

The MIT Faculty Newsletter

Vol. I No. 2

December, 1988

Toxicology Degree Program Denied - ABS Morass Continues Robert W. Mann

At the November 16, 1988 meeting of the MIT Faculty, Dean Frank Perkins reported the discussions of the Committee on Graduate School Policy on a "Proposed Degree Program in Toxicology." The presentation and subsequent discussion indicated that the CGSP was not prepared to act on the proposed degree program because of perceived uncertainties in the administrative structure and support of toxicology in Whitaker College, and the absence of obvious analogs to extant graduate degree programs based in more traditional departments.

Provost John M. Deutch confirmed this by noting that an ad hoc faculty/administration committee would be formed to resolve the Toxicology dilemma. That such an issue arises suggests that the consequences of the decision of late December 1987, to terminate the Department of Biological Sciences, are yet to be played out.

A History

General knowledge that the Dean of the School of Science, the Provost, and the President had dissolved ABS became known in early January, but the traditional omission of the January faculty meeting due to IAP, precluded any discussion. Attempts to introduce the question during New Business at the February faculty meeting were ruled inappropriate by the Chair. Thus faculty discussion on the issue started in March.

Attendance at the March 16, 1988 meeting of the faculty, with the termination of the Department of
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Unionism and the University Robert B. McKersie

At the very time when many pundits have pointed to the decline (some would say demise) of the union movement in the United States, there has been a flurry of organizing activity and, yes, even some success on college campuses. Here in the Cambridge area, the campaign by the Harvard Union of Clerical and Technical Workers to represent the 3500 employees in these occupations at Harvard, has received national attention.

After years of organizing campaigns and several failed attempts, last May the union won the election

...the NLRB ruled that the Harvard complaint was without merit....

by a narrow margin of 44 votes out of the almost 3400 votes cast. The election was hotly contested, and shortly after the result was announced, Harvard filed charges with the National Labor Relations Board, charging that various employees had been coerced and intimidated, and asking that the election be set aside. Recently, an administrative judge of the NLRB ruled that the Harvard complaint was without merit and ordered the union certified as the duly constituted bargaining agent. As of this writing, it is not known whether Harvard will take its case to the Board itself, or whether Harvard will negotiate a contract with the union.

Clerical workers have already joined unions at Yale, Columbia, and
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Culture: What's That? Claire Kramsch

Intent on bridging its two cultures, MIT has given too little attention to the fact that the two-culture hypothesis itself is the product of a singularly Anglo-saxon view of education. As Lester Thurow points out: "Continental Europe and Japan have never believed in (a) two-culture hypothesis....(This hypothesis) is highly destructive to both our educational system and our business firms." (The MIT Report XVI:6 (1988) p.7.) I would like to argue that recent curricular reforms at MIT attempt to provide an answer to the wrong question - wrong, because it is too narrowly framed. We should not ask: How can MIT students master both science and the humanities? but rather: How can MIT students go beyond their American cultural biases in the pursuit of knowledge?

With its 1875 international students, its 1300 foreign faculty and research staff from 69 different countries, its twenty internationally sponsored professorships, its numerous overseas research commitments, its world-wide industrial liaison program, M.I.T is one of the most international universities in the country. The education it gives its undergraduates has been conceptualized along new lines that should diversify students' perspectives, broaden their intellectual horizons, and make them citizens of a world in which they will have to live and compete.

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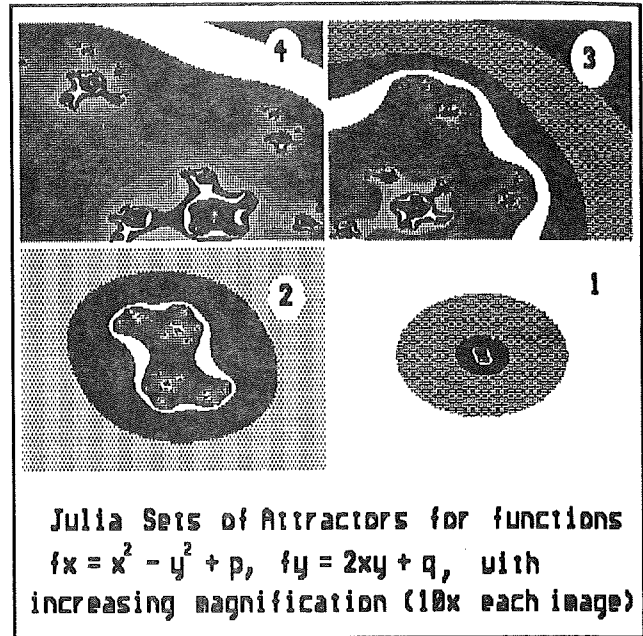
Salary Discrepancy

To The Faculty Newsletter:

Nice start on the newsletter and I think a good idea overall.

The difference in average salaries of men and women might plausibly be entirely explained by a difference in age (if the women faculty are on the average younger, their salaries are likely to be correspondingly lower) or any number of other factors. If the age-corrected or whatever-corrected data still make the case, then by all means we have some work to do. If not, well then there are numerous other problems to attend to.

Randall Davis
(AI Lab and School of Management)



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Special thanks to David Lewis and Andy Dobrzeniecki without whose help this issue would not have been possible.

EDITORIAL

Who Pays?

The first issue of the Faculty Newsletter (FNL) was typed, laid-out, pasted on boards, and then carried to a far corner of the state to find the cheapest printer in the Northeast (all by Vera Kistiakowsky). The total cost of that issue, on newsprint, was \$230. The response to the first issue enabled us to change to the current format. This issue was prepared using Word Perfect 5.0 (with some text input on floppy disks) and printed by Eagle Graphics, the same printer who produces the Graduate Student Newsletter. The out-of-pocket cost for this issue (2000 copies) is \$800. This current issue represents the physical standard of quality we want to maintain; the editorial mix will, of course, reflect changing faculty concerns and interests.

We would like to publish six issues per academic year. That frequency would allow enough space for a variety of topics and, more importantly, would facilitate interactive dialogue. We believe that the FNL's mission is to provide a forum for analysis and discussion in addition to simple "news" pertinent to the MIT faculty. Unfortunately, we have not been able to reach a consensus on the best way to finance regular publication of the FNL. Our discussions are as much concerned with philosophy as with finances. This editorial is a request for input in order to guide our actions.

Publication of six issues per year will cost \$15,000. This is based on printer's cost of \$4800 plus 25% support for a technical staff member. The support staff would be responsible for copy input, page layout, copy editing, scheduling, and dealing with the printer. The 25% support level is consistent with that of such other publications as the Graduate Student Newsletter. These services were, in the best MIT tradition, bootlegged for

Issue Number 2. We can't continue to do this.

We have considered three ways to finance the newsletter at this level. a) Institute support; b) donations; c) subscriptions.

The issue of Institute support is the one we have been unable to resolve. Some of us feel, very strongly, that it is the duty of the Administration to provide a forum for faculty interaction, and therefore MIT should fund the newsletter out of operational funds in the same manner as it does lighting, ventilation, and libraries. Others of us feel, just as strongly, that to accept money from the Administration would compromise the integrity of the newsletter. [We haven't tried informing the Administration of their duties, pending resolution of this issue.]

The possibility of sustaining the FNL through donations is a little harder to assess. There are few philosophical issues, but the fiscal ones are worrisome. We think we can finance printing costs via voluntary donations based on the level of unsolicited donations to date, although we probably couldn't afford staff support or the continuity of funding needed to maintain an experienced person. Presumably we could do substantially better if we actively solicited funds. There is also at least the hope of finding a substantial external sponsor (e.g., a foundation), although presumably we would have to be wary of the appearance of external control.

Subscription support is the third possibility. If 50% of the faculty agree to subscribe at an annual rate of \$30, we can meet the estimated \$15,000/year needed for publishing and printing. But we will incur additional expenses associated with collecting and monitoring subscription fees, as well as what might be an intolerable amount of parasitic intellectual and financial overhead associated with record keeping. Subscription also is antithetical to our intent to circulate

the newsletter to an inclusively defined MIT faculty. Do any of you have any ideas with respect to making a subscription scheme work?

Please tell us what you think we should do. We could probably continue to meet the out-of-pocket printing costs with "unsolicited" faculty donations, but we don't think we could finance support staff without some more formal funding mechanism. Support staff is necessary unless some of you volunteer for input, layout, and copy editing. (*Trained* support staff might be necessary even if you do volunteer.)

Please make contributions, intellectual or pecuniary, to any member of the Editorial Board or mail them to: MIT Faculty Newsletter, Room 38-160.

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IAP - A Progress Report

David Gordon Wilson

The Independent Activities Period - a name changed from "Independent Studies Period" by faculty vote after a proposal by then-president Jerry Wiesner - was instituted as an experiment in 1971, and continued at each subsequent review. There is general approval and even enthusiasm for IAP among most groups on campus. However, an increasing feeling that this approval is similar to that given to a holiday, and that the undergraduates in particular are being short-changed educationally, led to a more radical review of IAP, commissioned in 1986 by Margaret MacVicar, dean for undergraduate education. The IAP policy committee transmitted its report to her in February 1988; it is currently being considered by various groups concerned with the future of IAP. Here is a digest of the report.

Summary. In its present form, IAP is widely appreciated by most groups on campus, and it serves a broad range of academic purposes within the Institute. However, levels and standards for participation meet some, but not all, of the goals set when IAP was initiated in 1971. The recommendation presented in 1969 (in the Munkres report) called for an IAP to eliminate the lame-duck nature of a fall term ending in the middle of January; to reduce the pace and pressure of the fall and spring terms; and to provide time for alternative ways of learning and teaching. The 1969 statement emphasized that IAP should be an integral component in the academic life of the Institute.

There is widespread acceptance for the fall term ending in December. However, the shortened formal teaching period may have actually increased the pace and pressure during the term, because some instructors have tried to teach the same material in a shortened term. The Committee also found

that IAP, as it is now, does not meet other important goals set for it at its inception. The current approach by faculty and students is such that too few students are able to take advantage of the opportunity "to pursue studies more diverse and less structured than usual."

IAP activity does less than was intended in offering ways for faculty and students of differing fields to meet for exchange of experience and interests, or even for those in the same fields to come together in ways not possible during the regular terms.

A wide variety of alternatives to the present IAP calendar and format was reviewed. The Committee was unanimous in recommending that the present calendar be retained, at least for the next several years, during which time a variety of approaches should be tried to increase general participation. Its principal recommendation to increase involvement of undergraduates and faculty in IAP was that department heads should be required to schedule increased faculty involvement in some equitable way, and that all undergraduates should be required in advance to submit plans for how each would spend IAP (without any specific requirements for activities) and subsequently to write reviews.

Background. The changes in the calendar brought about by the establishment of IAP were that the fall term started earlier, right after Labor Day, and commencement was also earlier. In addition, the reading period and examination period were shortened (by one day and three days, respectively).

Although many faculty members objected to the reduction by about twelve of the class days available, when surveys have been taken on several occasions since then, the faculty has been heartily in favor of IAP. It enables them to spend a concentrated

time working on papers, reports, books, research, and visits. Faculty-led activities in IAP started rather low (around 275 per period) and the number has decreased to around 125.

The report goes on to present views of undergraduate and graduate students and of members of the faculty; it gives data on IAP at MIT and on calendars at some other universities; and it lists recommendations. Most of these have been summarized above. Some not mentioned are that there should be an emphasis on opportunities for community-service work (a

If IAP does not arouse a greater degree of...enthusiasm, its continuation is...very unlikely.

recommendation that may have borne fruit already); that there should be various prize competitions for undergraduates; and that there be instituted some activities like the Chubb Fellows program at Yale, by which distinguished people would come to the campus for a few days, give a major address, and interact with undergraduates in particular; and perhaps an arts festival on the lines of the Edinburgh festival or of Boston's "First Night."

Whether or not any of these rather exciting developments are organized to make IAP a more vital part of MIT life depends on the reactions of the community in general and of some relevant committees in particular. If IAP does not arouse a greater degree of general enthusiasm, its continuation in its present form is (in this writer's opinion) very unlikely.

You can receive a copy of the IAP report from Patty Murphy, 3-1668, Room 7-103. James W. Mar, professor of Aero & Astro, is the incoming IAP chair.

Minor Frustrations with MIT Bureaucracy

Markus Zahn

The faculty is extremely busy with teaching, research, and professional responsibilities. It thus becomes very frustrating when Institute bureaucracy appears to be not supportive and hinders our efficiency in meeting our obligations. I offer some examples from my own personal experiences:

Telecommunications

I am Local Arrangements Chairman of a large international conference meeting in Boston next week. I receive a telephone call from Telecommunications that a Telex has arrived for me. Should they mail it by campus mail or do I want to pick it up? Because of its probable urgency, I request that they just read it to me over the phone because it is a fifteen minute walk each way and I'd rather spend my or my secretary's time more profitably. After some discussion, I am informed that the operators are just too busy to read me the telex. I reply that for all the time we have spent discussing the matter, the telex could just as well have been read to me. All to no avail -- my secretary picks up the telex.

Changing Overhead Rates

I have a two year research contract totalling \$150K with a precisely defined budget including Benefits at 39.1% and overhead at 56%. However, for the second year of the contract the Institute raises the rates so that Benefits are at 40% and Overhead is at 63%. I have lost about \$7K from my spendable budget. How can I still meet my Statement of Work obligations with less funds available for salaries, equipment, materials and services?

Capital Equipment

Overhead is charged on equipment purchases that cost less than \$500, so-called "minor equipment." a) I need a VCR for recording of my optical measurements on a research

contract. A \$450 VCR would do the job, but because the total is less than \$500 overhead will be charged at 63% so the total charge to the contract is about \$733.00. So I decide to buy a better VCR at \$600. Because no overhead is charged, my contract has obtained a better piece of equipment at less cost. b) My video camera which costs \$600 is dropped and the TV tube is broken. Replacement cost of the tube is \$500. Because the tube is a replacement part and not a piece of equipment, overhead will be charged no matter the price. Thus the cost to the contract for a replacement tube is \$815. However, a new camera which includes the tube is \$600, and no overhead will be charged. Which would you buy?

Other minor frustrations concern the level of paperwork I am required to perform to save contract funds or to correct any problems that have arisen. The burden is always on me even if mistakes have been made elsewhere.

Fabricated Equipment

Sometimes there is a way to avoid overhead on apparatus which is fabricated. Even though each of the components may cost less than \$500, if the total cost exceeds \$500, no overhead will be charged if a special Fabricated Equipment Account is set up. This requires a letter and budget and a child account to be set-up. The offices of OSP, Property, Purchasing, and Accounting are involved and three separate budget statements are sent to me at different times each month. It gets complicated keeping separate track of the total budget, the budget of the child account and the budget of the remaining funds not counting the child account.

Final Reports

I find that it is not generally well known that expenses related to preparing the Final Report of a

contract after the Contract has expired are allowed to be charged to the contract. When I try to do this, the expenses are at first disallowed because the contract has expired. I must then write a letter justifying this expenditure.

Summer Salary

For those of us who do not take a full month of summer vacation it is unfair that we only get paid for two summer months.

I know no safe depository of the ultimate powers of society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it away from them, but to inform their discretion.

Thomas Jefferson

Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed, those who are cold and are not clothed. This world in arms is not spending money alone. It is spending the sweat of its laborers, the genius of its scientists, the hopes of its children.

Dwight D. Eisenhower

Thinking About the Next Century If Not Us, Then Who?

Samuel Jay Keyser

In an interview in Technology Review in November of last year, Gerry Wilson, Dean of the School of Engineering, said: *...as they move on in their careers, some engineers grow to realize that if...they want to have a substantial positive effect on society, they must become much more effective at understanding what society wants and what it can use in a broad context....My dream is that one day engineers will play as much of a leadership role in forming technology policy as lawyers do now.*

Dean Wilson's emphasis on the potential role of leadership that engineers (and scientists) might play in the future of our society is far from new. In fact, it is very close to a point made in The Engineer and the Price System. This book, authored by the great social historian and economist, Thorstein Veblen, appeared sixty-seven years ago. Commenting on Veblen's essay in an introduction to the 1983 edition of the book, Daniel Bell notes that for Veblen:

...the technicians constituted the indispensable general staff of the economic army, and one day, when the dawning consciousness of their power became clear to them, they would presumably take over as rulers of the new society.

Veblen, himself, put the issue this way: *These...engineers...make up the indispensable General Staff of the industrial system; and without their immediate and unremitting guidance and correction the industrial system will not work....To do their work as it should be done these men of the industrial general staff must have a free hand, unhampered by commercial considerations and reservations....Yet the absentee owners, now represented, in effect, by the syndicated investment bankers, continue to control the*

industrial experts and limit their discretion, arbitrarily, for their own commercial gain, regardless of the needs of the community.

Despite his call for engineers to take a leadership role in America's industrial society, Veblen's argument is really based on the view that America's problem in the beginning of the 20th century is not an engineering problem, but rather a management problem. It appears as if nothing much has changed in the past sixty-seven years. Consider the following argument which one now hears at MIT:

- De-industrialization is patently a bad thing.
- It comes about because the primary goal of American corporate management is to maximize short-term profit.

It appears as if nothing much has changed in the past sixty-seven years.

- Maximization of short-term profit can be achieved by importing goods manufactured off-shore and putting American labels on them, rather than by manufacturing them on-shore where costs are higher and hence potential profit lower.
- However, maximization of short-term profit has long-term disadvantages; namely, if America de-industrializes, then almost everyone suffers, including basic research in American universities.
- Therefore, the trend toward de-industrialization must be reversed.
- Scientists and engineers, who have a vested interest in this reversal, should be trained so that they have a better chance at influencing technology policy. In other words they must be trained to be good managers as well

as good scientists and engineers.

But if America's problem is still a management problem, then what kind of management problem is it? Robert Hayes and William Abernathy, writing in the Harvard Business Review, in an article entitled "Managing our way to economic decline" (July-August 1980) view the problem as essentially one of managerial culture: *Our experience suggests that, to an unprecedented degree, success in most industries today requires an organizational commitment to compete in the marketplace on technological grounds - that is, to compete over the long run by offering superior products. Yet, guided by what they took to be the newest and best principles of management, American managers have increasingly directed their attention elsewhere. These new principles, despite their sophistication and widespread usefulness, encourage a preference for (1) analytic detachment rather than the insight that comes from "hands on" experience and (2) short-term cost reduction rather than long-term development of technological competitiveness. It is this managerial gospel, we feel, that has played a major role in undermining the vigor of American industry.* (page 68)

There is another view, one which argues that American industrial managers take a short-term view of things because they cannot do otherwise. Maximization of short-term profit is our present economic system's default case. And the reason for this is not managerial culture, but rather social policy which surfaces as the high-cost of capital. In a recent article ("U.S. Competitiveness: Beyond the

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Toxicology Degree Denied

(Continued From Page 1)

Applied Biological Sciences as the primary topic, filled Room 10-250. Two motions were on the Agenda. The first, organized by an ad hoc group of faculty and presented by Professor Robert W. Mann of Mechanical Engineering, expressed concern on the "absence of due process and procedure in the recent disbanding," asked the President to prepare and publish a statement of policy regarding the continued service - of both tenured and untenured faculty who are involved in the reorganization or restructuring," sought Administration consultation with the ABS faculty, students, and staff in damage repair and reduction of the present tension, and asked of the Faculty Policy Committee "an evaluation of the events which led up to the current unfortunate situation, a description of criteria applied, and recommendations for changes in policy or procedures necessary to address faculty concerns."

After lengthy and vigorous debate reflecting the many sides of the issue, a motion to postpone consideration for two months (until the May faculty meeting) prevailed by a narrow vote.

Professor Essigmann of ABS presented the second motion requesting a "Faculty Committee to review the process that led to the closing" - "to determine the lessons to be learned from this difficult experience, to consider procedures followed in earlier departmental reorganizations, and to make recommendations for future Institute policy. The Committee shall report in writing by the May, 1988, Faculty Meeting." This second motion passed unanimously after virtually no discussion.

Thus both motions addressed the same concerns and proposed essentially the same approach - the first (postponed), providing a forum in

which the faculty and students could express their concerns, and the Administration could offer its explanations, and the second (approved), establishing the vehicle to address the problem.

The report of the "Committee on Reorganization and Closing of Academic Units: Learning from the ABS Experience" was presented and discussed at the May 18, 1988 faculty meeting. The attendance was more typical of a regular faculty meeting - perhaps a bit better, but certainly not a full house.

The Report, presented by its chairman, Professor Sheila E. Widnall of Aeronautics and Astronautics, briefly reviewed relevant antecedent actions, addressed the "process used in closing the Department of Applied Biological Sciences," and provided a detailed history of how this decision came about. Problems identified included: "inadequate communication between the Dean and the Department Head," "virtually no consultation by the Dean, President, and Provost with other members of the Administration, the Faculty of the Institute, and the Corporation Visiting Committee prior to the decision to close," announcement of closure "before any detailed planning for assuring the continuity of the careers of the Faculty and students," the absence of "a strong and informed statement about the meaning of tenure," and the "Institute's obligation to other academic personnel - when the decision was announced." Further, no consideration was given to the implications on the ABS Undergraduate Program, an area on which the present Rules of the Faculty is also silent. And finally, "a clear message was not immediately communicated to the various constituencies of the Department (e.g., granting agencies) as to the status and future of the faculty, the research, and the educational programs of the Department."

The Widnall Committee recommended the implementation of a

formal process for the reorganization or termination of an academic unit; a committee appointed by the President would provide him advice a priori on the plan.

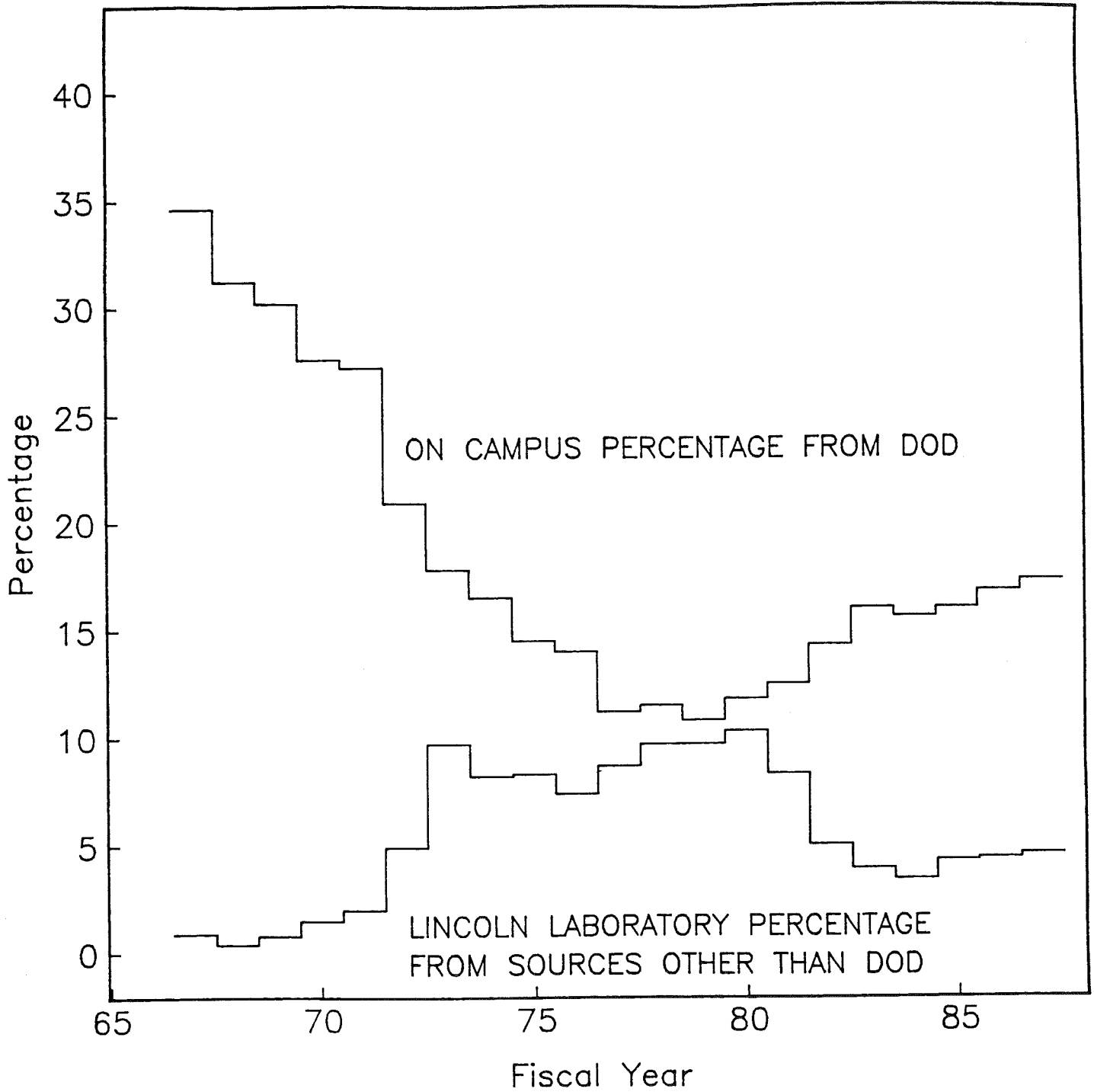
The second recommendation was that the "Institute formalize the principle that tenure is held by the Faculty in the Institute rather than in a department or other academic unit." This principle and a statement that "contracts with Junior Faculty, and Senior Principal Research Scientists are guaranteed by the Institute standing behind their academic unit" should be clearly stated in Policies and Procedures.

The third recommendation addressed the initiation and termination of degree programs and requested the Faculty Policy Committee to review the existing rules and policy statements and prepared a single policy statement for the Rules of the Faculty.

Discussion at the May meeting of the Widnall Committee Report was modest, reflecting both the thoroughness of the Committee's study and recommendations and the small attendance. One suggestion was that the proposed "Departmental Termination Review Committee" be appointed by the President and the Chairman of the Faculty - not the President alone. Several faculty commented on the proposed formal declaration of tenure in the Institute - some expressing support; others expressing apprehension. Following discussion, the recommendations of the Widnall Committee were accepted by the faculty.

The proposed motion from the March meeting was then re-presented. Since the Widnall Committee had, in fact, addressed all of the prospective issues arising from the ABS termination, Professor Mann, on behalf of those who prepared the original motion, moved indefinite postponement, which was voted affirmatively.

HISTORY OF DOD FUNDING OF R&D AT M.I.T.



M.I.T. NUMBERS

DOD Funding of R&D at M.I.T. in FY87¹

	<u>Total R&D</u> <u>(in \$1000)</u>	<u>%DOD</u>	<u>MS²</u>	<u>%MS³</u>
M.I.T. Total	616,471	62.1%	DOE	8.9%
Lincoln Laboratory	353,716	95.4	FAA	3.7
On Campus	262,754	17.3	DOE	21.0
School of Arch. & Urban Plan.	4,635	13.8	Ind	68.2
School of Engineering	76,787	39.1	Ind	23.1
School of Hum., Arts & Soc. Sci.	2,030	27.4	FNPO	32.0
Sloan School of Management	3,210	10.0	Ind	77.1
School of Science	90,025	5.7	HHS	31.5
Whitaker College	6,272	13.6	HHS	63.4
Interdepartmental Laboratories	79,376	10.2	DOE	32.4
Other	419	0.0	HHS	69.7
MIT On Campus Centers, Laboratories and Departments⁴				
Center for Comp Res in Ec Man(SSM)	136	93.7	OUSG	4.8
Statistics Center(HASS)	522	83.7	NSF	14.3
Artificial Intelligence Lab(E)	7,627	79.9	FNPO	15.2
Lab for Computer Science(E)	9,330	71.2	HHS	13.8
Lab for Info & Decision Systems(E)	2,598	66.4	NSF	14.9
Tech Lab for Adv Composites(E)	758	64.2	Ind	35.8
Materials Processing Center(E)	6,327	51.5	Ind	27.9
Ocean Engineering(E)	2,389	51.1	Ind	24.4
Research Lab for Electronics(IL)	12,328	47.6	HHS	19.6
Electrical Engineering General(E)	4,830	43.0	Ind	44.6
Civil Engineering(E)	5,436	36.8	NSF	29.3
Aeronautics & Astronautics General(E)	4,710	30.4	Ind	31.9
Lab for Manufac & Productivity(E)	2,054	29.2	Ind	57.9
Space Systems Lab(E)	1,879	24.4	NASA	65.1
Materials Science & Engineering(E)	6,951	24.3	DOE	24.5
Mechanical Engineering(E)	7,411	23.2	Ind	22.1
Mathematics(S)	2,428	20.4	NSF	74.5
Center for International Studies(HASS)	601	19.8	FNPO	59.2
Brain & Cognitive Science(WC)	4,308	18.9	HHS	53.2
Media Lab(AUP)	3,797	16.2	Ind	78.8
Earth Atmos & Planetary Science(WC)	10,467	14.7	NSF	41.0
Chemistry(S)	11,203	13.2	HHS	50.9
Operations Research Center(IL)	304	12.9	NSF	56.6
Lab for Electromag & Electronic Sys(E)	2,422	12.0	Ind	60.1
Millstone Hill Field Station(IL)	2,088	10.7	DLL	48.3
Sloan School(SSM)	1,861	10.4	Ind	72.2

¹Based on dollar amounts given in MIT Report of Sponsored Research Fiscal Year 1987.

²Major sponsor not including DOD. DLL-Draper & Lincoln Laboratories; DOE-Department of Energy; FAA-Federal Aviation Administration; FNPO-Foundations and Not-for-Profit Organizations; HHS-Health and Human Services; Ind-Industries; OUSG-Other US Government Sources; NASA-National Aeronautics & Space Administration; NSF-National Science Foundation.

³The percentage of funding given by the major sponsor listed.

⁴Listed in order of decreasing percentage of DOD funding not including centers, laboratories and departments with less than 10% DOD funding. The letter in the () gives the School affiliation. AUP-Architecture and Urban Planning; E-Engineering; HASS-Humanities, Arts & Social Sciences; IL-Interdepartmental Laboratories; S-Science; SSM-Sloan School of Management; WC-Whitaker College.

The Dartmouth Review Case

Jonathan King

The conflict between student staff members of the ultraconservative Dartmouth Review, and the faculty and administration of Dartmouth College has escalated to the federal courts. The outcome of the suit brought in the name of three students against the college is likely to influence academic life on other campuses.

As described in the report appended below (see page ?), the three students were suspended for their harassment of Prof. William Cole, a Professor of Music at Dartmouth College, who is black. The systematic campaign against Prof. Cole was part of an ongoing Dartmouth Review effort to limit the gains made by women and minorities on campus in the past decade.

...editors burned down the shanties...students had erected in support of...South Africa...

Student staff members of the independent conservative campus newspaper, sued Dartmouth College for infringement of first amendment rights. The suit also calls for the cutting off of federal funds to Dartmouth College.

Beginning in 1982 with a criticism of affirmative action programs, the Dartmouth Review has consistently been a center of controversy. In 1986 Review editors burned down the shanties which Dartmouth students had erected in support of the divestment from South Africa campaign. The Review is an off-campus publication with a budget of \$100,000 provided by alumni, corporations, the Olin Foundation, and the Institute for Educational Affairs (IEI). The IEI, founded by neoconservatives Irving Kristol and William Simon, finances right-wing publications at colleges throughout the

country.

Members of the Dartmouth Biology Department reported to me on a recent scientific visit, that they are concerned that the teaching of evolution and genetics may become another target of the Review, and that the Review's methods and views have had a negative impact on the openness of discussion and debate on the campus.

Dartmouth Review supporters hope the suit will have national impact, seeing it as a mechanism for limiting classroom content and debate, as well as inhibiting the widening of the intellectual content of courses following the increased entry of women and minorities into higher education.

Well financed and with national right-wing political connections, Dartmouth Review staff members have access to very sophisticated public relations efforts, including the retention of a major Washington PR consultant. They are presenting the case as an abridgement of the students' academic freedom. These events, in which the harassment of honest teaching and scholarly activity are cloaked in the name of academic freedom, represent, in fact, a very serious step in the opposite direction.

Thinking About the Next Century

(Continued From Page 6)

Trade Deficit," by G.N. Hatsopoulos, P.R. Krugman and L. Summers, Science July, 1988, pp. 299-307) the following diagnosis appears:

The high cost of capital in the United States is the most important proximate cause of low investment rates, which, in turn, are the major explanation of lagging U.S. competitiveness...the high cost of capital to the U.S. manufacturing sector reflects the limited availability of

funds to that sector. Our manufacturing sector finds access to capital limited both by an extremely low overall national savings rate and because the United States puts a large fraction of its savings into nonbusiness uses such as residential housing.

In other words, lagging competitiveness results from the high cost of capital and the high cost of capital results from an extremely low savings rate. What causes the savings rate to be low? Later in the same article the authors point out that changing the tax code would radically change our savings habits and hence the cost of capital. In other words, what we do with our income is a direct reflection of what taxes our society levies. Thus, our tax system is a direct reflection of our social policy and if we want to do something about competitiveness, it is our social policy that has to change.

We, as a faculty, must understand these issues as clearly as we possibly can. I believe that our role in the last decade of this century and on into the next will be inextricably bound up with them.

As far as I can see we are living in a time when it is absolutely crucial that we as a society learn to think in the longest terms possible. Everything from an exploding world population to the greenhouse effect to the ozone layer all demands that we do so. The difficulty is that given the current state of the economy, it is virtually impossible for industry to take the long view and government has been unable to do so in anything like an effective fashion up until now and I do not see this changing in the near future.

Consequently, the only institutions on the horizon that are culturally able to consider long term goals are our universities.

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PUBLIC ANNOUNCEMENT REGARDING THE INVESTIGATION OF THE COMPLAINT AGAINST PROFESSOR WILLIAM S. COLE

Richard Sheldon, Associate Dean of Faculty for the Humanities, and C. Dwight Lahr, Dean of Faculty, have completed their investigation of the complaint brought by four students against William S. Cole, Professor of Music. The complaint is based on an altercation that took place between the students and Professor Cole on February 25, 1988, in his classroom.

The deans reviewed written statements about the incident and interviewed many of those involved, including bystanders, the four complainants, and Professor Cole.

The four complainants entered Faulkner Hall on Thursday, February 25 at 3:50PM just after Professor Cole had finished teaching Music 2 and while he was still talking with students who had remained to ask questions. All four are on the staff of the Dartmouth Review, which had the week before published an article extremely critical of Professor Cole and this particular course.

That article included a transcript described in the editor's note as "unaltered and printed in its entirety," but the transcript itself covered only a small portion of the class. That same editor's note does not mention that the transcript was obtained by use of a hidden tape recorder, nor does it say the transcript of a telephone conversation with Professor Cole on the same page was obtained by taping the conversation without permission and against Professor Cole's will. This particular telephone call had been preceded by two other calls that night from Review reporters who refused to heed statements by Professor Cole and one of his children that he did not want to talk to them.

The classroom use of a tape recorder violates the Code of Conduct published in the Student Handbook. The relevant provision, on page 149, is under the heading "Right to Privacy":

"No student shall install or use any device for listening to, observing, photographing, recording, amplifying, transmitting or broadcasting sounds or events occurring in any place where the individual has a reasonable expectation of being free from unwanted surveillance, eavesdropping, recording, or observation, unless the student has first obtained the consent of all persons involved."

The context surrounding the altercation includes not only the articles that had recently appeared in the Review, but also the class discussion that had just taken place during the first half of Music 2. This was the first class meeting since the appearance in the Review of the transcript of a part of the February 16 meeting of the course. The first half of the class on February 25 had centered on a thoughtful dialogue between Professor Cole and members of the class on the issues raised by the taping of the class meeting. Professor Cole had guided the class through a difficult discussion in order to put the matter to rest and allow them to return to the main subject of the course during the second half of the class.

These circumstances have to be taken into account in assessing Professor Cole's reaction when he looked up from his conversation with students at the end of his class to see four reported from the Review entering his classroom. Their purpose in confronting the person whom they had just pilloried was allegedly to: 1) give him an opportunity to respond to the article that they had just published, 2) secure an apology in lieu of possible legal action for the language that he had used in the telephone interview that had been taped, 3) take photographs as necessary, 4) write a follow-up story.

Throughout the altercation, Professor Cole asked the reporters

repeatedly to stop taking pictures and to leave his classroom. When the picture-taking and vexatious harassment continued, he lunged at the camera and dislodged the flash attachment. At that point he noticed that one of the reporters had in his pocket a tape recorder which was on. At his insistence, it was turned off. The four reporters left when the chair of the Music Department entered the room to determine the reason for the commotion and shouting by Professor Cole.

The deans have concluded that Professor Cole was not guilty of unduly aggressive behavior toward the four reporters who entered his classroom, accosted him, and refused to leave when asked. He did not engage in physical abuse or in the malicious destruction of property. They have further concluded that the use of some profanity, given the nature and persistence of the actions of the four reporters, is understandable and constituted a justifiable and moderate response.

Most bystanders reported that their respect for Professor Cole had increased because of the restrained way in which he had responded to what they saw as clear provocation and harassment by the four reporters. The entire incident was very unfortunate and did much to disrupt the final week of Music 2 - a popular course taught by an unusually talented scholar whom Dartmouth is fortunate to have on its faculty. Students at few colleges have the chance to study with a performer of international acclaim who also has published two scholarly works accepted as standard references on jazz musicians.

*Le style c'est l'homme.
Buffon*

Unionism and the University

(Continued From Page 1)

Boston University. Active organizing campaigns are underway at a number of Boston-area colleges, such as Simmons, Suffolk, Northeastern, and the BU Medical campus.

Why are clerical workers on college campuses expressing more interest in collective bargaining than their counterparts in private industry? One answer, is that there are important "bread and butter" items that university workers are seeking. The most recent contract between Boston University and its clerical and technical workers union illustrates the point. The contract provides for wage increases of 28% over three years, equity and affirmative-action increases for minority workers, limited child-care benefits, and improvements in health benefits.

The last two items are of special importance. The last contract at Yale provided for the university to pay all medical costs for the unionized workers. The issue of child care has been a major organizing theme at Harvard. It is reported that day care at the Harvard facilities costs \$570 per month, and many of the employees are asking Harvard to pick up these costs. Approximately 82% of the clerical workers at Harvard are women, and many men and women support staff have young children.

In some ways, the attempt by university employees to gain some type of representation parallels the expansion of collective bargaining in the public sector during the 1960s. In a non-profit sector, where there are many parties to the setting of budgets, workers may feel the need for more "clout" so that their interests are considered along with the interests of other claimants. The emergence of unionism in both instances appears to have occurred after periods of growth and at a point when the future holds the prospect of much tighter budgets.

Another reason for increased

union activity within the ranks of academic clericals is that they are often the forgotten group within the organization. Administrators are busy and, in the face of tough tradeoffs, commit scarce time and resources to faculty needs. For their part, faculty often take support staff for granted. So it is not surprising that support personnel are searching for ways to focus more attention on their own needs and aspirations.

In addition to these factors, there have been important developments on the union side as well. Most of the organizing effort at Harvard has been basically "from the ranks." The president of the union, Kris Rondeau, started as a medical technician at Harvard Medical School. Most of the other organizers were also Harvard employees at some point. This type of grass-roots movement is not new - indeed, most of the organizing in the 1930s took place in this fashion - but it is different from a lot of organizing that has taken place over the past several decades wherein "outsiders" have tried to convince workers to join a union.

Clearly, the organizing-from-within strategy has considerable appeal to workers in a university who think of themselves as independent and do not necessarily want to be submerged in a large union (often perceived as white and male) that may dictate certain approaches to labor/management relations. In this connection, the slogan of the union at Harvard - "It's not anti-Harvard to be pro-union" - represents a very sophisticated and effective strategy.

This premise - that support for the union did not need to be dependent on holding a deep-seated dislike for the employer in general or supervision in particular - represented an important shift away from the frequent campaign approach that emphasizes the negative side of management and of the employment relationship. If and when the parties at Harvard sit down to negotiate a

contract and develop a day-to-day working relationship, it will become clearer whether or not the positive potential that is inherent in worker voice and representation gets realized.

The strategy of the clerical and technical workers at Harvard to be a grass-roots independent movement ran into the practical difficulty of supporting the organizers financially throughout a several-year campaign. In the end, the public-sector union, the American Federation of State, County, and Municipal Employees union, provided the backing. It is reported that they have spent over \$500,000 on the campaign.

In the face of this interest in trade unions, the management side of universities has moved to improve benefits, open channels of upward communication, and in general to elaborate the human-resource model that has been so effective in the private sector in blunting the need for unionism. There are few subjects so emotional and so subject to a variety of interpretations as management's instituting a wide array of positive personnel policies and programs. Employers may see these steps as pro-employee representing good and fair employment arrangements, while many others may see such developments as undermining the appeal of unionism.

I have no way of knowing whether an organizing campaign of the sort active in a number of Boston universities will come to MIT. If it does, it is likely to create considerable internal turmoil as everyone takes sides. At Harvard, the campaign was opposed by President Bok, himself a labor researcher, and the administration went all out to present the point of view to employees that a union was not necessary. Many students supported the union, and 27 prominent Harvard faculty took out advertisements to urge Harvard to be neutral and to allow employees to express their choice (presumably to vote for the union).

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Faculty Salaries in Cyclical Low

Lester C. Thurow

Cycles in the supply and demand, and hence wages, for college professors are dominated by long time constants. To understand where college professors stand today, it is necessary to go back in time to the aftermath of WWII.

The GI Bill fueled a boom in college enrollments. Professors were in short supply, wages rose, and in response to those higher wages, larger numbers embarked upon the multi-year journey to a Ph.D. in the 1950s. This trend was magnified by the Sputnik shock in the late 1950s. To increase the skills necessary to get to the moon first, generous government and private scholarship programs were set in place to lower the individual costs of getting a Ph.D. Wages were up; costs were down; more began to study for the Ph.D. degree.

In the late 1960s these financial inducements were augmented by the spirit of the times - "ask not ...", the Peace Corps, the civil rights movements, the anti-Viet-Nam-war movement. To become a college professor was to have respect among one's peers even if one was not choosing the occupation with the country's highest average wages. A very large portion of those with the very best undergraduate grades went into the academic professions.

More by accident than by good planning as these new supplies of Ph.D. graduates entered the job market in the last half of the 1960s and the early 1970s, they found plentiful job opportunities and rising wages. Colleges were rapidly expanding to accommodate the baby-boom generation - a generation that technically includes those born between 1947 and 1963 and entering college between 1965 and 1981. Despite mushrooming supply, Ph.D.s were in demand and relative wages were rising.

By the mid-1970s, however,

the wheel of fortune was turning. After reaching the moon first, government and private scholarship programs gradually dried up. The costs that had to be financed by the individual to get a Ph.D. soared. Nearing the end of the baby-boom generation, colleges no longer needed to expand. The market for college

...wages fell in the last half of the 1970s and early 1980s....

professors had become a replacement market rather than a growth market. By the late 1970s there was a glut of college professors and in many fields the number of new Ph.D.s being produced vastly exceeded the number of job openings.

In response to this situation, wages fell in the last half of the 1970s and early 1980s, both absolutely and relatively. At the time the decline was blamed on inflation, but inflation played a role only in the sense that it sociologically permitted real wages to be reduced faster than would have been possible with price stability. To reduce real wages one did not need to overtly cut money wages.

With lower wages and higher costs, economic signals were calling for fewer new Ph.D.s, and the spirit of the times was also against academic pursuits. Among college students, making money became more important than it had been.

By the 1980s few of those with the very best grades were becoming college professors. Among one's peers one had to explain one's "irrational" behavior if one became a college professor. Together, these factors cut the production of Ph.D.s among American citizens in half between the early 1970s and the late 1980s. But with the baby-dearth generation born after 1963 entering college, universities did not need college professors. Sharp

cut-backs in supply had little effect on relative salaries.

When it comes to relative wages, college professors today are probably at a cyclical low. In those academic specialties in the shortest supply (finance and accounting) academic wages are now rapidly rising. In a few years general salaries will start along the same path. No new baby-boom is on the horizon, but the post-WWII GI bulge that entered college teaching in the 1950s will be retiring in large numbers in the 1990s. Replacement demands will expand dramatically and exceed numbers getting new Ph.D.s. Relative wages will once again start to rise.

The supply and demand cycle that began one half century earlier will be set to start over again.

Thinking About the Next Century (Continued From Page 10)

Furthermore, their culture is one in which studies that show that something cannot be done are as valuable as studies that show the opposite, whereas in the corporate world one has the strong impression that showing how something cannot be done is generally not an acceptable result.

For the coming decades, then, universities appear to be the primary place where long-term thinking and planning can occur. How the results of this thinking can be introduced into the mainstream of technological and social policy is clearly one of our major obligations, for if not us, then who?

We have only one planet. If we screw it up, we have no place to go.

**Hon. J. Bennett Johnston
(1988)**

Culture: What's That?
(Continued From Page 1)

And yet: Still only one percent of its undergraduates are willing or able to study abroad each year. Only thirty undergraduate and graduate students apply each year for international scholarships to study abroad (e.g., Fulbrights, Marshalls, Rhodes, Churchills) as compared for example to 330 from Harvard or 150 from Carnegie Mellon. The undergraduate curriculum can hardly be called international in scope: The curricular reform has focussed more on the universal values transmitted through the study of texts from the Anglo-saxon tradition than on national and cultural differences in the representation of knowledge. The study of a foreign language is largely viewed, outside the Foreign Languages and Literatures Section, as the mere acquisition of automatic skills; it is seen either as a pre-professional or as a remedial activity, but in no case is it perceived, as it is at other institutions, to be a mind-broadening, humanistic endeavor; Foreign Languages and Literatures faculty are forced again and again to justify the link between a foreign language and a foreign culture. Language is not seen as a carrier of culture; in fact, many at MIT believe that a foreign culture and literature can be taught more easily in English.

The anglocentric bias is also prevalent in the evaluation of faculty's scholarship for promotion and tenure: This bias makes it difficult for the rest of the Institute to recognize scholarly distinction in research done on a foreign culture or literature when it shows patterns of thought and an intellectual style characteristic of a non-American intellectual tradition. It makes it impossible to evaluate scholarly work written in a foreign language. The Institute may be multicultural in its student and faculty body, but it is monocultural in its current educational vision.

Last year's discussion

regarding the place of foreign language subjects in the HASS-Distribution program illuminates on a microlevel some of the key aspects of MIT's cultural debate. The 25 pages of compulsory writing in all HASS-D subjects are clearly an English writing requirement; but what about papers written for foreign language HASS-D subjects? By insisting that they too should abide by the 25 page rule and by suggesting that foreign language students write some of it in English, if they can't do it in the foreign language, the requirement disregards the cultural dimensions of language learning. Learning to write in a foreign language is learning not only how to write clearly and accurately, but how to express the world in a culturally different discourse style that meets the expectations of a culturally different reader. It is a slow process of socialization and acculturation that takes place in small increments as one learns to speak, read, and write in the language. The 25 page English writing requirement that is meant to strengthen a student's command of American written discourse is different from the writing that has to be done in the acquisition of foreign forms of discourse. Good English writing is an important goal, but it is only by being socialized in another literate culture that students can begin to realize the non-universal nature of English and of their own Anglo-saxon view of the world.

If we want MIT students to think in terms of world economy and to be world engineers of the XXIst century, it is not enough for them to communicate between science and the humanities, they will need to communicate in different national cultures. And for this, it will not be enough to speak English or to have acquired foreign linguistic trappings on a U.S. American frame of mind. It has been said that MIT students must learn not only how to solve problems but how to frame them. This entails, among other things, learning how to

consider another culture's frame of reference.

In my view, the greatest obstacle to world citizenship is the illusion of multiculturalism. Because MIT is such a pluralistic community, it is particularly eager to integrate and capitalize on the various social, ethnic, and intellectual backgrounds of its students. But this pluralism too often covers a staunch monoculturalism that leaves untapped MIT's international resources and severely limits the future ability of MIT undergraduates to become citizens of the world.

Do our students feel threatened by cultural relativity? Then all the more MIT's role should be to buck the trend rather than to follow it.

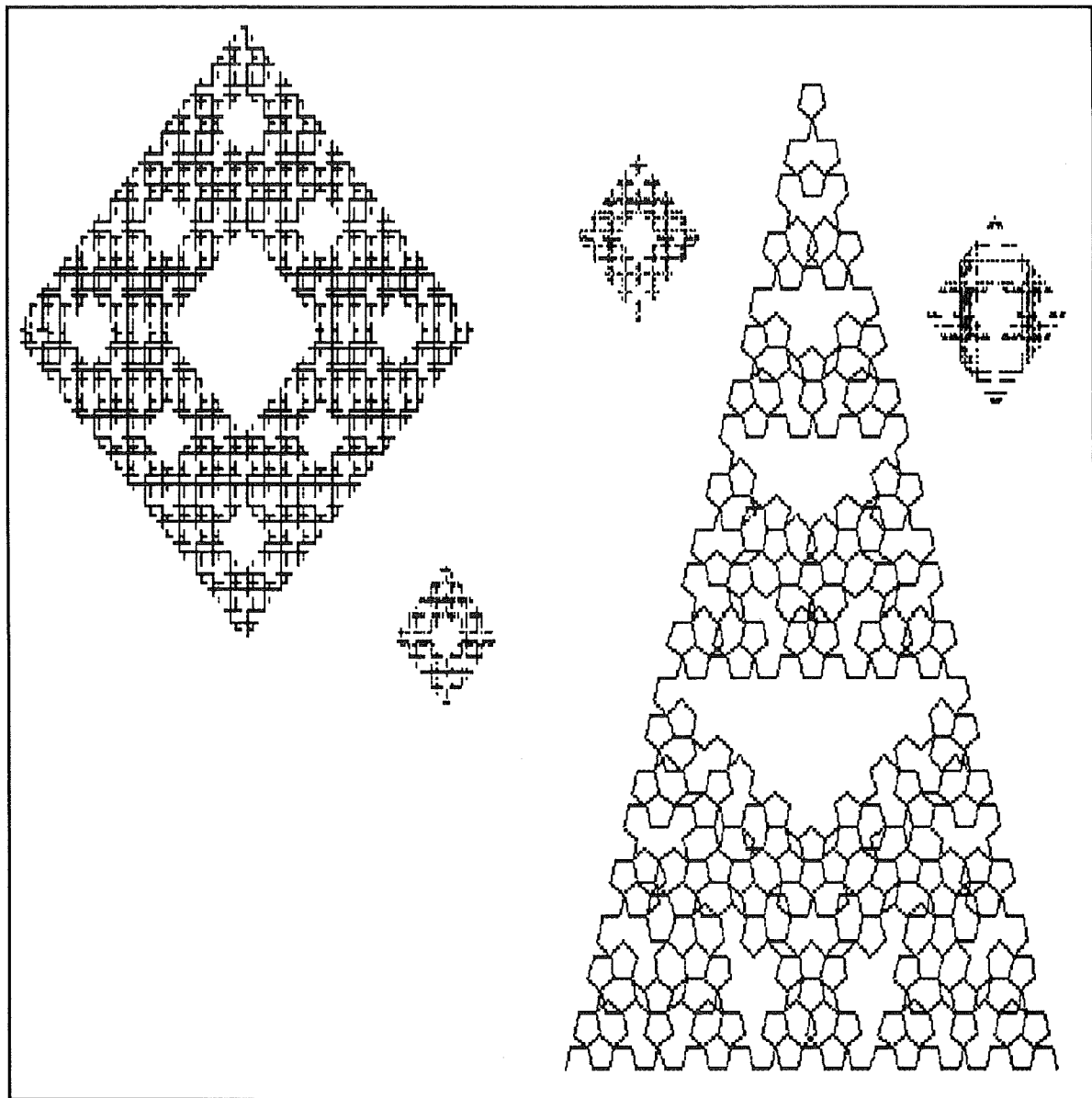
Unionism

(Continued From Page 12)

Some faculty members at MIT (from the Industrial Relations Section, the academic unit that represents the center for research and teaching in this subject area at MIT) have urged that consideration be given to establishing some form of employee participation as well as forums that would combine the best elements of the traditional form of unionism (employees able to present their point of view from an independent stance) with the best parts of the human resource model (the emphasis on supervisor/employee communications and problem solving). Whether a new approach emerges ultimately depends on what employees themselves want, what the Administration is interested in doing, and how these respective interests are framed into working relationships.

But whatever the future holds, our objective should be to avoid the divisive and emotionally wrenching affair experienced by other universities. The MIT community spirit and culture are too important to be put at risk. Informing ourselves regarding the options available to all parties represents an important first step.

Chaos, Order, and Christmas



Happy Holidays!

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