

A Challenge to the Yale Class of 1964
Securing Educational Opportunities for Future Generations

James J. Duderstadt

When our class first arrived at Yale in 1960, our parents' generation was in the final stages of a massive effort to provide educational opportunities to all Americans. Returning veterans funded through the GI bill had doubled college enrollments. The post-WWII research strategy developed by Vannevar Bush would transform our campuses into research universities responsible for most of the nation's basic research. The Truman Commission proposed that all Americans should have the opportunity of a college education, and California responded with its Master Plan, which not only provided all Californians with the opportunity of at least a community college education, but simultaneously created the University of California system, today the leading research university in the world.

Our nation—and, indeed, the world—benefited greatly from these efforts both to provide the educational opportunity and new knowledge necessary for economic prosperity, social well being, and national security. We saw spectacular achievements such as sending men to the Moon, decoding the human genome, and, of course, creating the Internet and the digital age. So too our class benefited greatly from the commitments of the “Greatest Generation”, although our priorities at the time lay elsewhere—protesting the establishment, fighting for civil rights, and saving the environment.

Yet, fast-forwarding to today, fifty years later, much of this earlier commitment by our parents seems to have waned. The quality of our primary and secondary schools lags many other nations as K-12 teaching has been transformed into a blue-collar profession, dominated by union demands and administrative bureaucracy. Over the past decade, state support of our public universities has dropped by roughly 35%, putting even the great University of California at risk (which has lost almost two-thirds of its state support per student). After a brief surge during the 1990s with the doubling of the budget of the National Institutes of Health, both federal and industrial support of basic and

applied research have fallen significantly, while fields such as the social sciences have been savaged by conservative political forces. And perhaps most telling of all, the inequities characterizing educational opportunity have become extraordinary. As one of my colleagues has put it: "If you are poor and smart, today you have only a one-in-ten chance of obtaining a college degree. In contrast, if you are dumb and rich, your odds rise to nine-in-ten!" Something has gone terribly wrong!

Both the tragedy and irony of this situation flows from the realization that today our world has entered a period of rapid and profound economic, social, and political transformation driven by knowledge and innovation. It has become increasingly apparent that the strength, prosperity, and welfare of region or nation in a global knowledge economy will demand a highly educated citizenry enabled by development of a strong system of education at all levels. It will also require institutions with the ability to discover new knowledge, develop innovative applications of these discoveries, and transfer them into the marketplace through entrepreneurial activities.

Now more than ever, people see education as their hope for leading meaningful and fulfilling lives. Just as a high school diploma became the passport to participation in the industrial age, today, a century later, a college education has become the requirement for economic security in the age of knowledge. Furthermore, with the ever-expanding knowledge base of many fields, along with the longer life span and working careers of our aging population, the need for intellectual retooling will become even more significant. Even those with advanced degrees will soon find that their continued employability requires lifelong learning.

Education in America has been particularly responsive to the changing needs of society during early periods of major transformation, e.g., the transition from a frontier to an agrarian society, then to an industrial society, through the Cold War tensions, and to today's global, knowledge-driven economy. As our society changed, so too did the necessary skills and knowledge of our citizens: from growing to making, from making to serving, from serving to creating, and today from creating to innovating. With each social transformation, an increasingly sophisticated world required a higher level of cognitive ability, from

manual skills to knowledge management, analysis to synthesis, reductionism to the integration of knowledge, invention to research, and today innovation, and entrepreneurship.

It is very difficult to peer over the horizon, but there are already trends suggesting that we are facing yet another era of profound transformation. Increasingly robust communications technologies (always on, always in contact, high-fidelity interaction at a distance) are stimulating the evolution of new types of communities (e.g., self-organization, spontaneous emergence, collective intelligence, “hives”). Info-bio-nano technologies continue to evolve at the current rate of 1,000 fold per decade. During the 20th century, the life expectancy in developed nations essentially doubled (from 40 to 80 years). Suppose it doubles again in the 21st century?

More generally, it is clear that as the pace of change continues to accelerate, our schools, colleges, and universities will need to become highly adaptive if they are to survive. Here, we might best think of future learning and innovation environments as ecologies that not only adapt but also mutate and evolve to serve an ever-changing world. Such future challenges call for bold initiatives. It is not enough to simply build upon the status quo. Instead, it is important that we consider more expansive visions that allow for truly over-the-horizon challenges and opportunities, game changers that dramatically change the environment in which our institutions must function.

So what can our generation do to address these challenges, much as our parents and our ancestors did for us? Perhaps it is time as we enter our “golden years” that we finally step forward to accept a greater degree of generational responsibility for the educational opportunities that we provide our descendants. For too long we have embraced the “Let’s eat dessert first since life is uncertain!” attitude of our “me” generation. Perhaps is time that we use our influence, our wisdom, and for many, our considerable wealth, to make our own bold commitments for the educational resources that will be needed by future generations.

Today a rapidly changing world demands a new level of knowledge, skills, and abilities on the part of our citizens. Just as in earlier critical moments in our nation’s history when its prosperity and security was achieved through

broadening and enhancing educational opportunity, it is time once again to seek a bold expansion of educational opportunity. But this time we should set as the goal providing all American citizens with *universal access to lifelong learning opportunities*, thereby enabling participation in the world's most advanced knowledge and learning society.

Let me suggest that perhaps it should be our generation's legacy to ensure that our nation accepts a responsibility as a democratic society to provide all of its citizens with the educational, learning, and training opportunities they need and deserve, throughout their lives, thereby enabling both individuals and the nation itself to prosper in an ever more competitive global economy. While the ability to take advantage of educational opportunity will always depend on the need, aptitude, aspirations, and motivation of the student, it should not depend on one's socioeconomic status. *Access to lifelong learning opportunities should be a right for all rather than a privilege for the few* if the nation is to achieve prosperity, security, and social well being in the global, knowledge- and value-based economy of the 21st century.