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HENAAC 2001 Hispanic Engineer of the Year
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Ladies and gentlemen, I am truly honored to join you here tonight.

When I first started my professional life -- my odyssey, if you will -- I never dreamed that I would wind up on stage in front of a host of people.

I can't help wondering if this is how Carlos Santana felt at the Grammies a couple of years ago, or maybe A-Rod on his first day in the majors.

An award like this tends to make you very reflective. In that spirit, I thought very hard about what attracted me to science and engineering in the first place.

I suppose the quality that most accounts for it is the characteristic that motivates most scientists and engineers. It's curiosity.

But it's a special kind of curiosity. It's the kind that prompts children to ask why the sky is blue.

It's a quality of naiveté that can look at something and always see it for the first time . . . a perspective that isn't burdened by expectations or calloused by preconceptions . . . that sees not what it wants to see but what is there in all its uniqueness.

For as long as I can remember, I have been curious about the way things work . . . what makes them tick.

When I was a young child my parents would bring me toys from the store they owned in Havana (and later lost to the Castro regime). My reaction was delight of course.

But then curiosity would take over and I would proceed to take the toys apart to learn how they worked.

My parents quickly decided to play to my curiosity in a constructive way, and started bringing me toys, like Meccano sets, that were already apart. Putting them together turned my curiosity toward building things.

Most children have this curiosity about how things work. Unfortunately, for too many it fades with time.

With the help and encouragement of my parents and some wonderful teachers, I was lucky enough to keep that curiosity as I got older. In some respects, it even grew.

I still remember when I first learned algebra and geometry in high school back in Havana, and later calculus, after we had settled in Chicago.

Math seemed magical to me then. It still does. What else is it but magic, when you can write down a formula, plug in some numbers and out come the answers.

I remember checking the answers "by hand" to make sure that the formulas really did work . . . in a sense taking the formulas apart just as I took the toys apart.

Even though I had gone through the proofs, I had to convince myself that the magic was real, as indeed it was.

The magic moved to a whole different plane when I discovered computers. It was the summer of 1962, just before I entered college. Through a combination of luck and persistence, I was able to get a job in the brand new Computation Center at the University of Chicago.

Here I was, 17 years old, with this incredible job . . . and in an air conditioned office that I could use day and night in the hot Chicago summers.

At the time, I thought, "Boy, it doesn't get any better than this." Come to think of it, that's a good working definition of a nerd.

Most of my friends spent so much time in my office, the staff thought they worked there. A few actually did get hired.

That was my first real relationship with computers, and it was love at first sight. I was captivated by the sheer power of computers, and what I could make them do with a little clever programming.

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Staying up all night with a memory dump in front of me . . . doing the detective work to track down a bug . . . It was just like when I was a kid taking those toys apart to figure out how they worked.

Learning how computers worked, and all that you could do starting with 1's and 0's and simple binary logic, had the same aura of magic that I had experienced with math.

I was also very fortunate to learn computing from Professor Clemens Roothan, one of the early pioneers in computational physics and chemistry . . . who hired me as he was organizing the Computing Center at the University of Chicago, and who later became my Physics Ph.D. thesis advisor.

It was also through his consulting relationship with IBM that I was hired by IBM's Thomas J Watson Research Center in 1970, having made the decision to switch from Physics to Computer Sciences.

That was 31 years ago, and none of the magic or curiosity have worn off. In fact, it all keeps getting more and more exciting.

The explosive advances of information technology, and the Internet in particular, are giving rise to a whole new set of fascinating, deceptively simple questions: What is commerce, for example; how do people work together; how do you make computers more intelligent so they can manage, heal and protect themselves?

Curiosity has been the constant factor in my career, and I am really fortunate that I never lost this innocent delight in what makes things tick.

Curiosity is a necessary, but not an all-sufficient, condition for a successful career in technology. You clearly need some talent, and a bit of luck is always welcome.

But, the difference between curiosity as a mere pastime and curiosity as the foundation of a successful career in science and engineering is hard work and discipline.

It's sad, but true. You don't get something for nothing. Much as we sometimes wish it weren't so, in the end, hard work and discipline . . . the proverbial "sweat of your brow" . . . are indispensable to any kind of professional success.

I am profoundly happy with this Hispanic Engineer of the Year award. Let me tell you why it feels particularly sweet.

There are all sort of awards that recognize people for what they do, but Hispanic Engineer of the Year is something special in that it recognizes a professional, not just for what he or she does, but also for what they are.

Events like this reaffirm our roots, not just for the recipient, but for everyone involved . . . for each one of us . . . for everyone whose native tongue is Spanish and for whom the names Garcia-Lorca, Neruda, and Tito Puente have as much resonance as Shakespeare, T. S. Eliot, and Duke Ellington.

This award pays respect to where we come from as well as what we have become.

We become who we are because of the sum total or our experiences in life. And those experiences come to us in a cultural envelope and stay with us all our lives.

Alongside my childhood memories of tearing apart toys and building Meccano bridges are many lively memories of growing up in Havana.

The sounds, the smells and the sights. But especially the sounds.

The Latin beat that surrounded me in my youth still goes straight to the pleasure centers of my brain whenever I hear Celia Cruz, Tito Puente, Poncho Sanchez, Carlos Santana, and all those wonderful Latin music performers.

Some of my earliest memories of Cuba are of listening to baseball games and actually crying when my team, Almendares, lost. Last year, I once more found myself close to tears when the New York Mets got beat in the World Series by the Yankees.

That's one thing we never outgrow -- the emotions always lie so close to the surface.

And those emotions are connected to the senses. If you like to cook -- and eat -- as I do, you know how appealing the smell and taste of garlic, parsley and tomatoes can be.

Of course, our native language is a key anchor of our culture. I still revert to Spanish to do simple arithmetic. And it's especially satisfying to travel to Spanish-speaking countries and do business in our native tongue.

The language, the music, baseball, arroz con pollo, and a hundred other things are what ground us, remind us that we all belong, that we're not alone, and that we are the latest manifestations of a rich, warm, and thoroughly human culture.

One of the great strengths of our American culture is its ability to see the value in other civilizations and make room for them, the way jazz made room for Latin music.

In the end, that is our real weapon against the forces of intolerance.

Of course, it doesn't happen without effort. Often it's not easy to claim a part of the dream. At times, it's a great struggle. But ultimately it works.

And it works because people like us -- Hispanics, along with Asians, Native Americans, African-Americans, and Europeans -- have a fundamental pride in our origins. And with that pride comes an unshakable desire to bring what's good and worthwhile about our culture, and insist that it be part of the great and continuing experiment in democracy that is the United States.

Ever since I arrived in the US from Cuba, on October 18, 1960, I have felt nothing but welcome in my adopted country. Becoming Hispanic Engineer of the Year makes me feel even more at home.

Thank you.