

THE MIT FACULTY NEWSLETTER

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October, 1988

THE ROLE OF HUMANITIES IN THE EDUCATION OF ENGINEERS

Jack L. Kerrebrock

The generally accepted description of modern engineering, as the creative application of scientific understanding to the satisfaction of human needs, implies both the opportunities and the difficulties of incorporating humanities into the education of engineers. Some understanding of the humanities, if not a humanistic viewpoint, is necessary to the successful pursuit of engineering if the work of the engineer is to be informed by the engineer's perception of societal needs. On the other hand, the very idea that one should proceed logically from the perception of needs to their satisfaction through technological means, an approach sometimes described as instrumental, is in tension with the desire of many humanists to understand, but not to modify, their environment. This difference of viewpoints between the engineer, who seeks to bring about constructive change by application of technology, and the humanist who wishes to understand what is and what has been, presents both the essential problem and the opportunity for the humanistic education of engineers.

Thus in seeking a rationale for the inclusion of the humanities in the crowded education of engineers, there are at least two possible justifications. One is that engineers broadened by humanistic studies will be better, and happier, citizens, able to understand issues outside the narrow domains of their profession,

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RELATIVE FACULTY SALARIES

David Gordon Wilson

We are all interested in our salaries, and in how they compare with those of others. The comparisons can be made at three principal levels:

1. average values relative to other colleges;
2. average values for schools or departments at MIT; and
3. distribution of salaries within departments.

The third category is not published; we gain isolated data when we as individuals submit budgets in collaborative proposals. This editor asked Constantine Simonides, Vice President and Secretary of the Corporation, for any publishable information in the first two categories. He said that school deans jealously guard information about the average salaries in their various departments. He passed our request for

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IMPACT OF HASS-D ON EDUCATION AT MIT

Margery Resnick

While the former Humanities Distribution (HUM-D) requirement was not without flaws, it highlighted for MIT students the rich diversity of fields, approaches, and achievements with which studies in the Humanities, Arts, and Social Sciences are concerned. The development of these subjects was entrusted to the faculty whose scholarship and expertise were related to the courses they taught.

The Maier Committee, charged with recommending curricular reform, proposed that the HUM-D requirement be replaced by a new Humanities, Arts, and Social Sciences (HASS-D) requirement. With some modification, the details of that proposal are now being implemented. The stated goal of the new requirement is: "To promote increased breadth in a manner that complements the concentration component and to provide a more structured and intellectually coherent overall HASS requirement." The new plan limits HASS-D subjects in terms of categories and total numbers, and standardizes the format of these courses. Faculty teaching courses "licensed" by one of the five HASS-D committees must agree to "mechanical criteria", including a three hour comprehensive final exam.

A hard look at this new program shows that rather than enriching the Humanities, Arts, and Social Sciences at our institution, it has negative consequences for MIT education. A brief review of five of the most serious issues follows.

1. The first concerns the breadth of the offerings. The requirement divides all HASS fields

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What people want is very simple. They want an America as good as its promise.

Barbara Jordan

INVITATION TO A DIALOGUE

Editorial Board

Yes, MIT does need a faculty newsletter. And the success of this enterprise will ultimately depend on the interest that our colleagues throughout the Institute may have in contributing to it. We welcome your input in the form of essays (approximately 750 words with a maximum of 1000 words) and shorter contributions such as letters, editorials, quotations, etc. Our aim is to provide a forum for the discussion of issues which members of the faculty regard as timely and important to them and to the MIT community at large. Our present plan is for the newsletter to appear periodically during the

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POWERFUL PASSIONS AT M.I.T.

Kenneth Keniston

Educational change unleashes powerful passions. At stake are divergent conceptions of what is intellectually important, conceptions on which academics have bet their entire careers. Also at issue are less philosophical concerns over enrollments, workload, and departmental status that, when joined to the more intellectual concerns, engender that peculiar intensity of debate that characterizes any serious proposal for academic reform.

A special problem in academic reform is that we academics as a group have a penchant for seeing the general in the particular. That capacity may make us good scholars and researchers, it also leads us to see matters of high principle in what might appear to others as trivial details. As a rule, therefore, curricular change is debated in terms of vast, universal principles: liberty versus constraint, civilization versus barbarism, high standards versus pandering. Conversely, it is rare to oppose change publically on the grounds that one's department will lose students, that one's own workload will increase, or that one's field will be denigrated. Thus it is left to administrators and their camp followers to propose compromises that respond to the "political" aspects of change - - - in return for which they are invariably labelled as unprincipled by faculty critics.

A central issue in every curricular change is the "division of knowledge". Every structured curriculum must confront the issue

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SHOULD EVENTS IN THE HUMANITIES, ARTS AND SOCIAL SCIENCES CONCERN YOU?

Vera Kistiakowsky

The abolition of the department of Applied Biological Sciences (ABS) caused a strong reaction among members of the MIT faculty. There were certainly several reasons for this response, but explicit among them was the perception that the change had been undertaken in an arbitrary manner and carried out in an unconsidered fashion. What captured the attention of so many faculty members was the thought that it could happen to them.

In this first issue of the Newsletter, three articles out of six deal with issues principally in the areas of Humanities and Social Sciences, a School which contains only seventeen percent of the faculty. Why are the issues discussed of interest to the majority of the faculty? The first reason is that changes are now being planned and

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RESEARCH FUNDING: NEW PROBLEMS NEED NEW SOLUTIONS

Judith Kildow

The nationwide problem of raising funds for research in an academic setting has changed in recent years. Yet the fundamental funding process at MIT has remained much the same with only a few add-ons, particularly added pressure for faculty members. Since there has been almost no constructive dialogue between the faculty and the administration about how to achieve a more effective research funding effort for the individual faculty member, this article is meant to stimulate a discussion of the problem through articles and letters in future Faculty Newsletters.

There are at least three aspects of this situation that merit attention: 1) User needs are changing and increasingly do not coincide with the traditional fields of basic research. 2) There is a transition underway in the distribution of sources of funds, the composition of the competition for funds, and the way that funds are packaged. 3) There is a general need for much larger amounts of research support.

According to some faculty, basic research has undergone fundamental changes in recent years, making it far more difficult to raise funds in traditional fields than before, and easier in high technology areas. The implications of this situation have faculty and administrators worried about the future of the disciplines in question. In contrast new fields such as biotechnology and advanced materials require research breakthroughs for product applications.

A second dilemma is how to grapple with the changed system of funding, particularly in the federal government. The past eight years have brought changes in the packaging of funds, in some cases concentrating them in very large grants such that the resources of an entire university are called upon to capture them. In other cases, funds

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LEARNING FROM THE ABS EXPERIENCE

Editorial Board

The decision last Christmas to close the Department of Applied Biological Sciences (ABS) led to considerable debate among the faculty. One consequence was the commissioning of an ad hoc Committee on Reorganization and Closing of Academic Units composed of Glen Berchtold, John Essigmann, Morris Halle, Henry Jacoby, Phillip Sharp, Arthur Smith and Sheila Widnall (Chair). Their

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**THE ROLE OF THE HUMANITIES
IN THE EDUCATION OF ENGINEER**
Kerrebrock
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narrow domains of their profession, and able to enjoy the pleasures of the arts and of nontechnical discourse. Another is that engineering is not, or should not be, a narrowly technical pursuit, that some comprehension of the humanities, arts and social sciences (HASS), which strongly influence, or at least describe, human needs and desires, is necessary to the fully successful pursuit of an engineering career.

The latter viewpoint has been adopted by the School of Engineering and incorporated in its statement of Goals for Engineering Education, following the study conducted by the Commission on Engineering Undergraduate Education in the fall of 1986. In placing the goal, that MIT's engineering graduates should "have begun to understand the diverse nature and history of human societies, as well as their literary, philosophical, and artistic traditions", in parallel with the more traditional goals for technical education, the School has taken the position that such understanding is essential to the education of engineers for the practice of their profession, as well as for citizenship and enjoyment. This goal signifies a deepened and broadened commitment by the School to its students' education in the HASS fields.

Since enunciation of the *Goals for Engineering Education*, there have been substantial changes in the opportunities for their realization by engineering students. The subject offerings for the HASS Distribution have been restructured in such a way that engineering students and their advisors should be better able to design courses of study which appeal to the students' natural interests and at the same time offer the broadening which is fundamental to this part of the educational experience. A Minor in HASS is now available, so that students may elect a somewhat more intensive and structured educational experience in some branch of HASS, in parallel with their engineering course. The School views these both as important enabling steps toward the realization of its goal.

At the same time, there is wide recognition that the development of these opportunities by the Schools of Humanities and Social Sciences, and Architecture and Planning is not sufficient, that the culture of undergraduate education in the School of Engineering must be more supportive of serious study in HASS. Clearly, the attitudes of the faculty are controlling. While there is not unanimity amongst the faculty, the consensus is in favor of those adjustments which are ne-

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Editorial Board

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meeting which took place during finals week. Since many faculty were unable to attend, and since many of the issues will continue to be debated this year, we are reprinting here the Conclusions of the report. The complete report was distributed to the faculty prior to the May 18th, 1988 meeting. The Newsletter will carry further commentary on the issues raised by the ABS closing in subsequent issues.

cessary, including better control of the workload imposed by engineering subjects, and steps are being taken to exercise such control.

A key issue is the balance of students' time commitments between those studies which provide general education and those conveying technical knowledge of an engineering profession. Several of the engineering departments feel sorely pressed to meet what they consider to be the minimum technical needs for their professions within the presently available numbers of subjects, hence resist any increase in the fraction of a students' time devoted to non-departmental subjects. This will remain a difficult point for the foreseeable future, however the pressure to increase professional exposure will be attenuated by the near universal acceptance within the School of Engineering that a four-year degree is the beginning of a process of life-long education, not the culmination of the educational experience.

Of at least equal importance to these points is the realization that responsibility for the education of engineers in what we have come to characterize as contexts, or "the economic, managerial, social and environmental issues surrounding technical development", cannot be transferred by engineers to their colleagues in HASS. Rather, the development of better understandings in these areas must follow from intensive collaboration of faculty of several schools to produce an environment in which students and faculty alike can come to understand widely divergent viewpoints, while working toward constructive change from their individual bases of competence. The Contexts Subjects which were initiated last year, and will be available more intensively this year, provide one means to this end.

The changes which should follow from these new understandings will not occur rapidly, but there is growing consensus nationally and even internationally, that they are necessary if engineers are to reach their full potential in the rapidly developing technological society of the future. MIT should lead in this evolution as it has in many others.

In the past thirty years, had the total dollars we spent on military R&D been expended instead on those areas of science and technology promising the most economic progress, we would probably be today [1980] where we are going to find ourselves in the year 2000.

Simon Ramo

**REPORT OF THE COMMITTEE
ON REORGANIZATION AND
CLOSING OF ACADEMIC
UNITS: LEARNING FROM THE
ABS EXPERIENCE**

II. CONCLUSIONS

It is the view of this committee, and we believe of the faculty at large, that a key to the success of the Institute has been the maintenance of a system of shared governance. Few of the MIT faculty see themselves in an employee-employer relationship to the Administration. Rather, most

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**RESEARCH FUNDING:
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have become highly politicized, going to those whose congressional delegations and lobbyists pressed the hardest; and finally, the major shift of monies from traditional civilian research areas to defense areas in the Departments of Defense and Energy have left decreased amounts in other Departments to allocate to the many researchers applying there. Furthermore, the competitors for funding are no longer only universities, but also very well financed, professional consulting firms with strong scientific staffs.

Finally, there is the need to raise much larger sums of money than was the case in previous years, and the problems arising from this. Research funding is the primary concern of most faculty these days. In the School of Engineering it is rumored that the Dean's office believes that a faculty member involved in active research should bring in more than a quarter of a million dollars of research funds a year. Not so long ago, faculty felt successful with \$50-100K a year, but those days are passed. Even taking inflation into account, raising that much funding requires a different level of effort. While there are still packets of funds available for smaller amounts, about \$25K, they are hardly worth the effort.

The shift from kilobucks to megabucks requires much larger chunks of time, and depending on the funding source, much travel. Many faculty claim they spend half their time raising research funds to sustain their research over long enough periods to achieve necessary continuity, and this includes at least a week a month of traveling to assure a pay-off for their efforts. They find themselves in competition with consulting firms and universities who have full-time professional staffs carrying out those same tasks. MIT still depends on the entrepreneurial spirit and nature of its individual faculty members to do this work, with a few exceptions in the case of labs and centers where there is some backup or in a competition for a multimillion dollar grant.

The average faculty member has neither the time nor the support structure to mobilize a major effort to secure the order of \$250K. There are obviously some constructive ways to alleviate the situation. What do you think should be done?

**INVITATION TO A
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academic year with probably four issues in 1988 / 89, although a wealth of material could increase that number.

In order to make the contents of the newsletter broadly representative of faculty opinion, we intend to print any and all material submitted to us (subject to space limitations and other editorial considerations) by members of the MIT faculty. Communications from students, staff, and members of the Institute administration are also welcome. All communications must be signed. Requests for anonymous publication will be considered on a case-by-case basis.

We need your support to accomplish our goals. Until a mechanism for financing the

**Average Salary Levels for
Full Professors and New
Assistant Professors, by
Discipline, 1987-88**

This table was taken from *Academe* 74, 2 (March/April 1988). The data came from "a survey of eighty large (mostly public) research-oriented institutions".

DISCIPLINE	AVERAGE SALARY
FULL PROFESSOR	
Law	\$ 67,796
Computer Information	58,965
Business	57,628
Engineering	56,793
Physical Sciences	51,709
Mathematics	50,373
Psychology	49,211
Social Sciences	49,057
Library	48,988
Public Affairs	48,890
Interdisciplin. Studies	48,358
Biology	47,680
Architecture	47,487
Area Studies	47,284
Communications	46,842
Letters	46,065
Home Economics	46,062
Agriculture	45,684
Foreign Languages	45,519
Education	44,588
Fine Arts	41,906
All Fields	\$ 50,773

NEW ASSISTANT PROFESSORS

Law	\$ 41,791
Business	40,277
Computer Information	38,780
Engineering	37,956
Library	30,272
Agriculture	30,128
Physical Sciences	29,449
Mathematics	28,759
Biology	28,509
Architecture	28,488
Public Affairs	28,418
Home Economics	27,858
Psychology	27,489
Social Sciences	27,226
Communications	27,013
Area Studies	26,492
Education	26,264
Foreign Languages	24,595
Letters	23,871
Fine Arts	23,549
Interdisciplin. Studies	22,496
All Fields	\$ 30,286

Discovery consists of seeing what everybody has seen and thinking what nobody has thought.

Albert Szent-Gyorgi

Newsletter is found, money is needed to defray the costs of production and distribution. Additional members of the editorial board are desired from those departments as yet unrepresented. Contributions to the newsletter may be sent to Vera Kistiakowsky (24-522); they should be made out to the *Massachusetts Institute of Technology* with the notation that they are for the *Faculty Newsletter Fund*. If you are interested in becoming an editor, please contact any member of the current editorial board.

What issues should we be discussing? Topics relevant to our teaching, research, and other professional or academic activities, faculty / student / administration relations are just a few among the many things about which we may wish to begin talking together. Let us hear from you! The **DEADLINE** for receipt of material to be considered for inclusion in the next issue is **NOVEMBER 15TH**.

into five arbitrary categories: I. Literary and Textual Subjects, II. Language, Thought and Value, III. The Arts, IV. Societies and Cultures, and V. Historical Studies. Students must take one course from I or II, one from IV or V, and one from any of the other three categories. This makes possible absurd consequences, defeating the goal of breadth. One example among the many possible is that the entire HASS-D requirement can be fulfilled by taking *American Literature (I)*, *War, Money, and Sex: Topics in American History (IV)*, and *Ideas of Power in American Literature and Culture (II)*. However, it is not possible to satisfy two of the HASS-D subjects with *Russian IV (II)* and *Problems of Philosophy (II)*.

The definition of the categories has peculiar consequences for the faculty as well. Certain categories, such as V, are narrow, including only one discipline, History, while others, such as II, encompass Philosophy, Religion, Foreign Languages, Great Books, and Darwin. Thus, limitation on the number of courses in each category creates competition in category II, but virtually none in category V. The new rubrics have led to a substantial imbalance; although 16 units contribute to the 56 HASS-D subjects offered, 13 of these courses are listed in a single unit and appear in three of the categories.

2. Although the administration said that no numerical caps would be imposed on the number of courses, some individual committee chairs imposed them nonetheless. Furthermore, the courses that were chosen in certain categories were limited in content. For example, HASS-D status was denied to a course entitled *Introduction to European and Latin American Fiction* which studies works by Cervantes, Goethe, Mann, Balzac, Borges, Wolf, and Sartre, in order to limit offerings in category I. The only *Introduction to Fiction* course approved relies almost exclusively on Anglo-American writers with only two novels from outside that tradition. Some of the syllabi for courses with general titles, such as *Introduction to Poetry*, rely wholly on Anglo-American texts or list one or two titles from other cultures. The virtual absence of minority and women writers from courses given in English is glaring. The exceptions occur in a single course, *New World Literature*, and the case of one woman, Jane Austen, whose work is discussed in three courses.

The courses not chosen for HASS-D may, of course, be offered as nine unit electives. However, these decisions define for the students and the administration which parts of the curriculum are central, annual, twelve unit courses,

LEARNING FROM THE ABS EXPERIENCE

Editorial Board

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feel that the Administration and faculty share a joint responsibility for sustaining the excellence of the Institute. They expect that, when important choices arise about mission or internal organization, they will naturally be involved in the process leading up to decisions and in the planning of implementation.

No doubt this form of governance has its costs in terms of

and which are defined as marginal.

3. The new requirement has serious consequences for the non-HASS-D curriculum as well. Since HASS-D courses must be taught every year, faculty will be drawn from other subjects, normally taught on a two year rotational system. Without a doubt, this will limit the range and depth of the elective offerings possible with the current faculty.

4. The requirement of a three hour comprehensive final exam, regardless of its appropriateness for the course material, is based on the notion expressed in the Maier report that MIT students view the humanities as soft, and that testing, whether or not it is pedagogically warranted, will make the students take the courses more seriously. It is not clear that this was ever a problem, and it is certainly not the case that students retain more or gain an increased understanding of subjects by cramming for a three hour exam. All that is certain is that this requirement will increase the end of semester pressure at MIT. In the other schools individual faculty members measure student learning in the way they consider most effective, and this should be true for the HASS faculty as well.

5. The new requirement excludes virtually all inter-disciplinary courses since they do not fit into a single category. Furthermore, approximately 85 HUM-D courses which were comprehensive in scope no longer satisfy the breadth requirement. These include: *Socialism*, *The History of Africa*, *Religious Movements and Social Change*, *Agrarian Society, Technology and Culture*, *Introduction to Latin American Culture*, and *Science, Technology and Social Change*.

This narrowing of a breadth requirement is at evident odds with the desire to attract a more diversified student body which is expressed by the MIT administration. It is unlikely that the most creative and innovative students will view additional constraints as an inducement to attend MIT.

One of the benefits for MIT undergraduates of the courses offered outside of the Schools of Science and Engineering has been that they draw the students away from quantitative concerns and broaden their perspectives. The new HASS-D requirement with its numerical limitation on courses, its de facto discrimination against interdisciplinary enterprises, its distinct emphasis on Anglo-American concerns, and its imposition of mechanical criteria for teaching and testing, will greatly diminish this effect. Instead of broadening undergraduates' understanding of these fields the HASS-D structure will diminish education in the humanities, arts and social sciences at MIT.

administrative flexibility, because of the unavoidable tension between the need for flexibility of action and the requirements of our collegial system. But the benefits of the system far outweigh the costs. As a result of the consultation, administrative officers are better informed about the substance of key choices. With the involvement of people in the affected units, details of implementation are better planned. Because their representatives are involved in the process, the faculty are likely to accept the changes as legitimate, even when they disagree

of what all students must know, as opposed to what only some students may learn. If there is indeed something all students must know, this means required courses. But since student and faculty time is limited, and generally occupied by many things beyond required subjects, there must be a "short list" of the major divisions of knowledge seen as truly basic.

For example, Harvard after World War II found it self-evident that knowledge was divided into three parts: humanities, social science, and natural science; and further found that fundamental knowledge involved something called "the Western Tradition". These truths were translated into the much-imitated General Education program which flourished at Harvard for one decade and dragged along for two more. By the late 1970's, however, it was widely agreed that its time had passed.

One of the notable recent successes of the President and Dean of the Faculty at Harvard is to have engineered a reform of General Education. The new dispensation, hammered out after several years of passionate faculty debate, announced that every educated person should be familiar with seven basic modes of inquiry, and proposed a series of new courses, one required in each area, as part of a new Core Curriculum.

The process now underway at MIT has several similarities. At both institutions, pre-existing curricula were perceived as worn out and in need of reform. At both universities, curriculum revisions entailed heated discussion, endless committees, and glacial progress. At MIT, no less than at Harvard, most of the debate over reform has been conducted in an extremely high level of principled generality.

But the differences are equally crucial. The MIT faculty is on the whole more civil than that of Harvard. MIT's culture is more coherent; concepts like fairness and efficacy play a larger role here than at our sister institution. The pre-dominance of the Engineering faculty gives the Institute a pragmatism less visible up the River. And the MIT faculty and student body are less likely to demand a curriculum that embodies Eternal Truth and more likely to settle for one that "works". All of this means that chances of reform are reasonably good at MIT.

Another difference is that at the Institute the reform was first focused on the so-called "Humanities" Distribution (HUM-D) requirement, which had become a smorgasbord of over 150 subjects that no longer even pretended to provide a coherent introduction to the social sciences, arts and humanities. A new distribution system, christened "HASS - D"

on the substance.

One need not argue that previous reorganizations were without fault. It is sufficient to observe that changes appear to have been carried forward without the rendering of trust that comes with the feeling that actions were poorly informed or badly implemented.

The manner of the closing of ABS has called into question this pattern of shared responsibility, and the reaction is universal. Everyone to whom we spoke deplored the process; no one came forward to defend it.

(Humanities, Arts and Social Sciences Distribution), emerged from a lengthy process of discussion and consultation initiated by the Maier Committee and approved last spring by the Institute faculty.

But behind changes in this and other parts of the "Humanities" curriculum was the idea that if the School of Humanities and Social Science were to reorganize its side of the curriculum, the Schools of Engineering and Science would do the same, paying more than lip service to the notion that MIT students needed to learn about the human, social, and ethical contexts of science and technology not merely as an "add-on", but as an integral part of their educations in their disciplines.

The danger now is that the "Humanities" reform will be mistaken for an adequate response to the need for a re-examination of the whole MIT curriculum. For the School of Humanities and Social Science to get its house in order affects about twenty percent of the average MIT undergraduate's work. The real curricular challenges lie outside of this School, and they raise questions even more charged than those so far addressed in faculty debates. What is the proper balance at MIT between work in the sciences and engineering and in the humanities and social sciences? Should the basic Science Requirements at the Institute be defined as general education or as prerequisites for more advanced work in science and engineering? Do the curricular arrangements laid down three decades ago remain adequate for students whose careers will largely be lived in the twenty-first century? How can the need to "broaden" an MIT education be reconciled with the need to keep MIT students "at the cutting edge" of their scientific and technological fields?

Each of these questions raises thorny philosophical and political issues. At the philosophical level, they involve different conceptions of what MIT is and should be all about, conceptions on which MIT faculty have deeply-held views. At the political level, any real change would shift the current balance of winners and losers at the Institute, where faculty time, student time, and enrollments constitute visible tokens of the importance of fields and ideas.

The challenge, then, is to continue the process through to the end. At best, the rewards could be large - - - a curriculum that confronts social and political embeddedness of science and technology, a program that turns the slogan of "dual literacy" into a lived educational experience.

Wonders are many, and none is more wonderful than man.

Sophocles

We reviewed the major departmental reorganizations and closings since 1976 (APPENDIX 1), and in all these the affected faculty participated in the decision and in the plan for implementation. In some cases they were able to modify and shape the decision in important respects. Even with this degree of faculty involvement, we have not encountered evidence that our system has hurt the Institute by blocking important changes in the past. Our collegial tradition could have handled the reorganization of

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RELATIVE FACULTY SALARIES

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average salaries of different colleges to Kerry Wilson, Assistant Director for Personnel, who suggested the special annual report of *Academe*, the bulletin of the American Association of University Professors, as the best source of data. This was used as the basis for the numbers in the accompanying table, MIT NUMBERS.

We are also reproducing in full a table of average salaries for full professors and new assistant professors in different fields from "a survey of eighty large (mostly public) research-oriented institutions" from the same issue. This is copyrighted material, but we are reproducing only a very small proportion with proper acknowledgement. We do not know whether these numbers are representative of the situation at MIT.

The situation with respect to relative salaries among leading schools presented in *Academe 74, 2* (March/April, 1988) shows that MIT's salaries are at or above the 95th percentile for all faculty categories. Only a few schools have higher average salaries in some categories, and these are often balanced elsewhere. For instance, in Massachusetts, the average of full-professor salaries at MIT are exceeded only by those at Harvard, where the averages of associate and assistant professors are considerably below MIT levels.

These averages include the salaries of faculty in the business and law schools, generally acknowledged to be higher than those in engineering, science, and the humanities. (Therefore, Harvard, having large and highly prestigious schools in both these high-salary areas, could well have average non-business, non-law full-professor salaries below those of MIT.) We have heard some rather wild conjectures of the salaries paid to new business school faculty in highly competitive areas. However, the data in the table of salaries by discipline show differentials that, though significant, are nowhere near the level of the rumors.

The data also show that:

1. the benefit package as a percentage of salary is not greatly different at MIT (25%) from that at other competitive institutions;
2. the percentage of tenured associate professors is lower at MIT (65%) than at most of the schools with which we compete; and
3. there is still a significant differential between the average salaries of men and women faculty.

Whether or not more information about salaries at MIT than the above data should be published is a question that involves both fairness on the one hand and the right to privacy on the other. We welcome your comments.

Écrire, c'est déjà organiser le monde, c'est déjà penser apprendre une langue (c'est apprendre comment l'on pense dans cette langue).

Il est inutile - - - de demander à l'autre de se ré-écrire, s'il n'est pas décidé à se re-penser.

Roland Barthes

"Writing is equivalent to organizing the world; it is equivalent to thinking (learning a language is learning how to think in that language). It is therefore useless to ask someone to rewrite himself, if he is not ready to rethink himself."

* * * MIT NUMBERS * * *

1987-88 FACULTY SALARIES AND COMPARISONS WITH OTHER UNIVERSITIES

The following figures are based on tables appearing in *Academe 74, 2* (March/April, 1988). The salaries are given in thousands of dollars.

The two columns on the right are for doctoral level (category-I) schools.

	MIT	Harvard	Cal. Tech.	Stanford	Berkeley	New England	All USA
AVERAGE SALARIES:							
Professor	66.6	73.2	69.9	70.8	64.2	57.3	53.0
Assoc. prof.	48.2	38.2	52.0	50.1	42.3	40.4	38.0
Assist. prof.	37.8	34.9	42.2	39.6	36.1	33.1	32.0
BENEFITS AS % OF SALARY:							
	25	20	22	21	21	NA	21.7
1987-88 % INCREMENT IN SALARY OF CONTINUING FACULTY:							
Professor	8.1	NA	NA	NA	NA	NA	5.4
Assoc. prof.	10.6	NA	NA	NA	NA	NA	5.3
Assist. prof.	11.3	NA	NA	NA	NA	NA	5.6
% OF ASSOCIATE PROFESSORS TENURED:							
	65	100	97	79	91	NA	85.0
% OF FACULTY WHO ARE WOMEN:							
Professor	5.4	7.7	1.2	3.6	8.6	NA	NA
Assoc. prof.	13.9	23.8	13.5	20.0	21.7	NA	NA
Assist. prof.	18.5	27.0	8.6	24.4	31.2	NA	NA
AVERAGE SALARIES BY RANK AND SEX:							
MEN:							
Professor	67.0	73.9	NA	71.3	65.0	NA	53.4
Assoc. prof.	49.0	40.5	NA	50.1	43.0	NA	38.6
Assist. prof.	37.9	34.7	NA	40.3	36.8	NA	33.1
WOMEN:							
Professor	58.6	65.0	NA	58.8	55.9	NA	47.7
Assoc. prof.	43.3	31.1	NA	49.9	40.1	NA	36.1
Assist. prof.	37.4	35.5	NA	37.4	34.5	NA	29.8

SHOULD EVENTS IN THE HUMANITIES, ARTS AND SOCIAL SCIENCES CONCERN YOU?

Kistiakowsky (continued from page 1)

taking place. Most visibly, the new HASS-D subjects will be introduced this fall, and these, involving all undergraduates, will be a very important part of an MIT education.

However, there have been two events that should also be of general interest. A plan for reconfiguration, involving the Humanities Department and the Program on Science, Technology and Society was presented to the faculty involved in the fall of 1987, and met with a great deal of opposition. A letter announcing that action on this plan had been suspended, was sent out by the Dean of the School on March 18th, three days after the Faculty Meeting at which resolutions concerning ABS had been vigorously discussed.

The second event was that when the head of the division of Foreign Languages and Literature (FLL) resigned last May because of irreconcilable policy differences with the Dean, the Dean, an economist, assumed the role of acting head of the FLL division. This effectively disenfranchises FLL since it no longer has a spokesperson to argue its issues with the Dean and in the School Council; furthermore, it raises the question whether such a dual role is appropriate for a dean.

I believe that events in HASS fields should concern all members of the faculty, not just those who are involved. The broader reason for such interest is, of course, the impact on MIT education; there is, however, also the question of the appropriateness of the actions planned and taken, the reason why so many faculty members responded to the ABS issue.

LEARNING FROM THE ABS EXPERIENCE

Editorial Board (continued from page 3)

difficult though the process may have been for the Administration and those in ABS and other affected departments.

Aside from the issue of shared responsibility, a source of concern in this case arises from the collective regard of the faculty for one another. It is the perception of the faculty that members of ABS were poorly treated in the process: the unfavorable publicity that impacted their careers, the lack of understanding and communication by the Administration as to the nature of the Institute's commitment to their careers, the lack of consultation prior to the decision, and the announcement of the decision without a detailed plan for assuring the continuity of the careers of the faculty. This is not acceptable treatment of faculty members at MIT by its administration. The incident raised apprehension in the minds of many about the meaning of tenure and the obligations to junior faculty, other MIT personnel and students. We believe the faculty needs a clear statement on these issues and below we make recommendations to this effect.

But most important, we must restore our collegial processes of internal change, for they have been a major factor in our ability to attract faculty of extraordinary quality and make MIT the unique institution that it is. To this end we could simply call for a renewal of commitment to our familiar consultative way of doing business, classifying the ABS incident as an unfortunate accident unlikely to be repeated. We do not believe this solution is sufficient considering the degree of departure from that tradition, and the attendant damage to individuals and our internal policy, that proved possible in the

MIT NUMBERS

will be a regular feature of the Newsletter. If there are numbers you would like to see published, please let one of the editors know.

absence of some formal guidelines.

We therefore recommend the introduction into Policies and Procedures of a specific procedural step to be used in future reorganizations, which will help insure that a consultative process has been followed. We believe that this modest requirement will preserve the system of shared governance without denying the Administration the flexibility of action that is crucial to the healthy evolution of the Institute.

In our investigations, we have found on all sides a wealth of good will to the Institute and its traditions and an earnest desire to learn from the ABS experience. With the actions we recommend, we are confident that the Institute will emerge both wiser and stronger than before, with a renewed sense of joint purpose among members of the faculty and those of our number who carry the burdens of administration.

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