The Creation of the Future
Every institution needs a focus; no institution can prosper if it neglects its core business. Industry has lately recognized this, and the benefits have been dramatic: well-designed products, on-time delivery, zero defects, a motivated workforce, satisfied customers, economic competitiveness, and financial benefits for employees, shareholders, communities, and society at large. A university is not a business; not a factory or a mint, as John Henry Newman once wrote, “but an alma mater, knowing her children one by one.” But the need for focus, for concentration on the core activity — whether manufacturing refrigerators, curing disease, or nurturing children — is the same, whatever the institution. Distraction of attention reduces effectiveness, and dilution of effort, sooner or later, produces decline.

What, then, is the core business of the modern research university that is engaged in multiple tasks — the education of undergraduates, the training of graduate and professional students, the pursuit of original scholarship and research, and service to communities, government, business, and society at large? I believe the university’s core business is learning, and the most basic tasks and needs are important and require emphasis, is learning, and the most fundamental aspect of that learning is the education of undergraduates. But to make that unambiguous statement at a faculty meeting is to be aware of a growing restlessness — a subtle unease, an exchange of knowing glances, a preparation for dissent. It is not outright disagreement, but respectful (mostly) qualification, carefully phrased alternative wordings. And those qualifications I understand and respect. But I am unmoved: the core business of the university, while other tasks and needs are important and require emphasis, is learning, and the most fundamental aspect of that learning is the education of undergraduates.

Universities were invented because of the need for students to be taught. Without students, they would not be universities — institutes, academies, research centers perhaps, but not universities. Undergraduate education occupies more time, involves more people, consumes more resources, requires more facilities, and generates more revenue than any other activity. Almost everything else universities do depends on it. Other vital functions — graduate education and research, for example — are supported, in part, by it. Undergraduate education also has a huge impact upon society. It supplies the future generations of research specialists and professionals, and it replenishes the supply of teachers. It is in undergraduate teaching that many of the best aspects of our culture are transmitted. It is here we educate the nation’s voters and leaders who will determine the future well-being of society in general and of the universities in particular. Here many of the future leaders of other nations are taught. Here the greater part of the public encounters the university. Here the harshest criticism is concentrated. And it is here, above all, that universities must examine their efforts. It is here, in other words, that universities must ask — as former New York mayor Ed Koch once did — “How are we doing?”

My own experience, as student, professor, dean, provost, and president, now extends over fifty years in five different universities. Based on that experience, prolonged involvement with the major national educational associations, and countless conversations with students, faculty, parents, trustees, critics, and champions over the years, I would give America’s universities a collective B, maybe even a B+, or perhaps, in that fine-tuned English style, a B+-. (That’s better, incidentally, than a B++. And a lot better than a B++. But a respectable passing grade will not do for institutions that demand excellence in their students, in their scholarship, and in their professional services. A B-level surgeon in a medical school will soon see patients migrating elsewhere. A B-level application by a university scientist for federal research support has no prospect of success. A B-level manuscript is unlikely to find a reputable publisher. “B” means good; it does not mean excellent.

Curriculum as Potpourri

So why a B and not an A? One profoundly important reason is the lack of an effective curriculum. The curriculum, the compilation of courses offered by a university, means, literally, a running track. It is the path or route by which faculty and students jointly achieve their educational goals.

Today’s students encounter the curriculum in the form of a course catalog that may be almost two-inches thick and offer a choice of two-, three-, or
even four-thousand courses. It offers enormous — even daunting — freedom of choice but precious little guidance to the individual student, who is more or less left alone in designing a meaningful path through the maze of undergraduate studies and courses. Students come to the campus, one supposes, seeking education and understanding. They are offered hundreds and thousands of courses. What they are rarely offered is any overarching, meaningful statement of educational goals and intellectual purpose within a larger coherent framework. I would almost advocate a printed statement in every college catalog that declares, "Courses without goals may be hazardous to your health."

There is another danger in the thoughtless expansion of the curriculum. It suggests to the student that informed and discriminating choice is unimportant; that one thing is as good as another; that there is no hierarchy of importance or value. But success in any venture requires concentration and demands some limitation. Proliferation of effort produces dilution of effect; lack of selectivity invites distraction. Uncritical accumulation of information provides, not enlargement of understanding, but clever ignorance. A smattering of this and a touch of that are the marks of the dilettante. The "wisdom of the heart," as Santayana has called it, comes from reflection in depth.

That universities have a problem in this area has been widely recognized. In recent years, for example, the curriculum has been called "distressingly faddish, a quixotic mishmash of courses"; "a cafeteria with little indication of which are the entrees and which the desserts"; and "Dante's definition of hell, where nothing connects with nothing." The predicament reflects the disconcerting fact that at the beginning of the twenty-first century, society's agreement about what defines an educated person — about what should constitute the blueprint of essential knowledge and common discourse — has essentially collapsed. Should all students share a common body of knowledge, skills, and values? If so, what should it be? How should universities best prepare graduates for a future in which the average American will change jobs, and even careers, six times; where specialized knowledge has a half-life as short as five years; where societal and ethical questions are deeply entwined with technical ones; and where relentless self-learning over a lifetime is a prerequisite for professional and personal success? All these important matters remain open questions.

Universities, meanwhile, are too busy with courses — thousands of them — to have much time for such broad educational issues. Yet universities are assumed by a trusting public to embody some significant educational values of their own. Most universities do have such values, though they tend to be implicit rather than explicit, but they are rarely reflected adequately in the curriculum.

Indeed, perhaps the only common educational principle that the typical curriculum reflects is the value of student choice within a broad distribution of fields, and competence within one chosen area. The problem with this principle is that, in practice, the prevailing fashion of distribution and concentration requirements can easily lead to a smattering of this and a glancing acquaintance with that. How useful is it, we might ask, to require a selection from 150 courses in the humanities to satisfy some vague distribution requirement? How useful is a course based on a PBS television series, or attendance at half a dozen foreign movies, in exposing students to the overarching issues once raised in the humanities? Even the new so-called core curriculum adopted by many institutions is not really a core curriculum at all, but a potpourri of student-selected courses having little in common.

This frantic proliferation of courses occurs in virtual isolation, for the American university is now organized in a way that effectively minimizes meaningful conversation with those outside the academic fold and even with those outside the comfortable insularity of the department. Each department is an island continent, each course a self-governing entity, rarely having any relationship or connection other than geographic proximity to its neighbors. The educational cost of this separation is great. For the faculty, it represents an intellectual loss of enriching perspective and of clarifying external challenge; nonsense disguised by the language of academic mumbo jumbo is less likely to be challenged when it is shared only within the comfortable confines of the converted.

But there is also an educational loss to the student, for the arrangement of the curriculum increasingly fails to reflect the way in which scholarship is pursued. What has not been captured within the old wineskins of the departmentally based, course-by-course curriculum are not only the overarching questions of life but also the exciting, full-bodied new wine of interdisciplinary research partnerships that already exist in many areas.

There is also a serious financial cost in the present curricular fashion. It involves significant duplication, as well as substantial division of the student body into small, specialized classes, and growing isolation of the professor from his or her colleagues. How much gain there would be from some modest coordination, combination, and cooperation between related courses, with their teachers and students interacting, comparing notes, and clarifying and challenging their various suppositions!

The challenge, of course, is how to encourage this creative dialogue. It is
Recent critics of undergraduate education have shared several general concerns: the lack of a coherent educational philosophy or curriculum, the lack of attention to undergraduates, the imposition of political correctness, and the triviality of much contemporary scholarship. While the complaints are frequently anecdotal, it would be perverse to deny — as some of the universities' defenders have — that there is cause for concern in these areas. Not the least disappointing aspect of these criticisms has been the intertemperateness with which they are voiced, sometimes matched by the vituperativeness of the response. In both criticism and response, there is a frequent absence of recognition of the extraordinary variety of educational institutions, the growing diversity of their membership, and the fact that from the time of ancient Greece the development of the curriculum has involved a measure of contention. Indeed, the very nature of the university involves an inherent tension between the tasks of the conservation of learning, on the one hand, and its transmission and its transformation; between tradition and novelty.

It is mistaken to demand that we choose between these tensions as either-or, true-or-false dichotomies. The university thrives to the extent that it embraces the tension and holds each element as a creative opportunity. Even in the most recently publicized tension — between those who regard knowledge as a cultural construct and social commodity and those who regard it as the exploration of an independent reality — there is an element of complementarity in the two views.

But if the literature of complaint has been extravagant, the scholarly literature on the subject of the undergraduate curriculum has contributed little of practical value to the debate. Exquisitely footnoted but excessively cautious, exhaustingly inclusive but elegantly inconclusive, it seems to confirm the very lack of imaginative engagement of which its critics complain. It is learned but lifeless, knowledgeable but superficial, analytical but arid.

But while these controversies could lead us to think that something has only now gone terribly wrong with the curriculum, in fact controversies about what students should study have always existed, as the nature of society and its expectations of education have changed.

Over the last half of the twentieth century, the curriculum was intensely influenced by growing diversification, specialization, and professionalization, as we have discussed in previous chapters. The material aspects of our culture have come to dominate the philosophical, ethical, and aesthetic ones, and students have tended to specialize in practical fields that would further their professional lives, rather than pursue studies that would provide a broad education. Perhaps undergraduate education lacks a coherent theme because our age lacks any coherent, unifying worldview. Unlike earlier centuries, our own time is marked by a host of competing worldviews, including several that maintain that any such view is meaningless. But to shelter behind that fact as an excuse for inaction would be an abdication of responsibility on the part of the professoriate. After all, those who earn their living by charging undergraduates a substantial price for four years of intensive instruction must surely be able to offer some coherent account of their educational purposes and instructional goals.

Recent Reform Efforts

Among those concerned about the state of the curriculum in the late twentieth century, university leaders were the first to call for changes. Harvard College spearheaded curriculum reform in the late 1970s, for example, by restoring structure through newly required general education courses; many other colleges and universities soon followed suit.

Then in the 1980s, the late Allan Bloom, author of The Closing of the American Mind, and former U.S. secretary of education William Bennett made the debate a more public one, voicing charges that the curriculum had become incoherent. Employers also expressed concern about the decline in liberal arts education. CBS, for example, donated $750,000 in 1985 to the Corporate Council on the Liberal Arts to sponsor research exploring the influence of liberal arts education.

In the same year, three major reports on the curriculum were issued by a committee of the Association of American Colleges, by the National Institute
proclaim and, short of creating a regulated, monolithic system of higher education—a real system—it seems unlikely to be more widely adopted. In the free market of educational approaches, where professors by their selection of material and students by their choice of course and of institution each have a hand in shaping the curriculum, it has gradually languished, not because it was not useful, but because it has proved insufficient as an exclusive pattern. To blame this change on some scholarly lapse or moral deficiency on the part of the faculty is grossly to oversimplify the complex processes by which the curriculum gradually develops.

Any curriculum that omits serious consideration of the heritage of Western civilization is likely to be impoverished, but that consideration will be meaningful only to the extent that it is freely selected, thoughtfully designed, and creatively linked to every other aspect of the curriculum. To argue for its uniform imposition is to invite ineffectiveness. I would be reluctant to translate any educational goal—as some critics do—into a single requirement or uniform model. Its expression must always be the product of local institutional expertise and purpose, of local debate and local design. To hanker for more uniformity than that seems to me to invite not breadth but narrowness of outlook, not freedom of learning but imposition of orthodoxy.

In my judgment, those who urge the inclusion of more courses on Western civilization have strong arguments on their side. But so do those who advocate more skill in foreign languages, and those who urge the importance of international studies. After all, we live in an increasingly interdependent world. And so do those who, in an increasingly technological society, stress the need for more attention to quantitative reasoning and increased scientific understanding. And so do those who demand greater writing skills or more awareness of other cultures, ethical understanding, environmental awareness, or economic insight. Who could argue that each of these would be beneficial? And that is precisely the difficulty that confronts the faculty of any university or college. How do you reconcile so many competing demands, all of them praiseworthy, with the limited time that each student has? It is not only Pogo who was confronted by "insurmountable opportunities."

The Obstacles to Reform

There have been three major obstacles to curriculum reform during the past decade. First, as some proposed a return to a core curriculum, others debated the content of the core, arguing that it was biased to presume that the history
of Western civilization reflected the history of all Americans. They called for more diversification through a multicultural curriculum.

The second obstacle was student demand. With more students seeing college as the pathway to a job, there has been a tendency to enroll in narrow vocational majors that will translate into a job instead of pursuing the more general liberal arts degree. For example, students graduating with a baccalaureate degree in arts and sciences plummeted from 47 percent of all B.A. degrees in 1968 to 26 percent of all B.A. degrees in 1986.

Third, reform efforts have been slowed by the fragmentation of the university community. Lacking a commitment to common educational goals, faculty members have added courses that reflect their own, increasingly specialized, interests, while students stagger under the burden of thick course catalogs and the requirement to pick one of this and two of that, with precious little guidance about setting priorities.

The rapid spread in most universities, including my own, of freestanding programs, centers, and even departments devoted to specialized studies, as well as a host of cultural issues ranging from poverty, peace, and urban issues to race, ethnicity, gender, and sexual preference, has also tended to compartmentalize knowledge. These latter fronts, for example, are one of the most rapidly growing fields of scholarship in the humanities, as a glance at the catalog of any university or scholarly press will emphasize; books devoted to these “cultural studies” now substantially outnumber new books on conventional literary studies. Each of these cultural studies will have its own concentration or major, its own participating faculty, its own advocates and adherents, so that what was once a unified field of literary or historical study will now be divided and subdivided into specialist groups, often sharing few common interests and concerns. There is no easy remedy for this fragmentation of what were once unified fields of inquiry. It is, perhaps, no more realistic to expect such studies to be integrated into a single department of English or history than it is to expect all the sciences to be reunited in a single department of natural philosophy. But it is reasonable to expect the university to value and encourage discourse across the boundaries of all these studies.

Failure to promote that discourse reduces the very benefits the university community was established to provide — benefits based on the conviction that knowledge itself is best pursued and tested in a community of discourse and that for all our differences we share a common humanity. It is not our diversity that makes us human; it is our common membership in a single species. Our most basic qualities, our most fundamental characteristics, derive, not from our racial, ethnic, or sexual differences, but from our common ancestry. Certainly, we should cherish the richness and celebrate the variety of cultures, but to promote the primacy of differences at the expense of human unity is to diminish, rather than to enlarge, the very qualities that make us human. The function of education is to develop humanity in all the richness of its various capacities and in all the fullness of its many expressions. Our differences are a part of that richness, but they are not its source; they are a part of that fullness, but they are not its sum. It is not our differences but the great commonalities that underlie them that we properly call human nature.

The public often seems to recognize this inclusiveness more readily than does the campus and to express more interest in its educational implications than does the faculty. That is why there is little public patience for the academic rigidities and intellectual compartmentalization of the university.

Indeed, little has changed in the century that has passed since Horace Mann declared that to disperse an angry mob, all that would be necessary would be to announce a lecture on education. Every dean knows that the way to guarantee the absence of a quorum in a faculty meeting is to announce that there is to be a discussion of the curriculum. All that is needed to convert the convivial atmosphere of the faculty common room to a chill, uneasy silence is to suggest the need for a major curriculum review. Nothing so unnerves the most dedicated professor as the prospect of a debate on the curriculum. Eyes glaze over; tempers shorten; people of generosity and goodwill become intolerant, and those of sound judgment and thoughtful balance become rigid, hard-line advocates. Changing the curriculum, it has been said, is like moving a graveyard; it is a solemn undertaking. It is not that it never changes, but that it never shrinks; it always grows.

To develop a new curriculum one has to agree on a few essentials: What qualities does one seek to nurture? Which knowledge is most important? Which skills are most essential? And the moment those fundamental issues are confronted, narrow scholarly competence can no longer shield faculty members or limit the terms of the debate. They are face to face with fundamental issues, ones to which they are required to respond, not only as seasoned professionals but as human beings, their nakedness no longer covered by the protective armor of their disciplinary expertise.

But faculties must tackle this question, like it or not, for unless they can agree on meaningful educational goals, universities can never fully succeed. The trouble with having no goals, it has been said, is that you may achieve them.
Recapturing the Curriculum

So what should the universities do? Simply stated, faculty members must recapture the curriculum. They must collectively determine a list of educational objectives and then design an effective way to achieve them. That is easier said than done. It will require critical rethinking, rather than fine-tuning. With few exceptions, the faculty is more devoted to input than output. "It is like a black hole," legal scholar Jack Barcelo has remarked. "A tremendous amount of matter and energy goes into it but nothing ever comes out."

Faculty members shy away from establishing priorities. They have been reluctant to suggest that subject X is more valuable or significant than subject Y in undergraduate education. The end result is that they have replaced requirements by electives, have substituted excessive numbers of undergraduate courses for any critical assessment of their relative merits. Don't misunderstand me: I believe student choice is an essential part of a successful undergraduate experience. But student choice, unguided and uninformed, through a course catalog over one inch thick can be both frustrating and unproductive.

If university faculties are to recapture the undergraduate curriculum, it will mean facing again the difficult and divisive questions about goals, priorities, and requirements. Trustees, presidents, provosts, deans, and all the rest neither can nor should prescribe the curriculum. That is the role of the faculty, but the university's leaders must encourage and facilitate the debate. They should be ready to describe, though not impose, their own preferences, as I have done in this chapter. But the goal should be clear: to equip graduates for both employment and life as motivated self-starters, with a thirst for understanding and the discipline and skills to satisfy it.

There is no one-size-fits-all model curriculum available for all institutions. A successful curriculum, like a successful life, is strictly a do-it-yourself job. It needs local agreement; it depends on local resources; it is conducted by local faculty members; and it benefits local students. It cannot be exported; it cannot be imported. It has to be a homegrown product. Models may exist elsewhere; consultants may give advice; campus presidents may exhort; students may demand. But in the end, the curriculum is the responsibility of the local faculty.

And this responsibility should not be a burden. The greatest privilege a faculty member can have is to design and support a curriculum. All the riches of human experience are there. All the teeming problems and the noisy issues of our society are there. All our capacity and all our hopes for the well-being of our planet and our people rest there. How can the faculty shirk the challenge and the opportunity this presents?

Toward an Identification of the Qualities of an Educated Person

I believe in the need for local institutional design of the curriculum, but I also believe it is useful to discuss objectives, because if universities can reach agreement on these, the most difficult and divisive part of the discussion is over. The curriculum then will almost take care of itself, because many of the remaining issues are operational rather than philosophical, pedagogical but not metaphysical.

The best way I know to do this is by considering, not what courses universities should require, but what qualities universities should seek to nurture in their students.

I believe an undergraduate education should provide an introduction to general knowledge, some critical capacity and disciplined curiosity, and some specialized skills. Its purpose is to develop a person of judgment, discernment, commitment, and balance, with some chosen professional competence. The graduate will not only be well-informed; he or she will be knowledgeable, having a sense of the relatedness of one area to another, prepared, as John Henry Newman wrote a century and a quarter ago, "to fill any post with credit, and to master any subject with facility." Of course, Newman may have remembered his Oxford days with more affection than realism, but his hopes for a liberal education still inspire — and challenge. A liberal education should include "the great outlines of knowledge, the principles on which it rests, the scale of its parts, its light and its shades, its great points and its little, so that it produces an inward endowment, a habit of mind of which the attributes are freedom, equitableness, calmness, moderation, and wisdom."

That lofty Victorian aspiration, commendable as it is, is enough to produce either cynicism or despair in our own day. So let me be more specific. I believe there are seven qualities essential to the development of an educated person. Others would certainly express them differently, but I think most people who send their children to college, or who hire new graduates or admit them to professional or graduate school, would probably settle for a list that looked something like the following:
1. an openness to others, with the ability to listen, read, observe, and analyze with comprehension and to speak and write with clarity and precision;
2. a sense of self-confidence and curiosity, with the skills to satisfy both;
3. a sense of proportion and context in the worlds of nature and society;
4. a capacity for delight in the richness and variety of human experience and expression;
5. a degree of intellectual mastery and passion in one chosen area, with an awareness of its assumptions, substance, modes of thought, and relationships;
6. a commitment to responsible citizenship, including respect for and ability to get along with others; and
7. a sense of direction, with the self-discipline, personal values, and moral conviction needed to pursue it.

Before discussing each of these qualities — and providing illustrations of how they apply today — let me respond to three possible concerns with this list.

First, some will argue that, even if less pious than Newman, it sounds rather like a list of virtues from a nineteenth-century tract. Perhaps it does. But does that make these any less significant qualities, especially given their shortage in today's society? Are they not, after all, the qualities a civilized society must nurture? If the alternative is thought to be other values, what are they? If the alternative is thought to be no agreement on values, what purpose is education assumed to serve?

Second, it will be claimed, these qualities are the fruits of a lifetime rather than of four years. So they are. It is true that universities are not charged with certifying fully mature characters at age twenty-two. But they can establish a climate in which these qualities will be nurtured, by providing not a set of prescribed courses or a list of academic requirements but day-by-day contacts, the give-and-take of campus life, high expectations, richness of experience, a wealth of example, and the vigor, enthusiasm, and curiosity that abound in the campus community. For these intangible qualities are contagious; they shape and influence the growth and development of the undergraduate and, through individuals, are carried out into the larger society. That is why the debate on the curriculum is a legitimate topic for public debate. It shapes the society we are and that we hope to become.

Third, some will assert, these qualities represent a return to the liberal arts and a rejection of professional studies. But surely this is not so. By specifying goals rather than requirements, outcomes rather than inputs, we give faculty members the greatest freedom to select the means of achieving them. I believe several of the goals I have described can be achieved through professional courses as well as through the more traditional liberal arts. Universities must achieve their results through their students' career goals, not in defiance of or instead of them. Indeed, what we need is not the elimination of professional education but its enrichment as a vehicle for liberal learning. There is a world of difference between the purely technical vocational undergraduate course — narrow in purpose, restrictive in scope, oblivious to questions of larger moral purpose and social significance — and the professional course, infused with a spirit of liberal learning. The difference lies in the attitude and skills of the professor. Universities must address the larger questions of social purpose, moral values, and human benefit by providing liberal education through professional education. Certainly, universities should aim to produce superbly competent engineers, for example, but they should be engineers who practice their profession with some sense of the larger environment in which they operate, and with a sense of proportion, aesthetic taste, and understanding of the economic costs, social benefits, and environmental implications of the systems and products they create.

The qualities I describe are a mixture of cognitive and affective attributes, as they must be if education is to engage the student as a whole person rather than a disembodied mind. Nor do I pretend that these qualities should be defined in exclusive operational terms or expressed as measurable objectives, however much the public paymasters of education may urge such a course. Quantification of character is a hazardous operation.

With this said, let me now discuss each of the seven proposed qualities in more detail, demonstrating why they are important and how they can be developed at the university.

1. Openness to others, with the ability to listen, read, observe and analyze with comprehension and to speak and write with clarity and precision.

There are really three related qualities here: openness, comprehension, and communication. The second and third will be of little value without the first. After all, communication that never reaches beyond the household or the village will be less inclusive, less informed, and less influential than communication within a larger cosmopolitan community. But openness is not achieved by courses on openness. It emerges most readily, I think, in those with a sense of self-confidence as they live in a widening circle of individuals from other backgrounds and persuasions, as they begin to discover and compare the treasures of other traditions, as they develop an ability to communicate, and
as they observe others — professors, coaches, advisers, fellow students, authors, artists — who are themselves open to others. Openness, then, should be a by-product of the classroom, the playing field, the library, the residence hall, and the generous and inquiring climate of the campus.

But openness alone is not enough. The ability to communicate effectively has never been more universally important — or more at risk — than it is today. Recent studies have found the rate of illiteracy in America to be shockingly high.10 It is estimated that one out of every five American adults is functionally illiterate, with reading skills below the eighth grade level. Among unemployed adults, 50 percent to 75 percent have minimal or no literacy skills. Employers have reported a decline in the ability of their employees to express their thoughts in writing, even in forms as relatively straightforward as a brief letter or memorandum. Those who study the effects of television have issued warnings over the past twenty-five years about the decline in the ability of young people who watch seven or eight hours of television a day to communicate through speech or writing, and to concentrate on words without the benefit of fast-moving pictures for extended periods.

At the same time, as we move further into the information age and the age of global competition, the ability to communicate — to listen and speak, to read and write, to think effectively — has become a factor of growing importance. William Brock, the former senator and U.S. secretary of labor, has forecast, "The things that are changing in the world are all related to the mind, and we're going to compete or participate based on our cognitive and our interpersonal skills. Mostly, production is not going to be related to substance but ideas, competencies — software, if you will."

The need for college graduates to be able to communicate effectively is also a result of the fact that knowledge is now growing so rapidly that an undergraduate education can no longer be expected to provide all, or even most, of the information needed in a typical professional lifetime. Rather, it must serve as an excellent introduction to a lifetime of learning, by honing the skills necessary for continued learning. The first step to achieving that goal is developing the ability to communicate: to listen, speak, read, and write effectively.

Every part of the student’s program is an exercise in comprehension: formal lectures, assigned reading, oral presentations, plays, exhibits, student societies, the student newspaper, practice with the team, conversation at dinner. As comprehension grows, so too will discernment and the ability to communicate ideas, to compare and contrast, to challenge, to assert, to support, to confirm, to illustrate. All this is part of an expanding area of shared experience and conversation. And much of it — probably most of it in the best universities — will be the result of student-to-student exchanges.

The basic ability to listen and read with comprehension and write and speak with precision and grace will generally, though not always, be developed in the schools. In some colleges and universities — though in very few of the research universities — inadequate school preparation has led to the development of extensive college-based remedial programs. My own view is that this task is better done elsewhere. Universities perform it with little enthusiasm, with no greater success than others could achieve and at greater cost. To offer remedial programs in college is an expensive and often ineffective approach. Universities should help the schools do a better job, working with them in developing and offering effective programs. All school students — college-bound or not — would benefit from this.

In contrast, the typical freshman writing program will take already competent students and will develop their existing reading and writing skills with imaginative assignments. At Cornell, for example, most freshmen take two semester-long seminars, taught in discussion sections no larger than seventeen. Students select their top five seminar topics from a list of about 125, ranging from Greek tragedy to jazz and from global warming to global economic competition. Most are assigned to one of their top choices.

The seminars help students learn to write good expository prose while also gaining a greater understanding of topics of interest to them. Continuing students, usually juniors and seniors, can develop their writing skills further through the Writing in the Majors Program, which incorporates a strong writing component into upper-level courses in specific fields. Sophomores, as well as juniors and seniors, may also choose a more general expository writing course to further refine their skills.

The ability to read with comprehension and to write and speak with precision is crucial to success and fulfillment in any career, indeed in life itself. So there is no opting out of this requirement. This is something for everyone, and completing it in the freshman year provides a foundation for all that follows.

2. Self-confidence and curiosity, with the skills required to satisfy both.

Self-confidence tends to emerge from growing personal competence in selected areas, from growing experience in widening groups, from successful completion of assigned tasks, and from high expectations and consistent encouragement by those whom we respect — parents, colleagues, teachers. The same is true for a lifelong sense of curiosity. So these, too, will be by-products of a satisfying university career, but they will emerge only if students are
known to the faculty members who teach them. Production-line graduation is a failure, whatever the technical competence of those who graduate. The university is an alma mater, a mother of learning, and mothers — whatever their differences and whatever their shortcomings — know their children one by one.

The best universities have an overall faculty-to-student ratio of 1:10 or better. The biggest state universities have a faculty-student ratio of probably twice that, say 1:20. It is eminently reasonable for each faculty member to know twenty students well — not casually, but well. It will be argued that this ratio is uneven, that some departments — English, government, biology, perhaps — are overwhelmed with numbers, while others are not. If so, the chair, the dean, and the provost must make adjustments, reallocate resources. The positive qualities universities seek to impart to their students are not simply cultural adornments to personal lives and professional careers; they are the basis of the future well-being of our society. Neglect that, and all the administrative committees, research proposals, conference papers, and scholarly books in the world will not save us.

Faculty members, whether in undergraduate or graduate courses, have an obligation to know their students. In large courses, this will call for unusual efforts and special arrangements. And the need in professional school is every bit as great. Let me introduce you to Professor O. Wayne Isom, M.D.

Dr. Isom arrives in the operating room, scrubbed and covered head-to-toe in hospital blue. A seventy-five-year-old man is on the table, awaiting open-heart surgery. A former union leader, the patient was turned down by several hospitals a decade earlier; he was, they said, too ailing and elderly to survive an operation. Then he went to hospitals in several other places. A former union leader, the patient was turned down by several hospitals a decade earlier; he was, they said, too ailing and elderly to survive an operation.

In the chair, he wore the mask that covers his mouth and nose. He was shaved, washed with an antibacterial agent that had left a yellow stain, and cut open, right down the middle. Julian Nieves, a third-year medical student, stands by the table waiting to see what he will learn by watching the chief heart surgeon at one of the best hospitals in heart surgery in the nation.

"Come stand close to me," says Isom, a middle-aged Texan with blue eyes and a quick, perfect smile. "I want you to see what we're doing." From above the table, the anesthesiologist to the nurses to the heart monitors to the patient. What he is

witnessing is not something one forgets: the heart pumping in its own pool of blood.

The resident suctions the blood surrounding the heart, like a dentist suctions saliva from a mouth, as Isom hooks the patient up to a heart-lung machine. The machine pumps oxygen throughout the body, essentially taking over for the heart while it is operated upon. "You see this?" Isom says again to Nieves. Lean over. You see what we're doing! This ought to make a little more sense to you now than it did in the books. This machine, Isom tells the student, came out of a "stupid idea by a general medical student" who got the idea while observing in the operating room.

"There are two main things I want to instill in these students," Isom explains later. "One is some basic scientific questioning about what we're doing so they can think of ways for us to do things better. The other is an obsessive-compulsive behavior toward patients — toward excellence."

Third-year students, who observe in this and other divisions on two-week rotations, know of Isom's own record of excellence before they meet him. Originally from Lubbock, Texas, a flat, dry farming town of five hundred people, Isom has virtually a zero mortality rate. As head of the hospital's Cardiothoracic Surgery Division, he also oversees an annual caseload that has more than tripled, from 400 to 1,500, since he took over in 1985. Among the responsibilities of this job are supervising a staff of eight hundred, counseling young doctors, seeing patients, operating, and teaching — something that seems more second nature than work.

Before the students come to his division, Isom also knows something about them. He looks up their backgrounds and interests in the school records and puts notes about them, along with a thumbnail photo, on index cards that he keeps in his coat pocket. Then when he sees a student, he can recognize him or her by name or sneak a look at the cards and say, "Hello, Julian," before the student has any reason to expect it. It surprises them every time. So do the questions during surgery, "How's the tennis game?" or "Have you had the chance to skate lately?" Isom credits his small-town past with teaching him this: "If the professor knows the student's name, there's a certain accountability."

Back in the operating room, Isom carefully removes the stitches holding the patient's first faulty valve in place and, once undone, holds it between the clamps to show Nieves how it has calcified, thickened, and begun to tear. Then he begins to sew the new replacement one in, explaining, "If I don't put the stitches in at the right place, I might as well take a gun to his head." A William Faulkner fan, Isom often speaks in metaphors and similes, giving

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technical descriptions a memorable image. The heart valve, he says, works like a kitchen swing door, the oxygen is pumped around the heart like a horseshoe, the blood-level monitor is like a tachometer in an airplane: "You can fly without it, but it sure is nice to have it."

For two hours, he continues working on the first valve while narrating his steps for Nieves's benefit (and throwing in the occasional question), until at 11:45 A.M., he pauses to stand up straight, take a deep sigh, and check the time. Noting that the operation is running late, he asks the anesthesiologist to call his office and tell someone to update his noon-hour patients.

Turning his attention then to the second valve, Isom tells Nieves to stand on the other side of the table and hold the heart back with a retractor so he can better get to the valve. "Hold the retractor with your left hand," Isom says. Nieves holds it with his right. Isom lets a brief, forever-long moment pass. Almost anyone, even a lay visitor, might have fumed: "Left hand! Hold it in your left hand!" But Isom merely repeats himself, matter-of-factly: "Left hand." And to everyone's relief, Nieves gets it this time.

Isom's handling of that moment left a mark on Nieves. He later recalled with a nervous laugh that another doctor would have devastated him for his mistake. "Some people in surgery tend to look down on medical students, we're the bottom of the totem pole, we're not supposed to say anything. But Isom, a man of his stature, he is one of the nicest men I've met in my life. He is really considerate of how we feel — how intimidated we feel — and he takes the time to teach. It seems like he has never forgotten what it is like to be in our position."

Isom knows how important precision and calmness are in surgery, and it is because of this that he tries to build confidence instead of criticizing students before they know all that they are supposed to know. "That old image of the professor of surgery yelling and throwing things and intimidating students in the operating room is to me just a sign of insecurity," he says.

Finally, three hours after beginning, the second valve is stitched into place. Isom sews the heart back up and calls to the anesthesiologist, "Ventilate the lungs." He does. He calls to the nurse, "Shock," meaning give the heart a jolt. She does. Nothing happens. She does it again. Still nothing. Tension, for the first time, seems palpable in the O.R. After all this fine work, this calm teaching, everyone wonders, is the result to be failure? Just then, the heart jumps and begins beating again.

"All right!" Isom cries.

No medical student ever forgets his or her experience with Wayne Isom. A six-week clerkship leaves a lifelong impression of meticulous concern, superb professional skill, and an extraordinary interest and caring for those around him. It is as much a model for life as an induction into surgery. And if Wayne Isom can achieve all that in a brief six weeks, why not every professor in the more extended contact of the typical course? Every faculty member has an obligation to know his or her students. Every faculty member has the privilege to personify his or her discipline or profession and embody its values.

Self-confidence and curiosity will be by-products of this type of teaching and of an active life in the university community. But what of the skills needed to justify self-confidence and satisfy curiosity? Some of these will also be by-products, though one might reasonably argue for a course in logic as a general requirement. The skills most frequently lacking in our graduates, however, seem to me to be those in formal quantitative reasoning: in proportional thinking, analytical comparison, and a quantitative approach and apprehension.

But why should a student who plans to major in English be required to study computer science or statistics? Why should a French major be obliged to appreciate physics or philosophy? Quite simply, because university graduates must be more than skilled specialists or technicians in their fields. Students of the sciences must master quantitative and formal reasoning; it is a necessary step on the path to the discipline of science. But nonscience majors must also be able to reason in quantitative and formal terms, because it is a necessary step toward being an informed citizen.

More than half of the issues before the U.S. Supreme Court and the Congress in an average year are in some way science-related, as Edward O. Wilson, the two-time Pulitzer Prize-winning biologist from Harvard, has observed.12 To understand such issues, even as a layperson, requires some understanding of the kind of thinking that underlies them, and that, at some point, involves quantitative and formal reasoning. But this kind of thinking is needed not only for scientific issues. Consider how frequently opinion polls are presented and relied upon in this country, or how frequently businesses rely on surveys to bolster their claims. And then consider how easily numbers can be used to represent, or misrepresent, any alleged facts one wishes. It is clear that even to be able to read critically what appears in the daily newspaper, to draw inferences from it, and to judge its implications require some understanding of quantitative and formal reasoning. How this understanding is to be achieved must reflect local resources and local discussion. But, however it is to be pursued, the goal itself — the cultivation of self-confidence and curiosity along with the necessary analytical skills — seems to me to be an essential part of the preparation required for a meaningful existence.
3. A sense of proportion and context in the worlds of nature and society.

If some understanding of quantitative and formal reasoning is necessary for one to function as a citizen, then it follows that some understanding of humankind’s place within the natural world and the larger society should also be considered basic goals for the college graduate. The responsible citizen, as well as the competent professional, needs increasingly to draw on an appreciation of the natural world if he or she is to make sense of the policy issues that are most important to us today.

Genetic screening, for example, is one of the most hotly debated issues of our time. Yet how can we think through and form opinions about the issue — to decide, for example, whether it is appropriate to screen fetuses for the gene that causes muscular dystrophy, to counsel mothers not to carry such a fetus to term, and to provide this information to an insurance company — without some understanding of basic biology? How can one responsibly consider whether to support NASA funding without some understanding of the significance of its programs? And how can one even begin to consider environmental concerns such as the greenhouse effect without some grasp of physics and chemistry?

Undergraduates are going to need some exposure to the natural sciences in the university. Simple exposure, however, is not enough. The typical science course, which is often rigidly sequential, heavily mathematical, and strongly laboratory-based, is unlikely to appeal to most nonscientists. Universities need to make these courses user-friendly for nonscientists — as well as scientists — if they are to prepare all students to be citizens of the world. I believe this can be achieved, not by diluting the content of the course, but by incorporating aspects of the history of discovery and the work of individual scientists; the critical assumptions and underlying philosophy of science; the great debates and controversies; the false starts and discarded theories; the working methods; the application and the implication of these subjects. This is not to imply that universities need to develop additional courses in Physics for Poets or Chemistry for Composers. The goal, it seems to me, is to provide an introduction to, and an appreciation of, the natural sciences within the context of human societies, rather than studying each in isolation. Everyone — scientists and nonscientists alike — would benefit from such expanded and enriched courses.

In addition to “humanized” basic science courses, an appreciation of the natural world can be gained through courses in such areas as astronomy, geology, and oceanography because of the larger issues they raise, their dependence on and linkages with other sciences, and the fascination of firsthand fieldwork and observatory experience.

When I was a professor of geology, I used to take my students on one or two extended field trips a year. These varied from a weekend camping trip in the Appalachians to a six-week field survey camp in Wyoming. Another field excursion involved a group of thirty or so beginning students who traveled to Britain for three weeks to explore the geology of that country, where so much of the initial work was done to establish the formal scale of geologic time. Our focus was the immensity of geologic time, based on the rocks, structures, and fossils we studied. Our focus was scientific, but each student was required to present two papers on the influence of geology and landscape upon some other major topics: the Roman invasion, the development of scenery, the location of industry, the novels of Hardy, the poems of Wordsworth, the paintings of Turner, the sculptures of Moore, the pattern of agriculture, the location of breweries, the building stones and architecture of cathedrals, the changes in climate, the components of the industrial revolution, the form of cities, and so on. The study of geology in the field was enlivened and enriched by this wider set of interests and relationships. Any course, anywhere, offers comparable possibilities for linkage and enrichment. Experiential learning and linkage are among the most powerful and enduring methods of creative understanding.

But the natural world is only one part of the context in which we live; we are also part of a social web of great complexity. I believe all of us need some comprehension of this social web, but we need more than a formal course in sociology. We need to understand our own foundation and the context of our own society, here in this place at this time.

The values, ideas, and goals that have shaped our society permeate all we do, often unrecognized and unacknowledged. We need to understand them. It was Whitehead who once declared that the real bigot is the person who fails to acknowledge any personal values or assumptions. Effective education requires some exposure to these great themes of human aspiration and hope. The “best that has been thought and the best that has been done” clearly have a place here, however we define them, but understanding the tensions of competing values in the long quest for meaning, purpose, and justice undergirds the convictions that make us human. This sensitivity requires a lifetime of experience for its development, but programs in history, philosophy, literature, and religion can do much to pave the way. So, too, can lectures, plays, study abroad, and the community itself, where priorities and goals will be matters of spirited debate, whether political or philosophical. National concerns such as poverty, crime, and drug abuse are embedded in questions of ethics, economics, politics, and the law. We need to understand the problems
both through the particular prism of the social sciences and also within these social contexts. Only armed with this knowledge can anyone make any meaningful analysis of the societal issues we confront. Only equipped with these perspectives can anyone offer effective recommendations for reform or cast a vote with understanding.

But even as we grapple with these problems, we always face the tendency to assume that we are the first society to confront them or the first to experience them with this degree of intensity. That is why I believe some understanding of a time and culture other than our own is one of the components of any balanced view and any sense of proportion. Language and literature courses, area studies, history, art, and anthropology — all these can provide ready insight. So can other means beyond traditional courses: exhibitions, movies, lectures, societies, volunteer activities in the local community or elsewhere, and many more. The presence of international students on the campus benefits everyone in this respect, and the option of a junior year abroad or a summer research or service project abroad offers rich opportunities. In some universities, foreign language skills are a graduation requirement. In others they are not, especially in the professional baccalaureate programs. In some institutions, noisy debates on the role of Western civilization have deflected attention from the more basic issue of the need for comparative understanding of other times and cultures. How such understanding is achieved will be a local decision, varying greatly with the aims and resources of each individual institution. That such understanding should be achieved seems to me a desirable expectation for all institutions.

4. Delight in the richness and variety of human experience and expression.

Literature, art, religion, music, dance, and drama are the records of personal experience and encounter. We need to explore the human experience, in all its richness and ambiguity. The university years offer golden opportunities for this exploration, but one real challenge is simply to marshal the richness of campus resources so that the arts are appealing rather than indigestible to busy undergraduates. The aim, it seems to me, should be, not so much to de

But development of taste for E. M. Forster or Andy Warhol—are all fruitful influences.

and curiosity about some: better an enthusiasm for Mozart and Monet than uninspired A's in forgotten courses on baroque music and impressionist art. Courses, at their best, also can provide a matrix within which other interests may be developed. They can be especially helpful, for example, in appreciating other cultures and in identifying tastes, interests, and insights across lines of difference and periods of time. On campuses that are becoming increasingly preoccupied with technology transfer, entrepreneurial centers, and new revenue-producing activities, universities must reassert that the humanities are central to the curriculum, that the values they embody remain of vital concern to every discipline and profession. Whatever the critical methods of the current fashion, universities must be unapologetic for the sweeping range of issues and concerns the humanities embody and their implications for all human experience.

And what is true for literature is true for art, in its widest sense. Plato insisted that art should provide the basis of all education. It is not now and never has been some frill added to the garment of human experience. It is, instead, a basic expression of human understanding. It is no accident that art is ubiquitous and influential in every culture worth the name, from ancient Egypt and Greece to Renaissance Italy. It has been in the most literal sense the embodiment of insight, an assertion of the human spirit. Education, unenvied by the sense of beauty and luminosity that art can provide, is a wasteland. The most sophisticated skill — whether technical or academic — is barren without the insight art provides. As in other attributes, so in this; the aim of education is to encourage the imaginative encounter, the reflective experience that can enrich every aspect of life.

5. Intellectual mastery and passion in one chosen area, with an awareness of its assumptions, substance, modes of thought, and relationships.

An intensive study of one field of knowledge, with particular emphasis on its foundations, linkages, and implications, is the motive behind the selection of a major. Pursuing a major is often the crowning experience of the undergraduate years. But in some cases it provides something of less value: at its worst, it is a string of unrelated courses, each of interest in its own way, but all leaving unexamined the critical methodology and principles of the discipline. That defeats the overriding purpose of the major, which is not the accumulation of a mountain of particulars, but their generalization. It is not the acquisition of information that matters most, but rather its digestion and integration. The marks of an educated person are not the mere possession of knowledge but its comprehension, not its volume but its significance. If we neglect this greater comprehension we shall become like Bette Davis's father: "Daddy, in his infinite wisdom, always saw the roots and not the flowers," she wrote. "He took the watches of the world apart and never knew what time it was."
In general, I believe universities perform well in the requirements they impose for the major, but most could do better. Double majors help, demanding, as they do, comparison and synthesis. Thesis topics are of immense value because they require the assimilation and utilization of extensive information, whether obtained from books or from firsthand observation. Expert guidance and mentoring help, even at a rather simple level: “Have you thought of this?” “Have you ever read that?” “What would happen if...?” And so on.

The major should be the undergraduate's capstone experience, and the preparation and presentation of a thesis should be the introduction and bridge to a professional career. It is here that everything comes together, that all the skills and insights of four years are brought into play. This means, of course, that the thesis topic should not be overly restrictive, that it should require a broad approach, and that it should be related in some appropriate fashion to other areas of significance. A student mapping the geology of an area of Nevada with silver deposits, for example, may be required to examine the balance between mining opportunities, economic trends, and market prices, or might alternatively be required, as part of a related history project, to study the impact of silver mining on the economy and social structure of ancient Greece. A student working on the genetics of Drosophila might be required to demonstrate an understanding of the contemporary issues — scientific and ethical — of gene therapy or the macromutation-evolution debates of the early twentieth century. A student writing a thesis on Mozart's early chamber music might be required to have a chapter on the technical development of eighteen-century stringed instruments, or the physics of the cello, or the composition of court audiences, or the economics of ecclesiastical patronage.

What is needed is a faculty adviser who is attentive, creative, and committed to the joint discovery between teacher and student that a good thesis will involve. But what is also needed is a faculty adviser who knows the student, knows his or her colleagues in other disciplines, and takes a lively interest in the larger community of learning.

6. A commitment to responsible citizenship, including respect for and ability to get along with others.

The great untapped resource of the American university is the campus community. Here the disciplines reinforce one another; here professional practice both draws on and contributes to basic knowledge; here students encounter those of other backgrounds and other convictions; here they learn to respect and understand those who think otherwise. It is here that responsible citizenship is developed, here that leadership is encouraged, here that teamwork is required.

“You can't live in the twentieth century without realizing people out there think differently from you,” Kenneth McClane, poet and professor of English at Cornell, has said. The multicultural debate of the past fifteen years has demonstrated that. As the population of college students and faculty has, like our country, grown more diverse, the calls for an understanding of other cultures have become stronger. Yet we must strike a balance, and in recognizing the braided channel of cultural streams that have influenced our society, we must also recognize the watershed and headwaters from which the nation arose.

In the United States, our rich mix of cultures, religions, and political persuasions is a source of strength and creativity, but it is also the source of major division. We stress freedom and diversity, but we have not yet learned how to encourage both freedom and responsibility, both diversity and unity. Beyond a few precious goals we as a people hold in common — the provisions of the Bill of Rights, a commitment to truth and tolerance, a respect for others — there are few common social goals. We are a nation of pragmatists, but even pragmatists need some light to live by. I believe we can develop that understanding and sense of direction only in active debate in the wider community.

In the candid and noisy debate of cosmopolitan campuses is a national experiment in understanding. Ideally in these supportive communities, disagreements can take place without those involved being disagreeable. A difference of opinion is not a misfortune but an opportunity for further understanding. It is here where one interest or persuasion competes with another, and one skill or approach complements and enriches another, that freedom of inquiry flourishes.

Yet in practice, many campus communities define themselves in terms of groups or factions. It is not group identification that is at issue here, but group segregation. Of course there will be groups: geographic, disciplinary, ethnic, service, scholarly, athletic, musical, residential, religious, political, and many more. It is not association but separation that weakens the university community and limits the exchange of ideas. That is why isolation and segregation on the campus, however laudable the motives, are inconsistent with the purposes of the university and will have a limiting effect upon the free exchange of ideas that is the foundation of the university community. That is why any attempt by one group or discipline to impose its own restraints or methods on other areas restricts the freedom that is vital to the work of the
common responsibility — which is itself created by our rights and freedoms. They are not given; they are earned. And they are earned, not by the endless assertion of individual rights, but by the faithful discharge of common responsibilities.

That is why this particular educational goal will not commend itself to all members of the faculty. “My job is to teach chemistry,” it will be argued by some. “All moral convictions are relative,” will argue another. “The institution can’t have any precise moral agreement on most issues,” will argue a third. All are right, at least to some degree. But I want to argue that universities have some responsibility for the moral well-being, as well as the intellectual development, of their students. That is, after all, why most universities were founded. I do not argue that universities have the sole responsibility in this, or even the major responsibility; home, church, temple, school, the media, entertainment, reading, and friends exercise a huge influence, for good or ill. But I do argue that a concern for intellectual development cannot be separated from a concern for the moral issues in which this development and our communities are all embedded.

The rhetoric of college catalogs and university announcements gives expression to the issue. Consider this statement, taken from the University Announcements of Cornell University: “By their nature, the liberal arts emphasize reasoning in different modes, clear and graceful written and oral expression, organizational ability, tolerance and flexibility, creativity and sensitivity to ethical and aesthetic values…” In admission decisions, the university gives full consideration to those “intangible, but important factors that form good character and an effective personality,” to which I am tempted to shout “Bravo!” I believe that statement is not a pious platitude. I believe it reflects the general view of most members of the faculty. The problem, I think, is not lack of assent to the general proposition but, rather, a lack of any agreement as to how to go about forming a good character and effective personality. The situation is aggravated by the extent to which the analytical abstraction and critical techniques, which are the faculty’s scholarly stock-in-trade, shake the foundations and unsettle the convictions of students. This is, of course, neither unexpected nor wholly undesirable, but if universities succeed only in questioning assumptions or destroying convictions, while not encouraging students in their attempts to rebuild or refine or replace them, they leave students deprived. There are intellectual, as well as moral, problems with such a process, for it tends to weaken critical judgment and devalue thoughtful discernment and discrimination. A sense of proportion and a search for relationship become less valued than narrow technical compe-
The great purpose of liberal education is freedom. This involves freedom from ignorance, with the fear, prejudice, and irrationality that accompany it. It involves freedom from the isolation of one's own self, time, and place, which can be gained by experience of the diversity and strength of continuity and community. It involves freedom from meaninglessness and destructive nihilism, which can be gained by the discovery of meaning and relationship at every level of experience. And it involves freedom from inhumanity, which can be gained by the realization that all knowledge is grounded in individual understanding and experience.

But the goal of freedom is informed commitment. If it encourages rootless abstention or an indefinite suspension of judgment, then students will become bystanders and spectators rather than participants in life. Their last state will then be worse than their first.

Some values are implicit in the work of the academy. These include open-mindedness, intellectual integrity, tolerance, a respect for the evidence and for the varieties of evidence that are appropriate in given fields of inquiry, a respect for others and for personal freedom of inquiry and expression. Most of these values are implicit in what those in universities do, rather than inscribed across the portals of their buildings. That they should be implicit makes them no less important. Perhaps all scholars need to identify the unexamined, unadmitted values that lie below the surface of their methodologies.

It may be argued that the student is free to absorb values by osmosis, but that values should not be openly recognized or discussed. I would argue, however, that it is, in fact, impossible to teach without imparting values. Faculty members will stand for something, whether deliberately or by neglect, and that stance will permeate their teaching. Whether we like it or not, the teacher is a role model for his or her students.

The reason for the urgency and priority of the present task is that society depends upon its distributed values. I should like to say that society depends upon its common values, but in the fragmentation of our present age, it is not easy to identify many values that we hold in common. If universities are to reaffirm their commitment to examining values on their campuses, there seem to me to be three necessary guidelines. I believe, first, universities must recognize their limitations in this area. Psychologists conclude that perhaps 90 percent of all learning takes place in the first five years of life. This means that the influence of universities is likely to be limited, and probably less than that of other institutions — the family, the place of worship, the community, and so on.

I believe, second, that universities must respect and preserve the autonomy of the student, the integrity of the disciplines, and the integrity of the institution. Students, the disciplines, and the position of the faculty member will all be threatened if universities use them as a basis for proselytizing or for cheap moralizing. Universities are committed to strive for rigorous objectivity, however unattainable it may be in practice. But one component of that objectivity is that we should acknowledge our assumptions, as well as accept a common responsibility for accuracy and integrity. Universities must also insist that any exploration of values must clearly and deliberately leave the fundamental freedom and responsibility of choice to the individual student. That involves a steady determination to preserve varying influences and viewpoints and an honest attempt to explore and examine all competing solutions and alternative schemes. The faculty-student, faculty-colleague, and faculty-administration relationships may be violated by partisan advocacy of particular value systems. Indeed, the integrity of the values themselves will be destroyed if universities attempt to indoctrinate or to moralize at every turn. Vacuous moral generalizations are as dangerous as empty neutrality. Moral development ought to be a by-product, rather than the purpose, of teaching. Universities exist neither to indoctrinate activists, nor to create saints. They exist to educate students, but this has to involve more than the mere credentialing of narrow technical competence.

The integrity of the institution must also be safeguarded. I submit that the institution should not be an advocate for particular causes over and beyond those clearly expressed in its catalog. It will best benefit society by serving as a place for independent exploration of the human condition. As such it shelters debate, it encourages criticism, and it seeks synthesis. The only issues on which it can legitimately take a corporate stand are those vital to its mission of scholarship and service. This view of institutional neutrality on all but the most fundamental issues is easily misunderstood, but it is basic to the freedom and responsibility that universities need to survive. This neutrality is a self-imposed duty, a considered position, rather than a cowardly abdication or a careless omission.

In recognizing the need to grapple with questions of values, universities will align themselves with their past. "Knowledge is virtue and virtue knowledge," declared Socrates. And, if more recent critics have been more skeptical, they have generally recognized the link between knowledge and virtue. When Will Rogers observed, "A simple man may steal from a freight train, but give
him a college degree and he will steal the whole railroad," he shared a common assumption with Socrates, even though he reached a rather different conclusion.

Ultimately, however, it is not the curriculum, not courses, but people who matter most in education. It is people who transform and redeem; the mode of learning may be as important as its content. Style may have as much influence as substance. The curriculum, no matter how broadly conceived or expansively developed, will not, by itself, guarantee success. Universities must put their trust, not in courses, but in people. Courses do not give coherence; requirements do not lead to wisdom. But both provide a vehicle for the development of those qualities. They provide a platform for their demonstration, a setting within which the professor may exemplify the enthusiasm, openness, impartiality, fairness, rigor, and integrity on which sound learning depends and by which competing claims and conflicting interpretations can be analyzed and evaluated. It is those qualities that can enrich a life with meaning and significance.

Will these steps produce results? I confess I am not sure, for they must overcome current apathy and self-indulgence.

Are these steps worth the effort? Of that I have no doubt. John Gardner has a passage in his book No Easy Victories that describes the kind of institution that I have in mind. "I like to think," he writes, "that no matter how much the university becomes entangled with the world on its outer fringes, the inner city of the university will be above the battle in some quite distinctive ways. I should like to believe that it will, to borrow some lines from Bernard Shaw, 'stand for the future and the past, for the posterity that has no vote and the tradition that never had any. For the great abstractions, for the eternal against the expedient; for the evolutionary appetite against the day's gluttony; for intellectual integrity, for humanity, for the rescue of industry from commercialism and of science from professionalism.' I like to think that it will stand for things that are forgotten in the heat of battle, for values that get pushed aside in the rough-and-tumble of everyday living, for the goals we ought to be thinking about and never do, for the facts we don't like to face and the questions we lack the courage to ask."  

For research universities, that is no mean goal.
FRANK H. T. RHODES is President Emeritus of Cornell University. He is a geologist by training, and his numerous published works on geology and education include the books *The Evolution of Life* and *Language of the Earth*. He holds the Bigsby Medal of the Geological Society and the Clark Kerr Medal of the University of California, Berkeley. He currently serves as President of the American Philosophical Society and as Chairman of the Board of the Atlantic Foundation. He is the past chairman of the National Science Board and the boards of the American Council on Education, the Association of American Universities, and the Carnegie Foundation for the Advancement of Teaching. He holds more than thirty honorary degrees from universities both in this country and abroad.