

**University of Minnesota Institute of Technology Commencement Address  
May 5, 2006**

U.S. Senator Norm Coleman

Here in Minnesota, we celebrate the man who loved his wife so much he almost told her. I'm going to break that pattern and express to the dean and the faculty members here on behalf of the whole State of Minnesota how much we love the U. It's been Minnesota's Saturn 5 Booster rocket for many generations. It has gotten Minnesota's economy, professions and its institutions to this point and it will carry us as far as we can go in the future.

Funding the U is the best dollar we spend in Minnesota. For example, I read that for each graduate of this Institute of Technology, one business had been started, 10 jobs had been created and \$2 million in annual revenues were created. That's amazing. As a lawyer myself, I think each graduate of the nation's law schools may cost us 5 jobs.

I'm not sure how many of you ventured into the History Department, but I want to talk a little bit about Abraham Lincoln today because his times resembled our own. The nation was divided in many ways. Our society's assumptions were threatened. And radical change was in the air.

Lincoln did three things which changed the country and may be pertinent to us today.

Lincoln fought a long, unpopular war. Though some of you may disagree, I believe the War on Terror is such a struggle. But Lincoln did two other things with his brief 4 years in office. He pushed through the Land Grant College Act, which created the University of Minnesota and institutions like it across the country. You could say that Abe Lincoln was the Father of the Big Ten.

The third thing he did is of special significance to this day and this Institute of Technology. With everything going on with the Civil War, Lincoln worked tirelessly behind the scenes on his grand vision and dream: the transcontinental rail road. He wanted to create a technological and engineering feat that had never been done in the history of the world to literally link the country from "sea to shining sea."

Even while we fight our battles abroad, we need to be dreaming and working to build our technological and engineering link to the world of the future.

Let's take a minute to look at what that world is likely to look like. Minnesotan Thomas Friedman wrote the book of the last few years entitled *The World is Flat*. If you haven't read it, you should. I know you can't judge a book by its cover, but this one you can. On my copy, the cover art is a three-masted sailing ship plunging over the edge of the earth. The dust jacket says the painting is entitled, "I Told You So!"

I heard Friedman on 'CCO radio saying, "My parents used to say 'Finish your dinner. Kids in India and China are starving.' I tell my kids, 'Finish your homework. Kids in India and China are starving for your jobs.' That is quite true for all our graduates today.

But while Friedman is alarmist, he is not fatalistic. If you read all the way to the end, he says on one of the last pages that America can win in this flat world because we have always been -- and for now still are -- the world's dream machine.

You may have studied to be an engineer, but your most important attribute may be your ability to dream big dreams.

In the U.S. we obsess over the imbalance in Chinese engineering graduates vs. American graduates. It is an important problem. But I read about a Chinese economic planner the other day. Do you know what he was worried about?

First not enough humanities graduates to build their culture. And second, he was very scared by all the low wage workers..... in Vietnam!

When I graduated from college in the early seventies, our military fear was the Soviet Union and our economic nemesis was Japan. Lots of things you worry about never take place. So in my view we are forewarned about the "flat world," but we should not be intimidated by it. Why? Because we are part of the great American dream machine

Let me share a few addresses with you: 58 Bagley Avenue, Detroit, Michigan; 4406 Kingswell Avenue, Los Angeles, California; 2066 Crist Drive, Los Altos, California. My interest is not the houses at these addresses, but the garages on those properties.

A coal shed on Bagley Avenue in Detroit was the world's first garage because in it Henry Ford built the world's first automobile. Joe Soucheray was present to give him the world's first cylinder index of 1.

On Kingswell Avenue in LA, a guy used an old box and four pieces of scrap lumber to built a camera stand in his uncle's garage and do stick figure cartoons. His name was Walt Disney.

And over at 2066 Crist? A twelve-year-old had the audacity to ask the president of the Hewlett-Packard Corporation for some free electronic parts. Bill Hewlett began in a garage himself in 1938. Steven Jobs got his parts, and he and Stephen Wozniak invented the personal computer five years later.

Ford Motors, Disney and Apple Computer.

They didn't start at 1500 Pennsylvania Avenue, Washington, D.C. They didn't start in Harvard Square in Cambridge, Massachusetts or on Wall Street, New York City. They began in garages, and they transformed transportation, entertainment, publishing and information processing. They changed society, education and the economy in absolutely dramatic ways.

We have one of those a few miles from here.

In 1949, a guy named Earl (not Hickey) and his brother-in-law Palmer had a garage built out of old boxcars with a pot-bellied stove. They repaired electronic gear from a nearby hospital. Eventually they did work for the University of Minnesota hospital and started helping the doctors apply electronic technology to cardiac care. Their company is called Medtronic. They made \$8 the first month, and they did \$10 billion in sales last year.

Those are four great products of America's dream machine. If history is any indication there are 600 great ideas sitting right in front of me. My single piece of advice to you today comes from Minnesota's own Judy Garland of Grand Rapids. She said: it's preferable to be a first-rate version of yourself than a second rate version of somebody else.

If you want more on that topic, Google Stephen Job's graduation address at Stanford. The speech that he gave was kind of cruel.

All those Stanford grads with tens of thousands in student loans had to listen to multi-millionaire talk about how valuable it had been for him to drop out after a semester.

I want to report from Washington something very encouraging. You are familiar with the phrase describing an NHL contest: "In the middle of all the fighting, a hockey game broke out." In the midst all the chaos in Washington, a major point of consensus has broken out. It's something the White House, the Democrats, the Republicans, the House and the Senate agree on.

It's a high level report entitled: 'RISING ABOVE THE GATHERING STORM', or 'Augustine Report' for short.

It is a powerful document in the way it assesses the current situation and sets out a specific proposal for how we need to get to where we need to get.

You may recall Wayne Gretsky's reason for his success: Most people skate fast to where the puck is. I try to skate fast to where the puck is going to be.

The Augustine Report tells us where the American economic puck is going to be.

It has three basic recommendations:

#1 - We need to Increase America's talent pool by vastly improving K-12 science and math education.

We desperately need to increase school funding, but we get nowhere if the only reform is a blank check. We need to set high standard for rigor and subject matter and incentivize local school districts to innovate in the direction of those goals.

You want to change the world? I hope some of you will feel a pull to public service and invest your knowledge in the education of the next generation.

Let me ask the graduates a question: Are there any future physics teachers here? I hope so. Second question: How many of you would be here if it had not been for a physics teacher who inspired your passion for science?

Minnesota got a bad grade in the paper this week for use of technology in schools. We are going to have to turn that around. A government program won't do it. We need teachers who will do it.

The future of Minnesota is being written in elementary schools today. Tiger Woods said before a recent major tournament: "I can't win the Masters on Thursday, but I can lose it." I hope some of you will invest part of your talent in putting students in these seats 20 years from now.

Recommendation #2 - We need to sustain and strengthen our nation's commitment to basic research. One of the ideas is \$500,000 research grants to early-career researchers. You can work on your proposals during the rest of the ceremony. But it is significant that right now corporate America spends more on litigation than it does on basic research. That's not going to cut it in a flat world.

And Recommendation #3: We need to make the United States the most attractive setting in which to study and perform research so we can develop, attract and retain the best science minds within the U.S. and from around the world.

In a capitalist society, profit draws a crowd, and we need a big crowd of engineers and scientists from around the world. We need tax laws and patent laws to make high-tech pursuits more financially attractive.

I know what some of you are thinking: Ka-ching! And you should. While government supports research, we can't be allergic to private enterprise.

As Winston Churchill said 50 years ago, some view private enterprise as a predator to be shot; others as cow to be milked; but few see it for what it is: a steady horse pulling the wagon of progress.

For Lincoln it was two thin rails stretching from the Atlantic to the Pacific. It was completed five years after his death and it changed the country forever

Our link has three rails: education, basic research and unleashing the entrepreneurial spirit of the high tech economy of the future.

You can help us dream it, and build it and use it to create a dynamic new American and world economy.

Let me close with one more line from another Norman, Vincent Peale. He speaks from the past to our somewhat cynical, pessimistic age. He said:

"Become a 'possibilitarian'. No matter how dark things seem to be or actually are, raise your sights and see the possibilities—Always see them, for they are always there."

I wish you powerful dreams and good fortune as you build the world I grow old in.

Thank you all.