- If ever the United States needed to formulate a long-range plan for the future of its higher education system, now is the time. ("a blue-print")
- If ever the United States needed to make a long-range fiscal investment safeguarding those plans against short-term contingencies, and to declare that education was its highest priority both for the good of its citizens and for the continued welfare and security of the nation, now is the time.
- The fact that we live in a global economy is a given. Thomas Friedman's declaration that the world is flat is no longer news, but we are still learning to adapt to the new rules of a global marketplace:
  - ✓ The sites of production and distribution shift constantly as corporations seek maximum return on their investments without regard to geographical boundaries;
  - ✓ As the sites of production are dispersed, and the traditional manufacturing model withers, corporate employers seek out and hire technologically literate workers without regard to national origin;
  - ✓ The ability to create and use knowledge, rather than traditional products, is increasingly prized, even as technology itself advances at a dizzying pace;
  - ✓ As a consequence, the workforce of the present and future must be adaptable, capable of learning on the fly and on the job;
  - ✓ Increasingly, jobs leading to a measure of individual security presuppose technological literacy, and this same knowledge is increasingly necessary to the conduct of a satisfying and efficient daily private life;
  - ✓ For all these reasons, then, higher education is mandatory for an increasing proportion of the nation's populace.
- In the same way, the nation finds itself competing with other nations for technological supremacy as the world searches for viable answers to the many pressing problems it must solve in the coming decades. These include:

- ✓ The need to find viable alternatives to carbon-based energy supplies;
- ✓ The need for appropriate response to climate change and the depletion of natural resources;
- ✓ The need to respond to current global problems of poverty, shortages of food and water, and disease, all of which are likely to escalate in the years ahead;
- ✓ The need to help resolve political, ideological, cultural, and regional conflicts, all of which threaten hopes for global peace and progress;
- ✓ And the need to recognize and help to resolve inequities in standards of living, many of which have long histories but are now even more uneven than before.
- Given this broad range of needs, considering both the needs of the individual and the needs of the nation, higher education has a crucial role in determining whether the coming century will witness our continued growth and prosperity.
- In particular, the work produced by our graduate programs and research centers will be vital to our economic health.
- All around the world, from Brazil to Finland, from Egypt to Korea, researchers are addressing the problems of climate, energy, and sustainability, and the ongoing need for ever-faster and ever-cheaper digital technology, on hundreds of fronts.
- The same is true of research in biomedicine, genetics, agriculture, water use and conservation, and many other frontiers of science and technology.
- America's ability to sustain its leadership on these fronts will be vital to its continued prosperity.
- But the work of the humanities, the social sciences, and the arts will be equally vital.

- As technology and the global economy erase traditional geographic boundaries, these disciplines will simultaneously help us remember our common humanity while reminding us of cultural difference and the unique cultural histories each of us brings to global exchange.
- And as the world experiences change at an unprecedented pace, it will be incumbent on the humanities to remind us of the lessons of history and philosophy, to teach responsible citizenship in the nation and the world, and to foster our appreciation of human ideals. ("humanistic context") And these fields, too, will continue to be enriched by technology and dependent on it: As an example, one of the great tasks facing those in the humanities and information science is the digital archiving of the nation's and the world's many great cultural artifacts and documents. (digital archiving; digital humanities)
- In many ways, the American university system has been uniquely well equipped to meet the challenges it now faces on so many fronts.
- Their legacy of innovation and achievement on many fronts in the 20th century is unparalleled.
- This achievement reflected the importance of education to the founders of the country and to later leaders.
- It is no wonder that the American university system has been admired across the world, and in recent years closely studied as a model of public funding by Asian and European countries.
- At home, however, that same system is increasingly taken for granted, and imagined as an entitlement that carries no genuine fiscal cost.
- Real income for public universities has declined, adjusting for inflation, by fifteen percent over the last twenty years. In California, an extreme case, state funding has fallen forty percent in the last two decades.

- Cuts in the last eighteen months, as states across the country suffered the costs of the recession, were especially dramatic, and made all the more difficult in many states because university financial officers learned in May of the budget shortfalls that would go into effect in July.
- Not surprisingly, a recent survey conducted by the Association of Public and Land-Grant Universities indicated that the campus outlook at many public research universities is dreary at best.
- More than half the institutions responding to the survey noted that cuts in state appropriations are impeding their ability to retain faculty and staff, make appropriate investments in new technology, maintain campus facilities, and continue prior levels of student services.
- Even more ominously, more than one-third noted that shortfalls in revenue led them to cut back on efforts to expand access to minority and underrepresented student groups.
- From some sectors of the public, news of cutbacks in state appropriations are seen with a measure of satisfaction that sometimes borders on glee.
- Motivating this response, in most cases, is the belief that universities do not manage themselves responsibly. While there is need to revisit and improve the way we run our organizations the above perception could not be far enough from the truth.
- Let me set aside, for the moment, the fact that state charters bind public universities to a myriad of state regulations mitigating against the ruthless efficiency some profess to desire.
- Let me also set aside the belief that universities are not corporations and cannot serve their students or the long-term research interests of the nation by adopting a "true" business model.
- Confronted by repeated decreases in state appropriations, public research universities now risk cutting into the core, and compromising the very qualities that have made them one of the nation's great resources.

- They have launched massive capital endowment drives; they have raised tuition, in some cases repeatedly and in some cases substantially; they have repeatedly reviewed their own operations, asking themselves how they can do more with less; many institutions are now devoted to lowering energy costs.
- As many have noted over the last two years, however, belt-tightening directives were followed long ago.
- Public universities now must ask whether the public and its governing bodies properly value the work done on their campuses.
- They must point out that continued public neglect of universities, and states' continued reluctance to fund them properly, will have serious long-term repercussions.
- They must observe that we are now borrowing heavily against our intellectual capital at the very moment when we should be making massive investments in that capital.
- To be sure, this nation can point with pride to several moments when its leaders *did* choose to make the investments in intellectual capital that insured the nation's wellbeing.
- The signal moment, of course, is the Morrill Act of 1862, which created the land-grant university system. And I am struck by a point recently made by James A. Leach, chairman of the National Endowment for the Humanities, as he discussed this signal moment.
- "At issue in the mid-19<sup>th</sup> Century," he observed, "was the question of geography and class as well as agricultural and engineering opportunity. Was education to be the disproportionate province of the well-to-do and those living on or near the East Coast?"
- Lincoln provided a resounding answer to that question, of course, and blazed the trail that led, in the next fifty years, to the emergence of this nation as a global power.

- In the same way, the G.I. Bill of 1944, passed at a time when our economy was depleted by war, and showed our determination to build intellectual capital for the postwar future despite the cost. As it expanded and in some cases refashioned the university campus, it created an informed and immensely productive labor force and sustained prosperity for most members of the middle class.
- And I can speak first-hand of the impact of the National Defense Education Act of 1958. If this act was prompted by Cold War fears and the Red Scare, but its massive funding in science, mathematics, and engineering enabled American universities to claim the "preeminence" in many emerging fields they still enjoy today.
- As a teenage girl living in Greece, I watched Apollo 11 land on the moon. Like countless millions across the world, I was totally taken, and it was as I watched that I first decided to be an engineer.
- We attribute the moon landing initiative to "place a man on the moon" to President Kennedy's directive, of course, but we should remember that the innovative engineering enabling that dream to come true, so breathtaking for its time, was the direct consequence of the funding for development that was initiated in 1958.
- When President Johnson spoke at the signing of the "Morse-Green Bill" creating the Higher Education Facilities Act, another milestone in American higher education, he declared that the act signaled the government's determination "to battle the ancient enemies of mankind, illiteracy, poverty, and disease."
- Public universities deserve and need renewed dedication to the national principle that higher education is a public good.
- They need to remind the nation that public higher education develops the intellectual potential of American citizens and trains them for productive work, meets the demands of a nation in the midst of a social, economic, and

technological revolution, and remains the hallmark of research and innovation.

- In short, public research universities have a case to make to the American public.
- In the absence of adequate and reliable state funding, they must make the case for adequate and ongoing federal funding.
- The federal government has long been an important supporter of research, largely through grants issued by agencies such as NIH, NSA, and DARPA. These grants have spurred innovative research clusters, and will continue to do so.
- But, to put the matter plainly, such grants don't pay the electric bill or the mortgage.
- Universities need support for the many daily operations that make them intellectually vital—hiring superior talent as professors and researchers, building and equipping cutting-edge laboratories, funding digital archiving, maintaining older buildings and building new ones, and so on.
- Calls for a new compact between the federal government and the public research university have been circulating with increasing frequency, and increasing urgency, in the last decade.
- If they are to make that case successfully, universities will need to educate not just their students, but the general American citizenry as well, about what, exactly, they contribute to the public good.
- And this, I would suggest, is work to be undertaken at every opportunity. . . .