, a well-known resident St. Bernard, indicates he will miss the snacks he used to receive from diners exiting from lunch. (He likes meat best, of course.) Because he is a cold-weather dog, Loki is named after the Norse god of mischief and fire. Now

six years old and a trim 135 pounds, he is the companion of Miss Joan Friebley, editor of the IAP Guide, who reports that Loki has been to six universities and (apropos of Ashdown) "to some of the best restaurants in the country."

—Photo by Marc PoKempner

\$10,000 AIAA Prize

Taylor Receives Goddard Award

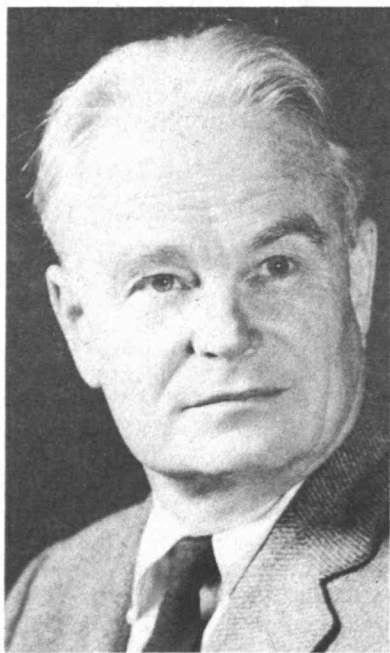
Edward S. Taylor of Lincoln, professor emeritus of flight propulsion in the Department of Aeronautics and Astronautics at MIT, has been selected to receive the \$10,000 Robert H. Goddard Award of the American Institute of Aeronautics and Astronautics for contributions to aircraft propulsion systems.

Announcement of the award to Professor Taylor, for 22 years director of the MIT Gas Turbine Laboratory founded by Professor Emeritus C. Richard Soderberg, means that MIT people will receive three of the top AIAA awards at the AIAA's ninth annual meeting in Washington, D.C., Jan. 10.

Earlier, David G. Hoag of Medway, and Dr. Richard H. Battin of Lexington were named co-recipients of the AIAA's \$10,000 Louis W. Hill Space Transportation Award for their leadership in the design, development and programming of the Apollo guidance and navigation system at MIT's Charles Stark Draper Laboratory.

In addition, Dr. Sheila E. Widnall, associate professor of aeronautics and astronautics, was named the recipient of the AIAA's Lawrence Sperry Award for contributions to the understanding of vortex flows in wing wakes, aerodynamic noise and lifting surface theory.

Professor Taylor will be honored "for continuous and successful contributions to the advancement of the art and science of air-breathing propulsion over a period of 45 years as designer, inventor, researcher, teacher, advisor, and as founder and leader of a major educational and research center of aircraft engine activity."



Professor Taylor.

Professor Taylor's early contributions were in aircraft engine vibration research. He developed the dynamic vibration absorber later used on all high-powered aircraft engines employing propellers.

He was graduated from MIT in 1924, spent two years with the Wright Aeronautical Corp., then returned to MIT as an instructor. During World War II he was a member of the Jet Propulsion Subcommittee of the National Advisory Committee for Aeronautics.

The turbine—or jet—engine is a technological outgrowth of World War II and it was in 1946 that Professor Taylor established MIT's Gas Turbine Laboratory to serve both the Department of Aeronautics and Astronautics and the Department of Mechanical Engineering. He became emeritus professor in 1968.

Development Foundation Names Two Directors

Clint W. Murchison, Jr., and Edward F. Neild, III, have been elected as directors of the MIT Development Foundation, Inc.

Announcement of the appointment was made by President Jerome B. Wiesner.

Earlier this year the Executive Committee of the MIT Corporation had also elected as directors of the Foundation: Dr. Albert G. Hill, vice president for research; Carl M. Mueller, managing partner, Loeb Rhoades & Company, New York; Samuel W. Bodman, vice president for corporate development, Fidelity Management and Research Company; and Richard

S. Morse, president of the MIT Development Foundation.

Mr. Murchison, a member of the MIT Corporation, is a partner in Murchison Brothers of Dallas, Texas. Mr. Neild is senior vice president and director of Blyth Eastman Dillon & Co. of Chicago, Illinois.

The MIT Development Foundation is a private, charitable corporation controlled by MIT and operating to further understanding of technology transfer through research, teaching and active participation in the formation of new enterprises. The Foundation was established by the MIT Corporation earlier this year.

Dining Service Announces Reduced Holiday Service

The Institute Dining Services will operate on a reduced schedule during the Christmas holiday.

Dining halls in Baker House, McCormick Hall and MacGregor House will close after dinner on Wednesday, December 20. Commons will resume on Monday, January 8.

Beginning Thursday, December 21, Lobdell Dining Room in the Student Center will serve breakfast, lunch and dinner Monday through Friday. However, Lobdell will be closed on December 25 and January 1.

Walker Memorial Dining Hall will serve breakfast, lunch and dinner on Thursday and Friday, December 21 and 22. Closed over

the Christmas weekend, Walker will reopen on Tuesday, December 26, 9:30am to 2pm serving continental breakfast and lunch. Pritchett Lounge in Walker Memorial will be closed from Wednesday, December 20, until Monday, January 8.

Twenty Chimneys, the grill on the third floor of the Student Center, will be closed Tuesday, December 25 through Friday, December 29. It will be open for business on Saturdays, December 23 and 30, from 8am to 8pm and on Sundays, December 24 and 31, from 9am to 8pm. Twenty Chimneys will resume its daily 8am to 1am hours on Saturday, January 6.

Lose Something? See Campus Patrol

The Institute's Lost and Found department will be located in the Campus Patrol headquarters in Building W31, effective January 1.

Boxloads of lost and found articles—books, clothing, umbrellas, wallets, cameras, eyeglasses, jewelry, etc.—will be moved to Campus Patrol from their long-time home in Physical Plant.

"Physical Plant started Lost and Found years ago when janitors began collecting items left in classrooms and corridors," Howard Miller, assistant to the director of Physical Plant, said. "At the time, Physical Plant was centrally located in Building 3 and seemed to be the logical place for a Lost and Found department."

"This is no longer true," he continued. "Now people tend to report lost and found articles to Campus Patrol, particularly if the items are valuable. To be effective, Lost and Found has to be in one location, so we're consolidating our efforts."

Not only is Campus Patrol more centrally located than Physical Plant's present Ford Building (E18) headquarters, but Campus Patrol is also better equipped to deal with Lost and Found. The Patrol actively tries to match lost and found items with their proper owners.

One problem with Lost and

IEEE Elects Five from MIT

Provost Walter A. Rosenblith was one of five MIT electrical engineering professors elected Fellows of the Institute of Electrical and Electronics Engineers, the IEEE announced last week.

Professor Rosenblith received the professional distinction "for contributions to the quantification of sensory and neural functions and for professional and educational activities linking engineering and living systems."

Dr. Michael Athans was elected a Fellow "for contributions to the theory and application of optimal control and estimation."

Dr. Jack B. Dennis received the award "for contributions to the design of memory systems research and education contributions in the computer field."

Dr. Murray Eden was honored "for contributions in the application of technology to the health sciences."

Dr. Leonard A. Gould was elected a Fellow "for contributions to the theory and design of process control systems and engineering education."

buried under Physical Plant listings in the telephone book—and very few visitors or Institute personnel logically connect Lost and Found with Physical Plant."

To alleviate confusion, Lost and Found will be included in the new Institute directory under Campus Patrol as well as under its own heading.

Beginning January 1, all lost and found items should be reported to Campus Patrol, Building W31, Ext. 3-2996.

Perry Accepts CAB Position

August Perry, resident engineer in Physical Plant, is taking a year's leave of absence from the Institute to assume a new post as executive director of the Contractors Association of Boston (CAB).

Mr. Perry has been a resident engineer at MIT for the past two and a half years and has served as affirmative action coordinator on several of the Institute's construction projects, including Westgate II and the electrical engineering building. He has also served as contractor compliance officer for MIT's Housing Program in Cambridge, a low-income housing program for the elderly.

As executive director of the CAB, Mr. Perry will oversee the organization's 67 member minority group construction firms. Organized in 1965 to aid minorities contractors, the CAB has supervised a combined \$12 million business in the past 23 months.

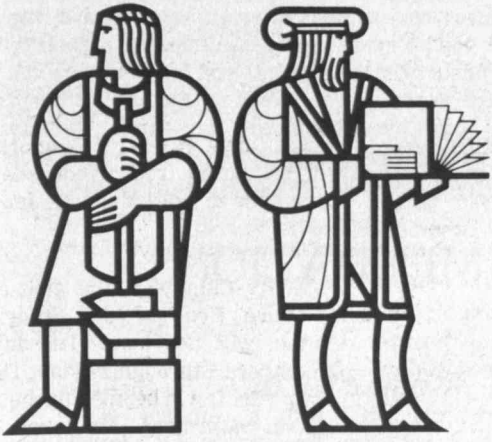
Mr. Perry sees the CAB as "an important vehicle in the minority community. It is important for the CAB to gain the city's confidence so that CAB contractors can compete with white contractors."

A graduate of the Engineering Construction School at Fort Belvoir, Virginia, Mr. Perry is a 22-year veteran of the Army Corps of Engineers. He and his family reside in Randolph.

IPC Reminder

The Information Processing Center reminds its subscribers that remote input and output facilities are available on East Campus.

Along with DATA 100, which provides the remote job entry and listing capability, the IPC offers some keypunch and time-sharing consoles in the basement of Building 52. The East Campus facility is open from 9am to 9pm on weekdays in Room 52-083.



REPORT OF THE INDEPENDENT ACTIVITIES PERIOD POLICY COMMITTEE

Members:

Charles E. Barringer
Robert H. Cook
Robert S. Freeman
Malcolm M. Jones
Victor M. Maslov
Louis Menand III
John R. Munkres
William P. Orchard
Joel Orlen
Steven R. Tannenbaum
Kenneth R. Wadleigh
Kent F. Hansen, Chairman

Submitted to the
Committee on Educational Policy
December 13, 1972

The CEP herewith transmits to the Institute faculty, for initial discussion at the December 20 faculty meeting, a Report of the IAP Policy Committee. Definitive action on the IAP experiment will be called for at the February meeting, and at that time the CEP will present to the faculty its specific advice with regard to the recommendations contained in this Report. At this stage, however, we wish only to commend this carefully prepared document to the faculty's closest attention.

Although the hard work of monitoring the experiment and putting together the report has been done by the IAP Policy Committee itself, the CEP has had a continuing interest in their labors and has held several joint discussions with the chairman, Professor Kent Hansen, and other members of his group. Besides serving to keep the CEP well informed, these sessions have made it possible for the IAP Policy Committee to consider particular suggestions from members of the CEP, some of which have been incorporated in the Report.

Because of Catalogue deadlines which necessitate a decision in February, the IAP Policy Committee has thought it best to issue its report now, so that the CEP and the faculty will have sufficient time to form a judgment. But both committees recognize that a fully informed faculty action on this matter cannot be taken until the third IAP—that of this coming January—has been experienced and in some measure assessed. It is partly for this reason that the CEP plans not to make its own final recommendations until February. Equally important, however, is the need to insure that all interested persons and groups have an opportunity to make themselves heard. We urge strong faculty participation in this effort, through attendance at the December and February faculty meetings and/or individual communication of sentiment to the CEP.

SUMMARY OF RECOMMENDATIONS

1.1 Principle Recommendation

We recommend that the faculty continue the "4-1-4" calendar, with a January Independent Activities Period, as the regular academic calendar of the Institute.

In order to implement the above recommendation we propose the following policy and administrative recommendations pertaining to the IAP.

1.2 Policy Recommendations

1.2.1 Academic Credit

We recommend that students have the option of receiving academic credit for subjects taken during the IAP at the discretion of the instructor. The limit on the total amount of credit hours a student may receive during any one IAP will be six hours, with the following exceptions:

- (a) A student may obtain twelve hours of credit, concentrated in one subject, with the approval of the chairman of the department in which the student is earning credit.
- (b) A student wishing to earn more than six credit units, in circumstances not covered by item (a) above, must petition the Committee on Curricula for permission to receive more than six units. The decision of the Committee on Curricula will be final.

1.2.2 Grades

Credit awarded for subjects taken during the IAP will carry the grade of "P" (pass) in the student's records. Limitations in credit or grade apply only to subjects taken during the IAP and do not apply to completion of incompletes of thesis credit.

1.2.3 Credit Transfer

Requests for academic credit earned at other Universities during the IAP will follow the already established procedures for credit transfer.

1.2.4 Tuition

Full-time students for the fall and/or spring semester may participate in the IAP with no additional tuition.

1.2.5 Employees

Employee participation in IAP will be governed by the same rules and regulations that apply to their participation in academic activities during other times of the year.

1.2.6 Student Exchange

Tuition free "one-for-one" student exchanges between MIT and other Universities may be arranged through the appropriate offices at each school.

Students from other schools wishing to attend MIT during the IAP must apply for admission as "January Special Students." Application and admission will be handled by the admissions office. January Special Students will be admitted for specific subjects rather than as special students at large.

A minimum charge will be required which will cover minimum tuition, fees and insurance. For students wishing to earn more than the minimum credit, additional tuition may be charged.

1.2.7 Faculty and Departmental Responsibilities

Faculty obligations during the IAP are no different from those during the rest of the academic year. Academic-year appointments run from September 1 to May 31; faculty members are expected to be on hand and available to students during January, just as they are during the rest of the academic year.

Faculty advisors are expected to inform themselves about IAP activities and be able to assist students in planning for their participation in IAP.

Each department has the obligation to offer a variety of activities sufficient to meet the needs and desires of those students who wish to study, read, do research, etc., under that department's auspices during IAP.

1.3 Administrative Recommendations

1.3.1 IAP Policy Committee

We recommend that an IAP Policy Committee, composed of representatives from each department, laboratory, and other interdepartmental centers be created. This committee will be responsible for coordinating plans for the IAP. The committee should be chaired by a representative of the Provost's Office.

INTRODUCTION

2.1 Committee Background and Responsibilities

The academic calendar was modified, by vote of the faculty, in the spring of 1970 to allow for the creation of IAP. The calendar modification was a three-year experiment sponsored by the CEP. The objectives of the new calendar were:

1. The elimination of the January "lame-duck" period.
2. The easing of the between-semesters rush for academic and administrative problems.
3. The provision of some amount of "fallow" time, to be used by students and staff for study and research at a more leisurely and independent pace.
4. The provision of an opportunity for flexibility in learning and teaching styles.

The CEP subsequently appointed two subcommittees, one for planning and administration, the other for the evaluation of the IAP during its first year. After the first IAP, in January 1971, the evaluation subcommittee reported to the CEP on March 25, 1971. The subcommittee report recommended, among other items, that the present IAP Policy Committee be established. The recommendation was adopted and the Policy Committee created in the spring of 1971.

The responsibilities of the committee are fourfold:

- resolve policy matters arising during the three years of the IAP experiment.
- continue the evaluation of the IAP for the purpose of deciding if it should become a permanent feature of the academic calendar.
- prepare recommendations on whether or not the IAP should be continued and on what basis.
- keep the CEP informed of the Committee's findings and options.

2.2 Committee Activities

The Policy Committee prepared and distributed a "Policies and Procedure" statement regarding the IAP

in the fall of 1971 and 1972. The statement was issued to help the teaching staff understand the ground rules under which the IAP was conducted.

Representatives of the Policy Committee met periodically with the CEP to keep it informed on the evaluation, and the Policy Committee's activities.

In order to carry out the evaluation of the IAP, the Policy Committee adopted the criterion formulated by the CEP subcommittee on IAP evaluation. This criterion recognized the difficulty in establishing quantitative measures of an educational experiment, except in terms of personal satisfaction of the individual participants. Accordingly, we followed all the precedent established by the initial evaluation committee in gearing our information gathering to measuring the degree of satisfaction participants felt over their activities during the IAP. Our questionnaire was somewhat modified from that used after the first IAP in order to allow the asking of questions comparing the second IAP with the first. In addition to the statistical analysis of formal questionnaire results, we reviewed the written comments accompanying the questionnaires, and conducted interviews with a number of appropriate campus groups (e.g. Dean of Students, Medical Dept., etc.) after the IAP had ended.

In order to formulate our recommendations the committee used the results of the evaluation, as well as the experiences of the IAP Planning Committee. The Planning Committee was composed of representatives of the Provost's office as well as the department coordinators. In the fall of each year the planning committee met to inform department coordinators of their role, and to discuss the schedule of events leading up to the forthcoming IAP. After the IAP, and the data-gathering activities, the planning committee and policy committee held a joint meeting to discuss the experience. The meeting was an important source of commentary on the IAP, of real or potential problems, and suggestions for improvements.

PROFILE OF IAP ACTIVITIES

Our best records are for IAP72. Over 625 activities were announced in the two Guides; one issued in mid-November and the other in mid-December. As far as we can tell less than 10 percent had to be cancelled for lack of interest. Many activities were oversubscribed; some activities had to turn away large numbers (Urban Studies activities involved 300 students and turned away 250), while other activities with a limit of only a few students must be judged equally successful. For example, a study of *Moby Dick* interested four students, which the instructor thought just right. A shop course in Nuclear Engineering had space for ten, found a way to accept 14 and turned away five others. The following list of a variety of IAP activities shows typical attendance figures for each:

Power Boat Basic Seamanship: 25 (employee sponsored)
Student Art Association Activities: 85 (more than capacity)
Lasers in Aerospace Research: 25
Soaring Ground School: 11
Assembly Language Programming: 35
Various Athletic Programs: 300
Winemaking and Fermentation: 20
Oral Technical Communication: 10
Chemical Engineering in Medicine and Biology: 35
Evolution of the Earth: 60
Electronic Components and Measurements: 111
Advanced Fortran: 28
Yoga: 36
Metallurgy of Nippon-To: 30
Four World Views Through Film: 150

Offerings given by Departments, Centers or Laboratories are listed in one section and activities given by students and employees independent of such regular administrative units are in another section. Each of these sections are further subdivided under the headings that describe the kinds of activity being offered. These include Minicourses, Lectures, Seminars, Laboratories and Workshops, Individual Study and Research, Field Trips, "How To," and a miscellaneous category called "Exotica." A few activities are multi-departmental, the most outstanding example being the Energy Week of IAP72, which involved faculty and students from engineering, science and the social sciences, and the Women's Forum, which involved faculty, students and staff as well as wives of male members of the MIT community.

Still another type of activity which seems to take fullest advantage of the IAP spirit is the intensive language program. For example, the German House at which students lived and ate German for three and a half weeks.

All forms of plastic arts, music and crafts were evident among the pursuits of IAP, and somewhat surprisingly the response to a course on cacti proved there is a great interest in the MIT community in plants. A browsing library near the lobby of Bldg. 7 proved immensely popular, and a do-it-yourself auto-repair shop is among several IAP projects that have led to permanent additions to the MIT scene.

IAP73 is continuing in the same manner, with the usual amount of "regular" academic courses mixed with the unusual: a trip to South America to study volcanoes, "Great Experiments in Electricity," a course on what people eat—and shouldn't eat, "the marvelous honey-bee," "madness in literature and medicine," "the study of disaster relief," glassblowing, and many, many more. The hugely successful course in outdoor medicine that was offered last year is being offered again, as are the Urban Studies offerings. The second Guide to IAP for IAP73 will have about 500 activities offered—just slightly below the amount last year.

ANALYSIS OF DATA

4.1 Analysis of Responses

Responses to the questionnaires circulated after the 1971 and 1972 IAP's are reviewed briefly in this section. Complete statistical results were submitted to the CEP in the spring of 1971 and 1972, and copies are available for those desiring to examine them. In Appendix A we include copies of the questionnaires with a graphical summary of selected results.

4.1.1 Faculty Response

The level of faculty response to the IAP questionnaire in both years (60 percent in 1971, 62 percent in 1972) indicates substantial interest in IAP and lends credence to the reliability of the data gathered.

In 1972, after the experience of two IAP's 81 percent of faculty responding found IAP to be personally beneficial, and 86 percent had the impression that the students had found the experiment useful or satisfying. The response to the question regarding the benefits of IAP to the Institute as a whole brought a somewhat less enthusiastic result, with 65 percent in favor, 22 percent undecided and 11 percent opposed. Analysis of the response to this question by faculty rank revealed senior faculty to be most skeptical (professors 53 percent favorable, associate professors 64 percent) and junior faculty to be most enthusiastic (assistant professors 81 percent favorable, instructors 77 percent).

During both IAP's the typical (85 percent) faculty member of any rank spent 75 percent or more of his time at the Institute. Of that time, 66 percent was spent in teaching or research in his usual area of concentrations, 16 percent in other MIT activities (committees, etc.), and about 18 percent in activities outside his area of concentration or not related to MIT.

In spite of the relatively small percentage of time spent by faculty in "independent" activities during IAP, over 60 percent perceived the IAP as providing them with the opportunity to do so.

4.1.2 Student Response

The level of student response to the IAP questionnaire fell from 50 percent in 1971 to 39 percent in 1972. This is puzzling since there was no evidence from any source indicating a decline of enthusiasm for IAP among students. On the contrary, the students who did respond to the questionnaire were overwhelmingly in favor of continuing IAP. We conjecture that the decline in response was caused by the students' acceptance of IAP as part of the academic calendar, and no longer a novel experiment to be analyzed and evaluated.

Ninety-one percent of students returning the questionnaire felt the IAP to be personally beneficial and 89 percent felt that it was a good idea for the Institute as a whole. In comparing the 1972 IAP with that of 1971, 49 percent of students responding felt the second IAP to be more satisfactory than the first, 42 percent found both IAP's to be equally satisfactory, and 7 percent thought the second IAP was less satisfactory than the first.

A significant number of students spent the major part of their time (75 percent or more) on campus during both IAP's. For undergraduates the figure for both years was about 70 percent. For graduate students the figure was 87 percent.

The pattern of student activities in both IAP's was remarkably consistent. Undergraduates devoted roughly 38 percent of their time to academic activities (almost evenly divided between for-credit and not-for-credit), 13 percent to jobs and 49 percent to other activities (principally rest and recreation). Graduate students, on the other hand, spent about 75 percent of their time on academic activities (mostly thesis research), with 3 percent devoted to jobs and 22 percent to other activities. Overall, students indicated moderate to high satisfaction with their pursuits during IAP, the outstanding exception being a fair amount of dissatisfaction over having to spend time completing fall term incompletes.

CONCLUSION AND RECOMMENDATIONS

5.1 IAP Evaluation

It is clear from all the evidence available that the IAP does indeed meet the objectives mentioned in section 2.1. This conclusion is supported by the response to the questionnaires, which was very high, both by students and faculty in both 1971 and 1972. In addition, the many discussion held with various groups, particularly the coordinators, indicated a widespread endorsement of the IAP.

It is obvious that the 4-1-4 calendar eliminates the January "lame-duck" period, by virtue of completing the fall semester in December. Furthermore, the long Christmas vacation provided adequate time to complete the academic and administrative details associated with the end of semester. No serious administrative problems are created by the IAP itself.

Under the 4-1-4 calendar the Christmas vacation is a genuine vacation, without the pressure of impending finals. Students can return to the Institute without continuing commitments and use the IAP for whatever personal goal they wish. In particular, opportunities for independent study, research and/or other activities are available. The IAP certainly allows for flexibility in the form and nature of the student activity.

The discussions in section III and IV, illustrate the great variety of activities undertaken during the IAP, as well as the satisfaction of the participants with these activities. Detailed information on both the activities, and participant response are on record.

5.2 Calendar Matters

We conclude that the IAP is worthwhile and that the academic calendar should continue to provide for it. We believe the present calendar is a satisfactory means of providing for the IAP.

A number of suggestions have been made concerning possible changes in the calendar. We discuss some of these below.

Begin the fall semester earlier. One possibility, for instance, would be to schedule registration day for the Wednesday following Labor Day instead of the Monday five days later. Such a change would lengthen the first semester (which has 66 class days), thereby easing what is felt as the "rush to finish before Christmas." The main disadvantage of such a plan is that it would force Freshman Orientation/Residence week to begin well before Labor Day—freshman advisors would have to take up their duties before Labor Day; students who live in fraternities would have to be back earlier to prepare for Residence week; and so on. The inconvenience seems to us to outweigh the benefits.

Shorten the IAP. The IAP was intended partly to serve as a break between semesters and to allow the student time for independent and unstructured work. Shortening it by a few days would not seriously affect this purpose. However, IAP was also intended to allow a student who wishes to do so to tackle a more substantial project, such as a piece of research or even a regular 12-unit subject taught in concentrated form. Not many students choose such a stiff program, but we feel it should be one of the options available. Cutting the length of IAP below the present three and a half weeks would make the feasibility of such a project marginal.

Shorten the academic year so as to leave more time between final exams and commencement. This suggestion has been made by the Registrar, whose office has serious difficulty in doing all the grade processing necessary in order that graduating students can be awarded their degrees on the Friday following final exams. We are opposed to this suggestion on the grounds that the educational activities of the Institute should not take second place to the ceremonial activities except in extreme necessity. In the present case, it seems to us that a slight postponement of Commencement, from Friday to the following Monday or Tuesday, would serve the needs of the Registrar without disrupting the academic year.

Put the IAP at the end of the year, in May. In our opinion, this change would eliminate the IAP as we know it, and we are opposed.

5.3 Recommendations

As a result of the favorable outcome of the experiment we make the following principal recommendation.

4.2 Review of Qualitative Factors

The committee met with numerous groups to ascertain whether or not there were any serious administrative and/or academic problems created by the IAP. In general there was a favorable attitude toward the experiment and no evidence of unanticipated problems.

We also encouraged the students and faculty to use the questionnaire to record comments on the IAP. Student comments were overwhelmingly favorable. Faculty comments were nearly evenly divided and we include some examples of faculty comments in Appendix B.

We recommend that the faculty continue "4-1-4" calendar, with a January Independent Activities Period, as the regular academic calendar of the Institute.

If the above recommendation is adopted, then it will be necessary to adopt certain other policies which are germane to the administration and operation of the January period. These satellite recommendations fall in the category of policy and administrative recommendations.

5.3.1 Policy Recommendations

A. Academic Credit

We recommend that students have the option of receiving academic credit for subjects taken during the IAP at the discretion of the instructor. The limit on the total amount of credit hours a student may receive during any one IAP will be six hours, with the following exceptions:

(a) A student may obtain twelve hours of credit, concentrated in one subject, with the approval of the chairman of the department in which the student is earning credit.

(b) A student wishing to earn more than six credit units, in circumstances not covered by item (a) above, must petition the Committee on Curricula for permission to receive more than six units. The decision of the Committee on Curricula will be final.

B. Grades

Credit awarded for subjects taken during the IAP will carry the grade of "P" (pass) on the student's records.

Limitations in credit or grade apply only to subjects taken during the IAP and do not apply to completion of subjects or thesis begun in the fall semester.

It is imperative that some allowance for academic credit be available during the IAP so that students attending under the GI-Bill may be certified, and thereby

receive their benefits. Once it is agreed that a certain fraction of the students be allowed to obtain credit during the IAP, it is clear that credit must be available to all students, else we create two classes of students and are open to serious charges by the V.A. of misrepresentation.

The limitations on credit are suggested in order to avoid making the IAP appear as "business as usual." In order to foster a spirit of independence and freedom from constraint, we believe credit should be kept in a low-profile status. We hope to avoid the IAP becoming a "credit race" among students, else the very nature of IAP will be destroyed.

On the other hand we recognize that exceptional cases to the credit limit may exist and we have tried to formulate a flexible policy, satisfying legitimate academic goals.

We feel that letter grades for IAP subjects would tend to create the image of competition and intensity characteristic of the regular semesters. Consistent with the limitation on credit we believe that all credit should receive only the grade of P(pass), or else no credit be granted, and no record of the students enrollment be maintained.

C. Credit Transfer

Requests for academic credit earned at other Universities during the IAP will follow the already established procedures for credit transfer.

D. Tuition

Full-time students for the fall and/or spring semester may participate in the IAP with no additional tuition.

We suggest that the IAP be considered as an integral part of the academic year, and that all regular students be permitted to take part without additional tuition.

For part-time and special students somewhat special rules should apply. The admissions and registrar's office has evolved a policy which we consider satisfactory and review below.

The admissions office will monitor all special student registration for credit in IAP under the following general ground rules:

- (a) full-time specials in fall term permitted to participate in IAP at no extra charge.
- (b) full-time specials coming for first time in spring term may be permitted to participate in IAP at no extra charge.
- (c) part-time specials can be admitted for IAP credit if they pay appropriate unit cost and if classes have capacity.

E. Employees

Employee participation in IAP will be governed by the same rules and regulations that apply to their participation in academic activities during other times of the year.

F. Student Exchange

Tuition free "one-for-one" student exchanges between MIT and other Universities may be arranged through the appropriate offices at each school.

Students from other schools wishing to attend MIT during IAP must apply for admission as "January Special Students". Application and admission will be handled by the admissions office. January Special Students will be admitted for specific subjects rather than as special students at large.

A minimum charge will be required which will cover minimum tuition, fees and insurance. For students wishing to earn more than the minimum credit, additional tuition may be charged.

The "one-for-one" exchange is a very rare occurrence but we feel it is worthwhile allowing for such an event. The Foreign Study Office has served in the role of administrator for the past three years and we recommend it continue as the appropriate office at MIT.

The administrative procedures for special students are well developed, and are easily carried over to "January Special Students." The application, admission, and fee policies are consistent with the present policies regarding special students.

G. Faculty & Departmental Responsibilities

Faculty obligations during the IAP are no different from those during the rest of the academic year. Academic-year appointments run from September 1—May 31; faculty members are expected to be on hand and available to students during January, just as they are during the rest of the academic year.

Faculty advisors are expected to inform themselves about IAP activities and be able to assist students in planning for their participation in IAP.

Each department has the obligation to offer a variety of activities sufficient to meet the needs and desires of those students who wish to study, read, do research, etc., under that department's auspices during IAP.

5.3.2 Administrative Recommendations

A. IAP Policy Committee

We recommend that an IAP Policy Committee, composed of students, faculty, and staff, be established to deal with policy matters and the continued evaluation of IAP.

We believe that the IAP should be continually examined and evaluated, albeit at a lower level than during the experimental period. Particular attention should be given to changing trends in students' participation and the number and nature of activities offered. We feel that this committee should report at frequent intervals to the CEP and/or the faculty on its findings.

We expect that some of the policy matters recommended herein may have to be changed with time. Concurrently we expect that new policy issues may arise from time to time. There should be a body available to deal with these matters.

The committee should be composed of faculty and staff, appointed by the President, as well as student members. The faculty component should consist of three members, serving staggered three-year terms. The staff component should consist of the chairman of the planning committee (see below) as well as other members, as needed. Student members should serve for at least one year. If sufficient student interest exists, there should be two undergraduate student members, and one graduate student member.

B. IAP Administration

We recommend that responsibility for the IAP administration rests in the office of the Provost.

Officially the administration of the IAP, so far as the detail planning and the day-to-day operation of the program goes, should reside in the office of the Provost. However, to help avoid the "stale" flavor an activity

develops if continually carried out by the same person or group, the Academic Council should ask a department head each year to recommend a member of his administrative staff who might aid with the IAP planning and operation for a potential two years. The first year he would "understudy" to learn the general methods and plans which must be laid. The second year he would take over the lead administrative role with support coming from his new understudy. This method was tried this year for the first time, and its success must still be measured. However, the general concept does seem to have merit. It is recognized that almost all the burden for the IAP planning falls during the first term which is also when departmental administrators are faced with the preparation of the annual academic budgets, but it is hoped that with proper advance planning this rotation scheme will work and will be advantageous to both the continued vitality of the IAP and the career of the respective administrators.

C. IAP Planning Committee

We recommend that an IAP Planning Committee, composed of representatives from each department, laboratory, and other interdepartmental centers be created. This committee will be responsible for coordinating plans for the IAP. The committee should be chaired by a representative of the Provost's office.

The coordinator system for communicating IAP plans to the community, as well as for gathering activity information has been highly successful. This method should be continued, with each department head and laboratory director being responsible for selecting the person to represent and work with their colleagues in developing IAP plans. What could have been a complex and widespread communications problem has been greatly eased via the coordinators and their ability to work quickly and fully within their own department.

Special space scheduling problems seem to attach themselves to the IAP. The Schedules Office, under the registrar, has handled these problems in different ways each year of the experiment. Now that the IAP is becoming a part of the permanent academic calendar, it seems clear that this scheduling need also become a part of their permanent work load. That office should arrange its staffing and priorities so as to be able to respond to the

IAP space requests all through the fall term of each year. That approach allows IAP participants the flexibility to plan ahead and not find themselves with unanswered questions regarding location, as their other plans solidify. It also helps eliminate an overwhelming load being tackled at a single shot forcing temporary, less competent help to make the decisions. Late scheduling also greatly increases communication problems which can and have added an atmosphere of confusion to the IAP guide. The constant help and active support of the Schedules Office is a basic requirement of a successful IAP each year.

Each year some form of publicity must be generated to inform the MIT community as to what is being offered. In its simplest and most basic sense this listing must be designed to do the job that the General Catalogue does for the regular academic subjects. It has been a successful plan in past years to hire a publications team to concentrate on the design and issuing of the IAP Guides. It is recommended that the system be continued, with the specific hiring being done by the Provost's Office in conjunction with the Office of Institute Information Services. The work of the team will then be coordinated in a general way through the IIS with day-to-day supervision coming as part of the operation out of the Provost's office.

During the past IAP's the individual departments and laboratories have worked into the operating budgets, funds for support of the activities carried out there. Few problems have arisen in this regard as all have understood and have planned in a way which at least met their immediate need. However, the IAP operating group should have funds available to it for several aspects of the program. These funds have been a part of the budget of the Vice President, and should now become a permanent line item in the budget of the Provost.

- 1. \$1,000 for general operating costs: paper, xerox, special communications, supplies, etc.
- 2. \$9,000 for publications and related expense items: IAP guides, posters, special personnel for editorial and art, etc.
- 3. \$10,000 grant kitty: These funds are to be disbursed by the IAP Policy Committee. The committee will evaluate requests for these special funds, and award is made based on appropriateness, uniqueness and demonstrated need. From experience it seems that these funds fill a badly needed financing gap which greatly adds to the vitality of the entire IAP.

Appendix A Student & Faculty Questionnaires and Sample Results

STUDENT EVALUATION OF 1972 INDEPENDENT ACTIVITY PERIOD

Please help us evaluate the Independent Activity Period (IAP) by filling out this brief questionnaire and returning it in the enclosed envelope to the Committee at E19-324. Since the new calendar is still an experiment, your feedback is essential for its evaluation.

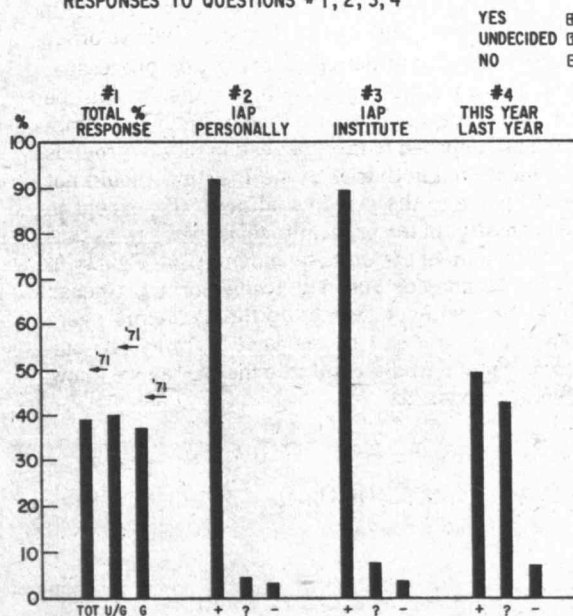
1. PLEASE FILL IN APPROPRIATE BOXES:

<u>Undergraduate</u>		
Year (1,2,3,4, or 5)		(1)
Course		(2)
<u>Graduate</u>		
Course		(5)

PLEASE USE THE REVERSE SIDE TO AMPLIFY YOUR ANSWERS TO QUESTIONS 2, 3, and 4.

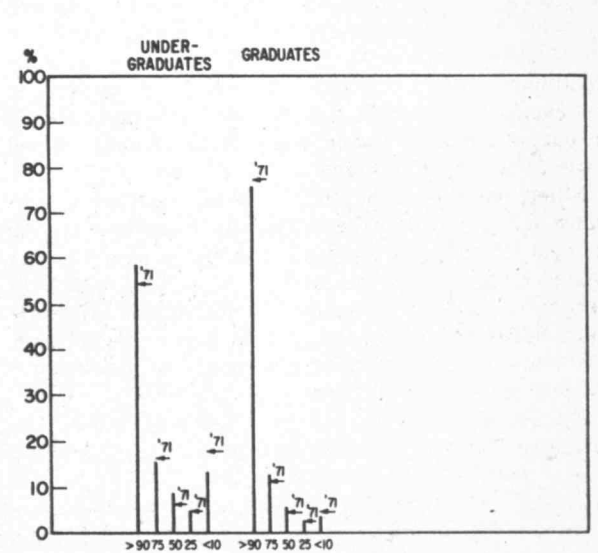
- | | | |
|---|-----------------------|-------------------------------|
| 2. DO YOU THINK THE IAP IS A GOOD IDEA FOR YOU PERSONALLY? | Yes | <input type="checkbox"/> |
| | Undecided | <input type="checkbox"/> (8) |
| | No | <input type="checkbox"/> |
| 3. DO YOU THINK THE IAP IS A GOOD IDEA FOR THE INSTITUTE AS A WHOLE? | Yes | <input type="checkbox"/> |
| | Undecided | <input type="checkbox"/> (9) |
| | No | <input type="checkbox"/> |
| 4. COMPARING THIS YEAR'S IAP WITH LAST YEAR'S IAP, DO YOU FEEL THIS YEAR'S IAP WAS PERSONALLY: | More satisfactory? | <input type="checkbox"/> |
| | Equally satisfactory? | <input type="checkbox"/> (10) |
| | Less satisfactory? | <input type="checkbox"/> |

1972 - STUDENT IAP QUESTIONNAIRE: SUMMARY OF RESPONSES TO QUESTIONS #1, 2, 3, 4

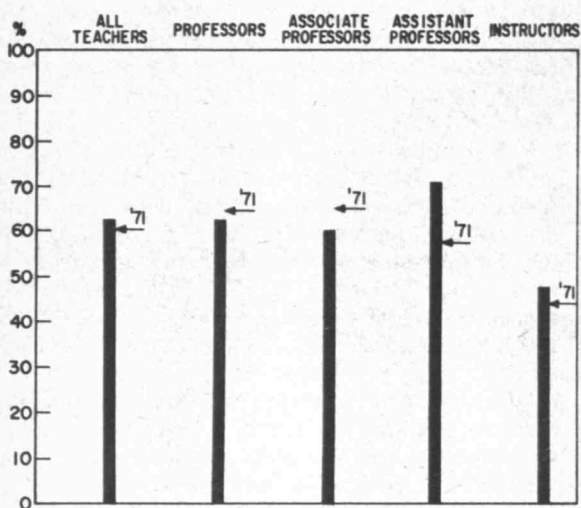


1972 - STUDENT IAP Q.#5

5. APPROXIMATELY WHAT PERCENT OF YOUR TIME DID YOU SPEND AT YOUR TERM ADDRESS DURING JANUARY?



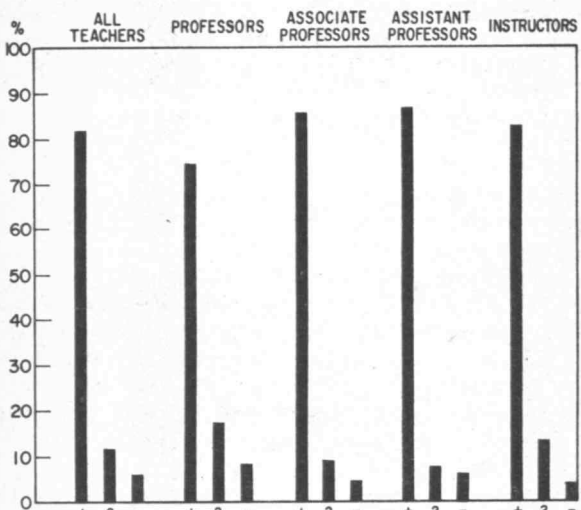
1972-TEACHER IAP Q.#1: TEACHER RESPONSE TO IAP QUESTIONNAIRE (PERCENT OF TOTAL POPULATION)



1972-TEACHER IAP Q.#2

2. DO YOU THINK THE IAP IS A GOOD IDEA FOR YOU PERSONALLY?

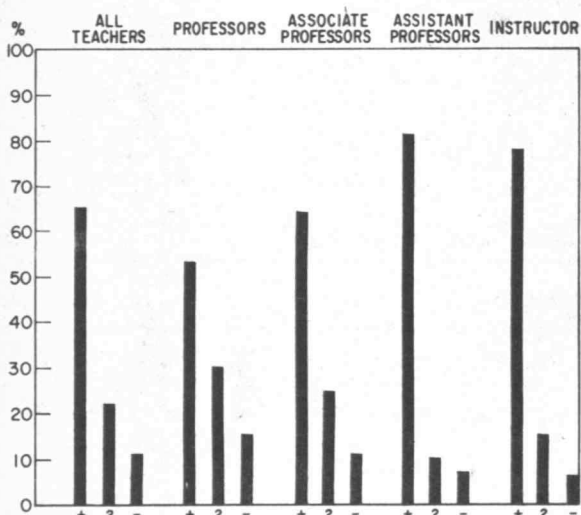
YES UNDECIDED NO



1972-TEACHER IAP Q.#3

3. DO YOU THINK THE IAP IS A GOOD IDEA FOR THE INSTITUTE AS A WHOLE?

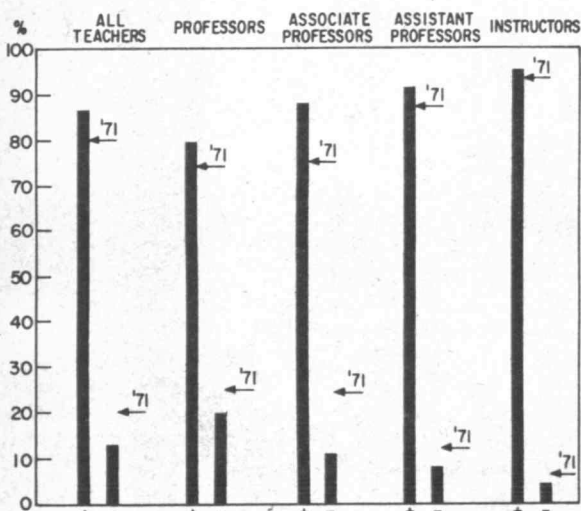
YES UNDECIDED NO



1972-TEACHER IAP Q.#4

4. IS IT YOUR IMPRESSION THAT THE STUDENTS FOUND THE IAP A USEFUL OR SATISFYING EXPERIMENT?

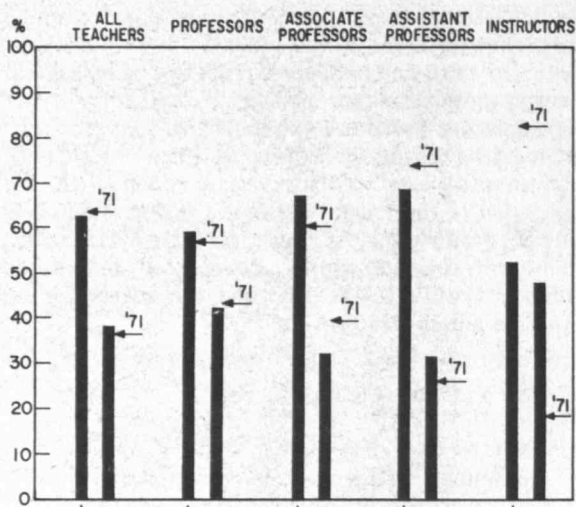
YES NO



1972-TEACHER IAP Q.#5

5. DID THE IAP PROVIDE YOU WITH THE OPPORTUNITY TO ENGAGE IN NEW AND DIFFERENT ACTIVITIES?

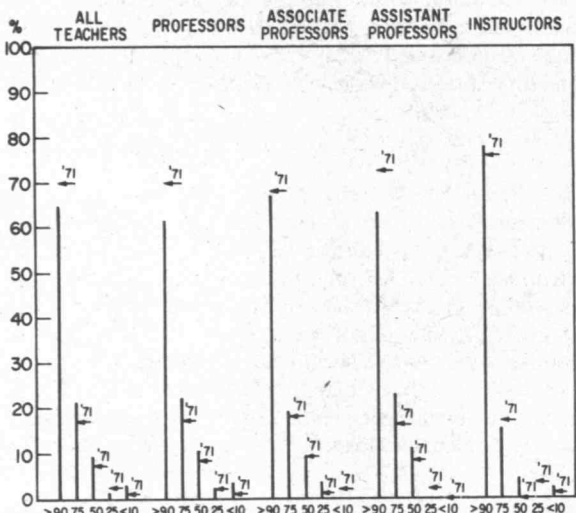
YES NO



1972-TEACHER IAP Q.#6

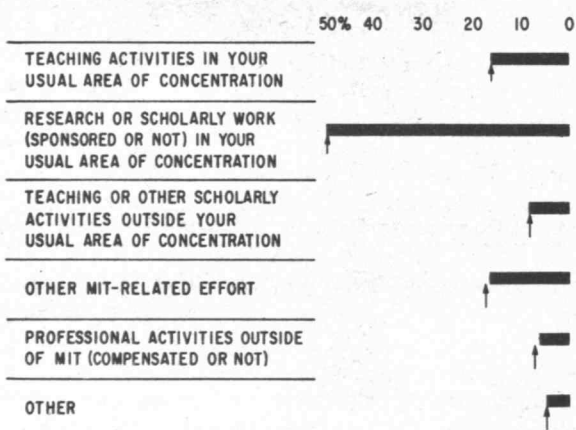
6. APPROXIMATELY WHAT PERCENT OF YOUR TIME WERE YOU IN RESIDENCE DURING JANUARY?

>90 75 50 25 <10



1972-TEACHER IAP Q.#7

7. FOR THE PERIOD YOU WERE IN RESIDENCE DURING JANUARY, HOW WAS YOUR WORKING TIME SPENT?



Appendix B

Faculty Comment on IAP

Favorable—we have omitted most of the favorable comments, as they said nothing much more than “I like it as it is.” Here are a couple, however.

“For students, I feel it is a necessary breathing spell. When I was at MIT, the constant grind caused many students to lose interest in their fields of knowledge... If even 10 percent of the students are inspired and have their enthusiasm rekindled during IAP, I feel it is a success. Certainly many use it as an opportunity to goof off.”

(5)* “IAP is the difference, for me, between facing the spring semester’s teaching with horror and with enthusiasm.”

Here are the comments as to how IAP should be modified, written by people who were generally in favor of keeping it:

Structure

“Cut down the number of offerings. Offer the more “serious” rather than the “fun-type.” Offer more community-wide programs, colloquia, concerts, lectures.”

(2) “IAP is still too regulated, too well advertised, and too much fuss made of. It should be lower keyed. The present posture is infantile: “Look what I’m doing everybody.” All in all, this January “circus” is not worthy of MIT.”

(3) “I’m a bit worried about the vast variety and scope of IAP offerings.”

(2) This year a very large and diverse number of activities were planned and no one could participate in more than a few... the attendance at a number of activities was small. This raises the question of whether more selectivity should not be introduced by the departments or some coordinating group...”

(5) “Too much formal structure has crept in and one has the same old class-oriented student-instructor setup in which large groups of students congregate expecting to be spoon-fed knowledge—albeit on off-beat topics. IAP is supposed to allow time for a self-propelled investigation by the student... It would appear that the fear of chaos on the part of the individual department has led to over-structuring of the entire program.”

Credit

“Students need more incentive to participate (more credit?)... the offerings have to be made super-sugary as it is in order to “sell” them.”

(6) “IAP is fine but put some teeth in it for the students—or to be content with worthwhile participation of only a few. It is now not organized enough; and although the students love it, they do so for the wrong reason.”

“Since dilettantism would seem to be in the long-range interest of neither the student nor MIT, I am opposed to IAP.”

(2) “No credit should be given for IAP activities. It is not that they are not “worth” academic credit, but that the simple availability of such encourages misuse of IAP.”

“Of my six freshman advisees, four were making up either 8.01 or 18.01 or both over IAP, which seems to me a perversion both of the IAP and of the idea of self-study subjects.”

Faculty Participation

“I have the feeling the faculty who normally do a lot around the Institute were working harder than ever, while those who are less involved during the school year were even less involved during IAP.”

(2) “My only complaint was that very few of our faculty were offering any formal instruction. I felt that maybe I was making undue personal sacrifice (in doing so).”

“If the Institute organized this period as a short experimental teaching term with all the faculty participating, it would be far more equitable.”

“I do worry more than a little about the extent to which we find ourselves squeezing the more willing members of our faculty to give of their energies and fragment their time in order to put on a good program. I have visions of a situation developing in which some faculty members become, in effect, regular staff members of IAP, while others insist on... being... free of all other commitments except research. Perhaps it would make sense to treat the IAP more like the summer school with faculty members opting explicitly for either teaching or research. Actually, I shrink from the prospect of any such bureaucratization, but I do think that the present situation permits (and begets) some inequities... I feel more definitive guidelines should be established.”

Student Participation

(2) “The bottom 70 percent of the students don’t get their money’s worth.”

(2) “The students just vacationed and played.”

(3) “In my subject it is a very small minority of the students who can genuinely profit from independent activity. For the vast majority, the IAP represents a total waste of time.”

“Fewer people in the corridors, greatly-eased parking situation indicates students just weren’t here.”

(9) “It is good for the few who participate, but the majority aren’t getting their money’s worth.”

“Either invent a required IAP or otherwise ensure uniformly good use of the time by all. If not, declare a month’s vacation and be done with it.”

Catalogue

“The catalogue for IAP is very hard to use—the organization of it makes it impossible to use as a reference—one has to ‘plow through’.”

Changes in the calendar

“Cut IAP to one week.”

“Cut IAP to two weeks.”

(2) “Put IAP at the end of the year.”

(8) “I am thoroughly sold on final exams before Christmas, whether or not we keep IAP.”

(10) “Start earlier so as to lengthen the fall semester.”

(6) “I prefer the old calendar.”

(3) “The quarter system is better.”

“The trimester.”

(6) “I would prefer a full 15-week semester beginning earlier (before Labor Day) and ending before Christmas... No IAP... Then a full 15-week term beginning Jan. 20 or so.”

* Where a number of responses were similar, we have let one quote stand for all and given the number of similar responses in parentheses.

Christmas Spirit For All Seasons

This Christmas message was delivered by President Jerome B. Wiesner at the Christmas Convocation on Friday, December 15 in the Lobby of Building 7.

It is a pleasure to join with the Undergraduate Association in wishing all of you and your families great happiness in this Christmas Season and in the days and years ahead.

Throughout the year, we have many opportunities to get together but rarely do we meet in a setting like this one, which combines a sense of tradition and a sense of closeness to all of mankind. This season is distinguished by the sense of goodwill between human beings that is its universal message. It is a time when we highlight the goodness and greatness that can be man's condition. It is a time when we are not ashamed to express a longing for love and peace and understanding. It is traditionally a festive time and we shouldn't begrudge ourselves this spirit.

But I believe that we should also reflect with more intensity and devotion on the deeper meaning of the Christmas message. Are the Christmas dreams an unreality? Can men and nations survive and prosper if their guiding philosophy is peace on earth and goodwill towards men—everyday—not just on special holidays? Or must they be hard and firm and uncompromising to survive in the world as it really is?

To be sure, this depends in part upon what we want, but if self-respect plays any role for individual or nation, then the Christmas dreams must be part of daily living. In fact, I believe all of mankind's worthwhile goals are more accessible via this route—strife is destructive, harmony constructive. Institutions and nations, as well as people, have consciences and, in some sense, even souls. Their spirits are uplifted and their goals more readily achieved when their purposes resonate with the human purpose—conversely they become depressed when their actions distress their individual members. One needn't look beyond our own shores to see this clearly. The self-esteem of this nation has fluctuated dramatically with each change in purpose or mission. When we know in our hearts that we are being true to the call of our founding fathers in fostering freedom and the rights of individuals, we achieve a sense of purpose which sustains us. But when a collective action is abhorrent to a substantial number of the citizens, as is our involvement in the Vietnam War, we quickly lose the spirit and the cohesion necessary for effective action as a nation. There was a similar reaction in the Soviet Union to the invasion of Czechoslovakia a few years ago—a national sense of shame.

Social groups, like individuals, do have hopes and dreams, images of good and bad, no doubt drawn from the ideals that emerge at moments like this, that serve as the standards to which the collective conscience must repair. As individuals we can but rarely feel the effect of our personal actions upon the wide world, but closer to home we have the opportunity for greater influence.

And, so I would propose that as individuals and as a community, the MIT community, we attempt to infuse our daily lives with the ideals of this Christmas time, that we let the Christmas spirit echo in our actions throughout the year. Let us be mindful of our impact on each other; let us be considerate and supportive. Let us try to make our local world a brighter, happier place for all of its members. Merry Christmas and a Happy New Year.



The Christmas tree at the President's House was decorated at a small party to which students each brought imaginative hand-made ornaments.

—Photo by Margo Foote



A highlight of the Technology Matrons English program for foreign wives was a Christmas caroling party held recently at the Nathan Cook's residence in MacGregor House.

—Photo by Margo Foote



The Christmas Convocation, held this year in the Rogers Lobby was thronged with members of the community who took a few minutes to hear Dr. Wiesner's message and have cookies and wassail.

—Photo by Marc PoKempner

THE INSTITUTE CALENDAR

December 20
through
January 3

Seminars and Lectures

Chiral Symmetry Breaking and Deep Inelastic Processes*
Dr. R. J. Jaffe, Laboratory for Nuclear Science. Joint Theoretical Seminar. Wednesday, December 20, 4pm, Rm 6-120. Coffee, 3:30pm, CTP Seminar Rm.

Community Meetings

Concerts, dance performances, theatrical presentations and scientific demonstrations are scheduled to take place in the Bldg. 7 Lobby almost every day from noon to 2pm, so drop by and see what is happening.

The faculty will hold its regular December meeting on Wednesday, December 20, at 3:15pm in Rm 10-250.

Coop Christmas Concert*

Live concert of baroque and renaissance Christmas music for recorder and flute. Thursday, December 21, 12n-2pm, throughout the Tech Coop.

MIT Notes and Meetings

Figure Skating Club

Monday, Wednesday and Friday, 11:30am-12n, starting January 8 at Skating Rink. Will work on figures, free style, dance. Call Gwen Champion, dorm X8-928.

Exhibitions

Images of the Feminine in the Belle Epoque*

Exhibition of 150 prints of women by Toulouse-Lautrec and other 19th century artists including Gauguin, Munch, Cassatt and Whistler. Hayden Gallery, through January 6. Open Monday-Saturday, 10am-4pm.

Hayden Corridor Gallery*

Exhibition of working drawings and prints of the 19th century steam engines, including locomotives, mining machinery and marine engines. Sponsored by Committee on Visual Arts, through January 3.

Photographs by Terry Lindquist*

Creative Photography Gallery, 120 Mass Ave. On display through January 31. Free, open daily, 10am to 6pm.

The Aborigines of Australia*

Exhibit sponsored by MIT Anthropology Program. Humanities Library, through January 3.

Graphic Notation in Contemporary Music*

Exhibition presented in Music Library, Rm 14E-109.

Hart Nautical Museum*

Exhibits include "Ocean Engineering Summer Laboratory Projects 1971 and 1972," and "Tugs and Towing." Bldg 5, first floor.

Religious Services and Activities

The Chapel is open for private meditation from 7am to 11pm every day.

Protestant Worship Service*

Regular services will not be held December 24 or 31. Those who would have attended these services are encouraged to visit a local church. Chapel services will resume January 7.

Roman Catholic Masses*

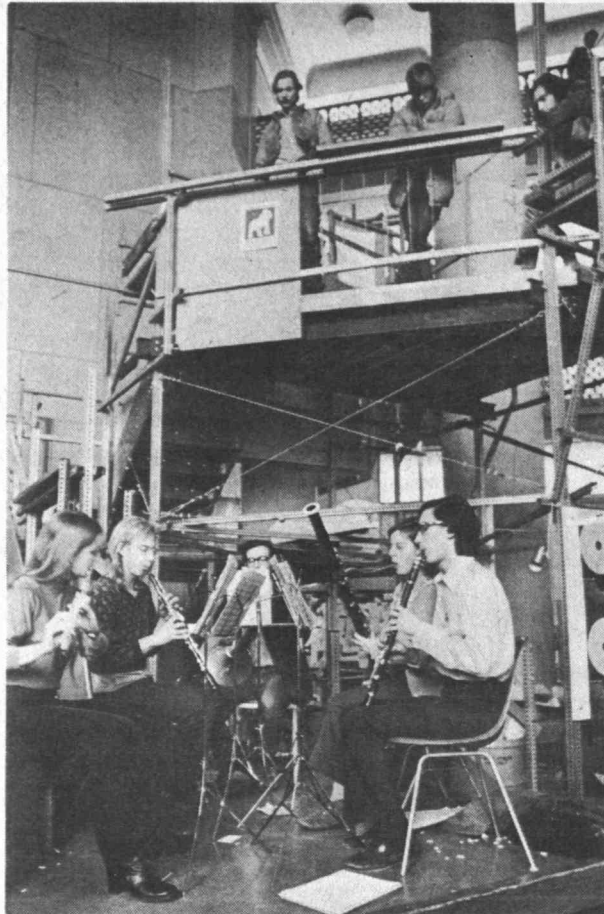
Holiday schedule: Sunday, December 24 and 31, 12:15pm only; Friday, December 22 and 29, 12:05 pm; Wednesday, December 27, 5:05pm. Chapel.

* Open to the public

** Open to the MIT community only

*** Open to members only

Send notices for January 3 through January 12 to the Calendar Editor, Room 5-111, Ext. 3-3279, by noon Thursday, December 28.



Pictured above (left to right) are: Jane Houston, Peter Bostech, Jeff Borish, Kathy Gilbert and Richard Steinberg during a noonhour concert they presented last week in the Lobby of Building 7. This is one of the several chamber music groups that have been organized and coached by Bill Draper of the music faculty, with the assistance of other faculty members. Next semester, the groups will present frequent concerts in the music library and Kresge's Little Theatre in addition to weekly performances in Building 7. Students interested in joining a chamber group should call Bill Draper, Ext. 3-4964.

—Photo by Margo Foote

Dining Service Specials

Luncheon: Complete meal for \$1.29 + .06 tax = +1.35. Entree, vegetable or salad, beverage, roll and butter, pudding, gelatin or ice cream.
Dinner: Complete meal for \$1.67 + .08 tax = \$1.75. Entree, vegetable, potato, salad, beverage, rolls and butter, any fruit or dessert.

Wednesday, December 20

Luncheon: chicken ala king on toast points
Dinner: sugar baked ham w/fruit sauce

Thursday, December 21

Luncheon: sausage patties w/escalloped apples
Dinner: sauteed liver w/onions

Friday, December 22

Luncheon: french fried clams w/tartar sauce
Dinner: turkey tetrazzini casserole

Tuesday, December 26

Luncheon: Italian spaghetti w/meat sauce
Dinner: broccoli ham roll w/rarebit sauce

Wednesday, December 27

Luncheon: chicken croquettes
Dinner: breaded pork chop w/apple sauce

Thursday, December 28

Luncheon: roast Canadian bacon w/fruit sauce
Dinner: roast sirloin of beef

Friday, December 29

Luncheon: french fried Boston sole w/tartar sauce
Dinner: hot turkey sandwich w/gravy and cranberry sauce

Tuesday, January 2

Luncheon: old fashion lamb stew
Dinner: veal parmesan

Wednesday, January 3

Luncheon: beef pot pie w/pastry top
Dinner: breast of chicken w/supreme sauce

Graduate Study Opportunities

GRAPHIC ARTS FELLOWSHIPS

The Education Council of the Graphic Arts Technical Center administers several fellowships for graduate students and seniors in an area of study which has potential application in the printing, publishing and packaging industries. The Fellowships are limited to students who plan to seek employment in the graphic communications industry. Each fellow is awarded \$3,000 per academic year. Awards include the American Can Company Fellowship, the 3M Company Fellowship, the Research and Engineering Council of the Graphic Arts Industry Fellowship, the Rogers, Lith-Kem Corporation, Thomas R. Caton Fellowship, the Technical Association of the Graphic Arts Fellowship and the Western Publishing Company Fellowship. Further details are available from the Deans of individual schools.

UNESCO MARINE AFFAIRS PROGRAM

The Intergovernmental Oceanographic Commission of the United Nations' Educational, Scientific and Cultural Organization (UNESCO) is offering two fellowships to candidates from developing countries for their Marine Affairs Program. The \$4000 fellowships are offered at the International Center for Marine Resources Development at the University of Rhode Island for the school year 1973-'74. The program focuses on marine policy problems at the local, national, regional and international levels. Candidates should have an advanced degree in a field useful for ocean management or considerable marine experience in lieu of an advanced degree. A good knowledge of English also is necessary. For further information, call Dean A. Horn in the Sea Grant Project Office, Room 3-282, Ext. 3-7041.

CONNECTICUT STATE SCHOLARSHIP GRANTS

A limited number of grants for graduate study are available under the Connecticut State Scholarship Program, contingent upon the action of the General Assembly in extending the program. Stipends are not to exceed \$1,000 per year.

Eligibility: The applicant must be a US citizen or in the process of seeking citizenship.

The applicant, according to State law (Section 10-116C of the General Statutes), must have been a legal resident of Connecticut for at least 12 months prior to the time of application.

For further information come to the Graduate School Office, 3-134.

Foreign Study Opportunities

EINDHOVEN UNIVERSITY OF TECHNOLOGY (THE NETHERLANDS)

Offers research fellowships to young foreign scientific workers and graduate students who hold a master's degree in engineering or science and have at least one additional year of experience in research or who have completed their Ph.D. work.

The fellowship will be granted for a period of 12 months and fellows are expected to carry out full-time research in one of the departments of the university. Knowledge of Dutch language is not required, but proficiency in English, German or French is necessary.

Fellows will receive a monthly allowance of approximately US \$469.50. Application forms may be obtained by writing to the Chairman of the Research Fellowship Committee, Eindhoven University of Technology, Post Box 513, Eindhove, The Netherlands. Closing dates for applications is 31 January 1973. Applications received after that date will be considered for the 1974-75 academic year.

For further information see Professor Locke or Paula Kelly, Foreign Study Office, Room 10-303, Ext. 3-5243.

New UROP Listings

For more detailed information on UROP opportunities listed, MIT undergraduates should call or visit the Undergraduate Research Opportunities Program Office, Room 20C-231, Ext. 3-5049 or 3-4849. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

IMLAC CORPORATION

Needham

This display computer company has suggested a project for an MIT undergraduate with a background/interest in electronics. The project would involve conversion and interfacing television equipment so that it can be used with sophisticated graphic display equipment.

MEDICAL DEPARTMENT

Needed: Electro-mechanical questionnaire administration device capable of providing alphanumeric output directly to 360-65 via telephone line or indirectly via tape or card punching. Equipment should be capable of displaying graphical as well as alphanumeric material. It must be reasonably easily edited, reliable, and quiet in operation. Call Dr. Merton Kahne Medical Department (11-203), x3-2917.

CLASSIFIED ADS

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and extension. Only Institute extensions may be listed. Members of the community who have no extensions may submit ads by coming in person to the Tech Talk office, Room 5-111, and presenting Institute identification. Ads may be telephoned to Ext. 3-3270 or mailed to Room 5-105. The deadline is noon Friday.

Foe Sale, Etc.

Panasonic AM/FM clock radio & tape rcd, \$65; b & w port TV, best offer. Avinash, X3-2662.

Tools & garden tools; sngl unit washer/dry; floor safe; elec perculators; sandwich toaster; waffle iron; dishes; other hsehold items. Stan, X3-5632.

Karastan, 8x12 wool rug, pale blu, nearly new w/pad, \$200 or best offer; Chinese oriental rug from Peking, 3.0'x1.5' in ivory & shades of blu, exc cond, \$150. Jan Tuttle, X3-2092.

Barklee B flat wd clarinet, \$35; med clear/red motorcycle windshield, \$15. Dick, X5548 Linc.

Lens & ski bts: Vivitar wideangle lens, 35mm, f3.5 w/case, filter, caps, adapter, \$50; Koflach men's buckle bts, 12, gd cond, \$30; willing to haggle, am desperat. Roger, 782-3520.

Girl's & boy's bikes, 20", \$10/ea; pr girl's & boy's skates, exc cond, 2, \$5/pr. George, X7213 Linc.

Ford rims, 2 pr, 14", \$8/pr; stereo reverb for car, \$12. Bill, X366 Linc.

Brand new oak flooring, approx 190 board ft (140 sq ft) \$50 or best offer. Robert Saliga, X7454 Linc.

Mag wheels, 2, w/nuts, 14x6, Chevy bolt pattern, \$8. Bill, X8-1392.

Teac A6010 stereo tape deck, 1 yr old, exc cond, \$600; Heath kit AR1500 recvr, new; pr sm Advent spkrs, new; Raleigh Sprite 27, men's 5 spd, brnd new, must sell. Lloyd, Dorm X9-465.

Skis, 185cm, wooden, metal rims, clamp bndgs; bts, 6 1/2 tie, best offer. Doris, X3-3124.

Hotpoint 30" elec range, \$40; 2 Gordon 210,000 btu natural gas furnace converter, \$40/ea; 10" drill press w/ 3/8" drill chuck, \$10; 2 Ford Falcon rims, \$5. Skip, X7159 Linc.

Bookcases, 2, \$6/ea; chest, \$10; sngl bed w/spring, \$10; blanket chest, \$12; Sunbeam steam iron, \$12; AR stereo amp, \$95. Bob, X452 EDC.

GE port 15" TV w/stand, 5 yrs old, nds minor repairs, \$10 or best offer. X3-7138.

Pentax Bellows kit w/lens, \$80; Gossen Sixticolor/filter light meter kit, \$60; 49mm filter kit, \$45; Pentax finder kit, \$20; Safelock PT-X tripod, \$20; Adapt-A-Case P-30B, \$25; Durst M-600 enlrg, \$75. Hank, X8-2119 or X8-4059 Draper.

TECH TALK

Volume 17, Number 24
December 20, 1972

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Mail subscriptions are \$5 per year. Checks should be made payable to MIT, and mailed to the Business Manager, Room 5-122, MIT, Cambridge, Mass. 02139.

Please address all news and comment to the editorial office, Room 5-111, Ext. 3-3277.

GE port prof, hd hood hair dryer, exc cond, \$20; Baun hand hair dryer, only used few times, \$10. Helen Bell, X3-2957 or X3-4889.

Tires, 2, 8.50x13 w/rims, 1 new tube, \$7.50 & \$6; mod overstuff chr, straight lines, gd but nds cvr, \$5; capt chr, gd but nds steadyng, \$3.50; pr child's ballet shoes, 4, \$1. Erica, X3-2728.

Sheepskin dress coat, nvr worn, too big, 12-14, for older conserv dresser, best offer. Lucinda, X3-7008.

Br new 10 spd bike, nvr used, race equipped, 26", \$85. Ed West, X3-4765.

Girl's purple, sngl spd bike, banana seat, gd cond, \$9; washer, Hotpoint gd cond, \$30. X2828 CEA.

Minolta SRT 101, 55mm w/case & strobe, 190-230mm zoom, nv used, exc cond, \$400 value, asking \$215; Knisel skis, 5'10"-6", Tyrolia step ins w/poles, used twice, \$240 value, asking \$98. Marilyn, X3-4112.

Easy washer & spin dry, 6 yrs old; 8 yr old RCA console TV, new tube, both for \$70. Gilbert, X7328 Linc.

Assort records, used, exc cond, \$.50 to \$1/record. Walter Bishop, X3-3105.

Tires, 4, E78-14, essentially new, 3K, 2 on Chevy rims, \$15 ea; also E78-14 snow on Chevelle rim, used 1/2 seas, \$15. Gary, X3-2526.

Sony 355 tape deck, 3 head stereo, exc cond, orig \$220, wl sell w/Sony head demag & 6 Sony 1800' tapes \$110 or best offer. Jerry, X3-2422.

Crager SS mags, 2, 6" rims; 2, 7" rims; 4 new Concord tires, all 14", GM product, G60-9 3/4" treads, \$260. Guy, X5597 Linc.

Sunbeam elec snowblower, used few times, asking \$45. X8-3339 Draper.

Boy's hockey skates, 3 pr; sz 1, 4 & 7, gd cond, best offer. Bill, X8-3546 Draper.

Panasonic 12" TV, b&w, 4 yrs old, exc cond, \$45. X3-5046.

Advent 100 dolby unit, perf cond, \$150; Dynaco PAS-3 pre-amp, stereo 35 amp; KLH 17 spkrs, best offers. Allan, X3-6710.

Tape rcd, \$8; port typwrtr, \$18; hockey skates, 6, \$7. X8-1416 Draper.

Bath rm space saver w/shelves & cab, mirror, \$5; dbl dropside playpen w/pad, 38x38, \$10; hitchhiker unit for baby carriage, lk new, \$3; car baby platform, for travel, converts back seat into play or slping area, \$5. X3-6752.

Karman Ghia rear bumper & part of frnt bumper, free; wntd: Delco car alternator. Fred, X8-4462 Draper.

TV stands, 2, \$2/ea; tbl top, nds legs, \$3. Liz, X3-6808.

Polari Italian lady's buckle ski boots, sz 8 1/2, new, nvr used, \$25. Tony, X7808 Linc.

Westhse 6,000 BTU air cond, 7.5 amps, 110v, 20" min width, adj, \$65. Jim, X3-4177.

Polaroid 108 color film, fresh, \$3.25/pk; elec 12 digit calculator, desk port, Singer Frieden mod EC1117 was \$445 still new, \$200. Don, X8-3333 Draper.

Vehicles

'62 Chevy, 4 whl drive, carryall, avac grn, lock out hubs, V-8 eng, 3 seats, trailer hitch, nv plowed, asking \$650 or best. Mac, X3-7273.

'65 Corsa Corvair convert, Hurst 4 spd, Turbo Charger, new h duty batt, new premium stud snws, recent tuneup, runs fast & well, stops well, bargain priced at \$375. George, X3-3934.

'65 Dodge Coronet, V-8, auto, gd run cond, \$450. Rosendo, X3-2302.

'66 Mustang, 6 cyl, 65K, fair cond, \$350 or best offer. Piero, X3-5716.

'66 VW Sqbk, R & H, new brks, batt, snws, 3 extra tires, \$595. David, X8-3677 Draper.

'67 Ambassador 4 dr sedan, 80K, brn/gld top, p-str, R, new auto trans, radiator, tires, best offer around \$400. Dave Summers, X3-3171.

'67 Lotus Elan, Series III, twin cam, webbers, konis, new doughnuts, new top, new valves, body & mech exc, reliab, v quick, stored indoors, yel, \$1895. X207 or X261 Linc.

'67 Saab, V-4, gd cond, \$650, lv country. X3-7195.

'69 Austin America, red, auto, exc cond, \$495. Nancy, X3-5322.

'69 Dodge Polara wgn, 318 eng, auto, p-str & brks, rf rack, new wht wall tires & batt, \$995 or best offer, must sell. X8-1415 Draper.

'70 Plymouth Duster, 2 dr, olive grn, auto, snws, 49K, asking \$1100 or best offer. X3-6615.

'70 Pontiac Catalina, V-8, rear p-window, new tires, v gd cond, 48K, \$1800. Vicki, X3-6613.

'70 VW, stand, 39K, AM, exc cond, \$1300. X3-6905.

'71 Impala convert, all power, V-8, snws, 30K, \$2000. X3-5274.

'72 Chevy Vega, exc cond, standard, 11K, snws, R, \$2000 or best. G. Brociner, X7197 Linc.

'72 Pinto Runabout, must sell due to death. Jean, X3-2742.

Bike, 24", 10 spd, \$95. Gary, 354-6234.

Housing

Bri sublet, newly remod, 2 BR apt, sep LR & K, quiet neighborhood, 10 min to Harv Sq by bike, nr MTA, \$200 plus util. Ralph, X8-2003 Draper.

Camb, Cent Sq, apt sublet, 12/22-2/1, beau, mod, ideal for cpl, carpet, furn, TV, everything, \$200 negotiable. Naren, X8-1530 Draper.

Camb, 5 rm apt, furn, all util, avail 1/1, \$227.50, ref, security. Martin, X5777 Linc.

Camb, 30 Sparks St, 2 BR, tile B, dish-disp, fenced backyard, walk to Harv Sq, MIT people only. X3-7026.

Jam Pl, furn 2 BR 2 rm apt w/B & frpl, nr T, all util, \$160/mo. Nancy, X3-7426.

Bedford, 4 BR hse for fam or 4 grad stu, furn, nice neighborhood. Adnan, X3-4656.

Winchester, 8 rm duplex hse, complete furn, washer, dry, dish, gar, \$300/mo. X3-4368.

Woburn, split entry ranch, 4 yrs old, 3 BR, 2 car gar, 1/2 acre, 36K. Akhtar, X3-5141.

Campton, NH, Waterville Valley area, new 1000 sq ft apt avail, 2 BR, B, Knntt & frpl, sep ent, ideal for skiers, mo or seas. X3-2533.

N. Conway, NH, wkend chalet rentals, 7 ski areas, new, slps 8; also 2 lg hses, slp 20 & 13. Ruth, X8-2476 Draper.

NH, ski chalet, wkly w/lots of extras. X8-4415 Draper.

Stowe, Mad River Cabin, 3BR, slps 7-9, long seas, \$1200, \$2000/yr. X3-3738.

Animals

Dogs, 1/2 Ger shepherd & 1/2 Belgian shepherd, 2 mo old, 5 f at \$20; 2 m at \$25. Sharon, X3-7522.

Eng bull terriers w/o papers, 8 wks, gd sturdy pups, \$25. John Peirce, X3-6330.

Lost and Found

Lost: 18.02 notebook. Ronald Feigenblatt, Dorm X9-252.

Lost: blu tweed top coat. M. Edan, X3-2858.

Wanted

Comics, back issues: *Dr. Strange, Forever Children, Dr Graves* or any Warren (*Eerie, etc*) or *Skylark (Nightmare, etc)* titles. Mark, X3-5319.

Ride for 2, MIT to Medford, 3:30 daily. Tony, X3-4489.

Radio Shack, 2 Realistic Optimus 6 spkrs. Dave, X3-6850.

Person to care for 2 children in my home, live in possible, Newton. Donna, X548 EDC.

Escort for 2 children from Min/St. Paul, Jan 1/2 or 1/3, wl pay half fare. Gary, X8-1484 Draper.

Free back issues of *Machine Design*. Dick, X3-5560.

Skinner box for infant expected in Feb, we are poor. Joyce, X7436 Linc.

Squirrel sz, have-a-heart trap. Bob, X3-2593.

MIT grad stus lking for 4th, own rm in fully furn beau hse in Bed, v reas rent. Call 275-2456.

Fem rmmt to share 2 BR apt in Camb, \$80/mo. Cindy, X3-7930.

Ride for 2 to Fla around 1st wk Jan, wl share expen. Joan, X3-2695.

Effic apt or own BR in 2 BR apt nr MIT w/other fem. X3-5763.

Ride for 2 to Hartford, Conn on eve of 12/22, wl share expen. David, X3-5671.

Ride to Utica exit on thruway, 12/22 or 12/23, wl share drive & expen. Sharon, X8-1440 Draper.

Miscellaneous

Wl do tech, gen typing, theses, etc. Ann, X3-1713.

Wd floors sanded & refin professionally. Denny, X3-5606.

Interested in forming babysitting pool in northern suburbs. Pat, 438-2330.

Pri French lessons. Call 731-9210.

Wl do thesis &/or gen typing on IBM Selectric, fast & accur. X3-3005.

Positions Available

Secretary V will coordinate the office of a Vice President dealing with all administrative and academic departments of the Institute and outside offices and organizations. Must have knowledge of Institute structure, organizational ability, good typing and ability to interact effectively with students and Institute personnel at all levels. Will compose letters and prepare drafts of papers.

Secretary V will assist Director with administrative matters and handle secretarial duties. Responsibilities involve extensive work with manuscripts from initial contact through review process to publishing. Exceptional secretarial experience, foreign language skills desired. This position offers opportunity for increasing challenge and provides an overview of the process of publishing books in a university environment.

Biweekly 3-4251

Inman Sq. Development Underway

Construction is scheduled to begin this week on 116 units of low- and moderate-income housing to be built in Inman Square on property purchased by Harvard University two years ago for that purpose.

The Harvard University Gazette reported last week that papers were signed December 7 committing the Massachusetts Housing Finance Agency to a \$2.95 million mortgage for construction of the development under the auspices of the Cambridge Corporation.

The Cambridge Corporation, a non-profit community development corporation funded by Harvard, MIT, and major Cambridge industries and businesses, has taken the primary development role for Inman Square. Through its subsidiary, Cambridge Homes II, the Cambridge Corporation will develop Inman Square jointly with Better Cities, Inc., a group created by nine federal savings and loan banks in eastern Massachusetts to encourage development of low- and moderate-income housing.

Harvard purchased the 35,000-square-foot Inman Square property at the corner of Cambridge and Prospect Streets for \$259,000 in September, 1970, at the urging of the Cambridge Model Cities Agency, which objected to commercial proposals then being put forward for the site.

As planned, the development will contain 19 efficiency units and 78 one-bedroom apartments in a nine-story tower atop a four-story complex of duplexes for families.

All Star Booters Pick 5 from MIT

Five MIT soccer players have been named to the annual Greater Boston Soccer League All-Star team.

Announcement of the All-Star team selections was made at a banquet at Brandeis University.

Selected from the MIT team, which tied for second place this year, were: goalie Richard Stratt, a sophomore from Philadelphia, Pa.; backs Mark Abkowitz, a junior from Lexington, and Eric Barklis, a junior from Fort Worth, Texas; and forwards Esref Unsal, a sophomore from Bahcelievler, Turkey, and Shinichiro Yoshida, a freshman from Ibaraki, Japan. Stratt, who allowed only three goals in five games, was also chosen the most valuable player.

Personnel Issues ID Reminder

Kerry B. Wilson, assistant to the director of personnel, has reminded all administrative officers to collect Institute identification cards from employees upon termination of their employment as part of the regular termination procedure.

Cards should not, however, be collected from retirees.

Notice of an employee's termination should be sent to the Personnel Office at least one week before the employee's last day on the job. As a convenience to the individual, Mr. Wilson suggests that a copy of this form be made so that it may be included with the individual's ID card, collected on the last day of employment.

Notices of termination and ID cards should be sent to Mr. Robert Nelson, E19-284.

The following Review by Robert Taylor of the Globe Staff originally appeared in the Boston Globe Tuesday, December 12, and is reprinted here with permission.

By Robert Taylor

"Images of the Feminine in the Belle Epoque," at the Hayden Gallery of MIT through Jan. 6, is a brilliantly done show which, as part of the city-wide Toulouse-Lautrec Festival, inevitably concerns itself with the topical issue of how women are perceived today.

Of course, it is the myth of woman that embodies the substance of the exhibit. The majority of the 150 prints from the 1890's, with notable exceptions such as Kollwitz, Cassatt, Morisot and Valadon, were created by men.

Cheers, Champagne For Apollo

(Continued from page 1)

them that they were only 1.2 nautical miles short of the programmed target and they were exactly on track. The on-board readout was 166.11 west longitude and 17.88 south latitude. The target coordinates programmed into the Draper system months before were 166.3 west longitude and 17.88 south latitude.

Said one Lab worker: "Write it down that this is the best system we ever had."

Shift communicator at splash-down for this, the last of the moon missions, was Kenneth Kido of North Reading, a six-year veteran with the Apollo systems test group at the Lab. At the other end of the hot-line from Cambridge to Mission Control in Houston was Philip G. Felleman, of Sudbury, one of nine Draper engineers from Cambridge who were in Houston to back-up the astronauts and Mission Control in the use of the guidance system.

The building where the work was done is at 75 Cambridge Parkway in East Cambridge overlooking the Charles River Basin. It originally housed a hosiery company, later was converted to an electronics laboratory and was leased by the Draper Laboratory in the early 1960s to house what was to become one of the largest technical tasks ever undertaken in precision guidance, navigation and control. Over the more than 10 years the Laboratory worked on Apollo funding from the National Aeronautics and Space Administration totaled nearly \$145 million. The peak work force of more than 700 in the Apollo group alone was reached in 1965 when the designs and concepts that took men to the moon and back were in their final stages.

At Tuesday's splashdown celebration, Dr. Draper and David G. Hoag, the Lab's Apollo program director, both paid tribute to Milton B. Trageser of Winchester who, they said, gave the Apollo guidance system its original technical inspiration.

Present at Kido's elbow at the communicator table Tuesday afternoon were most of the Lab leaders including Draper, Ralph R. Ragan, who is deputy director of the Laboratory for NASA programs, Robert A. Duffy, who is the Laboratory's vice president, Hoag, Trageser, and Eldon C. Hall, of Westwood, the computer engineer whose genius gave the Apollo system its unerring on-board computational capacity, and Richard H. Battin, who is the

'Images' Exhibit 'Brilliantly Done'

MIT's contribution to the Toulouse-Lautrec festival was described this week by one critic as the best of its kind ever assembled in the US.

Said Susan Drysdale of the *Christian Science Monitor*:

"From small beginnings—the festival...snowballed in size and enthusiasm to the point where MIT's contribution, 'Images of the Feminine in the Belle Epoque,' has strong claim to consideration as the most important show of late 19th century prints ever held in the United States."

Nevertheless, here one can see the crumbling of ancient ideas about women, and perhaps the initial stirrings of the slow and painful evolution through which the feminine principle of life may in the end civilize the masculine.

What kinds of mythical prototypes does the show present? In the 18th Century the symbolism of

the sexes exalted the aristocratic courtesan, ritualized play as a mask for blunt sexual desire. By the 1890's, however, in Munch, Forain and Lautrec, the courtesan has become the trollop.

Far from signifying a sterner realism, however, this merely signifies the artists' identification with anyone outcast. Throughout

the 19th Century what is by now the well-accepted alienation between the artist and society had been progressing at a feverish pace. Lautrec and his friends sincerely believed in the harlot with the heart of gold, a female counterpart to the artist with no resting place.

And this is indicated by the ease with which the image flipped over and became madonna or seeress—that favorite Art Nouveau image, The Sphinx. In Mucha's "Sarah Bernhardt" or one of his frontal, bejeweled large-scale vertical posters, woman has turned into an idol (often advertising cigarette papers or cough syrup).

The unapproachable woman, the

Earth Mother and the femme fatale are some of the types that suggest growing discontent, a pathological atmosphere engendered by mutual distrust between the sexes. As men dimly become conscious of a new state of affairs perhaps the least mythical images are offered by women: Kollwitz's woman as laborer (her "Plowing" has the dignity of a short story like Isak Dinesen's "Sorrow Acre"), Cassatt's woman as mother (the delicate observation and common sense of Cassatt is the opposite of the sentimental). Only rarely does a man transcend conventional responses like Renoir, whose "Standing Bather" is an image of hope in terms of the relationship of the sexes. Eighty years ago, the show indicates, the myth of woman as a male invention was already beginning to get out of hand.

Obituaries

Daniel Mello

Daniel Mello, 38, of Cambridge and a worker in the bindery of Graphic Arts, died December 12.

He leaves a wife, Marie-Anne (Lupis) and two children, William and Daniel, Jr. He is also survived by his parents, Mr. and Mrs. William Mello and sisters, Mrs. Anna Mahoney, Mrs. Mary Violante and Mrs. Elaine Leva.

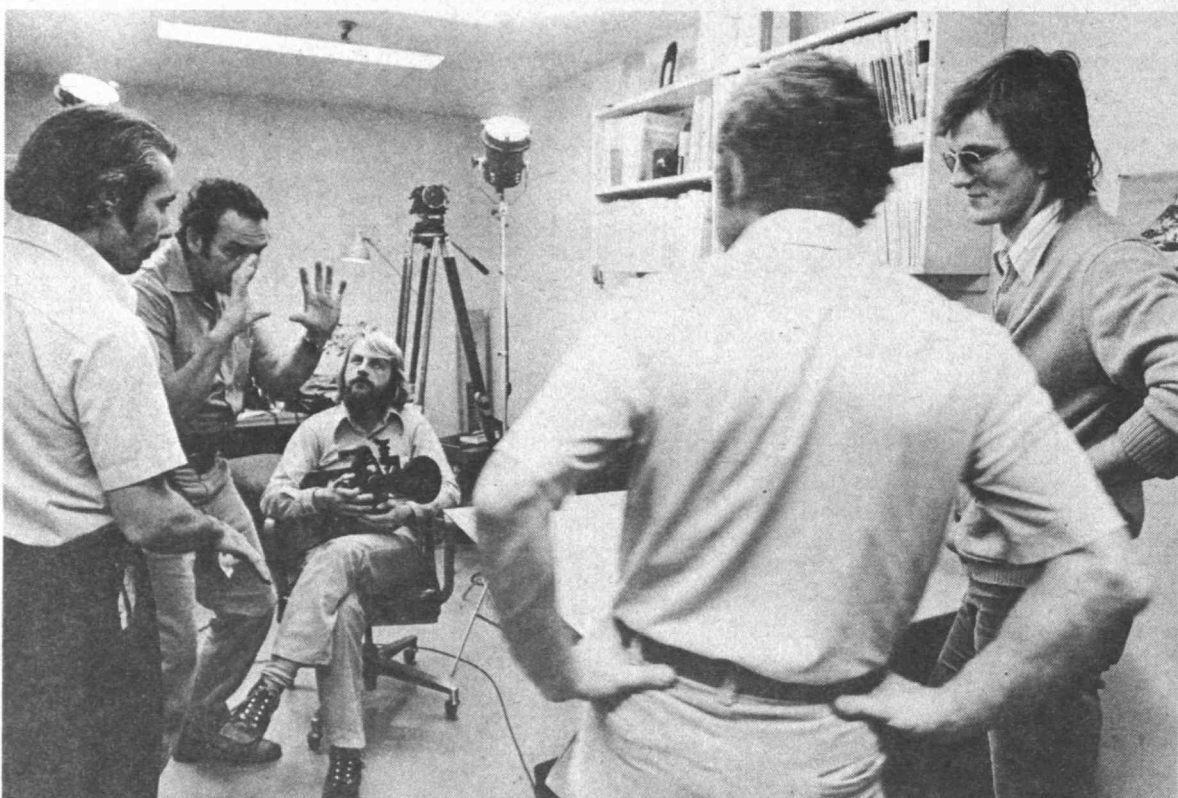
Mr. Mello had been with the Institute since 1953. Funeral services were held at Saint Mary's Church December 15.

W. H. Sherwood, Sr.

William H. Sherwood, Sr., 59, of Cambridge and a bi-weekly employee with the libraries, died December 12.

He is survived by his wife Beatrice V. (McLeod) and children William H., Jr. and Sandra Jean Bertram.

Mr. Sherwood had been with the Institute since 1967. Funeral services were held December 15 in Cambridge.



The ABC crew planning and discussing footage to be shot in the psychology department.

—Photo by Marc PoKempner

ABC to Air 'What About Tomorrow?'

MIT and ABC News are collaborating on the production of a series of television documentaries dealing with the effects of science and technology on our daily lives, it was announced today by President Jerome B. Wiesner and Elmer W. Lower, president of ABC News.

The series of 30-minute color filmed documentaries, titled "What About Tomorrow?" premieres on Monday, January 22, at 10:30pm (EST).

At least five additional "What About Tomorrow?" documentaries will follow on a one-per-month basis.

"We welcome the opportunity to participate in this series," Dr. Wiesner said. "Television is an extraordinarily important medium of public information and our hope is that this project will help the public understand more clearly the critical role of science and technology in human affairs."

Dr. Wiesner was Special Assistant for Science and Technology to the late President John F. Kennedy and to former President Lyndon B. Johnson.

Mr. Lower said, "Never before has the scientific community believed more strongly that science and technology must be concerned directly with the needs of mankind—that the scientist and Lab's Apollo mission development director.

In the end it was Ragan who offered a toast that drew cheers and applause.

"Let's drink a toast to Doc. He led us."

the technologist must attempt to mediate between man and his environment on the side of man. These programs will give some indication of how that mediation process is being conducted."

Provost Walter A. Rosenblith, who is overseeing MIT's participation in the series, said that while most of the filming will be done on MIT's campus in Cambridge, the series is not about MIT but will deal with man's relationship to science and technology and the vast capacity science and technology have to change his world.

"A deeper public understanding of science and technology today is necessary if we are to solve the problems that beset mankind. A variety of scientific work-in-progress will be examined in the programs, ranging from basic physical phenomena to the future of our cities; from fundamental life processes to communications and human learning; and from the latest biomedical engineering to the assessment of the consequences of introducing new technologies.

The series will show professors and students, primarily at MIT, seeking new applications of science and technology to the problems that beset mankind. A variety of scientific work-in-progress will be examined in the programs, ranging from basic physical phenomena to the future of our cities; from fundamental life processes to communications and human learning; and from the latest biomedical engineering to the assessment of the consequences of introducing new technologies.

The first program in the series will examine human communication, with an emphasis on mankind's changing relation to the machines of technology.

Thomas H. Wolf, ABC News vice president and director of Television Documentaries, is in overall supervision of the production of

the "What About Tomorrow?" series. The documentaries will be hosted and narrated by ABC News Science Editor Jules Bergman and James Benjamin is executive producer.

"What About Tomorrow?" will be sponsored by the Shell Oil Company.

Several departments at MIT, including the News Office and the Provost's Office, are working with ABC News personnel in the series. Joel Orlen, Assistant to the Provost, has been designated to oversee liaison between MIT faculty and staff and ABC News. In addition, MIT has made an office available to ABC producers and staff. Mr. Orlen said that possibly as many as three separate film crews will be working on campus during the next few months.

Mr. Orlen said that the participation of MIT personnel and laboratories in any of the ABC News documentaries is a matter of individual choice.

Skating Classes

The Athletic Department's ice skating classes for faculty and staff children will begin this Saturday, December 23.

Beginners classes will be held from 10 to 11am and advanced beginners classes will be held from 11 to 12noon at the MIT ice skating rink. The classes were originally scheduled to begin last weekend but were postponed due to bad weather.

Further information and registration forms are available in the Athletic Office, W32-109, Ext. 3-4498.

New Blue Form To Help Update Personnel Data

Beginning this month, MIT people have a new, easy way to keep information about themselves up to date in the Institute's records.

With the publication of the December, 1972, telephone directory, individuals can change or correct address and other information simultaneously on most MIT records through use of a new Personal Change Notice.

The notice form, which is self-addressed to the Personnel Relations Office, appears in the yellow December telephone directory and will be available in all administrative and academic department offices.

Information gained through the Personal Change Notice will help greatly in implementing the Institute's new Integrated Personnel File, according to Robert J. Davis, personnel director.

Until now, personnel data has been entered separately in a half dozen different files—payroll, benefits, mail room, and others—and input and retrieval of information has been difficult, Davis said. The blue Personal Change Notice is part of the validation process of placing all such information in a single source.

The system will also give the Institute new flexibility in determining "aggregations" of people for administrative purposes, Davis said.