I am deeply honored to be here under Fulbright auspices. This program, now celebrating its fortieth year, was born of the simple but powerful idea that the people of the world could and should be learning more from one another. Since the Fulbright Program was founded in 1946, more than 150,000 people from countries around the world have studied, lectured, taught, and researched in countries other than their own, thereby advancing knowledge, increasing international understanding, and improving the prospects for peace in this troubled world.

Forty years ago, as the Fulbright Program was getting started, education was the object of intense interest and debate in the United States. It was widely recognized that the country was confronting a new and challenging era. Educators and policy makers worried about how to improve the quality of American education, how to accommodate dramatic increases in the number of students enrolled in the nation's schools and the increasing percentage of those who would be seeking education beyond high school, how to increase educational opportunity for those ethnic and socioeconomic groups who had historically participated in schooling and higher education less fully than most, and how to pay for all of the above.
I want to discuss with you today, however, the higher education issues that are presently engaging the time, attention, and resources of the United States, and engaging them at a level and with a degree of intensity and concern that parallel those of 40 years ago.

I begin with a brief profile of American higher education:

. The United States sponsors the largest system of higher education in the world. Approximately 3,300 American colleges and universities enroll some 12.4 million full- and part-time students and employ roughly 694,000 faculty members. Although 55 percent of these institutions are what we call private or independent colleges and universities, the majority of students--78 percent of them--are enrolled in the public colleges and universities.

. The nature and purposes of our colleges and universities are remarkably diverse. There are research-oriented universities (like my own institution, the University of California), comprehensive universities, liberal arts colleges, church-affiliated institutions, vocational schools, professional schools, and two-year community colleges, by way of example. Enrollments range from a few hundred to the tens of thousands.
American colleges and universities are marked by wide variations in curriculum, character, capability, resources, and purpose. Some are outstanding by just about any measure of quality, domestic or international; others are at the margin. This is so because we have tended to found new colleges or universities to meet special or local needs as our pluralistic, democratic, restless, aspiring, and geographically dispersed society developed. Put in its starkest terms, the United States has no system of higher education; it has instead a remarkably diverse collection of colleges and universities which largely function independently of one another.

American higher education is not governed, directed, guided, or funded by the Federal government. This arrangement--often so surprising to foreign visitors--grows out of deeply rooted American traditions of local and state control and purely private initiatives that have been strong formative forces in American life generally.

The Federal government, nevertheless, has a crucial role to play in higher education. It participates in three main areas. First, it is the major sponsor of basic research in universities: in 1984, Federal funds supported two-thirds of the $5.6 billion spent on basic research in American universities. Second, it helps fund major research laboratories and scientific
instrumentation. Third, it is the principal source of student financial aid, mostly in the form of student loans. In 1987, Federal appropriations for student financial aid were $8.4 billion. Roughly 50 percent of the students at my university, for example, are assisted by these Federal programs.

American colleges and universities draw heavily on a variety of sources for their financial support. Besides the Federal funds I just mentioned, public and private institutions alike derive income from student-paid tuition and fees, gifts and endowments from the private sector, sales and services--such as income from university-owned hospitals and dormitories--and miscellaneous other sources. Public institutions look to state governments for their core support (although state funds--in the form of student financial aid made available by the individual states--represent an important source of indirect state support for the private institutions). Generally speaking, these multiple sources of support have enabled American higher education to gain and to sustain a remarkable level of institutional autonomy and academic freedom.

Finally, American higher education has striven to facilitate access to our colleges and universities for every young person believed able to do the work and to maintain
respectable academic standards. We continue to seek those twin goals, sometimes succeeding and sometimes not.

What, then, are the main issues facing American higher education today?

The first concerns demographics. American educators have long been concerned about an expected decline of roughly 25 percent in the number of students completing high school in the United States between the late 1970s and the early 1990s. Different regions of the country are differentially impacted by this trend, and so too are the nation's colleges and universities: some are expected to grow, others to hold steady, and some to decline in enrollment. While the predictions of the late 1970s have not been fully realized, in part because of expanded student financial aid, an increase in part-time students, and more older students enrolling, certain regions of the country and certain universities and colleges have been adversely affected.

The first demographic factor, then, has to do with numbers. The second aspect is much more complex; it involves the changing character of the American population, in both ethnic and social terms.

The population of the United States is becoming more ethnically diverse. We are, of course, a pluralistic society ethnically. We always have been. What is new is the enormous wave of
immigration presently flowing into the United States. It is estimated that during the 1970s approximately eight million legal and illegal immigrants crossed our borders, a phenomenon that rivals the flood of persons who came to the United States from Europe at the turn of the century. Today, however, the immigrants are principally from Pacific Rim countries--Mexico, Central and South America, and East and South Asia. Nearly one-third of these newcomers settle in California, and by the year 2000, California's population is expected to consist of nearly one-half ethnic and racial minorities, chiefly Hispanic and Asian.

But California is not the only state with a population that is rapidly changing ethnically. Half of the states have public school student populations that are currently more than 25 percent Black, Hispanic, and Asian. Each of our 25 largest city school systems has a majority of minority students. And as statistics show that minority families tend to have more children than non-minority families on average, this trend will persist. Educationally, Black and Hispanic children do not complete high school at nearly the same rates as the rest of the population, thus adversely affecting their representation in our colleges and universities and their participation in the economic and political life of the country.

At the same time, we are in the midst of changes in the structure of the American family. Those changes cut across ethnic lines.
In 1955, 60 percent of American households consisted of a working father, a homemaker mother, and two or more school-age children. In 1985, such households represented only seven percent of American homes, reflecting a major increase in the number of women who work outside the home, a general decline in childbearing, and a dramatic increase in the number of households headed by a single parent. Of those American children born in 1983, for example, 59 percent will live with only one parent before reaching age 18, if present trends continue. This compares with six percent of Japanese families headed by a single parent.

Moreover, the United States today is facing an increase in the number of unmarried teenage pregnancies—with predictable consequences for the mother's economic circumstances, and her prospects for further education. Single parent households tend more than others to fall below the poverty level, and this fact also diminishes the children's prospects for education, jobs, and a hopeful future.

These changes in our society pose formidable challenges for the schools, for higher education, and for the nation generally. For example, many schools in California enroll students whose first language at home is not English, but is instead any one of some twenty to thirty different languages. Thus, mastering English for such students and teaching in English by the schools are daily and pressing problems for students and schools alike.
Moreover, many students will need help academically and financially to undertake the demands of a college education. And many will simply never make it to college because they will not complete high school (some estimates put the national high school dropout rate for Hispanic students, for example, at 40-45 percent).

One thing is clear. For reasons having to do both with self-interest and with concern for the welfare of our society, higher education in the United States must make greater efforts to assist the schools and these new members of our society, if they are to follow the pattern of other immigrant groups over the years who, through education, found their opportunities and entered the social, political, and economic mainstream of American life.

I now wish to mention, as a second issue, the impact on higher education of the national movement to reform secondary education --that is, the American high school. It is obvious that how well students do in college depends in large measure on how well they have been prepared in the elementary and secondary schools. Thus, higher education has an interest in and a role to play in the nation's effort to improve schooling in America.

By the late 1970s and early 1980s, the evidence was everywhere pointing to a secondary school system in decline. A National Commission on Excellence in Education was appointed to study this
matter and offer its findings, conclusions, and recommendations. The Commission was appointed by then-Secretary of Education T. H. Bell, and I was asked to chair it.

The Commission noted in its 1983 report that "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war." The report, *A Nation at Risk*, documented numerous indications of trouble: the nation's 23 million functionally illiterate adults; our declining scores in international comparisons of student achievement; the increasing need for higher education to offer remedial work for students who should have learned such material in high school. We were convinced that academic standards and expectations needed to be raised dramatically, but that they could only be raised if we succeeded in alerting sufficient numbers of people to the problems we faced.

So we took an unusual step. Even though the Commission was appointed by the United States Department of Education, we did not address our report to the government. Instead, we wrote it in the form of an open letter to the American people. We did so because we believed that, in a school system as decentralized as our own, change would occur only if we engaged the interest of parents, local and state officials, and those thousands of persons responsible for working in the 16,000 local school districts that compose the American high school system.
It is worth noting that within two weeks of the report's release, three-fourths of the American people had heard of *A Nation at Risk*; and in the ensuing year, it was reprinted more than six million times. The quality and condition of American education--topics that had rested near the bottom of our domestic agenda for nearly a quarter of a century--were suddenly and actively the subject of widespread discussion and debate, not just in government circles but, more importantly, in virtually every community and neighborhood in the United States.

In the ensuing four years, most states have raised requirements for graduation from high school, and many enacted comprehensive reform measures affecting teaching status and compensation, the content, scope, and sequence of curricula, the quality of textbooks, and the special needs of gifted and disadvantaged students. New partnerships with the schools were formed by the business community and higher education. But we still have a long way to go towards our goals, and it will be interesting to observe if the country can maintain the momentum for reform that has over the past few years been so encouraging to us all.

As one might expect, the interest in school reform has now spilled over onto higher education; and during the past two years several national reports have raised questions about the health and vitality of undergraduate education in American colleges and universities. Please note the emphasis on undergraduate. Not under debate nationally are the quality of research and the
caliber of professional and graduate programs in American universities. These are, by common consent, regarded very highly. I might add, however, that we should never take our strengths in this area for granted.

Thus, I come to the third issue: undergraduate education in the United States. Concern about undergraduate education has tended to center on what we call the lower division—that is, the first two years of college. It is during these years that students take most of their general education courses, those courses that are not part of the major subject they have elected to study.

Most of the national reports referred to above have criticized what they see as the increasing vocationalism of undergraduate education, the fragmentation of the curriculum, and the lack of rewards for faculty members who are exceptional teachers, especially in research universities such as my own.

This debate, it seems to me, carries with it both dangers and opportunities. The dangers include the possible diminishing of public regard and thus support for our colleges and universities, and legislatively imposed "solutions" which over time will do harm rather than the good intended. The opportunity, of course, is that the debate should permit us to take a fresh look at what we do and why, especially as it affects our freshmen and sophomore students. But irrespective of how this debate moves, the point I wish to make here is that there is in America a
heightened understanding and appreciation of the fact that education matters in today's world; and that in many respects it will matter even more in the future.

The fourth issue deals with the role of education, and especially of research universities, in fostering economic development and international competitiveness. There is a growing interest in this subject nationally, and it reflects in part a basic fact about modern economic life, namely, that no country can maintain long-term competitiveness without access to a pool of well-educated people, and especially access to new ideas. New knowledge, and not just the application of what is already known, is increasingly the basis of the world's economic order.

Many European countries are taking steps to create partnerships between research institutes and industry to speed the process of technology transfer. To a lesser extent--so far at least--so is the United States. President Reagan and the Congress have emphasized the need to bolster American competitiveness and the role education and research will play in this effort. In many respects, this expectation is a natural extension of the role universities have consistently played in America, where the involvement of higher education in the search for solutions to national problems is taken for granted. Higher education's role in the development of American agriculture is a model example.
I expect that U. S. universities in the coming years will work out an appropriate and working relationship with industry, as they did 40 years ago with the Federal government. It won't be easy to do, and there are risks involved; but I see this relationship developing as the economic needs of the nation, business, and the universities tend increasingly to depend upon a productive set of relationships among and between all three.

What, then, of the future? If I had to hazard a few guesses--despite the well-known dangers of prediction--they would be these:

First, the growing ethnic diversity of American society and its changing social landscape will alter the ethnic composition of our student body, will cause us to enroll more part-time and older students, will increase opportunities for lifelong education, and will expand the study of other countries and other cultures, including the influence of non-Western culture on contemporary life in America.

Second, I do not believe that the current round of reform at the undergraduate level will result in major changes; but it will result in some, especially in the lower division curriculum and in the degree of seriousness with which we respond to the needs of these students.
Third, the current interest in educational reform will encourage all parts of the educational enterprise to take a more active and enlivened interest in the condition and prospects of every other part. We will, in my opinion, be more sensitive to the realization that actions taken by one part reverberate through all the others. And while there are real and legitimate distinctions to be made even within higher education itself as regards governance, funding, and purpose, and while we need to be alert not to bureaucratize, politicize, or homogenize a highly diverse and vibrant set of institutions, it is good that we are examining education today more as an interrelated whole than we have in the past. This is not just useful but, in some areas at least, absolutely essential—for example, the need to move minority youth more successfully through the schools and into our colleges and universities.

Fourth, the domestic and international economic forces that are impelling universities and business to new partnerships and freshened relationships will grow, and so will the need for closer links between those persons and institutions involved in basic research and those who translate ideas into new products and processes. While universities need to be very careful about striking the right balance between serving the more practical and applied needs of our society and serving their own historic mission, there is no doubt in my own mind that we will be doing more of the former but not less of the latter.
Universities, in other words, are becoming more and more involved in the critical issues facing the societies that support them. The economic challenge is one dimension, as are the related and dramatic increases in our scientific and technological capabilities. Another is the increasingly interdependent environment in which we live, thanks to revolutionary advances in communication and transportation systems. In the United States, for example, and especially in California, there is a growing appreciation of the bonds that link the nations of the Pacific Rim, an area destined to be one of the greatest centers of trade, commerce, migration, and cultural exchange the world has ever known.

The University of California expects to play an active role in helping California realize its potential as a Pacific Rim state. As an initial step, we are increasing opportunities for study in Pacific Rim countries—including Japan. We have mounted a universitywide research program devoted to problems and issues related to the Pacific Rim. And we have just established on our San Diego campus a new Graduate School of International Relations and Pacific Studies, the first of its kind in the country, that will educate professionals in business, government, and the public sector for careers in Pacific Rim countries.

All of which is evidence of a truth the Fulbright Program embodied from its beginnings 40 years ago: the globe is growing smaller, and the more we know and understand each other the more successful we will be in creating a harmonious and peaceful
world. And, like the world of 40 years ago, the most powerful means we have for creating a better life is education.

I am delighted to have had this opportunity to share with you some thoughts about American education and, in the process, to learn more about Japan.