According to William Manchester's book, "Goodbye, Mr. Churchill," Winston Churchill used to amuse himself during usual contributions and accomplishments in their careers. We must now become a General institute Vice to the nation through science, technology and service.

Arthur P. M. de Forest, in his book "The Dawn of Radios," wrote: "Science has its birth in the laboratory, but it lives in the home. It begins as a dream and ends as a dream."

The whole edifice of science and engineering research is built upon honesty.

When you leave here, you will be joining an elite corps of graduates from the nation's premier research universities. For decades, MIT has been a leading site for advancing the frontiers of knowledge and discovery.

Andrew Choju '91 proudly leaves the stage with four degrees in hand, accomplishments of others. Sir Isaac Newton expressed it best when he said, "If I have seen further, it is from standing upon the shoulders of giants." He was one of the great figures of American science and engineering research is the uncompromising pursuit of truth. As such, it represents the highest achievement of human intelligence and provides a constant source of enrichment to mankind's existence intellectually, spiritually, and materially.

President Charles Vest's charge to graduates

(Phase 2) The Tech WEDNESDAY, JUNE 26, 1991

Text of NSF Director Massey's address

(The following is a transcript of the speech by National Science Foundation Director Walter E. Massey to the graduates and guests at Commencement on Monday, June 3, as reported by the MIT News Office.)

Good morning. I am pleased and honored to have been asked to deliver the commencement address here at MIT today. People sometimes say that a graduate's greatest achievement is getting through the commencement exercises. That is clearly not the case here today. Each of you has proven already that you have the intelligence and continuing prosperity and an improved quality of life. As such, MIT is a precious resource and valued institution to more than its students, graduates and those directly involved in its operations. MIT and the other top US research universities play a critical role in setting and sustaining the highest standards of achievement in research and education.

As MIT graduates, you have assumed a duty to uphold the tradition of excellence on which your pursuits. What does this mean? How do you go about it?

Excellence is a quality that is recognized by comparison. While it is judged generally from without, excellence begins within. Individuals achieve excellence through the choices and decisions they make regarding the conduct of their research.

This morning I would like to talk about a specific arena of excellence, that is, the area of basic research in science and engineering. Many people think of research as a cut-and-dried process. And it is true that there are some clear rules of the game. The object of research is, to paraphrase my good friend Nobel laureate Leon Cooper, discovering how the world works — separating the truth about the way things are from conceptions of the way they might be. To accomplish this task, good researchers are skeptical; they evaluate claims empirically and logically, not on the basis of authority. Good researchers are open, sharing their hypotheses, methodologies and results, and making their thinking and experimental procedures available to the community. They do this so that results can be reproduced and findings confirmed. In this way, the research community protects its interest in the truth.

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The second is the uniqueness of MIT. You undoubtedly were drawn to study at MIT by the knowledge that it is not another "cookie-cutter" university. This is a unique institution of higher learning and research — one with its own special excellence, tradition and entrepreneurial spirit. MIT blends mind and hand, and is as proud of its connections to the real world of industry and government as of its deepest theoretical and artistic accomplishments.

There is a palpable sense of service to the nation and to the world on this campus. We continually ask what the truly important problems facing humankind are and how we can contribute to their solution.

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All of these attributes will be reflected in you as graduates, but I want to leave you with a few thoughts regarding this last topic — service.

We must reduce the terrible escalation in the bifurcation in our society: bifurcations between rich and poor, between those who contribute to society and those who are rendered important to do so, between those who have good health care and those who do not.

These issues — like the great issues of maintaining a healthy global environment and the results subjected to independent verification. The rules and the research have kept science and engineering truthful.

Simply put, the whole edifice of science and engineering research is built upon honesty. More than in any other endeavor, individuals researching and teaching at MIT must depend upon the veracity of the accumulated insights and