Colleges and universities are wonderful places. They sustain a culture—one of inquiry and skepticism—that is essential not only to the intellectual life but also to the democratic and economic ideals of the United States. Who can question that our success as a nation is closely tied to the fact that we have created in this country the most successful system of higher education in the world? But though this system is successful, it is not perfect.

Billy E. Frye retired in June 2001 as Chancellor of Emory University. He was previously with the University of Michigan for twenty-five years, serving as Provost for six years, before returning to Emory, his alma mater, as Provost in 1986. During his years in the administration of these two universities, he developed a particular interest in libraries and in issues relating to information management in research universities.
Despite all the rhetoric to the contrary, institutions seem unable to take concerted steps toward the conception of the “new university” that so many have insisted is needed to accommodate a full flowering of the technological and knowledge revolution.

The mission and purposes of U.S. colleges and universities—especially research universities—are generally very complex. This complexity poses enormous challenges in governing, in setting goals and priorities, in communicating and evaluating, and in generating a truly integrated community. And it is probably the most significant factor behind the well-taken lament voiced by Brian Hawkins and Patricia Battin in *The Mirage of Continuity*: “Why is the transformation process in higher education so slow, so disorderly, so expensive, and so resisted?”

To deal with scholarly specialization and institutional size, higher education institutions have organized themselves in a highly fragmented, compartmentalized, and autonomous way. Undoubtedly, this is the source of great strength, but as so often seems to be the case, a source of strength can become a serious liability. The fragmented, hierarchical organization makes it difficult to bring about deep change. Despite all the rhetoric to the contrary, institutions seem unable to take concerted steps toward the conception of the “new university” that so many have insisted is needed to accommodate a full flowering of the technological and knowledge revolution.

Another factor contributing to the slow transformation of higher education is the culture of inquiry and skepticism noted above. The primary responsibility of colleges and universities is not just the transmission of knowledge but also the discovery, synthesis, and criticism of knowledge. Whether in the classroom, the laboratory, or the library, the dominant ethos is the spirit of inquiry—of investigation before action. Likewise, within the educational community, challenging dogma takes precedence over maintaining the established canon. This same skepticism encourages a certain intellectual conservatism among scholars, since the merit of novel ideas and new interpretations of knowledge must be tested by their capacity to overturn paradigms that often have been built up in the course of many generations of scholarship.

Finally, like any other profession, the scholarly profession is governed by various assumptions. R. Eugene Rice, in his essay “Making a Place for the New American Scholar,” discussed the “assumptive world” that controls how academicians go about their work.

- Knowledge is pursued for its intrinsic worth.
- Research and publication are the most important work of the faculty.
- Quality is judged by peer review.
- The pursuit of knowledge is best organized in specialties, departments, and programs.
- Individual reputations are made by the publication of scholarly books and articles.
- Prestige is the most important currency of the domain and the ultimate gauge of success.
- Professional rewards and mobility accrue to those who persistently accentuate their specialties.
Just as significant as the contents of this list are the omissions: lack of emphasis on teaching and students or on the purposes and ethos of the college or university; no reference to local community-building functions such as communication and mentoring or to the worth of a broader intellectual life. These omissions reveal an important incongruence between the value structure of the local higher education institution and that of the scholarly professions. The narrower professional ethos dominates research institutions. Much of the reform that has been brewing in U.S. colleges and universities in the past decade or so is directed at ameliorating the imbalances and incongruence between the narrower norms and goals of the scholarly professions and the broader purposes of the higher education institution.

These cultural norms also serve to illustrate a central point: colleges and universities are not just manufacturing centers of knowledge, churning out new information or solutions to social problems or even graduates. They are complicated communities of learning, and the essential dynamics by which these communities function is inadequately understood. In an era of technological transformation, the distinction between products and processes is critical.

Other critical challenges being accelerated by the technological changes are globalization and the evolution of the academic disciplines themselves as knowledge has expanded and become interconnected at an unprecedented rate. And of course information technology is dramatically changing how those of us in higher education handle information and how we generate, evaluate, organize, preserve, and disseminate scholarly knowledge in teaching and research. Perhaps most significant of all, information technology is quickly rendering obsolete the traditional disciplinary boundaries around which the college or university is organized and through which academics organize and access knowledge.

These pressures are forcing many changes. I won't try to recount all of these, but two statements can be made about where things now stand. First, no one as yet can say with any certainty what the “new paradigm” of the college or university will be. According to many observers, the successful institution of higher education will likely

- learn to live with low or no-growth budgets, substitute new sources of income for old ones, and increase productivity without the benefit of governmental beneficence;
- give more attention to teaching undergraduates and provide stronger incentives and better rewards for good teaching and for those who give more time and attention to students;
- develop a new understanding of teaching and learning and of the relationship among teacher, learner, and institution;
- be more selective and focused in the range of its academic programs and find ways to compete in the academic marketplace through market differentiation and niche specialization;
- reduce the hegemony of the traditional departments and schools in favor of a greater degree of cross-disciplinary, integrative scholarship and greater prominence of collegiate objectives; and
- use information technology not just to increase the effectiveness and efficiency in old ways of doing things but to find radically new ways of creating, organizing, authenticating, accessing, and disseminating knowledge and of credentialing those who discover and teach.
By and large our response to our changed environment seems to be focused more on surviving and on maintaining the status quo (i.e., on doing old tasks in new ways) than on accomplishing a deep reconceptualization.

However valid these characterizations may prove to be, they fall short of a coherent picture of the future because they do not get to the heart of what matters. And what matters is how a purposeful intellectual community will be nurtured in the digital environment. This is not an easy problem to solve, as suggested by John Seely Brown and Paul Duguid in their essay “Universities in the Digital Age.” The “notion of a virtual campus … both underestimates how universities as institutions work and overestimates what communications technologies do … Learning involves inhabiting the streets of a community’s culture … [and] experiencing its cultural peculiarities.”

We must always keep this problem in mind as we fantasize about the grand sweep of the digital era.

This leads to a second, very simple statement about the current state of change in colleges and universities. Until now, we have not seemed to be fully up to the task of adapting to the new technological world we have entered. This is not surprising, of course. By and large our response to our changed environment seems to be focused more on surviving and on maintaining the status quo (i.e., on doing old tasks in new ways) than on accomplishing a deep reconceptualization. Few if any major institutions have begun—in more than a tentative, piecemeal way—to explore the challenges and opportunities of the new university paradigms that Jim Duderstadt and others have talked about so effectively.

Like others, I’m also not able to paint a clear picture of the future institution of higher education in the digital era. But I have thought a lot about it and have talked to hundreds of faculty and staff about how we can improve on what we already have as we look to the future. Interestingly, the predominant concerns that emerged in these conversations reflect not the novelty of the technical era
but very basic, traditional goals: (1) academic excellence; (2) the balance between teaching and research; (3) the quality of the community; and (4) interdisciplinarity.

**Academic excellence.** At the core of every great institution has to be the ideal of academic, intellectual excellence—even elitism. But the word *excellence* has become so banal through overuse, and the ways by which we measure it in practice have become so questionable, that we need to think about what we mean by *excellence* and why it is important. The mission of the college or university necessarily entails a commitment to intellectual excellence. In *The Academic Ethic*, Edward Shils wrote, “Universities have a distinctive task, and that task is the methodological discovery and the teaching of truths about serious and important things.”

Truth is an elusive thing. It is forever beyond the reach of certainty, and to a large degree, it is always obscured by the limits of our minds and the fogs of bias and self-interest. More than anything else, the validity of our understanding of truth depends on the integrity of the thinking by which it is sought. So excellence is more than just being the smartest or the highest-ranked. The members of an excellent educational community must have the highest-possible measure of a whole constellation of mental and moral traits: intelligence; curiosity; reason; critical acumen; skepticism; tolerance and openness to new ideas; intellectual integrity; creativity; energy, motivation, and preparation. And to be truly excellent, colleges and universities not only must bring the best people into the community but also must create an environment that is nurturing, affirming, and caring as well as challenging and one that enables scholars to move fluidly into new intellectual territories, from the realm of ideas into the world of practice and from the physical and intellectual safe havens of the campus into the furthest reaches of the globe. We all need to think carefully about what constitutes the basis of excellence and how we measure excellence, for it is in this realm that we experience the greatest distortion of values.

**The balance between teaching and research.** Most of us would argue that in the research university, which is the particular focus of these reflections, teaching and research are interdependent and should be given equal value in the mission of the institution. Nonetheless, a conviction that teaching and research are in conflict still prevails. Indeed, next to the economic problems, the imbalance between teaching and learning has perhaps been the central issue in U.S. research universities for the past decade or more. There is a connection, of course, between this and the economic issue, because with rising prices and increasing anxiety about employment after graduation, parents and politicians have rebelled at what they see to be a relative neglect of teaching and students. But I have a different reason for bringing teaching to the fore: as central as research and its publications are to our scholarship, the only way that knowledge is given life is as it is understood by successive generations of citizens and scholars, and that understanding occurs by teaching and learning. This involves
The greatest responsibility for colleges and universities today is to create a solid, consistent link between the changes that are needed and the mission and basic values of the institution.

more than the mere transmission of knowledge; it entails enculturation, or perhaps even inculcation, with the values of the learning community.

The quality of the community. The purpose that binds a college or university community together is the pursuit of knowledge. In the words of Parker Palmer, “knowing is a profoundly relational act”—a social act. Every good institution of higher education guarantees its members certain basic conditions of work: academic freedom; openness and trust; truthfulness; intellectual rigor; tolerance for new ideas. But a really great college or university community goes further. It intensifies a sense of identity, motivation, and commitment. It provides a sense of affirmation, accomplishment, and pride.

Interdisciplinarity. Wayne Booth, in his Ryerson Lecture at the University of Chicago, said that if people understanding one another constituted “the sine qua non of a genuine university,” then it follows that “one of our main tasks is to improve our chances for genuine understanding.” Behind this statement is the belief that at some level, the members of a higher education community should be dealing with common concerns, common ideas. The reason for this belief is clear. The advancement of knowledge proceeds largely through making connections, finding similarities and complementarities, probing contrast and conflict. The most essential stimulus for the evolution of our understanding of things is through the introduction of the concepts and methods of one field into another.

In today’s world, institutions of higher education are often perceived to be preoccupied with such things as competition and prestige in the “academic marketplace.” Administrators will continue, for a time, to focus on novel issues that have emerged in modern times, such as intellectual property, distance learning, electronic publication, and other opportunities arising from digital technology, as well as on other familiar themes such as technology transfer, alliances with industry, and, of course, national rankings. But as important and seductive as these challenges are, they should be understood as means, not ends.

We must be clear about what it is we want to accomplish in our colleges and universities. Without vigilant attention to the underlying institutional values, the pressures stemming from the exigen-

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