

Tolerance and Respect for Economic Progress ¹

Thank you very much for inviting me back to the Institute to deliver the convocation address. I graduated with a degree in Electrical Engineering 30 years ago. I was overly anxious then about what the future held for me, because I did not realize that the Institute had prepared me so well for what lay ahead. Our professors – and I will not single out any to avoid a disservice to those I do not name – were dedicated professionals. They asked a lot of us, knowing that in challenging us they allowed us to learn what we were capable of. Equally important, our Electrical Engineering class – in those days, Computer Science was part of Electrical Engineering in IIT Delhi -- had some of the smartest people it has been my privilege to know. After working with them as colleagues, and competing with them for grades, I learned what it took to succeed in the fiercest environments; very hard work, friendship, and boatloads of luck. Those lessons have stayed with me since.

IIT Delhi then, as I am sure it is now, was not only about studies – it was about growing up. We were, with a few notable exceptions, the proverbial school nerds who had been excluded from all school sports by the macho sports cases. With almost everyone in the same boat at IIT, for the first time in our lives we got a chance to bat and bowl at the nets, instead of being posted at deep long on to retrieve the odd six by the stars. Everyone did something, ranging from photography to publishing. Of course, we all aspired to join dramatics, where you got to spend long hours with members of the opposite sex. Unfortunately, I was no good at acting, so I had to look for self-actualization elsewhere. But there were enough places to look.

Student politics was vibrant, with plenty of scheming, strategizing, and backstabbing. It was an intellectual pastime, however, without the violence and corruption that plagues student politics elsewhere in our country. You had to convince the small intelligent electorate to vote for you, and in figuring out how to get that vote, we all learnt the art of persuasion.

So we grew up in the classrooms, in the squash courts at the RCA, in the civilizing SPIC Mackay overnight classical music concerts and in the over-crowded rock concerts at the OAT. Some of us spent long hours waiting hopefully outside Kailash Hostel, and when occasionally our wait was rewarded, beautiful autumn nights with our friends, chatting and gazing at the stars while sitting on the roof of Convocation Hall. The Institute replaced our naivety with a more confident maturity. We came in as smart boys and girls and left as wiser young men and women. I am confident that the Institute has done to you what it did to us. You will thank it in the years to come for that.

In speaking here today, I am aware that most convocation addresses are soon forgotten. That creates a form of moral hazard for the speaker. If you are not going to remember what I say, I don't have the incentive to work hard at crafting my

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words. The net effect is what economists refer to as a bad equilibrium; my speech is forgettable, and you therefore forget it soon. If so, we are all probably better off with me skipping the rest of the speech, and all of us going on to other pressing duties.

Nevertheless, I am going to look beyond my personal incentives and fulfil my dharma as Chief Guest. I will speak on why India's tradition of debate and an open spirit of enquiry is critical for its economic progress. Let me explain.

Robert Solow, won the Nobel Prize in Economics for work that showed that the bulk of economic growth did not come from putting more factors of production such as labour and capital to work. Instead, it came from putting those factors of production together more cleverly, that is, from what he called total factor productivity growth. Put differently, new ideas, new methods of production, better logistics – these are what lead to sustained economic growth. Of course, a poor country like ours can grow for some time by putting more people to work, by moving them from low productivity agriculture to higher value added industry or services, and by giving them better tools to do their jobs. As many of you who have taken economics will recognize, we in India are usually far from the production possibility frontier, so we can grow for a long while just by catching up with the methods of industrial countries.

But more intelligent ways of working will enable us to leapfrog old methods and come more quickly to the production possibility frontier – as for example, we have done in parts of the software industry. And, of course, once you are at the frontier and using the best methods in the world, the only way to grow is to innovate and be even better than others in the world. This is what our software firms are now trying to do.

Our alums, whom you students will shortly join, are leading India's charge to the frontier and beyond. Take the fantastic developments in E-commerce, ranging from the creation of electronic market places to new logistics networks and payments systems. Today, a consumer in a small town can have the same choice of clothing fashions that anyone from the large metros enjoy, simply because the Internet has brought all the shops in India to her doorstep. And while her local shop no longer can sell shoddy apparel, it now focuses on the perishable items she needs in a hurry, even while sub-contracting to provide the last leg of the logistic network that reaches her. Economic growth through new ideas and production methods is what our professors and alums contribute to the nation.

So what does an educational institution or a nation need to do to keep the idea factory open? The first essential is to foster *competition* in the market place for ideas. This means encouraging challenge to all authority and tradition, even while acknowledging that the only way of dismissing any view is through empirical tests. What this rules out is anyone imposing a particular view or ideology because of their power. Instead, all ideas should be scrutinized critically, no matter whether they originate domestically or abroad, whether they have matured over thousands of years or a few minutes, whether they come from an untutored student or a world-famous professor.

I am sure many of you have come across Richard Feynman's Lectures on Physics, a must-read when we were at IIT. The Nobel prize-winning physicist was

one of the giants of the twentieth century. In his autobiography, though, he writes how he found the atmosphere at the Institute of Advanced Studies at Princeton stultifying. Now, as you know, the Institute of Advanced Studies brings together some of the finest scholars in the world to ponder problems in a multi-disciplinary environment. But he found the atmosphere sterile because there were no students to ask him questions, questions that would force him to rethink his beliefs and perhaps discover new theories. Ideas start with questioning and alternative viewpoints, sometimes seemingly silly ones. After all, Einstein built his theory of relativity pondering the somewhat wacky question of what someone travelling in a train at the speed of light would experience. So nothing should be excluded but everything should be subject to debate and constant testing. No one should be allowed to offer unquestioned pronouncements. Without this competition for ideas, we have stagnation.

This then leads to a second essential: *Protection*, not of specific ideas and traditions, but the right to question and challenge, the right to behave differently so long as it does not hurt others seriously. In this protection lies societal self-interest, for it is by encouraging the challenge of innovative rebels that society develops, that it gets the ideas that propel Solow's total factor productivity growth. Fortunately, India has always protected debate and the right to have different views. Some have even embedded these views in permanent structures. Raja Raja Chola, in building the magnificent Brihadeeswara Shaivite temple at Thanjavur, also incorporated sculptures of Vishnu as well as the meditating Buddha thus admitting to alternative viewpoints. When Shahenshah Jalaluddin Muhammad Akbar invited scholars of all manner of persuasion to debate the eternal verities at his court, he was only following older traditions of our Hindu and Buddhist kings, who encouraged and protected the spirit of enquiry.

What then of group sentiment? Should ideas or behaviour that hurt a particular intellectual position or group not be banned? Possibly, but a quick resort to bans will chill all debate as everyone will be anguished by ideas they dislike. It is far better to improve the environment for ideas through tolerance and mutual respect.

Let me explain. Actions that physically harm anyone, or show verbal contempt for a particular group so that they damage the group's participation in the marketplace for ideas, should certainly not be allowed. For example, sexual harassment, whether physical or verbal, has no place in society. At the same time, groups should not be looking for slights any and everywhere, so that too much is seen as offensive; the theory of confirmation bias in psychology suggests that once one starts looking for insults, one can find them everywhere, even in the most innocuous statements. Indeed, if what you do offends me but does not harm me otherwise, there should be a very high bar for prohibiting your act. After all, any ban, and certainly any vigilante acts to enforce it, may offend you as much, or more, than the offense to me. Excessive political correctness stifles progress as much as excessive license and disrespect.

Put differently, while you should avoid pressing the buttons that upset me to the extent possible, when you do push them you should explain carefully why that is

necessary so as to move the debate forward, and how it should not be interpreted as a personal attack on me. You have to tread *respectfully*, assuring me that a challenge to the ideas I hold is necessary for progress. At the same time, I should endeavour to hold few ideas so closely intertwined with my personality that any attack on them is deemed an intolerable personal affront. *Tolerance* means not being so insecure about one's ideas that one cannot subject them to challenge – it implies a degree of detachment that is absolutely necessary for mature debate. Finally, respect requires that in the rare case when an idea is tightly associated with a group's core personality, we are extra careful about challenging it.

Tolerance can take the offense out of debate, and indeed instil respect. If I go berserk every time a particular button is pressed, rebels are tempted to press the button, while mischief-makers indeed do so. But if I do not react predictably, and instead ask button pressers to explain their concerns, rebels are forced to do the hard work of marshalling arguments. So, rebels do not press the button frivolously, while the thuggish mischief makers who abound in every group are left without an easy trigger. Tolerance and respect then lead to a good equilibrium where they reinforce each other.

For example, rebellious youth in the United States used to burn the American flag. It was calculated to upset the older generation that had fought in America's wars, for the flag was a symbol of all they had fought for. And the police, many of whom were veterans, used to react with violence, which was precisely the reaction the rebels sought to further their cause. Over time, though, U.S. society has become more tolerant of flag-burning. Because it no longer triggers a reaction, it is no longer used as an instrument to shock. In sum, if group sentiment becomes more tolerant and less easily hurt, the actions that try to hurt it will diminish. As Mahatma Gandhi said "The golden rule of conduct is mutual toleration, seeing that we will never all think alike and we shall always see Truth in fragments and from different points of vision."

Let me conclude. IITans like you will lead India's race for ideas. The India that you will graduate into is much more capable of using your technological prowess than the India we graduated into. I wish you unlimited ambition, and forecast great success for those of you who continue thinking and challenging. But as you go out in the world, remember our tradition of debate in an environment of respect and tolerance. By upholding it, by fighting for it, you will be repaying your teachers in this great institution, and your parents who worked so hard to send you here. And you will be doing our country a great patriotic service. Thank you and good luck.