

University of California, San Francisco
Graduate Division Commencement Address
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“The University of California: Crucible of California’s Future”

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Vice Chancellor Kelly, Dean Attkisson, Deans Debas and Alldredge,
members of the faculty, alumni, family and friends, and today’s graduates:

It is a distinct pleasure to join you in honoring this year’s doctoral recipients
and the graduates of the physical therapy program. I want to congratulate
UCSF and San Francisco State for the new joint doctoral program in
physical therapy sciences which will enroll its first students this summer.

As you graduate today, you will join more than one million past graduates as
alumni of the University of California. This ceremony will once again fulfill
the purpose for which the University was created: “to educate men and
women whose contributions will reach the heights of California’s
mountains.”

Dean Attkisson asked me to comment on the University’s past contributions
to California, to describe what the University is doing today to shape
California’s future, and to explain what you can do to ensure that the
University’s accomplishments will be as profound in this century as they
were in the last one. And, he asked me to do so in less than 15 minutes!

Let me begin with a brief journey back in time. Since the mid-1800’s, there
have been two constants in California history. First, Californians have
always placed great faith in science and technology, and second, the state’s
population has been characterized more by its diverse national origins than
by its homogeneity. When California entered the Union, its residents were
citizens of the world. They came from Mexico, Ireland, China and Italy as
well as from the United States.

The situation is not too different today. Californians continue to look to
science and technology to shape the future. And a large proportion of

Californians are new residents of this state. Twenty five percent of California's current residents were born outside the United States, and 50 percent were either born outside the U.S. or are the children of parents born outside the U.S.

For the past 130 years, California has looked to the University to educate its citizens, to unravel the mysteries of our world, and to build a prosperous economy for the state. The University of California began with a bold mission: to provide an education equal to that of the nation's best private universities, and to make that education available to students who could not then aspire to a higher education.

The state law that created the University specified that admission shall be open to students from all economic classes, that women shall be admitted on an equal basis with men, and that tuition shall be free to all California residents. These were lofty aspirations for a time when a college education was largely the preserve of upper class gentlemen. Today, the University enrolls the highest percent of low-income students of any public or private research university in the country. And thirty years after its founding, 46 percent of the students were women. However, while UC tuition is not free, it is 36% below the average for comparable public universities.

Although the University has more than fulfilled its promise (with the exception of free tuition), its early years were fraught with peril, and revealed little of its later greatness. It took the state a decade to put these aspirations into practice. After the state constitution called for the creation of the University, ten long years passed before it came into being. The federal Land Grant Act set 1866 as the deadline for the transfer of federal lands to endow state universities. Only then did the state establish the University so as not to pass up the opportunity to acquire free land. It is no coincidence that the University's founding legislation was passed by the Legislature and signed by the Governor that same year – 1866.

The Regents then recruited Daniel Coit Gilman, a distinguished scientist from Yale, as President. His goal was to create a University with as much emphasis on the sciences as on the classics, an unusual goal for American universities. But, he was forcefully resisted by agricultural groups that wanted the University to be a farm school where students would work in the fields to receive a practical education. After several difficult years, Gilman

was appointed president of Johns Hopkins, where he built a great university free from the restive forces he had encountered in California.

In spite of these initial difficulties, the University did realize President Gilman's vision and it went on to shape California as we know it today. In the early 1900's, UC researchers discovered how to remove alkali salts from Central Valley soils, making California the world's most productive farming region. In the 1960's, UC studies led to automobile safety standards such as seatbelts, shatter-proof windshields, and head rests to protect vehicle occupants. The identification of HIV as the cause of AIDS, and tests to protect the nation's blood supply emerged from UCSF, as did Recombinant DNA technology, which gave birth to the biotechnology industry. So it is no accident that one-third of all biotechnology companies in the United States are located within 35 miles of a UC campus. And, UC faculty pioneered the laser, fiber optics, and the wireless technologies that make modern telecommunications and entertainment possible – from compact discs to cellular telephones. There are hundreds of additional examples, but these few make the point.

Recently, the Council of Economic Advisors to the President of the United States reported that one-half of the growth in the U.S. economy since World War II resulted from innovations stemming directly from basic research. This report's stunning conclusion echoes on a national level the University's contributions to the California economy.

In similar fashion, dozens of University initiatives are underway that will keep California at the forefront for decades:

- Five years ago, the University committed to increase its computer science and engineering enrollments to meet California's insatiable demand for engineers. Our goal was a 50-percent increase by 2006. With four years still to go, we have already achieved our goal. Although the information technology sector has suffered a serious setback, our students continue to receive outstanding jobs. And the Bureau of Labor Statistics projects that computer science jobs will double in the next decade. As technology becomes ever more pervasive in business, communications, entertainment, and health, UC-educated engineers will pioneer the high technology developments of tomorrow.

- Three years ago, the University initiated a massive effort to prepare public school students for a college education. Today these programs are improving the academic preparation of 100,000 kindergarten through high school students. And we provide professional development programs for 73,000 school teachers so that millions of other students will similarly benefit. Our programs strengthen their teaching skills and improve their command of the subject matter that they teach in the classroom.
- Last year, Governor Davis proposed the most significant scientific endeavor undertaken by any state. The University, the state, and the state's technology businesses launched an unprecedented partnership to lay the foundation for California's future economic prosperity. The governor established four California Institutes for Science and Innovation at the University of California to advance our knowledge and its applications in biomedicine and biotechnology (here at UCSF), in nanosystems, telecommunications, and information technology. Four-hundred million dollars in state funds has been matched by more than \$1 billion from the private sector. This initiative alone may transform California as we know it today.

As California's population grows to fifty million people in the next twenty years, the opportunities for today's graduates appear limitless. Jobs in science and engineering are growing at four times the rate of other job categories.

- California's colleges and universities will need to hire 40,000 new faculty in the next 10 years. UC alone will need to hire 7,000 faculty to accommodate the growth in the state's college-age population and to replace retiring faculty.
- California leads all other states in the number of technology businesses. It actually surpasses the next three states combined – New York, Massachusetts and Michigan. And one-third of the nation's venture capital is invested in California, stimulating the formation of new companies. These companies need individuals with the depth of intellectual skills nurtured by a first-rate graduate education, such as yours.

- And California's government and non-profit sectors need creative leaders to provide essential services to our growing population.

You are ideally positioned to take on these leadership roles. But as you leave the University, don't leave the University behind. The degree you will receive today is a testament to your perseverance and your accomplishments. You will also receive your diplomatic credentials as ambassadors representing UCSF and the entire University of California.

Embrace this role with enthusiasm. Tell your friends, your neighbors, and your elected officials about the value of the University, and how it makes a difference in their daily lives. Public opinion surveys make clear that alumni are the most believable sources of information about the University.

Be an active and informed voter. A bond measure on the November ballot will fund the construction and renovation of buildings at our public schools, colleges, and universities. If it passes, it will provide the University \$690 million over the next two years for such construction. Its passage is crucial to UCSF's plans to build-out the Mission Bay campus. If it fails, California's public colleges and universities will have to turn away thousands of deserving students who are working hard to prepare themselves for a graduate or undergraduate education.

Stay involved with UCSF. Participate in the alumni association. And yes, make a charitable contribution annually in an amount that you can afford. Your contributions will leverage far greater funding from private foundations that require alumni giving before they will make a gift or grant.

Lastly, keep in mind that your education was supported by millions of Californians who have never had a family member attend UC. Return the favor by seeking out and encouraging students to aspire to and prepare for admission to the University. The rewards of doing so will remain with you for a lifetime.

Thank you, and congratulations on your exceptional accomplishment.

The formation and early history of the University of California is discussed in engaging detail in John A. Douglass' book *The California Idea and American Higher Education: 1850 to the 1960 Master Plan*.