M.I.T. COMMENCEMENT ADDRESS

By President Howard W. Johnson

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Some months ago, in words that seem particularly relevant in tragic days like these -- days that evoke so deeply in the nation both pity and horror, the emotions of the classic tragedy -- Archibald MacLeish expressed his concern about the state of our nation. He said:

"Seen in terms of its scientific and industrial accomplishments, ours is one of the great ages of history: an unbelievable age, the age in which the old, impossible heroic myths have all come true. For the first time the deeds of men have caught up with their imaginations. Victories have been won in the ancient, hopeless, human struggle against death. Fire has been stolen not from the Olympic gods but from the sun itself. Time has been extended and distance reduced so that a word can be heard around the earth as it is spoken and an ordinary life can be lived in leisure. Even the oldest, most absolute limitation on our freedom has been abolished: we can leave the earth... But what is true of the accomplishments of the age is not true of our feelings for it..."

There is a disturbing gulf between our technological achievement and the quality of our living -- our sense of community. We have had all too recent evidence of the void between attainment and concern. The trust which seals the bonds of society has been shaken again. And there may be,
within each of us (as well as among us) a growing gap between what we say and what we think, what we do and what we feel, what we are and what we can be.

There are many who feel that this crisis of individual and institutional integrity is somehow a by-product of the heady advance of scientific and technological capability and potential -- a progress so rapid that it blinds us to the many remaining problems of human significance. This view is, in my view, too simple and too one-sided. It fails to see the vast potential of technology for human cause. But the fact remains that there are innumerable social issues to which we must respond with greater commitment and effectiveness than ever before.

And so I say that this day at M.I.T. -- this Commencement Day in June, 1968 -- speaks, more than does any other in the Institute's calendar, for the wholeness of human experience that is life and learning. And it speaks, too, of the promise that learning holds for improving man's life on earth.

Speaking to an M.I.T. audience on such an occasion of both high attainment and deep concern prompts me to seek the solid bedrock of our purpose and to take the measure of our spirit in these brief remarks by touching on three major themes, symbolized by the student, by this learning Institute, and by the spirit of enlightened professionalism that our education should engage. Let me explain what I mean by each of these three themes and how I see their contrapuntal convergence today.
Last fall, in speaking to a group of our alumni officers, I characterized the new academic year as the year of the student. I did not know how right I was to be, and I am glad to see that others have used that same phrase to describe the intense feelings, reaction, and meanings of the student concerns, showing themselves in a variety of ways not only across the country but across the whole world. Our social critics, and commentators, all speak today of youth's impatient response to those who say, "You will have to wait your turn." Some have taken a more stoic view of student protest. Logan Pearsall Smith was recently quoted as having said, "The denunciation of the young is a necessary part of the hygiene of elderly people and greatly assists the circulation of their blood."

For me, and I am sure for you, there is a great deal more to it than that. There is no single voice of the student, and we would indeed be making a mistake to listen only to the headlines of the student destructor. There are many voices -- seasoned, mature, purposeful, responsible, and, yes, demanding. And amidst the muffled noise of stereocracy that comes to our ears, I hear students speak, above all, for the freedom of individualism. It is the pointed purpose of youth today to defy the precise description that might run the risk of equating one's own style with that of someone else. This is to me a message that speaks of a seeking for personal uniqueness -- a uniqueness that assumes a wide diversity of points of view, and this is what I mean by the freedom of individualism.
But beyond that, I hear students expressing a disbelief for much of what they hear from us about individualism. As they see it, history and the record of experience do not fully support the American dream of independence and personal worth -- the aims that we assert and theorize about in our books and our schools and our political arena.

Now these voices and these feelings are not new. They have been shared by many who are on this platform today and by many who came before us. The urgent will to change the order of things for more effective performance is the precious gift of youth to the older generation.

And youth will go a long way to have his voice heard. Listen to these lines from Dostoyevski, who was quoted recently by one of our students in the Freshman Newsletter. It describes Alyosha Karamazov as:

"...a young man of our own times, that is, honest by nature, demanding truth, seeking it, believing it, and believing in it, demanding to serve it with all the strength of his soul, yearning for an immediate act of heroism and wishing to sacrifice everything, even life itself for that act of heroism. Though, unhappily, these youths do not understand that the sacrifice of five or six years of their life, full of youthful fervour, to hard and difficult study, if only to increase tenfold their powers of serving truth so as to be able to carry out the great work they have set their hearts on carrying out -- that such a sacrifice is very often almost beyond the strength of many of them."

 Appropriately, the men and women of M.I.T. have historically been willing to make the sacrifice necessary to build competence and, fortunately too, the sacrifice is not beyond them.

No, the voices are not new; but they find a particular emphasis and resonance now. And I, for one, welcome this emphasis.
And I believe we should listen to their message before we say that they are out of order; and we should consider, always, whether our machinery and mechanisms for hearing are current and functioning effectively. If we succeed in listening with understanding, those voices that are raised only for purposes of destruction, rather than instruction, will not get the following that, by default, they may have had.

So to me, the student deserves his year, as the person who places the emphasis on individualism in ways that some of his elders have forgotten. For, by standing up for the individuality of the human being, we have in our students the ultimate human safeguard against the threat of a machine society.

And now I turn to the second theme: the Institute in these times. There are connections, of course, with the student in the problems and the challenges faced by all institutions of higher learning (and I don't mean that highly personal financial problem of making ends meet -- although that is not unusual in either case). Yes, there is a highly contagious epidemic to which all institutions are vulnerable -- something like arteriosclerosis -- a hardening of all the means by which an organization can retain its viability and vigor. The students across the country have helped us to see this problem. And the questions, the diagnostic tests before us are as simple to state as they are challenging:
Can these institutions change their structure?
Can they grow and maintain their sense of wholeness?
Can they remain learning institutions, much as they expect their students to be continuous learners?

In a highly personalized sense, these are surely questions that cut to the very heart of the educational system as an organic entity.

For the Institute -- and others like it -- is by definition a testbed of growth and change. And if it -- or others -- should fail to meet the test of its own functions, its effectiveness for its students will rightly diminish, and its credence and trustworthiness in the world will erode. This is especially so in the current -- and hopefully transient -- climate of violence and suspicion and cynicism and distrust.

For, just as the student struggles for identity and idealism in a world of anonymity, so will the Institute strive continuously for intellectual integrity and a dedication to learning.

And, just as the student needs to gain the analytical depth and the perspective of disciplined imagination in order to grow, so must the Institute engage in the reality of human contact and in the real work of society, if it is to play an effective role in its improvement.

In meeting these tests, we must achieve a marvelous and delicate balance. That balance is a concern for the values and standards so dearly achieved in the past, as well as the sense of relevance to the present; that balance is a sense of student vigor and influence as well as consistency and the wisdom of faculty responsibility and trustee protection -- in short, that
balance is the acceptance of dynamic change in the context of a supportive stability. That is the art of survival in any human organization.

I believe that our Institute, this M.I.T., aspires to meet these tests of resiliency and continuous development, and it seeks to do so in a wholly special way appropriate to our historic concern for humanizing technology -- which is the most revolutionary spirit of change the world has ever known.

And so I turn to the third theme that is quintessential to the continuing history of M.I.T. And that is a redefinition and a reaffirmation of the spirit of the professional and the meaning of professionalism.

I think there is a special urgency for giving new emphasis to the role of the enlightened professional. I see repeated evidence in this country and abroad of withdrawal and alienation expressed in some areas of society toward science and technology. Perhaps it grows out of the bitter division that exists between the technological and sociological "haves" and the technological and sociological "have nots." Perhaps it stems from the problems of the city, with its classic discordant breakdowns of bad design and ineffective ideas.

At first glance, the city personifies all of the problems faced by individuals and institutions with whom the professional must function. It is amorphous and unmanageable and impersonal and cold. Yet the magnitude of its ills can be matched only by its limitless potential. It is a large system that does not work, but must. There is neither a significant urban
technology nor an urban culture, yet both are sorely needed if urban life is to be saved. The whole concept of the urban community, then, rests upon the creative role of the individual as a source and as a recipient of the benefits of human experience in the city.

It is as if the world finds trouble living with the paradox of the gigantic achievements of technology and at the same time the short fall and unevenness of its potential and the complications of its output. I believe that the uneasiness of those who fear technology is basically misplaced, for the answers to such problems must lie in the wise use of technology. But I do not ignore the uneasiness. Rather, I think we have the positive responsibility to understand such concerns and to stand for, in every way, a strong and consistent leadership in the forward press of science and for the wise and systematic flowering of technology. There is danger now that the steam behind this country's interest in basic scientific research is lessening. What a tragedy for the world that would be. Science is useful to man as he wills it, and to slow its rate of discovery has grave portent for man's future. We must press forward in the quest for knowledge, not only for its own sake, but because the price that future generations will pay is incalculable if we falter now.

The effective linking pin in making technology work for man will surely be a science-based education in which engineering and the other man-based fields seek to serve society's purposes. And I believe this kind of result will require a revitalization of professionalism, a professionalism
that excludes intellectual insularity and that builds on the essential characteristics of intellectual curiosity, of basic personal integrity, and of a selfless concern for human and humane results. To this end, the pattern of M.I.T. education in which the fields beyond one's own are not peripheral additions by integral parts of the whole, takes on new meaning and emphasis because of this environment. To me, there is a strong consistency in a university based on science, interactive with the humanities and the social sciences, with the arts and management, in and yet not of the workings of the world, and I take great heart in it.

These three themes, then -- the student, the Institute, and the new professional -- each carry the common characteristic of continuous development. As we breed reform, we are in turn reformed by it, and such constant renewal is an expression, not the determinant, of our basic mission. I return now to that basic question that history asks of our time. What about the disparity between man's accomplishments and man's hopes? It seems to me that despair and desperation are never answers. Even in days like these of deepening sadness, it must be said that your times will be what you make of them. The leadership you provide, your sense of commitment to the purposes of humanity, your standards, can make the vital difference. I hope this day, on which we mark distinction and recognize accomplishment, will remain with you through the years, to sustain you, to urge you on and to gladden your heart.