

# The State of the University

**October 29, 2004**

Chairman Meinig. Dear Colleagues. Fellow Cornellians.

When Ezra Cornell was 17 years old, he began to learn carpentry from a man named Hogaboom on his family's farm in DeRuyter, New York. Less than a year later, Ezra brazenly told his father that he could build a two-story frame house for the family. And he did. According to the biography of Ezra Cornell that was written by his son, the new house was "the best residence in the town of DeRuyter." And drawing inspiration from that story, Philip Dorf chose to entitle his biography of Ezra Cornell, The Builder.

If you drive up to DeRuyter today, as I did last week, you can visit the site of the old house. Only fragments of the foundation remain. In Morris Bishop's words, the house has "moldered away."

But Ezra Cornell built other, more enduring structures after that house. When he was 23, he built a 200-foot-long tunnel through Fall Creek Gorge for Jeremiah Beebe. It still carries water. When he was in his forties, he built a telegraph system across the Northeast and Midwest that became a cornerstone of Western Union. It is still a viable way to send messages or money.

And when Ezra Cornell was in his fifties, he began to build his enduring legacy, the campus on the hill, the Cornell University. His successors remained true to his blueprint, and today his university – our university – is flourishing. It is a model university for the world. And its strength derives from the fact that, in truth, it has had many builders.

The first builders of the university understood that a set of nineteenth century political, economic, and technological upheavals had remade the life of this nation. Ezra Cornell. Andrew Dickson White. Senator Justin Morrill of Vermont, the author of the Land Grant Act. All of them saw the need for changes in higher education. The old institutions of higher learning had been built upon categories that divided the world into separate compartments – categories of religion, gender, and race, and categories that separated a classical education from practical knowledge. Together the first builders invented a university that challenged those categories in order to meet the needs of a renewed nation. A true university, universal in its approach to knowledge, universal in its approach to people.

In the intervening decades, most of the world's finest research universities have come to share Cornell's founding commitments to coeducation, to nonsectarianism, to diversity broadly understood, to a pairing of theory and application, to a principle of equal respect for classical and practical studies. Yet despite that overall pattern of convergence, Cornell remains distinctive. There are other great land grant universities, and there are other great research universities, but the institution that was founded here has a character and a purpose all its own. Revolutionary and beloved, there is only one Cornell.

Our founding commitments are expressed here with unique clarity, purity, and intensity. Cornell continues to define a precious alloy of reverence for all forms of insight and passion for active contribution to the welfare of humanity.

The university has evolved across the years, developing new ways to fulfill its commitment to serve a rapidly changing world. In every generation, new builders have added their own contributions to those of the founders. And now, with our sesquicentennial but a decade away, our generation bears the responsibility of

determining how Cornell's distinctive voice will be heard in this century.

The world has once again been transformed – politically, economically, and technologically. And those transformations must guide our trajectory in the years ahead. To renew Cornell, we must appreciate the challenges and the opportunities that those transformations present. And like the first builders we must be prepared to revisit categories that may once have been useful but today hinder our efforts to teach and to contribute.

Our trajectory begins where we stand today. It begins with a commitment to the broadest and deepest possible expression of intellectual excellence. We inherit a pluralistic academic culture where many individuals have made transformative contributions at the heart of long-established intellectual disciplines and many others have collaborated in unexpected, even unlikely ways, to develop entirely new approaches to understanding our world.

To build on the commitment we refer to as “Any person, Any study,” we must refresh two dimensions of our university that I spoke of during my inaugural last year – the beloved and the revolutionary.

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How should we renew our Beloved Cornell?

Last year I quoted a member of Cornell's first class of students who took pen in hand after one year of classes and wrote, “We feel that we revere it, we feel that we love it, that it is really our alma mater.” What would lead tomorrow's students to take up their laptops and profess their deep and abiding love for this university?

The answer is easy to state, but difficult to achieve. We must be the university that can best prepare our students for lives of contribution and meaning. We must be the university where they are most likely to become voraciously curious, culturally,

socially, and scientifically literate adults. To be those things, we must draw upon the special resources that are available only to a university of Cornell's quality, scale, and breadth.

Everything begins with the faculty. At no time in the history of higher education has the quality of individual faculty members been more important. The more collaborative form of scholarship that prevails in many domains today means that top professors are, more than ever before, human magnets who attract others of comparable ability to work with them. We must remain focused on attracting and retaining a broadly diverse faculty of extraordinary men and women – the professors whose ideas will shape our world in the decades to come.

But having assembled such a faculty, we must ensure that our students are reaping the full benefit of their presence. Today mere facts are more readily accessible than ever before; our students look to their professors less as sources of information and more as sources of guidance on how to discern truth and understanding. We must provide our faculty with the technological and pedagogic resources they need to provide that kind of guidance through their courses. We must encourage our students to be active collaborators with the faculty in research and scholarship. And we must ensure that every student has the opportunity to find a professor who is also a true mentor, a role model who can offer meaningful guidance about questions unrelated to a particular course or research project.

We must therefore continue to expand our initiatives to reduce the boundaries between faculty and students, both during the school day and after classes end. Some of those initiatives, like the cultural activities associated with the book project, are programmatic. And some, like the West Campus Residential Initiative, call for us to build new structures.

And what about the students themselves? The first builders of Cornell recognized the importance of establishing an intellec-

tual community of outstanding students that was not restricted on the basis of gender, religion, race, or wealth. The boundaries that separated people into categories no longer determined everything. What mattered most was talent. To be sure, it would be a serious overstatement to suggest that the artificial boundaries disappeared. But here was a crucial step in the right direction.

As important as that goal was in the nineteenth century, it is even more important today. Our students will graduate into a world where boundaries of race, gender, religion, sexual orientation, social class, and nationality matter far less than ever before. In their professional environments they will need to work effectively with people who are very different from themselves. Before they step out into those environments, they should experience the benefits of living in a diverse community, enjoying the variety of perspectives that people bring from different backgrounds, while also appreciating the overarching commonalities that transcend such differences.

We must continue to take affirmative steps to promote the meaningful integration of our community along as many dimensions as possible. We must ensure that our recruitment of undergraduate and graduate students, faculty and staff reaches out to the most diverse audience possible. Once at Cornell, all members of our community should feel welcomed as equal members. And no matter what their personal background might be, they should also be pressed to take advantage of all aspects of our community's diversity, encouraged to reach out across boundaries to meet one another, challenged to see the world through the eyes of others.

All members of our community should strive to nurture within ourselves a form of what John Keats called "negative capability": a capacity to hold multiple perspectives in one's head at the same time "without any irritable reaching after fact or reason." That goal is well served by developing a diverse and ac-

tively integrated community. To enjoy the benefits of such a community, we must sustain an environment in which our daily lives are characterized by a constant ebb and flow between people like ourselves and people who are different.

I would note two special challenges that we will confront in the coming decade as we maintain our commitment to assemble at Cornell a diverse and actively integrated community of talent. The first has to do with ensuring continued access to Cornell for all students, regardless of wealth or income. The second has to do with our ongoing emergence as an ever more transnational university.

Maintaining our historic socioeconomic diversity will require careful coordination of our tuition and financial aid policies. Even though the market may be capable of bearing significant tuition increases, we should not be raising tuition any more than our commitment to world-class education requires. Tuition increases must be integrated with a comprehensive system of financial aid – grants, loans, and work, both government-funded and internally sponsored – that preserves Cornell as an option for students from low- and middle-income families. We must secure the endowment funds needed to guarantee need-blind admissions into the future and also to reduce the amount of self-help required of students from those families.

To be a transnational university we must recruit and enroll the most talented students in the world. We must expose others around the world to the research and teaching of Cornell faculty. We must have outstanding faculty who study the histories, cultures, politics, and economies of every part of the world. Our curriculum must be rich with offerings about foreign languages and cultures as well as the many languages and cultures that are found within our nation. We must continue to expand our presence around the globe.

“Presence” can take many forms. Our new campus in Qatar reflects the most ambitious, exceptional form of presence. The circumstances are unusual where we can develop a new campus at the level of quality we expect of Cornell, where such a campus can make an important difference in the world, and where the venture will not demand so many financial or human resources as to compromise the quality of our university as a whole.

But we should not content ourselves to sit back and wait for such special opportunities. Other approaches can extend our presence as well. We should continue to support faculty-to-faculty collaborations across national boundaries, just as we always have. And we should establish meaningful university-level partnerships with peer foreign institutions, committing ourselves to key relationships that will fortify our teaching, research, and outreach missions.

I believe that such intensive partnerships should be initiated judiciously, in order that they may be both meaningful and sustainable. To maximize their impact, we should begin by training our attention on countries that are certain to hold strategic significance for Cornell over the next few decades. Within those countries, we should look only to our peers, to the very finest institutions of higher education and research. And among those, we should only consider those institutions where there is a clear mutuality of interest and benefit.

A week from now, the Deans of Engineering and Arts and Sciences will be traveling with me to China to take the next steps in forging such alliances with Tsinghua University and Peking University. These new partnerships meet all of the criteria that I have set forth above. I am confident that we can build other such alliances in the years ahead.

To be sure, our students’ experience of Cornell depends on more than just our faculty, and more than just their relationships with their fellow students. Their love for the university derives

in part from the effectiveness and responsiveness of the many institutional and human structures that, along with the special beauty of the campus and surrounding environs, define the canvas upon which they paint their intellectual, cultural, and social development. That canvas comprises everything from intercollegiate and recreational athletics to the dining halls, from fraternity and sorority life to the CIT Help Desk, from the Schwartz Center for the Performing Arts to our career services offices.

Extracurricular activities provide opportunities for our students to develop many skills that will determine their future successes in life. Student services provide support that may help determine their success at Cornell. In each of these domains, the quality of our support depends upon our staff as well as our faculty. Our commitment as an institution must be to ensure that all our students have access to a complete university experience, one that will help them to realize their full potential as adults.

That kind of experience will mean something different for each and every student. But I do hope that for all our students, it will include a measure of civic engagement. Over the course of the past two months, we have seen on this campus a model of what student civic engagement can be. A group of students whose views span the political and ideological spectrum joined together to create a project called the Mock Election project. We supported that project, but all of the leadership and 98% of the work effort came from the students themselves. They sponsored nearly a score of events since the beginning of the semester, including a debate among the three candidates for the U.S. Senate from New York, a debate between the editors of the National Review and the Nation, and a debate about outsourcing between the president of the U.S. Chamber of Commerce and the secretary/treasurer of the AFL-CIO. Thousands and thousands of students attended the various events. And at the end, over 6000 students cast electronic ballots in a mock election.

When we do it right, our students show this kind of constructive initiative. They are creative. They engage with the civic issues of the day. They learn, their lives are full, and their love for Cornell is deep.

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How should we renew our Revolutionary Cornell?

The first builders of the university created a new way to meet the needs of an industrial society. As heirs to that tradition, we must consider the needs of contemporary society. We must consider Cornell's unique capacity to understand and address those needs. The first builders refused to define the university's limits by reference to categories that once were taken for granted. And we must ensure that the extent of our response is not limited by the legacy of categories inherited from the past.

This morning I would like to describe three great challenges facing humanity that present exciting opportunities for Cornell. These are domains of fundamental worldwide significance. In each case, they call for contributions from a broad range of intellectual vantage points. Each demands searching reflection using the tools of the humanist. Each calls for creative and rigorous social scientific analysis. Each has essential scientific and technical dimensions. Indeed, each requires strength across the full range of disciplines where this university excels, and each will benefit from the spirit of multidisciplinary collaboration that is our hallmark. These are areas where the world needs Cornell, and where our founders would expect Cornell to respond to that need.

The first challenge concerns life in the age of the genome. All of us who know Cornell are aware of the genomics revolution. The realization that a single DNA vocabulary describes all forms of life, from viruses to people, has inaugurated a new era in biological and biomedical research. The work requires a fu-

sion of traditional biological research across plant and animal species with research in chemistry, computer science, engineering, medicine, and physics – all fields where Cornell exerts a powerful presence. In this era we can expect to understand the fundamental mechanisms of life in new ways, and we can expect that knowledge to fuel diagnostic and therapeutic innovations that will further lengthen the average human lifespan and significantly improve the quality of each of our lives.

The effects of such breakthroughs could be as significant to our understanding of ourselves as were the Copernican and Darwinian revolutions. They have the capacity, as those revolutions did, to change our conception of our place in the universe, our relationships with other species, our relationships with machines, and our relationships with one another. We could face a new set of questions about what it means to be alive and what it means to be human. Questions about how much of our lives should be spent in the paid workforce and about the relationships among generations in society. Everywhere in a university that people discuss the meaning of life, the terms of discussion could shift.

We should expect these themes to be reflected in our cultures and in our political institutions. We have already seen different reactions in different societies to, for example, the subject of genetically modified foods. In the years to come we will need an ever more nuanced understanding of such cultural differences. Once again, Cornell is unusually well prepared to bring the tools of different disciplines to bear on the analysis of the cultural, social, and economic effects of these developments.

By virtue of its unique breadth and depth, and because of its strong tradition of cross-disciplinary collaboration, Cornell can and should lead the world in this domain. Several critical initiatives are already underway. The New Life Science Initiative has been working with both internal and external advisory councils to draw together the community of researchers from all disci-

plines on both our Ithaca campus and at the Weill Medical College in New York City, to give new strategic direction to their research. We have begun to hold joint conferences for scientists from the two campuses, to nurture collaborations in fields such as biomedical engineering and nanobiotechnology.

Through the Bridging the Rift Initiative we have begun work on a project to create a prototype for the Library of Life, through which digital information concerning all of Earth's life forms will be organized and linked in a system that is susceptible to new forms of data mining and analysis. The goal is not only to amass information but also to develop software that will permit new forms of interaction among professional researchers everywhere and anyone else who is curious, so that the building of knowledge and the education of citizens are ever more open and participatory activities.

These projects, and others of the same caliber, will ensure Cornell's leadership as the world faces the possibilities and responsibilities of the genomic age.

A second great challenge concerns wisdom in the age of digital information. The revolutions in computing and information science have affected every form of human activity. From medicine to the movies, architecture to sociology, computing and information science have transformed both how we live and how we study how we live.

Importantly, Cornell has led both in the development of computing and information science and in its propagation throughout the university. Thanks to the development of our Faculty of Computing and Information Science, three different undergraduate colleges offer majors in computer science, computational biology, and/or information science, and all seven undergraduate colleges offer information science minors. We have a newly established graduate field of Information Science and a corresponding Ph.D. program. Thanks to the strength of our library

we have already begun to lead the way in the development of digital archives, innovative search tools, and online journals. More and more, Cornell is being recognized as a farsighted leader in the information revolution.

And yet it is clear that the developments that will come in the next few decades will dwarf in significance those of the past few. Theoreticians and engineers are proposing new theories of how the brain works that could lead to the development of truly intelligent machines. Even if such projects fail, the next generations of our current, relatively unintelligent machines will enable unprecedented amounts of information to be collected, stored, and processed at astonishing speed.

It is not at all evident what consequences these technological developments will hold for the way humans live. Today, virtually no possibility – neither the utopian nor the dystopian – can be dismissed out of hand. Where we land will depend in significant part on the ability of humans to show wisdom in the application of next-generation information technologies. And that ability depends on a broad and deep education.

Cornell can and should shape this future. The project of transforming mere information into human-centered wisdom can benefit from the insights of disciplines across our university. But as currently configured we have neither the human nor physical resources to maintain our leadership role for an entire decade. We must add greater faculty strength in the welter of disciplines that touch and concern these issues. We must build a new facility in which interdisciplinary research and teaching is facilitated. And we must highlight the work of scholars whose research focuses on the effects of technological change, its impact on the nature of work, and the nature of communication and community, drawing here, too, on our great strengths in several colleges.

A third challenge concerns sustainability in the age of development. Technological progress and economic development have brought unprecedented levels of material comfort to our generation of participants in the global economy. At the same time, those phenomena have raised a series of new issues that tend to be grouped under the broad heading of “sustainability.”

For a variety of reasons, the current mode of life on Earth cannot be sustained indefinitely. Our technologies consume scarce resources that would ultimately be exhausted. They damage ecosystems in ways that would ultimately prove inimical to human life. They rely on political or economic programs that are likely to collapse under the pressure of demographic change. And as a species, human beings have not yet reached a level of understanding and tolerance that will allow the peaceful co-existence of communities with very real differences.

Sustainability problems have a characteristic structure. They require some form of adaptive innovation, some form of substitute approach, to be developed and implemented before time runs out. They require a scheme of gradual transition – not so quick as to be destabilizing, but not so slow as to be inadequate to the challenge presented. And in the long run they can be solved only with approaches that are economically viable.

Today almost every domain of human economic and political activity presents one or another sustainability problem. Because of our university’s extraordinary breadth, we are bringing tremendous research effort to bear on different sustainability issues. Across our colleges, faculty members are working on those areas often associated with the challenge of sustainability – environmental science, environmental remediation, energy production, and ecology more generally – and other faculty members are studying the economic, political, and cultural effects of globalization, as well as current trends towards increasing economic inequality. Across the colleges and disciplines, and in some of

our cherished special units like the Lab of Ornithology, Shoals Marine Lab, and the Plantations, we are promoting a deeper appreciation of nature that can guide us in our work. And in our daily activities on campus, we continue our efforts to bring relevant knowledge to bear on the decisions we make regarding our own practices.

The list of what we are doing now is long – but we must do substantially more. We must draw these disparate efforts together into an integrated whole. We must develop structures of collaboration so that insights in one domain might stimulate correlative insights in another. And as we develop a mature understanding of the different dimensions of sustainability, we must employ our various extension resources to disseminate our findings to the public.

In a biography of Liberty Hyde Bailey published in 1956, he is quoted as saying:

“It is a marvelous planet on which we ride. It is a great privilege to live thereon, to partake in the journey, and to experience its goodness. We may cooperate rather than rebel. We should try to find the meanings rather than to be satisfied only with the spectacles.”

Three great challenges for our world. Three great opportunities for our university. For each of these challenges, I have asked Provost Bidy Martin to work with deans and faculty members to develop a long-range strategic plan. Each of these plans will structure the support and integration of our many existing efforts. Each will identify aspects that need further development. And each will consider how we can best ensure that Cornell’s contributions are uniquely significant and meaningful.

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Cornell has had many builders.

The founders of Cornell crafted the plan for a university that would become a world treasure. Other builders stepped forward to turn that plan into a reality. They were professors like Carl Becker and Alice Cook. They were deans like Martha Van Rensselaer and Howard Bagnall Meek. They were students like Hu Shih and E.B. White. They were benefactors like Jennie McGraw, and Harold and Ruth Uris.

Now it is our turn.

Over the course of the next decade, let us renew our beloved Cornell. Let us ensure that its faculty, its staff, its programs, and its students together constitute a university worthy of our students' love.

And let us renew our revolutionary Cornell. Let us insure that the intellectual breadth and depth of our university is brought to bear on the fundamental challenges of our time. Life. Wisdom. Sustainability.

The result will be a truly transnational university. A university with worldwide presence. A university whose graduates become leaders around the globe. A university whose research has universal impact.

There is much work to be done. It is both gratifying and exciting for me to know that we are building Cornell together.

Thank you.