

Address, Berkeley Rotary Club Meeting
President Robert C. Dynes
Wednesday, March 8, 2006

Thank you for the invitation. This is my first time visiting the Berkeley Rotary Club. I spent 14 years in San Diego before I came up here a little over two years ago, and I addressed the various San Diego Rotary Clubs many times. I find the spirit here similar to the spirit at the San Diego clubs, a spirit of camaraderie, joy, and commitment to public well-being.

Let me first understand who I'm talking to. I'd like a show of hands from all of you who are graduates of any UC campus. Okay. How about Cal? Did anybody's hand go down? How about Stanford? Oh good, I'm in friendly territory. As you well know, I've been in some unfriendly territory lately, and I'll talk a little bit about that towards the end of my talk. And then I would like to have a dialogue with you. At other Rotary meetings, I've been riddled with questions, and I enjoy that, because I get a sense of what is on people's minds.

I was at AT&T Bell Laboratories for a lot of years back when AT&T and Bell Laboratories were the same company. And I realized that something was bothering me about working for that company – aside from the collapse of AT&T, of course. The currency of the realm was how much money the company made, which is reasonable. Everything was measured in dollars. I had been there for 22 years, and something was missing: the commitment to society and the quality of life. When I came to UC San Diego in 1990, it was like new blood was put in my system. The yardstick was not how much money you or the institution made but what kind of an impact you made on society. I believe the most important mission of the University of California is the impact that it makes on California. So I'm going to talk about that. I'm going to talk about some really good things, and I'm going to mention a couple of bad things that you've probably read about, so I can give you a flavor of what the University of California looks like today.

I've been President now for 30 months – who's counting? – and I've spent a lot of time traveling around the state trying to understand what the University of California has done in this state, the impact that it's had, and as I look to the future and think about the trajectory that the University should follow, what we can do to greater enhance the state of California: make it more competitive, make the quality of life higher, contribute more significantly to health care, to agriculture, to entertainment, to the culture and society that is California.

The relationship between the University of California and California is remarkable. Probably about 50% of the physicians in the state of California at one stage or another of their learning careers have been trained at the University of California. California is the breadbasket for the nation, and 50% of all produce eaten in the United States comes from California, and that comes from the agricultural programs that we've done together.

Let me talk about today. In January, we released the first annual report tracking the University's performance. The Legislature wants more and more accountables that quantify things we've done. After all, we're a public institution, and we are responsible to the Legislature and to the people of California. So we gave them a report card, and it was remarkable; even I was surprised at some of the things in it. We have about 208,000 students in the University of California. Last year, we graduated 54,000 students with bachelor's, master's, and doctorate degrees in the 10 campuses. Students are completing their degrees faster than they ever did. The average time for a student to finish an undergraduate degree from the time they enter as freshmen to the time they graduate is

now four years and less than one quarter, just a little over four years. So we're pretty efficient.

The quality of our faculty continues to rise. Over the past 10 years, since 1995, we have won 19 Nobel Prizes. It's a remarkable record. Any other university in the world would probably kill for that record. And the University of California continues to boost the state's economy. Last year, we announced over three new inventions a day, and we generate the most patents of any university in the world. So when people say the University of California is the best public university in the world, I kind of wince at that, because in fact, we are the best university in the world. And I'll tell you why. Several colleagues from Stanford or Harvard or MIT or Cal Tech or USC or Princeton might say, Wait a minute, what about us? They have incredible reputations, and those are the institutions we compete for our faculty - we win some and lose some, they steal some from us, we steal some from them - we're on a level playing field. But our research output, our student output, is huge compared with those institutions, because we are 10 campuses. We opened our 10th last September in the San Joaquin Valley. So if you measure both quality and impact, there is no comparison.

The Chinese are looking at how to build research universities to stimulate their economy, and they did a quantitative measure of the top research universities in the world. And of the top dozen, 10 were in the United States. The other two, as you might guess, were Oxford and Cambridge. Of the 10 in the United States, six were in California. Of those six, two were private universities: Stanford and Cal Tech. The other four were the University of California campuses. So in the top dozen, there were four University of California campuses: Berkeley, not a surprise for you Cal folks, UCSF, UCLA, and UC San Diego. So if we bundle all those together, there's no comparison.

Let me tell you what's happening at the University these days. I want to talk about two things that are going on that I am very enthusiastic about, and it will give you a flavor for where the University is going. The first are the four California Institutes for Science and Innovation that were created under the Gray Davis administration. He and some advisors decided they wanted to stimulate relationships between the universities and industry in California, and they set forth a competition between the UC campuses to build Institutes for Science and Innovation. There were four created, and they were collaborations between at least two UC campuses. So they weren't single campus institutions. Two of them are up here in Northern California, and UC Berkeley is a partner in both of them. One of them is called CITRIS, which is the Center for Information Technology Research in the Interest of Society, and it tries to apply information sciences to enhance society. The other is QB3, which is the Institute for Quantitative Biomedical Research.

Let me talk a little bit about QB3, which is UCSF, UC Berkeley, and UC Santa Cruz. The idea is to bring together these three campuses and their faculty and students working in quantitative biology and biochemistry and bioengineering, with industry, so industry is an integral part of this. The goal is not to do R&D, which is research and development, but to do what has evolved since 9/11, which is R, D, & D. On 9/11, I realized that we had to go further than just research and development, we had to deliver as well. If you think about it, there's no place in the world that has the biological sciences of UC San Francisco, the biological, physical, and engineering sciences of UC Berkeley, the informational sciences and biotechnology of UC Santa Cruz, and the Berkeley Lab, which has some of the finest physical characterization equipment in the world. There's no place in the world that, within those few miles, can bring together the intellectual resources to chart a course for medicine for the future.

So in this thing called QB3, there are fundamental scientists and venture capitalists, there are students and applied scientists, there are physicians and engineers, there are physicists and chemists, and the goal is to chart the course of medicine for the next 20 to 30 years. The R, D, & D is easily displayed in a building at UCSF Mission Bay where on the top floor, there are scientists and students and some folks from industry doing fundamental science; on the second floor, there is drug development, and on the first floor, there are clinical trials applying those drugs to test the impact they have on humans. So this building is R, D, & D. And that's unlike the university of 20 or 30 years ago. This is a university that, in my opinion, is taking seriously the responsibility of public service.

There are four of these institutions. There is one down in San Diego and Irvine on information technology, and they're doing things you wouldn't believe, real-time conferences around the world using our ability to handle information. And these are not research institutes; these are research, education, and technology institutes, involving partnerships with industry, small industry, venture capital, and large industry. The goal is to make and keep California economically competitive so that we are not worried about outsourcing, but we are leading in the new technologies, so that we win by our brains, not by our hands.

The second thing that the University is doing that you may not have heard about: About a year ago, Governor Schwarzenegger and I and Charlie Reed, the Chancellor of the CSU system, made a commitment to increase the number of science and math teachers in California. UC made a commitment – and we're building it as we go along – I made a commitment that we would generate a thousand science and math teachers a year, credentialed through the University of California. This is a huge increase compared to what we're producing now.

As I traveled around the state, I was appalled that in some school districts, in some schools, lower-income areas, there was not a single credentialed science or math teacher. They had phys ed teachers teaching science. And of course, the phys ed teachers were not prepared to teach science – they were intimidated by it – so they were basically babysitting. They had history teachers teaching mathematics. Now, it's not that every young person should become a scientist or a mathematician. But to cope in this modern world, people have to be able to understand how things work. These young people are not getting the opportunity to figure out what's bigger than what, to understand what causes what to happen. If we don't fix this, the next generation of Californians will be illiterate in math and science, and we'll lose the things that California has been so famous for, which is innovation, creativity, risk-taking.

So we made a commitment between the University of California and the CSU to increase the number of science and math teachers by 2,500 a year, and in about five years, that will turn around the shortage of teachers in California if we're successful. Now, we're making this up as we go along. I realized that this is an emergency, and we didn't need to put four committees together and plan it. We had to commit to doing it and planning it as we go along. So that's happening as we speak, and it will continue to happen.

We envision that young people coming from all parts of California will discover that teaching is a noble profession as opposed to the bottom of the barrel. And the Governor has made commitments for loan forgiveness programs so that teachers who go out and teach in those regions, they can write down their loans over five years if they stay in those regions. Good stuff like that is going on right now. So the University is not what the University was 20 or 30 years ago. This is a 21st-century university. We truly are the best university in the world.

Here's an interesting thing: for the Science and Math teaching program, we coined the term, "A Thousand Teachers, A Million Minds." The argument was that if we generate a thousand teachers, in 10 years, those thousand teachers will affect a million minds in California. At the State of the Union address, President Bush announced a strong emphasis on creating new science and math teachers. The program that was recommended to him is called "Ten Thousand Teachers, Ten Million Minds." They took the California figure and multiplied it by 10. What it illustrates is that California continues to lead the nation. People look to us to lead. And you will see a heavy emphasis in California and in the country on reversing the trends of the last 20 years in trying to instill a love and passion for science and mathematics in young people again. It's not that we're going to exclude other things. Please don't misunderstand, I don't want everybody to become a scientist, it'll be too crowded. But young people have to understand what is driving our science and technology today.

Let me finish with a couple of awkward things. If you've been reading the newspapers, you've been seeing that we, the University and I, have been taking a lot of heat for our compensation practices. This has come about because we are the only public university left in the country that is competing with the privates. Other public universities – the University of Colorado, the University of Illinois, the University of Wisconsin – are in deep trouble. They have basically been taken over by the state governments. So we've been competing fiercely to get the very best people we can. The Chancellor of the local Berkeley campus, I recruited a year and a half ago, and I was aggressive in recruiting him. People are now wondering whether we are paying too much for the best. I would argue "No" – I would argue that we must be the very best and we must bring in the best people we possibly can. The place that we're under criticism is that we haven't fully disclosed to the public what we paid to get those people. I agree. I'm guilty. I will fix it, and we will move on.

Someone commented that I was a hockey player in my youth. I actually wanted to be a professional hockey player. I didn't want to go to college. The real truth is that I grew up playing against people like Bobby Orr and Bobby Hull. And I discovered that they were a lot better than I was. So I figured that I better take the alternative and go to college.

I learned a few things playing hockey, and these things are true in life, and I'd like to finish with them. The things I learned in playing hockey or competing in anything – and you undoubtedly all know this – there are four lessons, and the first one is: You're going to get roughed up a little bit every once in a while. Somebody is going to take a shot at you. And you've probably all experienced that. The second thing I learned is that you always have to keep pushing and leaning forward, because if you're not pushing forward, you get pushed backward. The third is that you must always keep your eye on the goal: you have to establish what your goal is, then keep your eye on the goal and lean in that direction. And the fourth, and probably the most important and relevant to the University of California, and relevant to you, is that you cannot win without good teamwork.

The University of California has a superb team. And you are part of it. The number of hands that went up earlier said that you're part of the University of California, you're part of the family, and you can't walk away from that family. The fact that you put your hand up means that you don't want to walk away from that family, you're proud of it. The way that California will continue to be the most innovative, creative, diverse, risk-taking society in the world is if we continue to nurture the University of California so that the next generation of students can become the leaders of California. Thank you.