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CARES OF THE UNIVERSITY

IN 1896, FIVE YEARS AFTER STANFORD opened its doors, David Starr Jordan published a book entitled *The Care and Culture of Men*. Its subtitle was “A Series of Addresses on the Higher Education.” The book’s title was taken from a quote by Emerson that appeared also on the front page as a motto: “The best political economy is the care and culture of men.”

The anthology comprised various speeches by President Jordan, some going back to his days at Indiana University. The title had previously been used for an address to Stanford’s “pioneer class,” the class of 1895. The address highlighted the importance of education fitted to individual needs. It stressed education as strengthening individual character, “the growth of the power of choice.” Said Jordan: “The best political economy is the care and culture of men. The best spent money of the present is that which is used for the future.... The university stands for the future.”

Jordan’s talk strongly partakes of Emerson’s philosophical idealism, which sees the culture of men and women as self-cultivation. To quote Emerson: “His own culture—the unfolding of his nature, is the chief end of

man.” Jordan strongly shared Emerson’s belief but also made the case for the university as the vehicle toward attainment of that goal. To put it differently, for Jordan the *university* is “the best political economy.”

My title obviously is a play on Jordan. If the university is “the best political economy” then, to provide for its care, its cares must be better understood. The fact of the matter is that universities, especially private universities, are among the most complex and complicated institutions that exist in human culture. They have many cares, each one of them calling for a genuine effort to understand. The attempt I have made in this report is to unfold a few of the complexities and to detail how Stanford addresses its main concerns.

1 INTRODUCTION

No Crystal Ball

In my first year as president of Stanford, students, report-ers, alumni frequently asked me what my “vision” was, my “plan,” my “agenda” for the university. The question always made me very uncomfortable. It was certainly a fair one to put to a newcomer, but it was nearly impossible to answer. The frequency with which I was asked about my vision may have been due to the fact that, shortly after September 1992, when I began to serve, the United States elected a new president. The country gave free rein to the usual clichés about presidential vision, the first hundred days, presidential constituencies, the honeymoon, and the like. Since I had in common the title of *president*, I seemed to find it difficult to get people to pause and consider that a university president’s responsibilities and political agendas have very little in common.

In some sense I had tried to answer the question in my inaugural address—a speech that I had prepared with much attention to its every word. Of course, I did not put forward a plan (how could I have done so coming to Stanford from the outside?), but I spelled out what I thought the commitments of a university were, the principles that would guide me. I did so in the form of reflections on the meaning of Stanford’s motto.

My emphasis on *Die Luft der Freiheit weht* did not follow from the fact that I was able to pronounce the words. No, it seemed to me then, as it still seems to me, that David Starr Jordan chose a motto that serves as a shorthand for bedrock principles. These I attempted to put forward, realizing that they were unfit to serve as programmatic sound bites.

Why is it next to impossible to talk about a “vision” for the university? A university is primarily concerned with the pursuit of truth. As Robert Musil, the great writer, once put it, “The truth is not a crystal that can be slipped into one’s pocket, but an endless current into which one falls headlong.” A university president possesses neither the truth as a crystal nor a crystal ball.

“Vision” is obviously indispensable. At a university, however, it is mostly a composite, made up of the multiple pursuits of the many faculty and students as they interact with one another in teaching, learning, and research—having fallen headlong into the endless current that is the pursuit of truth. The true university works from the bottom up, not from the top down. The main responsibility of a university’s leaders is to create and maintain the conditions that make university work possible. These conditions do not include tightly formulated programs.

Wally Sterling, who was at the helm when Stanford became one of the country’s best universities, responded to student representatives who had asked about his “educational philosophy,” “My philosophy...is not to develop a philosophy of education, but instead to try to find the best possible faculty; then to upgrade the breadth and variety of students, and provide needed physical plant; and then sit back and see what results.” On the whole I find this view very congenial, though not quite complete.

Universities can become too set, too complacent, too smug in their ways. It is the responsibility of presidents, provosts, deans continuously to question the manner in which things are being done at a university. The notion that university administrators should only implement what university faculty, from time to time, may get around to ordaining is not really a recipe for coping with the inevitable need for change.

On March 18, 1992, at the press conference at which my appointment was announced, I observed:

The excellence of Stanford will be our goal. My [former Chicago] colleague George Stigler, who won the Nobel Prize in Economics, once opened a book review with the sentence, “I just read a mediocre book about excellence.” And I think there’s a real danger to use the term excellence too easily. I have always preferred...the plural. Even as excellent an institution as Stanford can develop weaknesses, can be mediocre in some areas. We have to work hard...to maintain and achieve as many excellences as are at all possible in these times.

The “we” in this statement recognizes that it is the faculty, students, staff, top leadership, trustees, alumni, parents, and local, national, and worldwide friends whose active engagement has made Stanford a continuously renewed intellectual and moral effort. At a true university those who participate in its life must draw together and jointly reinvent the university every day. To put it differently and to exaggerate only slightly, even after one hundred years, the days of a university are always *first* days. The work of the university is work that cannot be done unless it is continuously reconsidered and supported afresh and jointly by faculty, students, staff, and—last but not least—by alumni and friends.

While the university is truly a joint effort of a wide range of participants, it is important to remind ourselves that the most crucial decisions—the selection of students, essential features of the curriculum, the initiation of faculty appointments, and the choice of research projects—in the contemporary university are mostly under the control of the faculty, because that is where subject-matter expertise lies. Few businesses have as many highly differentiated “product lines” as do universities. The almost unlimited multiplicity of actual or possible endeavors is one reason why university decision making needs to be so decentralized. In the end the faculty hold most of the cards. This is the way it should be, because this is the way it needs to be.

The dilemma lies in the difficulty of establishing accountability for the commissions and omissions of highly diffuse jurisdictions. When responsibilities are as widely scattered as they are in universities—among individuals, departments, committees, deans—the danger is always that no one is responsible, because everyone is, and everyone can hide behind the designation “*the faculty*” or “*the administration*.” The default position is to hold the president accountable. That is fine as long as one grasps the limits of presidential power in a university.

The public frequently misunderstands the nature of university governance (as do, incidentally, many members of the faculty) and ignores the most basic aspects of academic freedom. One of the thousands of letters I received over the last five years came from the American Legion Auxiliary in Nebraska in response to a faculty member’s views concerning World War II, as expressed on television: “It is my understanding that you serve as President of Stamford [*sic*] University. I presume your position grants you the power to control the conduct of professors teaching in your prestigious school.” I do *not* wish it were so. However, it is also the case that I do not think of myself as a potted plant.

I cannot agree with those members of a university faculty who seem to resent it when presidents, provosts, or deans remind them that they are their colleagues, that they have special responsibilities, and that they, too, have views on curricular and scholarly issues. If presidents express such views in anything other than a mealy-mouthed way and, God forbid, do something about implementing them, in some quarters they will readily be accused of being autocratic.

And, both inside and outside the university, people are only too ready to jump to conclusions about the university, its direction, and its leadership on the basis of little, or even no, information and knowledge. Al Bowker, the former chancellor of the University of California at Berkeley, once said to his president, David Saxon: “David, if I believe half the things I am told about you, I think you ought to be institutionalized. Remember that, will you, about me?”

In the end, all of us play necessary roles, for universities are built by many and they are built to last. My colleagues Jim Collins and Jerry Porras recently published a book about “successful habits of visionary companies” that they entitled *Built to Last*. They reminded us that charismatic or visionary leaders pass away and great ideas become obsolete, while “visionary companies” prosper over long periods of time. Great universities are exactly that, visionary institutions, built, stone after stone, to last.

Indeed, universities have been extraordinarily durable as institutions and in terms of the functions they have performed in Western societies. Clark Kerr has counted that of seventy-five institutions founded before 1520, “which are [still] doing much the same things, in much the same ways and under the same names,” about sixty are universities. This puts some universities in such company as the Roman Catholic Church, the Bank of Siena, and the Royal Mint. They are not there because of charismatic leaders.

Of course, I am not suggesting that there is no need for leadership at universities. Rather, it is the “charismatic” part that is ephemeral, if it is based on visions that reflect the buzzwords of contemporary politics or business. The university’s vision is not a crystal to be slipped into one’s

pocket. Also, the pace of leadership needs to be cognizant of the fact that universities, as a former Stanford trustee from Texas once said to me, are like Brahman bulls: you cannot drive them, you must drift them.

I believe Stanford gets it just right with a wonderful custom: In the Faculty Senate, those administrators, including the president, who are ex officio members of the Senate sit alphabetically interspersed with the elected senators. This captures symbolically that university governance ultimately is self-governance. I have assumed in the past, and will assume in the future, that if I do not any longer have the confidence of the faculty, I shall resign. The Board of Trustees can dismiss the president, the faculty can bring about his resignation.

To maintain standards, to make people serious, writer Susan Sontag said during a Stanford visit, was the “ethical task of the novelist.” It is inescapably also the task of the university president. Given the many directions in which university presidents are pulled and the many, often mindless expectations they are asked to meet, it is easy to fail the task. Such failure is costlier for the university than the lack of a handily packaged, up-to-date vision.

Stanford’s Mission

There was a time when my skepticism about the “vision thing” was matched by my reluctance to talk about a university’s “mission.” First of all, most mission statements are so general (“the university’s mission is teaching, learning, and research”) as to be well-nigh meaningless. Furthermore, where there is a mission, missionaries are not far away. But the missionary spirit is antithetical to what a true university should do. The university’s commitment is to unceasing inquiry, not to a particular belief.

Indeed, those who would like universities to propagate a multicultural nirvana or turn them into mighty fortresses of their version of Western civilization have diminished universities over the last decade. Instead of joining the debate on difficult issues, missionaries on both sides have fought the culture wars as religious crusades.

As I have found myself in daily battles over what is appropriate for a university and what is not, and what compromises are bearable, my views about discussions of a university’s mission have changed. My main concern is the many attempts to leverage universities for purposes other than their core mission.

Another university president, my friend Edward Levi, once said that universities “are the custodians not only of the many cultures of man, but of the rational process itself.” This is the Western university’s major contribution to civilization. Wilhelm von Humboldt, one of the great university reformers of the early nineteenth century, observed that the idea of disciplined intellectual activity, embodied in universities, is the most valuable element of “moral culture.”

Those who complain about the neglect of this or that canon in the contemporary university ignore the fact that the most morally valuable focus that a university provides is the commitment to, and practice of, reasoning clearly and thinking critically.

The university has values that it prizes above all others: freedom (not just academic freedom), nondiscrimination (you will be heard, among other things, regardless of your sex, race, ethnicity, religion), and equality of opportunity to assure intellectual openness. The manner in which study is undertaken at a university rests on values that its members must share. These values include respect for rational inquiry, evidence, and argumentation; respect for autonomy, integrity, and contributions of the individual; freedom of thought and expression; respect for rules for action that encompass both rights and obligations.

Furthermore, in the true university, the research-intensive university, teaching, learning, and research are all *equally* important elements of the all-embracing search to know. The students' search to know and the faculty's search to know are interdependent: It is the faculty's task to teach and challenge the students, and it is the students' task to question and challenge the faculty. Pursuit of the university's mission depends on this synthesis of teachers and students.

While these considerations go to the conditions of creating good work and good institutions, and should be thought of as having "universal" applicability, the particular mix of disciplines that a university pursues is much more contingent. To be sure, as European universities formed in the first centuries of the second millennium, they tended to comprise certain disciplines, such as law, theology, liberal arts, and medicine. However, basically the mix was in no way, not even historically, strongly predetermined. As to American universities, the variability has been considerable.

The very role of college education in American universities reflects specifically American conditions from colonial times onward. The changes wrought by the nineteenth century have created an array of molds that ranges from, let us say, the Ivies (with great differences among them), to Johns Hopkins and the University of Chicago, to the University of California and Stanford. As a recent book on the rise of the American research university emphasizes, when introduced in the United States, the German model of the research university was quickly "Americanized"—the American graduate school was superimposed on the colleges of arts and sciences.

While the combination of college and graduate schools is an almost universal feature among American universities (though the exception in the rest of the world), the approach allows for considerable variety. Stanford's commitment, for instance, has traditionally been to "undergraduate" education rather than the concept of a college. At Princeton, the college seems to dominate both institutionally and in numbers of students. At Stanford, undergraduates account for a little less than half the student population. At Chicago, graduate work has been predominant in numbers throughout much of its history, though it was its college that captured the public imagination during the Hutchins era. The content of the curriculum differs sharply from college to college, from university to university.

The same lack of determinacy can be found as one looks at the disciplines that define a university's "mission." Princeton has no law school, no medical school, no business school and yet is a great university. Harvard has no engineering school, while Stanford's mission clearly includes engineering education. Chicago also dispenses with engineering but comprises a divinity school that Stanford does without.

While there is a lot about universities that is eclectic, it is important to understand that once certain choices have been made, others follow. For instance, if a university wants to be a player in the social sciences, it needs economics as a discipline. Yale recently raised the question whether sociology was essential and was told yes. If you run a medical school, there is no way you can do without a pathology department. If the humanities matter to an institution, you do need an art department—or so I believe. Whether, in addition, you should maintain an art museum, as Stanford does, depends on a variety of local circumstances.

These days there is much discussion concerning the need to make choices, to find out what an institution's comparative advantages are, and to build on those. This way of thinking seems right to me, almost obviously so. Yet it is not obvious what follows for a university such as Stanford. First of all, Stanford and its main competitors, even on the basis of worldwide comparisons, are very good indeed in many areas, and it is by no means clear what to cut.

Second, definitions of a university's scope, while largely arbitrary to begin with, have become part of the "mission" that is strongly believed in by faculty, students, alumni, even unrelated interest groups. When Stanford decided in 1995 to close a department, the Food Research Institute, the faxes poured in telling us that we were betraying Stanford's mission in agricultural economics. Advertisements were taken out, signed by prominent faculty at other universities who should have known better. When we concluded to merge the departments of Operations Research and Engineering Economic Systems, the transaction costs were high, because prominent and important faculty members thought we were redefining Stanford's mission.

Thoroughly intertwined with the question of a university's range is the matter of the size of particular disciplines and departments. Size implicates issues of quality. Therein lies one of the most difficult challenges in managing a university. While the activities that we are engaged in, as such, are not easily subject to change, the size of a particular department, the number of faculty billets, the slots for graduate students can, to some extent, be increased or decreased.

The National Research Council, in its recent study and rating of Ph.D. programs, has concluded that its results "generally support the notion that perceived 'scholarly quality of program faculty' is positively correlated with the size of the program whether measured in terms of faculty numbers or total number of doctoral students."

The correlation, to my mind, does not hold regardless of subject matter and is by no means straightforward. It does, however, pose puzzling questions. For instance, Stanford's Classics Department was once a department of world renown. It still possesses strengths, but it is not what it once was. Do we want to let it wither on the vine, or do we want to improve it? If the

latter, there is no question we have to increase its faculty beyond the present number and have to assure that there is a critical mass of graduate students. The School of Humanities and Sciences, the provost, and I believe that a great university (at least in the Western world) should have a strong classics department. In this regard, I view maintaining the classics as part of our “mission.” The issue is how much do we need to increase faculty size and the number of graduate students, and how fast, and how we can go about accomplishing this in light of the fact that we face serious resource constraints in general.

The greatest difficulties I have had over the last five years concerning the university’s mission, however, do not pertain to academic matters, but the university’s role in society. My fairly Spartan views on this subject seem to be out of sync with much university and public opinion. The matter is of such importance to any understanding of the university’s mission that I should like to discuss it separately. Of the controversies that have arisen, I will mention only decision-making by ultimatum, the call for a grape boycott, the case of *Corry v. Stanford*, and affirmative action policy.

The University’s Mission and Politics

In my inaugural address, I emphasized that it is a university’s freedom and obligation to provide a forum for the most searching and candid discussion of public issues. But, I said, quoting the First Amendment scholar Harry Kalven, a university “cannot take collective action on the issues of the day without endangering the conditions for its existence and effectiveness. There is no mechanism by which it can reach a collective position without inhibiting that full freedom of dissent on which it thrives.” Kalven continued, this viewpoint arises “not out of a lack of courage nor out of indifference and insensitivity. It arises out of respect for free inquiry and the obligation to cherish a diversity of viewpoints.”

Members of a university community must not shy away from the social and political issues of their time, from shaping the social and political values of society. But the mission of the university *as a whole* is to respect free inquiry, to enable the search to know, and to provide fora for uninhibited, robust, and wide-open debate.

It is fair to say that surprisingly few people seem to agree with my position that the university was not established, and I was not appointed, to push my personal political preferences. Of course, I realize that people mostly do not really want me to push *my* political agenda, but *their* causes. Various interests on and off campus believe I should use whatever power the Stanford presidency confers to support their preferences in any number of controversial issues. The pressures come from both the left and the right—if these categories mean anything. A writer for *The New York Times* criticized my abstemious position for the timidity it supposedly displayed and compared me unfavorably to such giants of the past as Robert Maynard Hutchins of Chicago and James B. Conant of Harvard.

In 1994, the integrity of university decision-making and political leveraging of the university were tested. More or less out of the blue, student protesters demanded a grape boycott and repeated calls for more ethnic studies. Ultimatums were issued. Some students demanding Asian

American studies disrupted a Faculty Senate meeting until the Senate responded by adjourning. Some other students staged a four-day sit-in in the Quad, including four Chicanas who chose to engage in a fast. (The protest also extended to the layoff of a Chicana administrator.) The provost and I suspended most other business and met with the students several times over three days. We ended up agreeing to the establishment of two committees to examine the concerns in depth and make recommendations.

It was crucial to Provost Rice and me that the university's constituted processes for making decisions be followed. If we shortcut argument and reason, yield to ultimatums, we abandon the essence of the university. If universities make their substantive decisions for political rather than academic reasons, they have no particular claim to untrammelled existence. While, of course, I understand that the line between the academic and the political is frequently less than clear, it is nevertheless a line that we must strive to observe.

On the issue of ethnic studies, under the leadership of Dean John Shoven, the appropriate bodies of the School of Humanities and Sciences and the university decided on November 21, 1996, after two years of study, to establish an interdisciplinary Program in Comparative Studies in Race and Ethnicity that combines existing programs and that attempts to integrate studies of race and ethnicity across group-specific and disciplinary lines. The program offers students a choice among four tracks. Given the need for bringing new intellectual resources to bear on the study of ethnic, including cross-ethnic, issues, the outcome is a deliberate and welcome one.

On the issue of serving grapes on campus, in 1988, the university had responded to a demand for a grape boycott in support of farm workers and improvements in their working conditions by giving members of each student residence a choice. After the 1994 demands, and a year of inquiry into the issue, we concluded that the called-for university-wide boycott of grapes was not justified (though we did not overturn the old policy). In a joint statement, Provost Rice and I said:

We understand...that the grape issue is of significance to members of the Chicano community, an essential and valued part of Stanford University. Stanford is committed to access to higher education for all and has worked hard to diversify its student body, faculty and staff. That increasing diversity makes it more important than ever that the university not take political stands on the ground that a particular group, or a portion of a group, feels strongly about a specific cause. Doing so would cast the president and officers of Stanford as judges of the relative moral and political weight of the positions of the university's many voices. Taken to its extreme, the university would become a patchwork of limitations and regulations based on the political causes of different groups. That we cannot permit....

[T]he university is foremost a place for teaching, learning, and research. Its fundamental purpose is not the resolution of political issues—no matter how pressing or how important. Only when such issues directly affect the core teaching and research mission or other important institutional interests should Stanford's officers attempt to bring the university's weight to bear on the political process.

For the most part, the delicate task of balancing the myriad interests and beliefs of Americans, and of collectively resolving social issues, lies elsewhere—in our democratic institutions. There, as citizens, Stanford students, faculty, and staff influence the course of events through the exercise of individual rights and responsibilities.

During the Vietnam-era protests at many universities, Stanford included, even those students and faculty members who were not among the protesters stood largely by while their universities were made vehicles for opposition to national policies—and, in the process, were severely damaged. Has it been learned that universities are very fragile institutions? I hope the answer is yes. While Provost Rice and I clearly had the support of many, even more remained silent. I hope their silence did not signify lack of understanding or concern about that fragility.

On another question touching core values of a private university, I found myself to be part of a small minority—at times seemingly a minority of one. May 1994 also brought a lawsuit against the university by conservative students who challenged the so-called Grey Interpretation of the Fundamental Standard, the measure of conduct for Stanford students since 1896. First, the Fundamental Standard:

Students are expected to show both within and without the University such respect for order, morality, personal honor, and the rights of others as is demanded by good citizens. Failure to do this will be sufficient cause for removal from the University.

As a preliminary observation, I think it would stretch credulity to assume that this one-hundred-year-old language was meant to give students the right to defame or employ racial epithets against other students or a faculty member. The Fundamental Standard's ultimate criterion is, after all, "good citizenship."

In 1990, the Student Conduct Legislative Council adopted an interpretation of the Fundamental Standard titled "Free Expression and Discriminatory Harassment." The interpretation spelled out when the face-to-face use of racial epithets or their equivalent would be viewed as harassment by personal vilification, and, therefore, as a violation of the Fundamental Standard. The interpretation made use of the "fighting words" exception to the First Amendment. All other forms of speech at Stanford were protected. Indeed, one could argue that the Grey Interpretation—named for Professor of Law Tom Grey—helped to eliminate vagueness and was thus protective of speech. Nobody was ever disciplined under it.

In 1992, the California legislature made California the only state in the union to eliminate the freedom of private universities to deal with speech according to their own values. It prohibited private institutions, other than religious ones, from disciplining students on the basis of speech "that, when engaged in outside the campus...is protected from governmental restriction by the First Amendment." The *Corry* case challenged the Grey Interpretation under this so-called Leonard Law that, by a sleight of hand, had transformed the First Amendment from a protection of private citizens and institutions against government into a vehicle for forcing private institutions to do what government wanted them to do.

On February 27, 1995, the Santa Clara County Superior Court held that the Grey explication of the Fundamental Standard was unconstitutionally overbroad; that it did not proscribe all fighting words and was thus an unconstitutional viewpoint-based rule; and that the Leonard Law was constitutional.

I was not yet at Stanford when the university adopted the “Free Expression and Discriminatory Harassment” interpretation of the Fundamental Standard. Its passage by the Student Legislative Council after eighteen months of discussion and debate left many on campus feeling ambivalent about it. I share that ambivalence and would have preferred the harsh wind of freedom. However, voluntary agreement to principles is not the same as being ordered by the state legislature to follow every twist of case law that is aimed at government.

It is ironic that, while opposing the university’s rule on First Amendment grounds, the court endorsed the Leonard Law. I thought the First Amendment freedom of speech and freedom of association was about the pursuit of ideas. Stanford, a private university, for better or worse, had the idea that its academic goals would be better served if students never used racial epithets to vilify fellow students. The California legislature apparently did not like such ideas, for it prohibited private secular universities and colleges from establishing their own standards of civil discourse. Religious institutions alone can claim First Amendment protection in this regard.

I was taken aback by the fact that most people did not seem to care about what troubled me then and continues to trouble me. Certainly few “conservatives” rallied around the university’s freedom of association. Quite to the contrary, the conservative plaintiffs and their supporters mindlessly invoked the power of the state to impose their ideological preferences on their alma mater. Many true liberals unthinkingly concluded that what is the law for Berkeley must be the law for Stanford.

Among the notable exceptions has been the former president of two important public institutions, the universities of Virginia and Wisconsin, Robert M. O’Neil. In his 1997 book *Free Speech and the College Community*, he deals extensively with the Stanford situation and supports the position I had tried to articulate. The *San Francisco Examiner*, on the other hand, called it a “laughable convolution.” The *Stanford Review* says even now that I am trampling civil liberties.

In spite of my strong views, I decided not to appeal. It did not seem appropriate to spend Stanford’s limited resources of money, time, and attention to fight a case that, given the superficiality of the debate in the media and public, was portrayed as involving only the legitimacy of what hyperbolically were referred to as “speech codes.” I am sometimes asked which decisions of the last five years I regret. Not appealing the *Corry* decision is a prime candidate.

In 1995, much attention and time were consumed by the increasing intensity and loudness of discussions concerning affirmative action. In California, these were triggered by what became Proposition 209, an initiative aimed at affirmative action by *public* institutions. While Stanford did not seem directly affected, I decided to reaffirm Stanford’s affirmative action

policy in a statement to the first Faculty Senate meeting of the fall. While I did not address Proposition 209 directly, I thought it was important not to remain silent on the policy issues that were clearly relevant to Stanford's work as a university. I also was expecting that, notwithstanding Stanford's character as a private institution, demands would be made to follow state policy.

Affirmative action raises issues that are among the most difficult that a society can confront. It is of utmost importance that those who participate in the debate refrain from demonizing their opponents. All of us, on all sides of the issue, are and will be open to criticism. Those who believe, as I do, that American society continues to be color-conscious and therefore cannot yet afford to be color-blind, need to remember nevertheless the arbitrariness of racial and ethnic labeling.

In my statement, I stressed that Stanford had been established to serve "the betterment of mankind" through its activities as a university. In 1902, amending the Founding Grant, Jane Stanford made the point that the "public at large, and not alone the comparatively few students who can attend the University, are the chief and ultimate beneficiaries of the foundation." Jane Stanford had also urged resisting "the stratification of society."

In the Stanford admissions process, all applicants receive careful consideration, and the individual circumstances of the applicant are taken into consideration. These efforts aim at a class characterized by diversity in terms of academic interests, artistic and athletic accomplishments, leadership qualities, and ethnic and social backgrounds. Why should we look for such diversity? The main goals are two. First, we want a rich educational environment to challenge our students. Students learn much from one another. Second, we want to be faithful to our task to educate leaders for a diverse and complex society—a society that will, we hope, overcome the undue tendencies toward stratification. This task cannot be accomplished unless the country's demographic diversity finds a presence on campus.

As we pursue our goals, there is no room for categorical preferences. However, there also is no room with respect to any applicant for making quantitative, scalable admissions criteria the sole touchstone of intellectual vitality, talent, character, and promise. That has never been the case at Stanford, and I hope it never will be. It is Stanford's very characteristic that it has never been one-dimensional, and yet the university has been able, especially over the last four decades, to become one of the world's most selective institutions. Our capacity to pursue many excellences will remain undiminished as long as we continue to get the balance right and do not waver in our commitment to quality.

2 ACADEMIC ISSUES

Undergraduate Curriculum and Requirements

Toward the end of my first year as president, I announced the establishment of the Commission on Undergraduate Education. The Commission—or CUE, as it came to be known—was described as the first comprehensive look at Stanford's undergraduate curriculum in twenty-five years. While that is true in a formal sense (the last such major initiative having concluded

in 1968), the characterization nevertheless is exaggerated. Educational matters have been, are, and will always be under reconsideration at Stanford, and there is constant, if unpublicized, change and experimentation even within a fairly static framework. CUE, under the leadership of Professor James Sheehan, stimulated additional debate and experimentation that continues still. The importance of CUE can be found not only in its final report, but in its lasting effect as a catalyst for change.

We are accustomed to think of the four-year bachelor's degree program as a natural part of the university, but the integration of one with the other has never been easy. The oldest institutions of higher education in this country were simply undergraduate colleges. Research programs and graduate education grew up around the collegiate core gradually and, for the most part, within the past one hundred years. The younger institutions—among them Stanford—sought to combine both undergraduate teaching and research from the very beginning. But no clear model existed for accomplishing this. David Starr Jordan wrote at one point, “Sooner or later Stanford must choose whether it will be a college or a university, for it has not the funds for both.”

Fortunately, Stanford did not resign itself to choosing between being a college or a university. Each class of undergraduates brings remarkable new vitality and challenges to the institution. As Edward Levi, the former president of the University of Chicago, has said: “The excitement and brightness [of college] arise, I think, because of the willingness of the [unroutinized] mind..., if sufficiently challenged, to test the boundaries that convention has laid down. The result can be a partnership between faculty and student in which the faculty member is also challenged to try to point a path through a subject matter, or to exemplify that subject matter in the more careful view of a particular situation.”

Nonetheless, there are reasons why undergraduate programs do not sit as comfortably in research-intensive universities as many people seem to think they should. First, the system of promotion, tenure, and compensation for faculty at a university—as distinguished from that of many colleges—must rest heavily on research performance. The latter is a *sine qua non* if we understand teaching and research to be dialectically related.

The role research plays in appointment decisions may also be connected with the assumption that research results are, relatively speaking, easier to demonstrate and document. Contributions to teaching are much harder to evaluate, especially as measured by student reactions. The true impact of an effective course may be felt first many years after the fact. The most popular undergraduate, or for that matter graduate, teacher is not necessarily the best.

Second, the departments of a university, where promotion and tenure decisions originate, carefully guard their disciplinary boundaries, because intellectual strength is recognized most clearly in problems and methods that are central to the disciplines. Specialized expertise is highly valued. Specialization, however, is in general less important to undergraduate education, where the primary emphasis is often to show the interconnections among specialized fields of knowledge.

Third, faculty members in the contemporary university not only teach undergraduates and conduct research but also face demanding tasks of graduate education and are expected to contribute to their professions and public life—not to mention the ever increasing proportion of time that is consumed by red tape in the form of grant applications or grant expenditure reports or other reports demanded by government regulators of one kind or another. No wonder that, as people observe the hustle, they conclude that some faculty members are more interested in research than teaching. They see that some faculty, for instance, in the medical and engineering schools, self-finance portions of their own salaries. They read in the newspapers that universities (i.e., their faculty) are widely expected to facilitate technology transfer to businesses. In the same newspapers they can read about conflicts of interest caused by these very links between academia and industry. Jacques Barzun reminded us as long as thirty years ago that time within the university is flowing at the same rate as outside. Universities are no ivory towers.

While matters are thus often more difficult than outside critics realize, it is all the more welcome that the Stanford faculty has, with vigor and rigor, reassessed its own role in undergraduate education. To its great credit, CUE steered clear of many of the perennial debates about undergraduate education and focused on a few key themes and pragmatic recommendations. “The most important aim of undergraduate education,” it stated in the introduction to its report, “is to involve students in [the search for knowledge], where teaching and learning, instruction and research, the communication and discovery of knowledge are combined in a single enterprise.”

The university, the Faculty Senate included, has acted decisively to accept many of CUE’s recommendations:

- A commitment to develop a rigorous, quantitative Science, Mathematics, and Engineering (SME) core for nonscience majors;
- A commitment to reexamine the Culture, Ideas, and Values course sequence;
- A strengthening of the language requirement and establishment of the Language Center;
- A new focus on writing requirements, both in the general curriculum and in the major;
- The introduction of minors to encourage greater in-depth exploration of disciplines other than the student’s major;
- A new commitment to review the majors of each department;
- A reexamination of the general education requirements and a reduction of the escalating number of distribution requirements for many students;
- New grading and other academic requirements that emphasize rigor and seriousness of purpose;
- The appointment of a vice provost and dean for undergraduate education, and the consolidation of academic advising under that individual’s leadership.

The first two years of the undergraduate program require special attention because, as I said, they are not fully the responsibility of any single department of the university. Stanford does not have an undergraduate college. Instead, undergraduate programs are the collective responsibility of the entire faculty. This can be both a strength and a weakness. The debates in the Faculty Senate over new undergraduate requirements ultimately showed the vitality of Stanford's approach, however. Faculty from every discipline engaged in vigorous discussions about how best to serve undergraduates. Undergraduate programs, perhaps more than any other activity, bind the university together and help define the character of intellectual relationships across the institution. In this way, the debate about CUE was a renewal not only of the undergraduate curriculum, but also of the broader university.

During our review of undergraduate programs I became increasingly concerned that, during their first year, not enough students had the benefit of close interaction with our faculty. There is no more important reason for attending Stanford than the opportunity it affords to work with faculty members who are at the frontiers of their fields. At the same time, I became aware of the increasing demand for the Sophomore Dialogue Tutorials (two to four students participating in directed reading courses) and the Sophomore Seminars, which had been introduced during Donald Kennedy's presidency, and the Sophomore and Honors College programs, all of which were being developed and expanded by Ramón Saldívar, the new vice provost and dean for undergraduate education.

Students should be challenged and their minds stretched from their first year onward. The first year sets the tone. I have a physicist friend, Heinz Maier-Leibnitz, who once said to me, "The love of truth implies that one must search not just for the evidence, but for the counter-evidence as well." That is the critical spirit that I hope we can convey with freshman seminars. These seminars can draw from a wide range of disciplines and topics, so long as the students gain an appreciation of the intensity, importance, and promise of scholarly work in the faculty member's field of study. Such a program will demonstrate to the best students in the country our unfaltering commitment to taking their college education seriously from its inception.

We began to formulate plans but, of course, realized that there were several barriers to implementing the idea. Chief among these was the fact that a program of freshman seminars would be a new and additional workload for an already hardworking faculty. We had to find ways to redeploy current teaching resources and create new ones—not solely to teach freshmen—but to add to the total teaching and research strength of the university. We also realized that the opportunity to add faculty is an incentive sufficiently attractive to overcome many of the impediments that might otherwise come into play.

As has happened so often over the years, our friend Peter Bing saw the value of this plan and offered his generous support in the creation of new faculty billets. As a result, and only one year after I first proposed them, we will be able to offer seventy freshman seminars (with a maximum of sixteen students each) in 1997–98, building to one hundred courses planned for the following year. On a combined basis, 170 Stanford Introductory Studies seminars will be available to freshmen and sophomores in 1997–98. The departments have designed these seminars in response to a call from the provost to review their undergraduate programs, both to expand the number of courses to include the new freshman seminars and—significantly—to

redirect faculty teaching efforts away from courses that may not be as important as the new seminars. The challenge over the coming years will be fully to institutionalize these new seminars so that they become a regular feature of our undergraduate programs. This will happen with the help of the new faculty made possible by the Bing gift, to be sure. But freshman seminars will succeed in the final analysis only if both faculty and students find them to be stimulating and valuable. This is a significant experiment, and it deserves close attention in the years to come.

As I mentioned earlier, the Commission on Undergraduate Education had called for a new science core for nonscientists and for restoring a sense of common purpose and curricular consistency to the Cultures, Ideas, and Values requirement.

The commission had concluded that the existing distribution requirements in the sciences were not sufficiently strong to achieve a measure of scientific literacy. Under the leadership of Professor Brad Osgood, of the Mathematics Department, an experimental three-quarter Science, Mathematics, and Engineering core has been developed that contains three interdisciplinary, team-taught tracks and that was first offered during the 1996–97 academic year.

The SME core provides the opportunity for students to have a serious encounter with essential ideas of science, mathematics, and engineering, with an emphasis on process and a particular topic (such as “The Heart: Principles of Life Systems”). The goal is that students who complete this academic-year-long course can think for themselves about scientific and technical problems. All tracks are composed of lectures, sections, and lab.

As concerns Cultures, Ideas, and Values, Dean John Shoven appointed a committee that was led by Professor Robert Polhemus of the English Department, and that included Provost Condoleezza Rice *ex officio*. The committee ended up proposing a substantial reworking of the core course, including an interdisciplinary approach (interdisciplinary within the humanities) to teaching it. As its name indicates, the new course is meant to be an “Introduction to the Humanities”—with *humanities* broadly defined as the study of the human condition and human identity, thought, values, beliefs, creativity, and culture. But it is also aimed, in Professor Polhemus’s words, at meeting widespread skepticism about the value of the humanities head-on through “a broad-gauged study of what constitutes the humanities, how and why they matter and change, and what humanistic inquiry is.”

Since 1988, the humanities requirement had been fulfilled by the Cultures, Ideas, and Values sequence. The years of experience with CIV, the Senate Committee on Undergraduate Studies commented in 1997, had taught us a number of lessons: “These include the need to focus on fewer texts and study them more closely; the need to involve a broader range of faculty and departments in course instruction; the desirability of the better integration of works from outside the traditional Western canon; the importance of greater uniformity of intellectual standards and academic expectations; and the necessity for smaller discussion classes with more time in order to allow for the articulation and consideration of different points of view.”

I believe the new requirement, which the Senate approved unanimously in the spring of 1997, helps us address issues concerning the pre-1988 Western Culture requirement, shortcomings of the 1988 reform, and the pressing need for revitalizing the role of the humanities in a popular culture that heeds them less and less. As Professor David Abernethy stressed in the Senate debate, the old requirement had failed to be sufficiently inclusive (especially problematic as we need to provide students with the means to comprehend the human condition anywhere on the globe), while the 1988 reforms—by mandating special attention to race, gender, and class—unduly privileged these undoubtedly important elements over other aspects of the human identity, such as religion.

I confess that I have found the culture wars, as fought by the combatants from all sides, fairly dispiriting. As a constitutional law scholar, I am fully embedded in the Western tradition and clearly unhappy about the fact that fewer and fewer students enter college with, for instance, a thorough grasp of American history and American institutions. On the other hand, as we worry about knowledge of Western civilization, we also must urgently deal with ignorance about the world. As Robert Musil put it: “If I want a world view, then I must view the world.”

Viewing the world is not the same as surveying the world. It has been the case for much longer than a century that we cannot “cover” Western civilization, let alone all other civilizations, and all aspects of the human condition, in the freshman year, in all four years of college, in a lifetime. Depth is more helpful than breadth. What is important is that our students do not lose the “arts of reading” (texts, pictures, human artifacts): to read, to read carefully (less is more), to reread, to read in dialogue, to interpret, to interpret in context. It is also important that students become part of “the unceasing process of inquiry” and also acquire the capacity of reflecting about the human condition across cultures. We need to introduce freshmen to the intellectual habits necessary for a lifetime and aim at developing an understanding of the human condition in history and diverse cultures—not a complete understanding but a probing one that stresses different ways of looking at the world within the humanities.

We think of the new Introduction to the Humanities; the Science, Mathematics, and Engineering core; the redefined distribution requirements; the Freshman Seminars, Sophomore College, Sophomore Seminars, and Dialogue Tutorials as parts of a whole, as an integrated approach to the first two years of college at Stanford. Therefore we have given the name Stanford Introductory Studies to the new initiatives and related programs in the freshman and sophomore years.

Undergraduate Admissions

Stanford’s undergraduates are among the most talented and capable students in the country. This has long been the case. Given the relative youth of the institution, the impact of our alumni over the past century in government, business, science, and the arts has been substantial.

By most standards, our ability to attract the best undergraduates is remarkable. Roughly ten students vie for every opening. Our weakest candidates, judging by test scores and grade point averages, are still among the strongest high school students in the nation. We are among the

very small handful of institutions that attracts such a strong applicant pool and can afford to be extremely selective from within that pool.

For Fall 1997, we had 16,842 applicants. We admitted 15 percent, or 2,596. Of those who were admitted, 63 percent, or 1,640, chose to enroll.

In the early 1990s, there were some disturbing trends developing that deserved our full attention. The yield rate—that is, the percentage of students who accepted our offer of admission—had declined from 63 percent in 1986 to a low of 54 percent in 1994. We were losing more students to East Coast competitors and we were attracting somewhat fewer students who were ranked in the top academic categories by our Admissions Office. Several theories were offered to explain this trend. Some argued that the Loma Prieta earthquake in 1989 caused families to worry about the safety of the Bay Area. Others observed that negative publicity in the early 1990s had damaged Stanford's reputation. It is likely that both of these were factors in the decline in our yield rate, though it is also the case that some ups and downs in the popularity of colleges seem to be, if not random events, then the results of fads that are hard to pin down.

In 1992, when I came to Stanford, I found a relative lack of focus in the way we were presenting Stanford to potential applicants. Among the first things I did after my arrival was to review the literature we sent out. Our own admissions brochures seemed to pay as much attention to extracurricular opportunities as they did to our rigorous academic programs.

I am wont to say that there are eight reasons why a student should choose Stanford:

— First, because Stanford is one of the best universities in the world, and therefore those who seek out the wide range of opportunities that Stanford offers will be rewarded in ways that are not easily matched anywhere;

— Second, there continues at Stanford what one might call a “Western” spirit of pioneering, entrepreneurship, and energy;

— Third, because of the diversity Stanford contains: academic achievements, artistic and athletic accomplishments, ethnic and social backgrounds;

— Fourth, because of the opportunities Stanford affords for service to the public;

— Fifth, because Stanford believes in the Roman adage “a sound mind in a sound body,” and the pursuit of excellences at Stanford includes athletics;

— Sixth, because Stanford, literally located on the Pacific Rim, has a global reach and international focus, as expressed by its faculty and students;

— Seventh, because of Stanford's unsurpassed setting: the gentle climate, the foothills, the bay, the yellow sandstone arches and cloisters, the “red tile roofs against the azure sky”;

— And finally, because of the singular, almost magical, combination of these attributes and the effects it produces.

Thus, Stanford cannot and should not be reduced to a single defining characteristic. However, when all is told, the academic challenges offered and the quality of faculty and students are the *raison d'être* of our institutional existence.

Under the leadership of Dean of Admission James Montoya—now vice provost for student affairs—we introduced several new approaches to help turn around the decline in yield rates. Publications were revamped and primary emphasis was put on the academic strengths of Stanford. We introduced an early decision program in 1996, paralleling programs at some of our leading competitors and enabling very strong candidates to secure a place at Stanford well before the normal admissions season.

Early decision is an application option for students who know early in their senior year that Stanford is their first choice and feel ready to be evaluated on their academic and extracurricular record as it stands at that point and who are ready to make a binding commitment to attend if admitted. Stanford had not offered any form of early admission before, and we concluded that this had placed us at a disadvantage *vis-à-vis* competitors that did. We have, nevertheless, been fairly restrained in our embrace of early decision. For Fall 1997, 23 percent (608 out of a total of 2,596 admits) were early decision admits.

Finally, beginning in 1993, by means of strengthening an existing program, we singled out about two hundred applicants for admission with special recognition as President's Scholars. This designation now includes a guarantee of research funding in the amount of \$1,500 through the Office of Undergraduate Research Opportunities. For Fall 1997, 48 percent of the President's Scholar candidates accepted our offer—up from 29 percent only three years earlier.

This and other initiatives are part of a yield enhancement program that Jim Montoya announced in the spring of 1995. Overall, our acceptance rate, the yield, has climbed from 54 percent in 1994 to 55 percent to 61 percent to 63 percent. The yield among those applicants whom our admissions office considers the academically strongest is the highest since we began to keep relevant records. It is, of course, my hope that serendipity is not the only factor at work here, and that our various initiatives, especially the academic ones, are persuading applicants that we are indeed dedicated to the pursuit of many excellences in undergraduate education and that conditions for that pursuit are excellent across a wide range of disciplines.

None of this has changed our need-blind admissions policy. It is gratifying that Stanford has been able to maintain its commitment to providing a comprehensive financial aid program for admitted students who meet requisite conditions. Stanford's undergraduate financial aid program is need-based. If there is financial need—that is, a difference between the student's resources and the cost of attending the university—Stanford will offer aid, including loans, job eligibility, and grants or scholarships, to meet that need. About 60 percent of undergraduates receive financial aid in one form or another, 80 percent of which comes from Stanford resources.

I fear, of course, for middle-class and even “upper”-middle-class families who do not make enough to pay the full bill but make too much to qualify for sufficient financial aid (in view of their overall family resources). In response to that, Stanford has restrained tuition increases. We must keep in mind, however, that even undergraduates who pay full tuition still contribute

only about 60 percent of the cost of providing their own education. The rest comes from endowment and annual giving. While Stanford is well positioned to rise to the challenge, our financial resources are still surpassed—in some cases by a large margin—by those of institutions with which we must compete for the best faculty and students.

Princeton's larger endowment supports an undergraduate student body of only about 4,600, compared to Stanford's 6,500. That is one reason that Princeton covers an amazing 94 percent of its undergraduate financial aid with endowment income. Harvard's endowment allows it to fund more than half its undergraduate aid. Stanford, meanwhile, stands at 39 percent.

Herein lies the main reason I have developed The Stanford Fund and why I am placing such priority on unrestricted annual giving, which at Stanford was, and continues to be, relatively weak. We must find anew every year almost two-thirds of the financial aid that Stanford itself provides, and The Stanford Fund plays a critical role in filling that gap. While The Stanford Fund is meant to support all aspects of undergraduate education, I have dedicated 60 percent of its annual revenue to undergraduate financial aid. Comparing annual giving to payout from endowment, \$5 million in annual small and large gifts to The Stanford Fund, for instance, is the rough equivalent of the payout we receive from about \$100 million worth of endowment. Put differently, we would have to raise \$100 million of endowment to match \$5 million in Stanford Fund revenues.

Graduate Programs

“Peaks and valleys, rather than an even plateau, was the academic landscape favored by Stanford's administrators.” Thus Rebecca S. Lowen, in a new book about Stanford and the Cold War, characterizes the pursuit of “steeple of excellence” at Stanford in the 1960s. However that may have been, the university that eventually resulted from the creation of steeples of excellence and the seeking of “available patronage”—both government and private—has, on the whole, many more peaks than valleys. Excellences in some areas beget excellences in others.

A little more than half of the students at Stanford are enrolled in graduate and professional programs, and it is in these programs that the dialectical relationship between education and research is most clearly present. The graduate students qua students are partners with the faculty in the continuing effort to expand the boundaries of knowledge and are engaged in “an unceasing process of inquiry.”

Stanford is a vast enterprise. In addition to the doctoral programs in the School of Humanities and Sciences, Ph.D.'s can be earned in all six other schools. Graduate education also leads to professional degrees in Law, Business, Education, Medicine, and Engineering. An account of the developments and changes in curricular priorities and research over the last five years in our graduate programs is impossible within the constraints of this report. I restrict myself to some observations of a general nature.

A fact that surprised even me, when I first encountered it, is that Stanford leads the nation in the production of Ph.D.'s among private universities. According to the *Chronicle of Higher*

Education, Stanford's 583 new Ph.D.'s in 1995 exceeded the total for any other private university, including many that have larger student bodies and faculties. Given that so many Stanford graduate students are pursuing professional degrees, this is a truly remarkable "productivity" figure. And should someone rush to ask if the nation isn't producing too many Ph.D.'s, I would answer: "Not too many high-quality Ph.D.'s."

Returning to the plateau, peaks, and valleys metaphor, a 1997 study by Hugh Davis Graham and Nancy Diamond attempts to measure research performance of American universities using five selected indicators: federal R&D obligations; journal publications in all fields, and in top-rated science and social science journals; and arts and humanities awards. It then adjusts the results for the size of an institution's faculty and eventually ranks institutions on the basis of combining the various indices for the sciences, social sciences, and arts and humanities. While Stanford does not do as well in the arts and humanities as some of its competitors, the difference is sufficiently small that, on the combined basis, Stanford was ranked first among private universities. Our public sister across the Bay occupies first place among public institutions. My point is not Stanford's precise position—after all, I am a leading skeptic about spurious precision in rankings—but what these computations suggest about "peaks" and "valleys." Such efforts to quantify quality do not even take into consideration "peaks" in professional education, where Stanford's schools generally *are* peaks if viewed comparatively.

Probably the most relied-upon benchmark of quality in graduate programs comes from periodic studies by the National Research Council. Though these ratings of doctoral programs and faculty are not perfect, they are relatively sound. The NRC conducts its study roughly once per decade and the most recent study was published in the fall of 1995.

Stanford programs were ranked in forty-one areas of graduate study by the NRC. We tied with three other institutions in having six programs ranked first. No institution had more first-place rankings. Thirty-two of our programs were rated among the top ten in the nation, and all forty-one were in the top twenty. By any reckoning, Stanford has remarkable strength across the board. Indeed, no more than one or two other institutions can come close to matching the breadth of Stanford's strength, ranging as it does from engineering to the natural sciences, social sciences, and humanities. We achieve this breadth with relatively small departments in most areas, relying on a high degree of collaboration across school and departmental boundaries, and by pursuing excellence in every graduate admission, every faculty appointment, and every research proposal.

Yet we cannot rest on these or any other laurels, for these small departments make Stanford's quality extremely vulnerable. If a subfield is represented by only one faculty member, his or her departure to another university or into retirement may destroy a finely calibrated balance of departmental endeavors. In departments that have only very few graduate students, insufficient financial support for potential students may endanger the future of particular programs almost as much as a failure to recruit first-rate faculty.

Over the last few years, we have made some changes in the nature and number of our graduate programs, often painfully. As I mentioned earlier, we decided in 1996 to close the Food Research Institute—a graduate program with a long history and loyal supporters around the world—

because a review determined that it was no longer a leader and that we did not have the necessary unrestricted resources to rebuild it. We have combined and reorganized graduate programs in languages and comparative literature and in the School of Engineering. In both cases, the provost, the deans, and I concluded that action was necessary to revitalize programs that were in danger of falling behind. At the same time, we are expanding and building programs in new areas, such as bioengineering, the study of ocean margins, and comparative studies of race and ethnicity. This is the way change should take place among graduate and research programs: careful and selective pruning combined with the continual reshaping and expansion of fields of study.

Financial Support of Graduate Students

A 1986 White House Panel chaired by David Packard concluded that the intimate connection between education and research has been fundamental to the production of creative scientists and engineers. The panel's report deplored the change in the way the federal government viewed its involvement with universities and university-based research: "From an emphasis on long-term investment there has been a progressive shift to a procurement approach and philosophy." What was true a decade ago is even more true today as we continue on the path of decreased investment in the country's future and in institutions that combine the rigorous search for truth with the excitement of frequently serendipitous discovery and the innovation that follows from the combination of new knowledge and fresh minds. Charles Vest, president of MIT, has pointed out that at present the United States spends only one quarter of one percent of all federal outlays on genuine research and development.

Even this level of financial support, upon which many of our graduate students traditionally have relied, is threatened. We must find ways to continue to make graduate education attractive to the nation's most talented students and to attract the very best of them to Stanford. This is particularly true in disciplines—especially science and engineering—in which many students have been supported almost entirely by sponsored research funds. In the humanities, most students receive support through teaching assistantships and fellowships paid for from general funds.

After discussions with the provost and the Cabinet, and upon the recommendation of Charles Kruger, vice provost and dean of research and graduate policy, and a faculty steering committee on Ph.D. fellowships, in 1997, I allocated \$10 million to begin Stanford Graduate Fellowships: a national competition for up to one hundred new three-year fellowships in the sciences and engineering to be awarded each year. We also began raising funds to provide permanent support for this program, with the goal of raising at least \$200 million in endowment. I am pleased to report that, in little more than one year, and as of this writing, we have raised \$115 million toward this goal.

The purpose of the Stanford Graduate Fellowships is to attract the finest graduate students possible and to give those students full freedom to pursue their work at Stanford without worrying about the vagaries of sponsored research or other traditional sources of support. Students will be freer to determine their own course of research rather than having to select a

project based on available funding. Knowledge that such graduate-student funding is available also should prove attractive to young faculty we wish to recruit.

When fully implemented, the proposed program will provide support, at a minimum, for three hundred students per year, equal to roughly one-half of our current federal funding for research assistantships. For the first class of one hundred, three-year Stanford Fellows in 1997–98, each award consists of a \$12,000 tuition grant and a \$16,000 stipend per year. Where a student receives the offer of a Stanford Graduate Fellowship while also having been successful in the competition for a National Science Foundation Fellowship or another nationally competitive fellowship, we urge the student to accept the latter and provide an additional \$3,800 to \$10,000. The program is organized as an internal competition, thus assuring that the fellowships go to provide support to the best graduate students, regardless of discipline.

This past spring we admitted the first class of Stanford Graduate Fellows. Our overall acceptance rate of 56 percent was significantly higher than the Faculty Steering Committee had expected for such outstanding students who had multiple offers from leading universities.

While the Stanford Graduate Fellowships were designed to address the uncertainties of federal government support, I am also greatly concerned about the level of fellowship support for graduate students in the humanities and some of the social sciences. In the past, we have supported them from general funds and with the help of the Mellon Foundation, one of the few private foundations that continues to be firmly devoted to higher education. The Mellon grant is nearing its end, and competition among universities for the best graduate students is intense. Stanford faces special pressures given the expensive Bay Area housing markets and their impact on graduate students, postdoctorate fellows, and, for that matter, faculty and staff.

Finally, we are seeking endowment to bring annually twenty-five of the most promising graduate students from the Asia/Pacific area to Stanford for graduate study. The Asia/Pacific Scholars Program will begin in 1997–98 on an experimental basis until full funding has been secured.

Information Technology in Teaching and Learning

Of all of the issues facing higher education at the end of the twentieth century, none is more intriguing and more puzzling than the role of information technology in teaching, learning, and research. Some observers believe that the advent of ever faster and more powerful means of transmitting information signals the end of universities as we have known them in the outgoing millennium. Even those who are more sanguine about the prospects for universities as institutions in a physical space acknowledge that new technology will have profound effects on their fabric. Some of those effects already are being seen, others we can only speculate about.

Originally, the university was mostly a teaching space. Early in its history, it became, and continues to be, a space for intellectual interaction of faculty with students, students with one another, and faculty members with one another. The physical aspects of the university reflect these basic functions. Campuses consist of libraries and museums where information is stored,

classrooms and lecture halls for communicating and sharing ideas, and residences to enable students to come from long distances to participate in the life of the institution. The campus is the physical manifestation of the principal functions of university life, all of which are based heavily on the idea that the resources necessary for teaching, learning, and research must be assembled in a single place to which people come for extended periods of time.

Those who argue that the traditional university is rapidly becoming outmoded do so because all these traditional functions are potentially changed by new information technology. The storehouse of information actually and potentially available on the Internet vastly exceeds the resources of any conceivable physical library. The phrase “World Wide Web” is surely one of the most appropriate metaphors ever coined, because it is literally true that a large percentage of the world’s information is now connected in an infinite and expanding web that is both more accessible and more researchable than any collection of books. The library will have a place in the university of the future, but it is no longer the exclusive repository of stored information and knowledge.

Just as the role of libraries has and will change, so will the function of the traditional classroom. Technology, again, will increasingly change the way we communicate with one another, including the communication of complex thought and instruction. Videotapes of lectures given by prominent faculty members from great universities have been available for some time by mail order. One can enroll in courses and even whole degree programs via computer-based communication or through a combination of media. Many of these courses are accessible at the convenience of the student, anytime, anyplace. The traditional classroom and traditional class schedule, it is argued, may no longer be the locus of instruction even within the traditional university. Many campuses, including Stanford, are now experimenting with asynchronous instruction, providing access to electronic courses whenever the student desires.

Finally, if information and instruction have both become unbound from the physical campus, is there any reason to have residential colleges and universities? “Virtual universities” are experiments designed to test the traditional notions of time and space as they apply to education. There is no place to come to, much less live in, on a virtual campus. The university has been reduced to an abstract concept, loosely describing a set of electronic educational services. A recent Doonesbury comic captures the disorienting aspect of the virtual university. In it, a university president gazes out of the window of his study in his bathrobe, contemplating the commencement address he is about to give. In the next frame, we see him at his computer typing his remarks. In the final frame, a student, in cap and gown, sits in a room with his parents in front of a computer screen and remarks about what a lovely speech they had just read!

Is this really the future that Stanford and other research-intensive universities face? Probably not. Reports of the demise of universities have been greatly exaggerated in the past and surely will be again in the future. The full range of services provided by a university includes much more than simply storing and transmitting information and knowledge. Universities also create new knowledge, and that creation requires intense collaboration that is unlikely to be fully replaced by electronic communication. For one, wet labs are not about to be replaced by virtual labs any time soon. And the campus setting provides not only a place to communicate about

scholarship, but also a place in which intellectual discourse and social integration is practiced to a degree unmatched by any other institution in contemporary society.

However much we may need universities in the future—and I believe we will—we must continuously review the quality of our teaching programs, especially in light of new technological opportunities and challenges. We have an obligation to incorporate the best that new technology has to offer, to revise and improve upon the best of our traditional teaching methods, and to redefine and maintain standards of quality in instruction. To these ends, in October 1994, I appointed the Commission on Technology in Teaching and Learning (CTTL), under the chairmanship of Professor John Etchemendy. The charge to the commission drew attention to the need to take charge of our own future:

Stanford's ability to retain its position as a preeminent institution of higher education in the 21st century will depend to a significant extent on how the University employs technology in teaching and learning. Technology offers the potential to enhance Stanford's academic leadership position and reputation world-wide. Appropriate use of information resources can increase faculty productivity; help retain, and engage the brightest students; enrich students' learning experiences and faculty teaching methods. Technology may enhance income opportunities for the university and potentially reduce costs of delivering education. It can allow Stanford to become a truly world-wide institution of learning, reaching out to new types of students and embracing the concept of life-long learning through new models of continuing education. Technology also offers the potential to forge new partnerships with industry, the government, and other educational institutions that will foster research and scholarship as well as teaching.

Thus, the mission of the President's Commission on Technology is to recommend policies, set future directions, identify obstacles and ways of removing them, and initiate pilot projects that offer the potential to enrich Stanford's teaching and learning through technology. The goal is to enhance the quality of a Stanford education while maintaining the highest standards of admission and certification. The challenge facing the commission is to identify key issues...and initiate those actions which offer potentially broad application, rather than develop only a set of recommendations and predictions for the future.

The commission has directly involved more than fifty faculty and staff members during the past three years and has consulted with countless individuals both within and outside of the university. As my charge asked, CTTL has refrained from issuing reports suggesting that "someone ought to do something about this." Rather, it has taken an active role in promoting projects and debating policy issues that arise as we adopt new practices.

CTTL fairly quickly settled on three main areas of concentration: (1) the technological infrastructure of the campus; (2) opportunities to export educational services and products through new technology; and (3) opportunities to make new uses of technology in campus-based instruction.

Stanford has a strong technological infrastructure, as would be expected at an institution that played such a formative role in the development of the computer industry. Links to the central computer network are nearly ubiquitous among campus offices and the residence halls; on

campus there are approximately twenty-five thousand desktop computers connected to the Internet—more than thirty-five thousand connections when one counts such devices as printers and network servers. All this does not even mention the mainframe computing plant housed at Forsythe Hall. We do not lack for raw computing power.

The CTTL has concentrated on parts of the infrastructure that require improvement if we are to stay at the forefront. One early project was to develop standards for classrooms so that it will be simple to carry a computer into a class, project images from it during the course of a lecture, call up instructional software and computerized demonstrations, and even to communicate electronically with other classrooms on other campuses. Several model, multipurpose classrooms exist on campus already. In addition, a number of highly specialized classrooms have been prepared for instruction in subjects such as foreign languages. In all, however, fewer than one-quarter of all classrooms now have significant electronic capability. We have developed a plan to double that number by roughly the year 2000. We have assured that new classrooms being built—such as those in the Science and Engineering Teaching Center—reflect the state of the art. And we have developed a multiyear plan to invest more than \$8 million in upgrading the campus network and existing academic buildings.

Investments in technology alone, of course, do nothing to enhance teaching and learning. Indeed, there is a growing concern in some parts of the educational enterprise—particularly at the primary and secondary levels—about whether investments in technology add value at all if they are not accompanied by investments in the curriculum, teacher training, and support services. In other words, technology does little or no good unless there are thoughtful plans about how best to use it. With this in mind, we have begun to increase our investments in the human side to exploit technology to its best effect. One example of this is the creation of new “Information Resource Specialists” in several academic departments. Knowledgeable in both the latest in technology and the subject matter of the department in which they work, they assist the faculty in the planning and implementation of new programs, in the development and testing of software, and in training both faculty and students in the use of computers and software.

CTTL’s work has resulted in two new organizations, both of which are in the process of being established. The Educational Ventures Office (EVO) will assist Stanford faculty in developing new educational services and products that may have market potential outside of Stanford. We envision many kinds of products, ranging from instructional software to full-scale courses captured electronically and made available to individuals and institutions. An example might be a series of lectures by a prominent Stanford faculty member that could be used as an “electronic textbook” on other college campuses.

The EVO will evaluate the market potential for new ideas, assist in developing business plans, and attempt to secure venture capital for large new projects. The focus of the office clearly will be to produce a profit from such ventures, to be shared by the university, the faculty member, and his or her department. It will operate very much like the Office of Technology Licensing, which will remain focused on inventions and the products of research.

In establishing the EVO we quickly encountered policy issues generated by the new technological world in which we find ourselves. By long-standing tradition, faculty members own the rights to their written work, including such products as textbooks. By more recent tradition and policy, the university retains an interest in inventions and devices created substantially with university resources or federal government funding. Software and technological products lie in a gray area somewhere between. Is a series of lectures captured on CD-ROM more like a textbook or more like an invention? If a course normally taught by a faculty member at Stanford is filmed off campus, is it still a Stanford course? Does Stanford have the right to replicate and broadcast courses taught by its faculty on campus? What will constitute fair use of copyrighted material if it is part of a class demonstration that is itself copyrighted and sold? These are all questions to which there are few answers at the moment, but which, I assume and hope, will begin to be resolved in the coming years (if not by deliberate sorting out, then by practice).

The second new organization, the Stanford Learning Lab, will focus on importing new technologies into the Stanford curriculum. Headed by Professor Larry Leifer, the Learning Lab is a new kind of organization for Stanford. Its purpose is to explore the connections among theories of learning, the opportunities presented by new technology, and the actual practice of teaching. As with all good research, a heavy emphasis will be put on close observation and the assessment of results. The point will not be merely to introduce technology into Stanford classes, but to transform those classes through a combination of new technology and new teaching practices designed to maximize the effect of the technology.

Professor Leifer's research has for many years focused on how groups of professionals can be made to work more effectively on joint projects. This background makes him well suited to understand how groups of students and their teachers can work together more effectively. The Learning Lab's early focus will be primarily on large undergraduate lecture courses in fields such as the new Introduction to the Humanities sequence and Human Biology. These courses form the backbone of instruction in the first and second years for most students, yet they are in many ways the least like the kind of course Stanford prides itself in. Technology may allow us to find ways to increase the interaction among students and faculty and to reduce our dependence on large lectures for this kind of instruction.

These new organizations and initiatives arise against a background of innovation that is characteristic of all parts of Stanford. Finding new uses for technology is not the exclusive concern of the CTTL. Other substantial projects are under way, some undertaken with the aid and encouragement of CTTL, others more or less independent.

Among the most noteworthy of the new initiatives is the HighWire Press, an Internet-based publisher of academic journals organized by University Librarian Michael Keller. Peer-reviewed academic journals are the lifeblood of most disciplines. They provide the forum through which experts speak to one another, and through their editorial review processes they set standards of academic quality. The business of academic journals has some peculiar aspects. Faculty members contribute their articles, free of charge, to the journals. The publishers, many of which are commercial, then sell the journals back to faculty and their institutions at prices that have steadily escalated in double-digit percentages over the past decade. Until recently,

there has been little choice but to pay these prices, often many thousands of dollars for a single one-year subscription.

On-line publishing is still in its infancy, but the HighWire Press has a larger collection of journals produced electronically than any other entity in the country, including most of the major journals in the biological sciences. The articles are produced far more rapidly than if they were printed and are available more cheaply. The goal of the HighWire Press is to facilitate academic interchange by cutting the cost and improving efficiency.

Another very visible experiment conducted during the past two years has been the inauguration of the Stanford Channel. Offered over the local cable television cooperative, the channel has been used to test our ability to capture programs and prepare them for broadcast. In addition to videotaping and airing campus lectures and events, six full Continuing Studies courses have been delivered by television. A full review of the Stanford Channel will be undertaken in the next year, in part to determine whether there are realistic opportunities for broader distribution. The Stanford Channel complements and builds upon twenty-seven years of experience in televised instruction in the School of Engineering. The Stanford Instructional Television Network, which uses point-to-point technology to deliver engineering courses to firms throughout the region, is expanding its mission to include a broader range of professional education services. Work is under way to develop a series of courses given by Earth Sciences faculty to be delivered to petroleum engineers and other professionals working at great distance from the Stanford campus.

Dozens of other technology projects are currently under way across all parts of the university. A partial list includes:

— We are introducing virtual reality technology into archaeology courses, allowing students to “experience” actual field conditions in archaeological digs from the classroom.

— Economics department faculty are developing a set of on-line experiments to be used in conjunction with large introductory lecture courses. The object is to allow students access to demonstrations that are impractical in a large class setting.

— Faculty members in medicine are developing a set of multidisciplinary videotaped lectures from fields such as biochemistry, structural biology, mathematics, computer science, and medicine. These instructional modules are intended both for use among Stanford students and, potentially, for professional development courses outside of Stanford.

— Virtual labs are being designed for students in Human Biology, one of Stanford’s most popular undergraduate majors. These computer-based labs will let students perform experiments not otherwise available, to enhance lectures and classroom instruction.

— One faculty member in English is developing a web site for ongoing instruction in Ovid’s *Metamorphoses*, including multimedia displays, commentaries, and hypertext links to other web sites. This project will be maintained as an ongoing resource for faculty and students working on Ovid both at Stanford and elsewhere.

— In the fall of 1996 a group collaborated over the Internet to offer the same class on human computer interaction design simultaneously at Stanford, Princeton, and San Jose State University.

— A series of courses is being offered by Stanford faculty members in cooperation with the Swedish Royal Institute of Technology via a dedicated high-speed link. Courses are delivered by videotape and supplemented by e-mail, desktop videoconferencing, and web-based bulletin boards.

Altogether, CTTL is monitoring more than fifty experiments. Professor John Etchemendy has headed it most ably in addition to his obligations as cognizant dean for the Humanities within H&S. He and the members of the commission have proven that committees can actually achieve change if they forgo writing reports.

Among my motives for raising questions about, and pushing, information technology issues has been my concern that universities are unduly complacent about the pace of change. No university in the world, not even the best, will be exempted from reviewing—in a searching and comprehensive manner, department by department—the impact of information technology on its teaching programs.

Due to the personnel-intensive traditional modes of teaching, universities, in the past, have not participated in the productivity gains in the economy that, ironically, can be traced to the very discoveries ultimately attributable to universities. We must continuously examine how we will use the new technologies, what investments in infrastructure and software development are called for, and how new videoconferencing technology can lead to increased interaction among universities for improvements and savings in programs.

The history of the last one thousand years of institutions of higher learning has seen waxing, but also a lot of waning. Unless we make the case for our work in its entirety and pursue it rigorously and efficiently, the world may develop new approaches that it will consider adequate substitutes, even though we may not think of them as, and they in fact may not be, adequate.

Financial Infrastructure

The Indirect Cost Controversy

There can be no doubt that the indirect cost controversy that began in 1990 cast a long shadow over virtually every aspect of life at Stanford for several years. Normal relations with the federal government became strained, interactions with other universities were at times difficult, morale among faculty and staff was low, and the institution was forced to take drastic action to avert a financial crisis. It is testimony to the fundamental strength of the university that it survived the worst days of this controversy and that the important work of teaching, learning, and research continued at a high level.

In my first State of the University Address, delivered in April 1993, I mentioned that, at that time, the *qui tam* suit filed against Stanford two years earlier by Paul Biddle, the former Office of Naval Research (ONR) representative at Stanford, remained under seal in federal court, while the Department of Justice was continuing its investigation of the allegations in order to decide whether it would join the suit. I also mentioned our estimate that by spring of 1993, Stanford had spent about \$25 million and 125 person years to address issues raised by federal government auditors. By then we had provided the Defense Contract Audit Agency with 115,000 pages of documents, and the Justice Department with 150,000 pages.

Finally, in December 1993, more than three and one-half years after Biddle had made his first charges, the Justice Department declined to enter the lawsuit brought by Biddle. Meanwhile, Stanford was pressing two appeals with the Armed Services Board of Contract Appeals in response to ONR's unilateral reduction, back in 1991, of Stanford's indirect cost recovery rate.

On October 17, 1994, Stanford and the United States government agreed to a settlement of all disputed matters related to the billing and payment of the indirect costs of federally sponsored research at Stanford for the years 1981 through 1992. In settling this contractual dispute, the Office of Naval Research, the responsible government agency, acknowledged that "the Navy has concluded that it does not have a claim that Stanford engaged in fraud, misrepresentation, or other wrongdoing with respect to the Memoranda of Understanding, costs, submissions, claims or other matters covered by the settlement agreement."

Weighing the costs and benefits of settlement was made difficult because of the pending Biddle suit. Given "issue overlap," it was not clear to me that I should dismiss our appeal, which was finally approaching trial before the Armed Services Board of Contract Appeals. We expected a favorable ruling by the Board, and, therefore, the Board's resolution of these issues might have had significance for the *qui tam* suit. On the other hand, our differences with the government had gone on all too long, and normal relations were highly desirable. Eventually, I came down in favor of normalizing our relationship with the Office of Naval Research. The days and nights preceding the decision were intense. Stanford's team working on the issues, including the Board of Trustees' Special Committee on Indirect Cost Oversight, was highly professional, able, and constructive.

The settlement required Stanford to pay the government an additional \$1.2 million as an adjustment for all the years 1981 through 1992 and dismiss its appeals concerning 1991 and 1992. In coming to the settlement, ONR acknowledged that the documents governing Stanford's accounting practices (known as Memoranda of Understanding, or MoUs) were valid and binding agreements between the government and Stanford.

As a normal business settlement, this was unremarkable. Over the course of twelve years, Stanford had conducted research under nearly 18,000 federally sponsored contracts and grants involving many millions of transactions and dollars. Adjustments when closing out the books for open years are normal and expected under the applicable government rules, and the amount of the adjustments for the years settled were within the normal range.

Yet this case was not normal. No sponsored research dispute at Stanford—nor I believe at any university—has ever received as much attention and scrutiny as indirect costs at Stanford. Now, almost four years after the formal settlement of the indirect cost controversy, some effects remain. Stanford is still under closer scrutiny from the federal government than is normal at most universities. Despite the fact that we have agreed to use the government auditors' preferred methods, we continue to go through extraordinary numbers of audits, negotiations, and reviews. The regulations governing indirect cost administration have been changed frequently, each time with the effect of transferring to the university—all universities—costs of research that had previously been shared by the government. Stanford's reputation, even among colleagues at other universities, probably has not yet fully recovered.

There was much pain and distress as the public controversy developed. To the extent that errors were made, I deeply regret it. Because the government was ten years behind in its audits, despite repeated requests by Stanford for audits, such inadvertent errors had not yet been detected. But also regrettable were the irresponsible accusations against Stanford and university officials. To this day, I get letters from alumni who simply assume that the sensational headlines they read told the truth and gave a fair picture. In our overheated public life, the presumption of innocence no longer seems to hold. For a lawyer, the ease with which accusations were made against the university, complex accounting issues irresponsibly simplified, and vast costs imposed is disheartening because the story is in no way unique. It seems that many regulatory disputes these days are prejudged by government officials and then tried in legislative committees and the media. And as I write this, though Biddle's suit was dismissed by the trial court in 1996, his appeal is still going on, still costing money—more than seven years after his initial accusations.

Budget

To understand the university budget, one must first realize that there are many budgets in the university. Research grants, restricted gifts, endowment income, and general income cannot be commingled. They can be used only respecting the various purposes for which these funds are available. It thus is possible to experience substantial pressure in one part of the budget and relative wealth in another part, and not be able to transfer funds to even out the differences. This is the position in which Stanford found itself at the beginning of the 1990s. Deficits were forecast in that part of the budget supported by unrestricted general funds—primarily income from tuition, endowment, and indirect cost recoveries. In 1991, when the indirect cost recovery rate dropped virtually overnight from 78 percent to 55 percent, this meant a loss of about \$25 million to the unrestricted portion of the budget. At the same time, gift income and research grants continued at a relatively healthy rate.

When I became dean of the Law School at the University of Chicago in 1979, I realized to my astonishment that the dean's budget discussions with the provost focused almost exclusively on the general unrestricted funds transfer from the university's center to the law school. Moneys that were raised by and restricted to the law school played only a minor role in the exchanges. This approach was, I think, fairly typical in American universities at the time. A university's operating budget focused mostly on the general funds received and expended by the center, while subordinated units, such as schools, often worked with substantial additional resources

that, while known to the central administration, did not appear on its screen. In my later role as provost at Chicago, I worked for a “consolidated budget” that would take into consideration both the unrestricted and the restricted revenues and expenditures of all parts of the university.

Stanford also focused mostly on the unrestricted operating budget. Provost Rice, whom I appointed in the summer of 1993 and who has been an extraordinarily effective manager of the university’s budget, as well as my deputy in every other respect, in the fall of 1993 put together a team led by Geoffrey Cox, vice provost and dean for institutional planning and operations (who had worked on these matters at Chicago), and Tim Warner, vice provost for budget and auxiliary management. The team collaborated with the provost and the deans to develop a consolidated budget that enables all of us (including the deans) to better track how money is spent throughout the institution. The effort to sort out our budgetary byways was very complex but succeeded over a two-year period.

The consolidated budget is an example of housekeeping reforms in a university that are time-consuming and, given the university’s decentralization, difficult but little noticed when accomplished. Few things we did on the fiscal side of the university over the last five years have been more important. A consolidated budget helps identify programmatic opportunities, quite apart from the fact that it informs us about what we are doing and how. Having that knowledge was crucial as Stanford had to confront fiscal stringencies.

Beginning in 1989 Stanford began to experience a number of setbacks that caused budget deficits: the Loma Prieta earthquake, the financial repercussions of the indirect cost controversy, the economic recession, slowdown in sponsored research growth, and revenue-reducing changes in the rules governing indirect cost reimbursement. The Board of Trustees had to finance these deficits with reserves, unrestricted endowment, and debt.

In 1993, newly appointed Provost Rice announced a program of expense reductions totaling some \$18 million over three years. This followed Provost James Rosse’s \$22 million “repositioning program” launched in 1990, and a budget cut/income enhancement effort consisting of a \$26 million cut and \$15 million in new revenues implemented by Provost Gerry Lieberman and mostly concluded in 1993–94. Every school and administrative area of the university was affected in these rounds. Stanford had joined the ranks of other American institutions heavily engaged in “re-engineering,” “downsizing,” and “right-sizing.” And it had done so successfully: The deficits were eliminated by 1995.

Just as important as these adjustments, the provost also institutionalized “revenue-constrained” budgeting, meaning simply that allocations are strictly limited by the funds available regardless of the pressure on costs. Also, we have created reserves within the revenue forecast to protect against short-term fluctuations in income. The Board of Trustees, concerned that added costs of operations due to restricted funds not be borne entirely by tuition or other general income sources, instituted an infrastructure charge on restricted funds that went into effect in 1996.

The effect of these budget reforms is twofold. First, there is now a discipline in place that will help constrain the growth of expenses beyond what is prudent and sustainable. Continuing costs

over the past three years have grown by only 1 percent per year in real terms. With growing pressure on major sources of income, such as tuition and indirect cost recoveries, we must be able to make necessary budget adjustments within a relatively fixed pool of resources from year to year. Second, we have been able to shift resources to important priorities of the institution: junior faculty salaries, and senior faculty salaries in areas where competitive pressure is intense; attending to deferred maintenance in campus buildings; substantial investments in new administrative systems to improve business processes and controls. At the same time, annual increases in tuition have been held to their lowest levels in more than two decades.

There are very real threats to the financial structures that have sustained American higher education over the past fifty years. Thus far, Stanford has weathered the storms it has encountered without substantial losses to its academic programs. Indeed, administration, especially central administration, has been the primary target of the budget cutting. It is not clear to me how long that can continue. Regulatory burdens are continuously increasing and adding costs. The various initiatives we have undertaken have added to the workload. It is not very popular for a university president to say so, but the fact of the matter is that administratively Stanford is stretched very thin.

Endowment

With great frequency I read in the newspapers or hear from alumni that Stanford is wealthy. I am never sure what “wealthy” means in the case of an institution that makes no profits and subsidizes both learning and research. The reference usually is to our endowment, which amounted to approximately \$4.5 billion as of August 31, 1997. Income from endowment in fiscal year 1997 was estimated at 12 percent of our revenues, including those for the operations of the Stanford Linear Accelerator Center. If one were to exclude SLAC, it would have been 14 percent. Budgeted endowment income for the 1998 fiscal year amounts to 14 percent, or 16 percent, if SLAC is excluded. To those of our alumni who say we are wealthy, I always like to respond that it does not feel that way if the university has to raise anywhere between 84 and 88 percent of its revenues every year anew. And a stock-market slump could make that situation worse.

Among the private universities with which we most compete, Stanford aspires to excellences across the widest spectrum of endeavors—arts, humanities, and social sciences; sciences and engineering; college, graduate, and professional teaching, learning, and research. And Stanford does this with an endowment that, while clearly large, as of 1996, amounted to 43 percent of Harvard's endowment, 85 percent of Princeton's, and 78 percent of Yale's. Princeton's endowment per student, \$701,146 in 1996, is the highest in the country. Stanford's \$288,022 put us in seventeenth position. Compared to our competitors, we do more with less.

Indeed, in 1996–97 endowment income ranked only fourth among the main sources of funds required to operate the university, behind government grants, and contracts; tuition and fees; and private gifts, grants, and contracts. The total university budget for fiscal year 1997 is \$1.4 billion (if one counts hospital and clinical services, our overall budget increases to \$2.1 billion).

A university's endowment is not a checking account, but rather a trust fund; we, the current generation, are trustees for all future Stanford generations. Common sense—and, in many cases,

the law—does not allow us to spend the endowment's principal. And our duty to the future does not allow us to spend even all of the interest, dividends, and capital gains; we must reinvest enough to ensure that the endowment is not eaten away by inflation.

In 1991, the university reorganized the management of its investments by establishing Stanford Management Company. While Stanford Management Company has its own board (overlapping some with the Board of Trustees), it is not a Stanford subsidiary but an administrative department of the university that is accountable in regular ways. Under its CEO, Laurance Hoagland, Stanford Management Company has clearly fulfilled the expectations that were associated with the reorganization.

The university's endowment grew from \$2.4 billion on August 31, 1992, to approximately \$4.5 billion five years later. New gifts over these five years accounted for approximately one-fifth of this rise. The jump in the market value in the most recent years, coupled with expenditure constraint, resulted in endowment payout, as a percentage of revenues, rising to a budgeted 13.8 percent in fiscal year 1998. However, we remain far behind our competitors on this measure. At Princeton, the figure is nearly twice as much.

For the overall financial health of the university, it is essential that we increase the role endowment income plays in the university's finances, but without having that goal accomplished for us by reductions in the other sources of revenue, where our exposure is great. In short, we need to place more emphasis on raising additional endowment funds. The present situation is not one that provides a high level of comfort.

Fundraising and Development

At the time of my taking office, Stanford had completed its \$1.1 billion Centennial Campaign with a remarkable total raised of \$1.269 billion over six years. President Donald Kennedy officially opened the campaign in 1987 and concluded it in February 1992. The Centennial Campaign added \$350 million to the university's endowment for professorships, undergraduate financial aid, and graduate fellowships (primarily in the professional schools). Another \$250 million was received for facilities, ranging from the Near West Campus (Keck Science, Green Earth Sciences, and Gilbert Biology) to student residences, to the Bass Center in Washington, D.C., and the Haas Public Service Center on campus. Expendable funding for academic programs went to, among others, the Bing undergraduate teaching initiative, Undergraduate Research Opportunities, and the Center for the Study of Language and Information (CSLI). About \$600 million was raised that was not campaign-dependent. President Kennedy, the Office of Development under John Ford, and many dedicated volunteers had successfully seen to completion the nation's first \$1 billion university fundraising effort.

While this was an excellent result for Stanford, it left me with the question: "What now?" Extra staff that had been added for the Centennial Campaign was reduced, the Office of Development suffered further reductions as a result of our budget crisis, volunteers were exhausted, and the new president was unknown to everybody and knew nothing about anything. Nervousness, especially in the Office of Development, was high. The basic problem was a very

simple one: Would Stanford, without the motivation and organization provided by the campaign, see a sharp diminution in its fundraising results?

I came under tremendous pressure to set new fundraising priorities for a university that I was just beginning to learn. My first task was to calm everybody down and make them understand that fundraising *would* not stop because it *could* not stop; that we had to determine needs and opportunities; and that we also had to understand our weaknesses in fundraising and do something about them. I ruled out anything that resembled a campaign and instead stressed the importance of identifying discrete urgent projects that needed funding. Having had my first personal fundraising experiences as a dean at Chicago, I also favored a somewhat more decentralized structure than was customary at Stanford.

There were all too many “discrete urgent projects” that needed funding, ranging from the devastation still left by Loma Prieta (only the Graduate School of Business and Memorial Church had been fully restored, and the church was reopened on October 2, 1992, the day of my inauguration); to the rapidly aging science and engineering facilities; to financial support for undergraduates, graduate students, and faculty; to programmatic priorities that came to be developed, such as Stanford Introductory Studies.

Among the weaknesses on which I focused quickly was the fact that Stanford’s superb results in what is called “major fundraising” had masked relatively poor annual giving totals. We thus launched The Stanford Fund for undergraduate education and the President’s Fund. Both have been successful undertakings, The Stanford Fund raising participation levels from 24 percent of undergraduate alumni to 34 percent over four years. Annual gifts for these purposes have grown from less than \$2 million in 1993 to more than \$9 million in 1997. While this is progress, I remain very concerned that we are not even close to a fair number of our competitors, some of which, as I pointed out earlier, also have endowments that are considerably larger than ours.

My happiest experience with respect to annual fundraising has been the so-called Senior Class Gift. When I first encountered it, at the end of my first year, the participation rate was 8 percent. With a challenge from Peter Bing and the Parents Program Advisory Board, we went from 44 percent for the class of ‘94 to 62 percent for the class of ‘97. I very much hope that this is the harbinger of a more broadly based commitment among our alumni to the sustenance of their alma mater.

In connection with earthquake restoration, renewal of facilities, and some new construction, generous gifts were made to the general Restoration Fund; for the Museum and for the Library; to fulfill Stanford’s long-held dream of a Science and Engineering Quad; for the new Center for Clinical Sciences Research; for the business school’s Residential Center; and many more, including the Encina Restoration.

On the programmatic side, we succeeded in raising endowment for the Terman Fellows; the Humanities Center; the deanships in Education, Earth Sciences, and H&S; Stanford Introductory Studies; and Stanford Graduate Fellowships. Athletics began and concluded its Campaign 2000, the Law School is in the final stage of a successful campaign, and the Hoover Campaign is just beginning.

In the last five years we were able to achieve gift results that, without a campaign, were at—or, for the last two years, above—the level of the Centennial Campaign (expressing results in 1987 dollars). In nominal dollars, we have raised \$1.275 billion over five years. The outcome confirms the high quality of the Stanford development office (even in its slimmed down version), as well as the continuing commitment of many supporters who responded magnificently to the project needs the university had identified. The results would be wholly satisfying were it not for the fact that other universities have gone on to conduct their own “mega” campaigns: Harvard alone is headed toward \$2–3 billion; Yale, this fall, will complete a five-year \$1.7 billion campaign; and Columbia is aiming for \$2.2 billion (over ten years), while even among public universities Berkeley and UCLA are going for at least \$1 billion. Stanford needs to assign a high priority to thinking about its fundraising future.

4 PHYSICAL INFRASTRUCTURE

Campus

I often have referred to a quotation from David Starr Jordan, speaking at the end of the university’s second decade: “It is said that Rome was not built in one day, nor Stanford in a century; but it is being built, quietly, honestly, steadfastly, stone after stone....” I usually have used this quote in its metaphorical sense, referring to the steady building of our academic programs and intellectual legacy. Little did I realize five years ago that I would be so heavily engaged in building Stanford quite literally stone by stone. Questions concerning the future of universities as physical spaces are looming, as I suggested earlier. Alas, for better or for worse, the actual format of the university is anything but virtual.

As measured by expenditures, even adjusted for inflation, we are in the most intense period of construction in the history of Stanford University, including its founding. During the decade of the 1990s, we will spend close to \$1 billion on physical renewal and new facilities. This unprecedented level of expenditure is the result of a combination of calamity, opportunity, and responsibility.

The calamity, of course, was the 1989 Loma Prieta earthquake. It forced upon us \$250 million of restoration and seismic upgrade work. The good news is that when that work is completed, we literally will have rebuilt the oldest buildings on campus from the inside out, making them much safer and more useful. As we have done seismic retrofitting, we also have renovated buildings for programmatic needs, including adding the networking vital to new technologies. Seismic upgrades on all of the oldest campus buildings made of unreinforced masonry will be completed by the end of the decade.

The opportunity has come in the form of many generous gifts: from Hewlett and Packard, Gates and Allen, and others to fulfill Stanford’s long-held dream of a Science and Engineering Quad; from the Cantors, Christensens, Freidenrichs, Halperins, and McMurtrys for the Stanford Museum renovation; from the Besses, the Packard Foundation, and two anonymous donors for the Center for Clinical Sciences Research; from the Schwabs for the business school’s

Residential Center; from the Bing, Braun, Lane, and Pigott families for the Restoration Fund; and many more.

The responsibility comes in exercising good stewardship—maintaining the physical endowment that has been handed down to us and, then, renewing it as needed to meet the changing nature of teaching, learning, and research. During the current construction cycle, between 1996 and 2000, approximately 71 percent of all expenditures will be for the restoration, renovation, renewal, or replacement of existing campus facilities. Only 29 percent is for added space. Included in these expenditures are approximately \$90 million devoted to correcting deferred maintenance items that were identified in 1994. By the end of the decade, accumulated maintenance, safety, and code issues will have been corrected in virtually all of the central campus buildings.

What do these figures say? That Stanford is not engaged in unbridled expansion and thoughtless spending. Rather, it is pursuing carefully planned and managed work with a clear purpose: the physical renewal of Stanford University's infrastructure for the future. Here, I believe, we are in a strong position relative to our competitors. The trustees have greatly helped by concluding that the plant is an important part of our investments and therefore allowing an additional 0.5 percent of endowment payout for support of the long-term capital budget.

When I came from Chicago there was lots of speculation about what I would bring with me. Apart from twenty-six years of education provided me by my colleagues and students, I brought an interest in and commitment to competitive architectural design. I remember when, in my first meeting with the university's excellent architect, David Neuman, he told me that Stanford did not use design competitions for choosing architects and that the university president had no role. Subsequently, I changed both features. While the Latin proverb says there is no disputing about taste, the Latin proverb is wrong. Aesthetics are an appropriate subject for debate, and many will disagree with what has been happening at Stanford over the last five years. While the credit goes to the architects, I shall be happy to take most of the blame.

The first of the buildings that resulted from the choice of an architect through design competition is the Allen Center for Integrated Systems. The architect is Antoine Predock of Albuquerque, New Mexico. The restoration of the museum, with addition of a new wing, was entrusted to James Polshek of New York. James Ingo Freed of Pei, Cobb, Freed in New York is responsible for the new Science and Engineering Quadrangle, the first quadrangle to be built next to the Main Quad in accord with the original nineteenth-century plans of Frederick Law Olmsted. In addition to the quadrangle as such, Freed has designed the new building of the Statistics Department; a new classroom building, the SEQ Teaching Center; a new building for the Electrical Engineering Department; and a laboratory annex to the McCullough Material Sciences Building.

Tanner, Leddy, Maytum & Stacey, of San Francisco, were awarded the new graduate student residence on Campus Drive that will be named for former Stanford president Richard W. Lyman. Stanford's Spanish-Mexican architectural heritage will find a new expression in the residential center for the Graduate School of Business for which Ricardo Legorreta Arquitectos,

of Mexico City, was selected. The most recent choice was London-based Sir Norman Foster and Partners for the Center for Clinical Sciences Research building.

By the turn of the century, I hope, Stanford will have a campus second to none, not only in its beauty, but also in its functionality.

Sand Hill Road

Sand Hill Road has become the world's most noted address for venture capital firms and the site of one of the Bay Area's most disliked traffic bottlenecks. From Interstate 280, traffic flows easily down a four-lane Sand Hill Road until it crosses Santa Cruz Avenue, where it squeezes into two lanes, passes a narrow bridge, and soon abruptly dead-ends in the Stanford Shopping Center parking lot. For well over two decades, there have been efforts to make the commonsense solution (favored, in an independent poll commissioned by the Palo Alto Comprehensive Plan Committee by 80 percent of the public) of extending Sand Hill Road to El Camino Real. Indeed, three times during this period, the Palo Alto City Council approved such an extension, but these approvals were never implemented because of disputes over who would pay for the road improvements or because legal challenges by road opponents raised costs until the effort was abandoned.

The core problem in fixing Sand Hill Road in the past has been economic. Extending a city street to a state highway (El Camino Real) is a governmental function, as is the necessary widening of Sand Hill Road to accommodate public traffic. In an earlier time, such improvements would have been paid for by tax revenues. But local governments have increasingly used their powers of approval to coax concessions from private developers. In the case of Sand Hill Road, all sides have been waiting for someone else to pick up the check.

Stanford has two compelling reasons to address the bottleneck: (1) Access to Stanford Medical Center, including the Stanford Hospital and clinics and the Lucile Salter Packard Children's Hospital, is directly affected by the Sand Hill Road bottleneck. Easy routine and emergency access is essential if the Stanford Medical Center is to continue to serve patients from the community and to provide effective emergency services. (2) Were congestion to worsen, viability of the Stanford Shopping Center could be compromised. None of the center's competitors has such poor traffic circulation. The shopping center is part of Stanford's endowment, and income from the center supports Stanford's educational and research mission. Future traffic projections by the Association of Bay Area Governments—which are official data used by all public agencies—and other government sources show substantial increases in area traffic having nothing to do with activities at Stanford. The current situation can only be expected to worsen.

Contemporaneously, Stanford has explored other projects on the Sand Hill corridor. In the mid-1980s, the university proposed and the city council approved 1,100 units of rental housing on a site known as Stanford West, a 48-acre parcel of land between the Oak Creek Apartments and the old Children's Hospital. This project was never executed because of a disagreement over conditions attached to the approval. Also in the mid-1980s, Stanford began to explore the possibility of converting the old Children's Hospital, which was abandoned when it was

replaced by the Packard Children's Hospital, into a senior housing community. And the management of the Stanford Shopping Center sought new revenue-generating space.

Before I arrived at Stanford, these strands of problems and opportunities in the Sand Hill corridor were merging into a single idea for which Stanford Management Company took responsibility within the university: Stanford would pay for most of the much-needed Sand Hill Road extension and improvements, provided that the cost could be borne by a package of projects that met university and community needs: a senior housing community on the site of the old Children's Hospital, rental housing (primarily for Stanford employees) on the Stanford West site, and a 12 percent expansion of the Stanford Shopping Center. To defray the costs of the public road improvements, Stanford requested that the City of Palo Alto contribute \$2 million toward the road improvements, drawing the money from additional tax revenues provided by the new shopping center space.

The city's response was encouraging but noncommittal—except for private signals that the notion of the city paying anything for the road was not politically feasible. After reviewing the matter with senior staff, we concluded that the entire package was a sound one, that it contained many substantial benefits that would result in citizen support in the community, and that we could probably win the approval of the Palo Alto City Council. But we knew there would be determined opposition from some quarters—a high likelihood that any approval would end up on the ballot and, if passed, that opponents would launch a lawsuit. At that point, I was told that a final decision would take two years—which seemed to me, a babe in the woods used to the gentle politics of Chicago, an excessively long time. It has, instead, taken five years to reach the ballot stage, and each step of the way has required intense work by Stanford staff and has taken much of my time and the time of the board of Stanford Management Company as well as the Board of Trustees.

Based on public input from a community outreach program that involved more than 1,000 Palo Alto and Menlo Park residents in seven large public meetings and many smaller ones over six months, Stanford redesigned its projects and submitted revised applications in the fall of 1994. The City of Palo Alto then contracted with EIP Associates, a major environmental consulting firm, to conduct, under the city's direction, a thorough Environmental Impact Report (EIR). The final EIR for our projects was published in eight volumes—the most intense and thorough review of any project in the history of Palo Alto.

After intensive work between Stanford and city staff, the Palo Alto City Council held the largest and longest series of hearings in Palo Alto history—from January until August of this year, in twenty-one full, open sessions—to take testimony and to deliberate on these projects. The Council instructed the city manager to insist on further modifications of the university's application.

Curtis Feeney and Larry Horton negotiated with a city delegation led by the city manager. Our two dedicated and able negotiators met weekly, sometimes daily, with the provost, Trustee John Freidenrich, and me to explore what, if any, further concessions were feasible. The Board of Trustees had authorized me to make final decisions.

The outcome was a substantial modification of our projects, substantially increasing the university's costs. In final consideration of the entire package, the Council voted unanimously, 9-0, to approve the projects and signed a development agreement the size of a small telephone book.

The final package agreed to by Stanford and the City of Palo Alto includes the following elements:

— Stanford will pay for and implement more than \$20 million in roadway improvements in the Sand Hill corridor that will significantly improve circulation in that area and simultaneously reduce traffic in nearby neighborhoods.

— Stanford will construct 628 rental housing units on the Stanford West site, a minimum-density development on land zoned for more than 1,100 units. The creek-side setbacks average 290 feet—the largest setbacks in Palo Alto or Menlo Park. Of these units, 25 percent will be available for rental at below-market rates according to rules established by Palo Alto. Stanford employees will have top priority for housing, helping hold down traffic. A new child care facility will be built on-site.

— The site of the old Children's Hospital will be redeveloped into a Senior Housing Community, with 388 independent-living units, as well as nursing and extended care and other health facilities. It is estimated that most of the residents will come from a 15-mile radius of this area, and it will be affordable to those who own homes in this area.

— The shopping center will be permitted to increase by 80,000 square feet, which is only 31,000 square feet more than what is currently authorized.

— Stanford agreed to lease park land to the City (El Camino Ballpark) for \$1 per year until 2033, and Stanford agreed to set aside 139 acres along Sand Hill Road for open space or limited uses (for example, recreational fields) until 2021.

This would appear to be a happy ending. But, as I write this, the story is not over. Our earlier anticipation of a lawsuit has come to pass: after first voting 3-2 not to sue, the City of Menlo Park reversed that decision by another 3-2 vote and has sued the City of Palo Alto and Stanford, claiming inadequate environmental review. Palo Alto and Stanford will defend themselves in court, and we believe that the extraordinary record of environmental review of our projects will stand up quite well.

Our expectation of either a referendum or an initiative fell a bit short: we have both. The City Council put the Development Agreement on the ballot for the voters' approval as Measure O in the November 4 election. Opponents of the projects gained signatures for an initiative, Measure M, which purports to be an alternative road and housing solution but is recognized by most as a thinly disguised poison pill to destroy Measure O. By the rules set by the Council, whichever measure passes by a majority and gets the most votes, wins.

I describe all this both because it has been a costly and time-consuming issue and illustrates the complexities of caring for a university. I often encounter people who think that a university president, provost, deans, staff, and faculty concern themselves solely with academic issues,

perhaps student parties, and otherwise enjoy three-month summer breaks to read and reflect. Dream on!

Stanford's record for environmentally sensitive development is excellent, and our dedication to preserve space is singular. Two-thirds of our lands remain open space or very lightly developed—the Dish, for example, is considered to be a lightly developed area. Setting aside 1,190 acres for the Jasper Ridge Biological Preserve is itself evidence of a unique commitment to conservation and serious study about conservation. Maintenance of our academic physical plant and retention of flexibility in the responsible use of our lands for academic purposes is a high priority. The Sand Hill Road story is an important indication of the difficulties in development, even in development with broad public support and with generous public benefits attached. How this story ends will have profound implications for Senator Stanford's legacy.

5 THE MEDICAL CENTER

As I said in my 1992 in-augural address, re-peated in the opening section of this report, the true university must draw together and reinvent itself every day, and the days of a university are always “first days.” At academic medical centers this has been true with a vengeance, and I am sorely tempted to exclaim: “Mercy! Mercy! I did not mean it literally when I said all days are first days!”

In the '80s, before my arrival, Stanford had separated its hospital from the medical school, leaving the faculty practice plan in the school. One of the reasons for giving Stanford University Hospital independent corporate status was the need to limit the university's exposure. Call this “First Day 1.”

This step made it difficult to reconcile the priorities of the school with those of the hospital, especially as the institution was under pressure to contract on a basis that integrated inpatient with outpatient services. This is when “First Day 2” dawned.

In January of 1993, I convened a small working group to consider the consolidation of inpatient and outpatient services and the transfer of the faculty practice to the new integrated not-for-profit. “First Day 2” led to the formation of Stanford Health Services, which began operations on September 1, 1994.

“First Day 3” consisted of the implementation of this fairly ambitious undertaking. It was ambitious because only a reorganization of this kind makes you understand how Byzantine an institution a medical school can be after decades of incremental decision making. As somebody has said: If you want truly to understand something, try to change it.

As the marketplace became ever more of a jungle, we concluded that the crucial issue was the need for greater economies and greater market strength of academic medical centers. At this point, we began discussions with the University of California-San Francisco about merging our clinical activities. This is “First Day 4.” It began in late spring/early summer of 1995. In

parallel, we also negotiated integration of the Lucile Salter Packard Children's Hospital at Stanford, which, until then, was autonomous.

Since the summer of 1996, we have experienced "First Day 5," which covers the planning and go-ahead for the formation of UCSF-Stanford Health Care. A board has been constituted and a CEO, CFO, COO, and a Chief Medical Officer have been chosen.

In September, we approved the transaction, and after November 1, "First Day 6," the implementation phase will follow. I doubt, however, that we will be permitted to rest on these seven days.

Stanford certainly has been willing to restructure and to take risks. Why? Because we are firmly committed to maintaining high-quality academic medicine in spite of the extraordinary exposures that have resulted from the marketplace and in spite of nerve-racking changes in government policies.

In 1959, under the leadership of then-President Wallace Sterling, Stanford relocated its School of Medicine from San Francisco to the university's main campus 40 miles south, where it had built, with the City of Palo Alto, the Palo Alto-Stanford University Hospital.

The move made sense for Stanford. The Santa Clara Valley was beginning to develop as a center of high-tech industries and President Sterling realized that the time was right for Stanford to become a major player in biomedical research. Beginning in the late 1940s, and through the 1950s, Stanford had begun to attract a small nucleus of notable medical researchers to the School of Medicine. By moving the school from San Francisco to the university's main campus, Stanford would be able to take the next step in becoming an active participant in the biomedical revolution. The move created many opportunities for significant collaboration between researchers at the School of Medicine and their counterparts in biology, chemistry, the other basic sciences, and various departments in the School of Engineering. In short, the richness of the physical, financial, and human resources at the main campus were exactly what the School of Medicine needed to transform itself from a respectable clinical institution into a leader in biomedical research.

The effects of the Medical School's relocation to Palo Alto are still felt today. The juxtaposition of Stanford's resources in the computational sciences to our School of Medicine allows researchers on both sides to carry out creative research and educational programs in the biomedical and biomechanical sciences. From collaborations of orthopedic surgery and mechanical engineering to projects combining chip technologies and molecular genetics, the capacity to create interdisciplinary excellences has been phenomenal.

Moreover, the 1959 move enabled the School of Medicine to become integrated with the rest of the university. Over the years, the medical school faculty has increasingly contributed to undergraduate and graduate programs beyond the Medical Center. No longer a distant stepchild, the Medical Center has become an active and contributing member of the greater campus community: The research it conducts, the education it imparts to its students, the clinical services it provides to the surrounding community, and the reputation it has developed

as an esteemed academic medical center have all become intertwined with Stanford's overall identity.

However, while the benefits to the school, university, and community have been significant, the close relationship between the School of Medicine and the rest of the university has resulted in challenges with which Stanford is still struggling today. For example, difficult issues of faculty compensation and tenure confront all universities that have medical schools: The financial demands and institutional structure of medical schools usually result in appointment decisions and a faculty compensation structure that differ from those of the rest of the university. These issues are magnified when a school of medicine is closely integrated into its parent university—as is the case at Stanford, where medical school faculty members consider themselves to be identical, in terms of their status as professors and as members of the Stanford community, to their colleagues throughout the rest of the university.

The Medical School has also made the university vulnerable. Changes in the economics and delivery of health care have left universities such as Stanford in an uncertain and unfamiliar state, struggling to continue the mission of medical research, education, and patient care, while remaining financially afloat.

Academic medical centers can never compete on equal footing with other health care providers because they invest so heavily in a public good that for-profits cannot and will not afford. They are the repositories of the most advanced medical knowledge and treatment available. They quickly transfer lifesaving discoveries from their laboratories to the bedside. They educate and train the nation's future physicians. And institutions such as Stanford are the engines of the biotechnology revolution. Because of these extraordinary efforts, academic medical centers bear costs that competing health care providers escape. Without the support of extra-market funding sources—such as the federal government—academic medical centers cannot continue to invest in that form of human capital Americans otherwise prize so highly: health.

As an Association of American Medical Colleges task force on medical school financing recently reported, medical schools are vulnerable in the current economic environment of managed care, consolidation of providers, and price competition. The increased penetration and consolidation of managed care plans—especially in states like California—have the effect of capping hospital prices and directing patients away from higher-cost teaching hospitals to lower-cost health care providers. Moreover, managed care policies and other purchasers of health care services are extremely price conscious and unwilling to share some responsibility for the added costs associated with teaching and research. As a result, medical school faculty practices and teaching hospitals are now competing with other health care providers on an uneven playing field. As it stands now, Stanford Hospital is unable to cover the full costs on most managed care contracts.

By virtue of its location and position, Stanford has been on the front line in confronting this new health care environment. Managed care and the consolidation of for-profit health plans dominate the San Francisco Bay Area. More than 55 percent of the area's total insured population and 70 percent of the area's commercially insured under-65 population are enrolled in HMOs and preferred-provider plans. The area's Medicare population is increasingly moving

into HMOs as well, with about 35 percent of Medicare beneficiaries now enrolled. Moreover, over the last decade, the California managed care market experienced the conversion of most HMOs from non-profit to for-profit status, as well as the extraordinary consolidation of health plans that has accompanied this conversion. In 1985, fifteen HMOs, most of them non-profit, competed in Northern California. A dozen years later, following many mergers, five giants—four of which are for-profit—dominate the market. Moreover, Stanford finds itself in a local health care economy with a considerable surplus of physicians and hospitals, where competition for “enrolled lives” is fierce. Stanford’s market has more than 25,000 physicians, 80 percent of them specialists. At Stanford itself, specialists make up 96 percent of the medical faculty, a figure that does not bode well in a managed care environment where HMOs operate most efficiently with equal proportions of primary care physicians and specialists.

When I arrived at Stanford, one of the first things I realized was that the existing organization of the Medical Center—made up of disparate, decentralized institutions—was not structured effectively to respond to the fundamental changes taking place in the economics of health care. Thus, as I mentioned at the outset, I created and personally participated in a small task force to examine how the coordination and management of clinical services at Stanford could be improved, in order to respond rapidly and effectively to the changing market. In this effort, as throughout “First Day 2,” Dean David Korn was crucial to its success, as has been his successor, Dean Eugene Bauer, subsequently. Other major contributors were Ken Bloem, Peter Van Etten, and, as a crucial volunteer, Isaac Stein, now a Stanford trustee and chairman of the board of UCSF-Stanford Health Care.

The end result of that examination was the creation of Stanford Health Services in 1994. SHS—a separate corporate entity with its own board of directors and president and CEO—integrated the business and clinical operations of Stanford University Hospital, the Faculty Practice Program that operated Stanford University Clinics, and the affiliated primary care groups. In January 1997, SHS completed an affiliation with the Lucile Salter Packard Children’s Hospital on the Stanford campus.

The creation of SHS was necessary to improve the effectiveness, competitiveness, and economic viability of the clinical enterprise at Stanford. By eliminating the duplication inevitable with multiple service systems, SHS has streamlined operations, cut bureaucracy, and reduced paperwork. By lowering operating expenses, we have been able to lower our costs.

In the last two years, we realized that creating SHS was only the first step in strengthening our position in the changing health care marketplace. Like all universities with medical programs, we faced a number of options. Some academic medical centers have simply eliminated programs. Some are selling out to, or merging with, for-profit community-based delivery systems. Others—most recently George Washington University—are joining with for-profit hospital corporations and crossing their fingers that they will be able to retain their missions of public service. We decided a different response made more sense. Following an encounter (now known as “the walk in the woods”) between then-Chancellor Joseph Martin, of the University of California-San Francisco, and me in the spring of 1995, we began, that summer, discussions with UCSF about merging our clinical activities.

The resulting new, non-profit private corporation, whose CEO is Peter Van Etten, former president of Stanford Health Services, is to unite the hospitals, clinics, and faculty practices at SHS and UCSF. The merger attempts to ensure highest quality teaching, research, and advanced health care in an increasingly competitive marketplace, and it is unprecedented on three levels.

First, it joins not just private and public hospitals, but private and public university medical centers. Although our two institutions have different cultures, we share missions and values, including providing the most advanced care in the world, teaching the doctors who will care for our children, and making lifesaving discoveries. And merged, our two institutions can pursue those goals more cost-effectively, through economies of scale and elimination of duplication—including de-escalating the equipment race, in which institutions are compelled to match their competitors MRI for MRI.

Second, the level of quality presented by the combination of UCSF and Stanford is, to use a term popular with today's students, "awesome." As a third-party review commissioned by the Regents of the University of California made clear, we will be more than the sum of our parts, going from leadership in six specialties each to leadership in twenty with our combined strengths. I am especially pleased about what this merger will do for the pediatric programs at Stanford and UCSF and the established excellence at Packard Children's Hospital. The combined program is expected to be the West Coast leader in specialty services for children.

And last, but by no means least, this partnership offers long-term potential, not just for outstanding patient care, but for joint projects between two leading medical schools. With closer coordination and cooperation in teaching, training, and research, we can strengthen even further our ability to move new medical treatments from the laboratory bench to the bedside. This translation of basic science discoveries into effective treatments thrives where the activities are side by side, in an academic medical setting.

Of course, nothing as complex and significant as the merging of two major academic medical centers is accomplished without serious difficulties along the road. Indeed, I have not been involved in anything more difficult in my professional life. The substantive issues that needed to be resolved were exceptionally complex. The two universities are very differently organized and, at times, interactions became quite strained. Furthermore, state politics made itself felt and menaced to thwart the undertaking.

The main political issue concerned the private nature of the merged corporation. Various developments threatened to bring us under legal regimes designed to hold government bodies accountable. Almost all participants in the negotiations were in essential agreement that, in order to survive in the extremely competitive existing health care environment, the merged entity needs to be private. I had emphasized this point from the outset and made it clear that, rather than enter into an arrangement that would be considered a "state government agency" or a quasi-state agency, Stanford would end negotiations and remain separate.

In meeting the perceived need for special public accountability due to the contribution of public assets by the University of California, Stanford has made substantial concessions while the

parties have nevertheless succeeded in achieving private, non-profit corporation status for the new entity, or so it seems, as I write.

The two universities owe much gratitude to their faculties and staff for working imaginatively and in the spirit of cooperation to address our present dilemmas. On the faculties, in particular, many will have had and, indeed, will continue to have doubts about so radical and risky a step. Contrary to the frequently repeated cliché about risk-averse academics, the faculties eventually accepted the leadership provided especially by their deans, Dr. Bauer at Stanford and Dr. Haile Debas at UCSF.

Many American universities are conscientiously attempting to change the status quo in academic medicine and respond imaginatively, even daringly, to the challenges that have come our way. Indeed, what could be more daring than the cooperation of two universities—one private, the other public—that until yesterday thought of themselves mostly as competitors? We are truly seizing the present as made up of first days.

The size of the academic medicine establishment in the United States was not determined by natural law. The cutbacks we are facing do not interfere with God-given rights. However, it is also true that the United States' investment in the human capital represented by medical research and education has produced an extraordinary rate of return for health and the quality of life, not to mention the economy, in the United States and the entire world. It has taken decades to build up; it would take only a few years to tear down. As no less than the survival of entire institutions is at stake, it would be welcome if government were a more reliable partner than it often turns out to be.

6 ATHLETICS

I must admit to some surprise earlier this year at finding myself president of what *Sports Illustrated* declared to be the No. 3 Jock School in America. I still am not sure whether the surprise came from Stanford's being called a "Jock School," its not being No. 1, or my being its president. Be that as it may. While my exposure to and relationship with Stanford athletics has grown considerably since it began with women's basketball at Maples Pavilion on March 21, 1992, I certainly can claim no role in the successes of our program during the last five years. I cannot even keep up with thirty-three Division I varsity sports, let alone intramural activities.

At the 1996 Olympic Games in Atlanta, there were forty-nine Stanford-affiliated coaches and athletes, including the head coaches of three United States teams, and Stanford-related athletes accounted for sixteen gold medals, one silver, and one bronze. At the intercollegiate level, the record is equally remarkable. Stanford has won the Sears Directors Cup, which honors the all-around champion in NCAA Division I sports, the last three years.

Last year, our women's and men's cross country teams, our women's and men's volleyball teams, and our women's and men's tennis teams all won NCAA championships. That is evidence of Stanford's Title IX commitment—we allow men access to athletic success equal to that of

women. (Cardinal women have won an NCAA-best twenty-two team championships.) It also was the first time in history that a single school won six NCAA titles. That gave Stanford a total of twenty-one NCAA team titles in the last five years: four, four, five, two, and last year's six. Individual Stanford athletes won twenty-one NCAA titles in 1992–93, the second-most in a single year by any school in history. The only higher mark? It was twenty-nine, won the year before by...Stanford.

One of the challenges at Stanford is striking the proper balance between athletic and academic excellence. Indeed, I think one of the threats to universities is that pursuit of glory on the athletic field can intolerably add to the pressures in the classroom. Stanford is not immune to this and must remain ever vigilant. I am also gravely concerned about the ever increasing commercialization of college athletics that is due to funding pressures and the desire not to divert university funds from academic programs.

The balance is delicate, though it seems to me that we have still got it just about right. Each quarter, more than one hundred of our varsity athletes achieve a GPA of 3.5 or higher. When one considers the commitment of time and effort these athletes make, that is truly remarkable. The most impressive thing about our student athletes is not that they are talented or that they are intelligent; both are necessary, but not sufficient, to excel at Stanford. The most impressive thing is their discipline, their perseverance, their organization, their teamwork.

7 ALUMNI RELATIONS

Since its founding in 1892 by Stanford's first graduates, the Stanford Alumni Association has been an independent organization, governed by its own board. The association's bylaws declare that it was formed to "promote the interests of Stanford University and to establish and maintain a mutually beneficial relationship between the university and its alumni."

We all can agree on the worthiness of those purposes. Less clear is how they have been pursued. As independence was raised from a fact to a value, and as financing new services and programs became ever more central, the Association's *raison d'être*—"to promote the interests of Stanford University"—sometimes seemed eclipsed. And perhaps because it had a strong surrogate doing the job, the university itself sometimes neglected its own duty to "establish and maintain a mutually beneficial relationship between the university and its alumni."

As a result, the primary relationship of many alumni has been with SAA, not Stanford. To some, paying Alumni Association dues or taking part in SAA programs fulfilled their obligation to Stanford. At times, *Stanford Magazine* kept a cool distance from the university, seemingly to avoid being accused of "promoting the interests of Stanford University." Too often, the university gave little thought to alumni relations.

As a newcomer, I was struck by all of this, and how it seemed outside both the norm and the desirable. Fortunately, people from all three parts of the equation—university, SAA, and alumni—shared those concerns and have worked hard to strengthen ties between alumni and the university in manifold ways.

Among these has been the 1993 introduction of Reunion Homecoming Weekend. This five-year experiment, a partnership between the Alumni Association and the Office of Development, sought to replicate some of the most successful aspects of the Centennial Finale Weekend. Alumni are offered multiple ways to reconnect with Stanford, from Classes Without Quizzes, to panel discussions on current issues, to a Cardinal football game, to class reunions. In its first year, the new program increased attendance 70 percent over the previous year's reunion. And the class-based nature of the weekend has become a model for alumni relations and development. We most assuredly can remove the "experiment" label from this effort.

While attracting graduates back to the Farm is by far the best way of maintaining the university-alumni relationship, not all are able to make the trip, even every five years. So, we have expended great effort in taking the Farm to alumni. In my five years as president, I have visited alumni in cities all around the Bay Area and the Monterey Peninsula, at Sierra Camp and in Sacramento, Santa Barbara, Los Angeles, Pasadena, Orange County, San Diego, Seattle, Portland, Salt Lake City, Denver, Phoenix, Dallas-Ft. Worth, Houston, Chicago, Minneapolis, the District of Columbia, New York, Boston, Paris, Frankfurt, Tokyo, Hong Kong, Taipei, Seoul, and Singapore. More trips are on my calendar, and, of course, many other deans, faculty members, and senior staff also have traveled to interact with alumni in their home regions, on Travel Study programs, and elsewhere.

While face-to-face contact around the country is the second-best way to maintain a good relationship, even that cannot begin to cover all the far-flung Stanford alumni. Thus, other methods, such as electronic communications and publications, are important in keeping alumni informed and involved. Both the university and SAA have developed extensive sites on the World Wide Web, putting at the fingertips of wired alumni around the world everything from academic departments to news in *Stanford Report* to a photo tour of campus. A grant from my office helped SAA to launch the Stanford On-Line Alumni Resource (SOLAR), complete with an alumni locator function, career networking contacts, and information about upcoming programs and lectures.

In the publications realm, the university and the Alumni Association have completed more than a year of a joint-venture magazine. Approved by the Alumni Association Board and the university in May 1995, after thorough examination and collaboration, that project grew out of two aspects of the same concern—that Stanford was missing opportunities to communicate the most important things about the university to alumni.

The first of those two aspects was my feeling that *Stanford Magazine*, while an attractive publication, did not use its scarce four issues per year—especially its covers—to get across optimally Stanford's core priorities and issues. Too often, I felt, covers and text were spent on peripheral issues, such as World Cup soccer, rather than on teaching, learning, and research.

The second aspect was the general agreement that the university's *Stanford Observer* was tired in look and content. Recycling articles from *Stanford Report*, its stories too seldom provided the off-campus audience with sufficient background, context, and signals about relative importance. And its format—tabloid layout on quickly yellowing newsprint—suggested to recipients that its contents were disposable, neither urgent nor lasting. Douglas Foster, then-News Service

director and a former editor of *Mother Jones* magazine, proposed and developed a prototype replacement that resembled *The New York Times* Sunday magazine in format and approach.

That, however, led to the question, “Is any purpose served by having two different publications for alumni?” A working group involving leaders of the Alumni Association, University Communications, and the faculty came to the unanimous conclusion that the answer was no. Instead, the two publications joined forces to produce a single magazine six times a year, rather than two incomplete publications four times a year each. One critic called the joint venture “a clear attempt to extend central control over the university’s external communications.” Though neither the intent nor the result, that could be considered sin perhaps only by Cotton Mather.

While it has not avoided all the shortcomings of its predecessors (among them, allowing deadlines to keep David Packard off the cover upon his death), the new magazine has shown continual improvement over its nine issues. The two partners have displayed the consultation and cooperation necessary to make the venture a success and, in fact, are working on further refinements, including a more seamless integration of the sections.

Further forays across the Santa Teresa Street border between Bowman Alumni House and the central campus have followed. The Board of Trustees and the Association worked hard to design a new method for the selection of alumni trustees. The Board of Trustees, noting the greater ethnic diversity of Stanford students in recent decades, also raised the question of whether the relationship between Stanford and its growing population of minority alumni might need new or different attention.

The Trustee Task Force on Minority Alumni Relations, chaired by Trustee Charles Ogletree and including representation from trustees, alumni, and staff, spent two years exploring the issue. Research included assembling the first demographic profile of the university’s minority alumni; compiling an inventory of existing minority organizations and initiatives; and conducting a nationwide survey of minority alumni regarding their attitudes toward Stanford. Professor Ogletree, Alumni Relations Director Carolyn Manning, then-Associate Vice President for Development Stephen Peeps, and other task force members met with more than three hundred minority alumni in open caucuses in ten cities—which proved to be not only a means to richer qualitative data but also an end in itself. As one Los Angeles participant said, “The meeting tonight was the most connected I’ve felt in the 10 years since I graduated.”

The results of that work were in many ways reassuring. Minority alumni were very similar to all alumni in that they were overwhelmingly satisfied with their undergraduate experience at Stanford, took pride in their Stanford degrees, and felt they got a better value at Stanford than they would have elsewhere. But the Task Force also found the need to do better—in improving access to participation by alumni; in addressing the student experience, which obviously has a major effect on the alumni relationship; in improving two-way communication; and in developing structures for follow-up. The highest recommendation of the Task Force was creation of a university office to involve alumni volunteers in productive ways with the university.

This and other recommendations prompted and resonated with ideas about alumni relations as a whole. Should there not be a better way to use alumni volunteers and talents? Should not the university take a more direct role in the relationship with alumni? Should we not rethink from first principles how alumni relations should be conducted at Stanford?

Warren Lyons, chairman of the SAA Board, and I agreed that we should. And with so much groundwork already laid, we decided on an unconventional approach for a university. Rather than convene another large committee, we asked Trustee Roger Clay, SAA President Bill Stone, and Stephen Peeps to meet intensively and draw up a blueprint: Unconstrained by current structures, funding, or tradition, how should Stanford go about alumni relations?

Their first draft has led to continuing discussions by the Board of Trustees and the SAA Board. And while it is still too early to predict the outcome, clearly Stanford's alumni relations will be the better for that effort, and for all the work that preceded it.

8 ADMINISTRATIVE AND POLICY CONCERNS

There is no way I can at-tempt to cover a whole range of other activities we have pursued at Stanford over the last five years. They include the simplification of the university's administrative structure at the very beginning of my tenure (the first \$1 million saved were added to the budget of the library to which we had also restored the position of university librarian); major investments in new information systems; intensive reviews of business practices, such as in facilities project management and sponsored projects administration. Changes also include the reorganization of the legal office under General Counsel Michael Roster and innovative approaches to outsourcing much of our legal work. An Office of Campus Relations was created under Sally Dickson to comprise formerly freestanding units such as the ombudsperson and the coordinator concerned with responses to sexual harassment.

The top administrative layer of the university now consists only of the president, the provost, the chief financial officer (who doubles as vice president for business affairs), the vice president for development, and the general counsel.

The Cabinet—which is chaired by the president and consists of the academic deans and the directors of the Hoover Institution and the Stanford Linear Accelerator Center—continues as the administrative body that provides counsel and review on principles, policies, and rules of university-wide significance. Some of those matters, of course, come also before the Senate of the Academic Council.

A decentralized organization, such as a university, unfortunately needs a fair number of administrative groups, committees, councils. We are making do with a substantially smaller number than were around in 1992, and all senior officers are trying hard to control their proliferation and to keep them small and efficient. I have found that the give and take I like among senior staff and officers occurs more easily if the group is relatively small and consultations can be kept very informal.

With the exception of John Ford, the vice president for development, all senior officers assumed their responsibilities over the last five years. Condoleezza Rice, professor of Political Science, became provost in 1993, succeeding Gerry Lieberman, who had been my main support and mentor during my first year. Mariann Byerwalter, who came from the banking world and whom I had gotten to know when she served as an alumni trustee, in 1996 filled the vacancy (with considerable added responsibilities) created by Peter Van Etten's appointment as president of Stanford Health Services. Geoffrey Cox, vice provost and dean for institutional planning, served ably as acting CFO during a long interim that was necessitated by the transition arrangements concerning SHS. Michael Roster joined us as general counsel from a major Los Angeles law firm in 1993. Barbara Butterfield, who had come to Stanford in 1991 and was vice president for faculty and staff services was a strong contributor to Stanford's work in the area of faculty and staff services and benefits. With her departure, I consolidated human resources responsibilities under the CFO.

The Cabinet also is made up of relatively new leaders. The exceptions are Paul Brest, dean of the Law School; Michael Spence, dean of the Graduate School of Business; John Raisian, director of the Hoover Institution; and Burt Richter, director of the Stanford Linear Accelerator Center. New deans have taken office over the last few years in the School of Humanities and Sciences, John Shoven; School of Medicine, Eugene Bauer; School of Education, Richard Shavelson; School of Earth Sciences, Lynn Orr; and School of Engineering, John Hennessy. Professor Charles Kruger was appointed vice provost and dean of research and graduate policy. Professor Jim Gibbons, our former dean of Engineering, accepted an appointment to a position I created as special counsel to the president for industry relations—a role in which he has now been joined on the biomedical front by Edward Holmes, senior associate dean for research at the Medical School.

Over the last five years we have developed, inter alia, a sexual harassment policy, a new faculty conflict-of-interest policy, a new early retirement policy for the faculty, a policy extending staff benefits to domestic partners of gay employees, and we have changed the staff retirement program from defined benefits to defined contributions.

I convened the so-called Committee of Fifteen to review the charter that governs the student disciplinary process. I had come to the conclusion that the existing system was too bureaucratic and, in practice, had too little student input. Under the forceful and diplomatic leadership of Professor Mark Zoback, the Committee of Fifteen made recommendations for radical changes that have since been adopted by the Associated Students of Stanford University, the Senate of the Academic Council, and me. They will take effect during the 1998 winter quarter. The provost appointed a task force on student housing, under Ramón Saldívar, vice provost and dean of undergraduate education. The task force has completed its report.

Stanford and all its people continue to work hard, very hard, to maintain and achieve as many excellences as are at all possible in these times. The work is teamwork—teamwork by an extraordinary team—to whom we all, but foremost I, are deeply indebted.

As I said at the beginning, a university is a “visionary institution” that depends on and succeeds with the active engagement of faculty, students, trustees, staff at all levels, alumni, and local,

national, and worldwide friends. I have been bemused by the way some of our workers are referred to as “support staff.” At a university, *all of us* are support staff—secretary or president, lab technician or provost, groundskeeper or dean—because all of us are here for only one reason: to support faculty and students in their vision and to support the university’s core mission of teaching, learning, and research.

Lou Henry Hoover HouseStanfordAugust 31, 1997