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Towards a Sustainable University

Anthony Cortese

Designing the New American University
Michael Crow and William Dabars
Johns Hopkins University Press, 2015

The Conventional Model in Crisis

That humanity and industrial capitalism have become disruptive *planetary* forces stands as an indictment of modern institutions, and the university is no exception. The current higher education system, particularly in Western nations, reinforces the unhealthy, inequitable, and unsustainable path that society is on. It largely embraces the prevailing cultural operating assumption that if people just work a little harder and smarter and let market forces be the guide, a better life will result for all. In turn, this conceit rests on the myths that human domination of nature will secure continuing “progress,” fueled by economic growth, and that through technological innovation, the biosphere can provide resources and convert wastes ad infinitum, irrespective of the size of the population or the level of its material desires.

Transformative change in higher education is needed in order to provide the knowledge and critical abilities an educated citizenry needs as the foundation for the transition to a thriving, just, and sustainable society. Yet the predominance of disciplinary divisions as the organizing structure of learning and scholarship, the increasingly instrumental purpose of education, the veneration of tradition, the emulation of “gold standard” institutions, and the influence of funding institutions and professional communities all limit its capacity to reorient higher learning and research. The transition requires that higher education leaders and faculty recognize

that the scope, scale, and speed of the unprecedented global challenge we face demand an unprecedented level of self-reflection and collaboration. The creation of a healthy, just, and sustainable society must become a strategic imperative, not simply a hoped-for byproduct of fragmented academic or operational programs. To do this, higher education institutions will have to help define the attributes of a socially, economically, and ecologically resilient society—and then turn them into a reality.

The Arizona State University Experiment

Arizona State University is an interesting case study in the quest to build social and environmental sustainability into the core ethos of a modern university. *Designing the New American University*, a new book by Michael Crow and William Dabars, offers lessons from this experiment. The former Executive Vice Provost of Columbia University and a professor of science and technology policy, Crow brought significant experience with the global challenges facing society and higher education when he became president of ASU in 2002, and William Dabars, a historian of university design and senior research fellow, complements this hands-on experience with an understanding of the evolution of higher education.

Recognizing the urgency for action, *Designing* offers a model of integration and synthesis oriented toward addressing society's biggest challenges. Its three pillars are reorienting scholarship and teaching; educating the aware and engaged citizenry needed to address the hurdles society faces; and assuming responsibility for local economic, social, and environmental well-being. In the case of ASU, this means the Greater Phoenix area (home to the main campus) and the three satellite campuses that serve the university and its 80,000 students.

While underscoring the importance of research universities, Crow and Dabars challenge elite institutions' equation of narrow selectivity with academic excellence. They strongly oppose the notion that the quality of the student body is measured by how exclusionary the admissions process is. ASU emphasizes both student inclusion and academic excellence in the conviction that a large number of well-educated students from all backgrounds are needed by society to make a positive social transition. And this diversity must extend beyond the student body into the research and learning process itself: Crow and Dabars challenge the dominance of

specialization over integration and synthesis in knowledge creation and pedagogy.

Crow attempted to put these principles into practice when he established ASU's Global Institute of Sustainability (GIOS), which now has over three hundred faculty members, and degree-granting School of Sustainability. The university eliminated a number of traditional academic departments (while seeking to maintain the provision of all the major disciplinary expertise) and created twenty new transdisciplinary schools, such as the School of Human Evolution and Social Change, along with such large-scale initiatives as the Biodesign Institute, which fosters innovation in health care, energy and the environment, and national security. The university has become a leader in tackling a range of global challenges, such as adaptation to rapidly urbanizing desert regions; water and climate disruption; and biomimetic design.

ASU has been a leader in establishing strong sustainability goals and programs for its own practices and has tied these efforts to education and research programs. The campus was one of the first in the country to commit to achieving carbon neutral operations, and it has the largest on-site solar-powered electricity generation among US institutions of higher education. Because of such advances, it received a "Gold" rating in the Sustainability Tracking, Assessment & Reporting System ([STARS](#)), which measures progress in seventeen areas ranging from education, research, operations, and investment for seven hundred institutions.

By many conventional measures, the ASU model promoted in *Designing* has been a success. The school has seen large growth in the matriculation and graduation of low-income and minority students, increased the financial support offered to students, secured greater external funding for research, attracted outstanding faculty, and received improved external rankings and greater academic prestige—all the while reducing the cost per degree awarded.

However, despite these achievements, the ASU approach is not without critics. They cite increases in contingent faculty that can exacerbate financial disparities within the institution, and the chaos created by the largely top-down restructuring of education and research models—a challenge to an institution that prizes shared governance principles. Beyond managerial issues is the larger reality, admittedly beyond the direct control of the university, that ASU is embedded in and serves a market-based economy. Any effort to transform society within this context will

face significant constraints. Not the least of these is the disinvestment in public higher education in Arizona and the US as a whole (an issue largely sidestepped in *Designing*), which has made ASU more dependent on research support, student growth, and educational innovation such as online programs and education/employer cooperative ventures to survive.

Whether or not the ASU model is desirable, it is unclear how replicable it is. None of the other 107 large research universities in the US have encompassed the total approach of ASU. While critically important, such universities make up a small part of the country's 4,100 higher education institutions, ranging from tribal and community colleges to four-year baccalaureate colleges to graduate and professional schools. With such diversity, many different pathways to transformation will be needed.

Beyond ASU: Prospects for a Great Transition in Higher Education

In general, higher education's rapidly expanding response to the sustainability challenge over the last two decades has been a positive, inspiring trend. Academic programs related to the environmental dimension of sustainability have grown exponentially across the physical, natural, and social sciences, as well as the humanities and the professions, and attention to on-campus sustainability has grown even faster. The 685 colleges and universities that have committed to carbon neutrality represent 35 percent of the student population and have collectively reduced their greenhouse gas emissions by 25 percent in the last seven years. In the last three years, 40 US institutions have divested their endowments of some kinds of fossil fuels.

But given the scale of the challenge, these noteworthy efforts, like the recommendations in *Designing*, remain insufficient. Despite its progress in environmental sustainability, higher education is doing a poor job on the health, social, and economic dimensions of sustainability. The overwhelming majority of graduates (as well as administrators, faculty, staff, and trustees) are minimally acquainted with the importance of sustainability or how to align their personal and professional lives with sustainability principles. Very few institutions have changed their endowment portfolios to match their environmental, social, and governance goals. In fact, in the US, the true integrated sustainability innovators have not been major research universities, but a few small private and public liberal arts colleges, e.g., Green Mountain College, Warren Wilson College, and College of the Atlantic, which have the flexibility to experiment with innovations in mission, structure, and pedagogy.

Before embarking on a sustainability transition, higher education needs a sharper understanding of what the sustainable society it seeks to create would look like. Broadly, such a society would meet the basic needs of current and future generations, and would give all the opportunity to pursue meaningful work and to realize their personal and social potential. Communities would be strong and vibrant because they would support cultural diversity; encourage collaboration and participation in governance; and emphasize quality of life, strong social relationships, and society's organic place in the natural world. The road to sustainability is one of culture and values as much as scientific and technological development.

For a college or university to align with this vision, it would need to operate as a fully integrated community modeled on the principles of interdependence and connectedness across disciplines and spatial scales. The *content* of learning would reflect systems thinking, with the same lateral rigor across disciplines as the vertical rigor within them. The *context* of learning would make human-environmental interdependence, values, and ethics central to teaching in all the disciplines, rather than isolate them in programs for specialists, or in special courses or modules. The *process* of education would emphasize active, experiential, inquiry-based learning and real-world problem-solving on the campus and in the larger community. Higher education would *practice and model* sustainability, incorporating sustainable practices into its operations, planning, facility design, purchasing, and investments. Finally, higher education would form *partnerships* with local and regional communities to foster social vibrancy, economic security, and environmental sustainability. The impact could be huge since higher education in the United States is a major economic engine, with annual operational budgets totaling \$400 billion annually and endowments of \$550 billion.

The challenge for presidents, senior administrators, and trustees is to leverage both external and internal stakeholders for this task. This will require the passion, dedication, and skills of transformational institutional leadership as they convene trustees, administrators, faculty, staff, students, and alumni to re-examine the mission, goals, culture and incentives of the institution. Given the pressures of education and research funding, student and employer needs, the dominance of academic disciplines and professional associations, and government policy, it is unlikely that the transformation will occur rapidly enough absent the internal student and external pressures.

Thus, government, socially-committed industry, philanthropy, and the nonprofit sector must join together in new ways to support the transition. We need a *grand bargain* for higher education that deals with big issues like the marketization of higher education and its influence on research and pedagogy, and that focuses on creating a just and sustainable society. This is key because few people in other sectors who lament the current state of the world realize the crucial role of transforming higher education in transforming society. How can society make the transition without higher education? It is the only sector designed with a long-term focus and the ability to provide the broad knowledge and skills needed by the global citizenry. We must find ways to tap the full potential of this unique role to unleash the full power of higher education as a force for transformation.

The timing is right for such deep and broad changes. For the first time since World War II, higher education in the West faces serious financial constraints that are likely to persist and, in some cases, represent an existential threat. The recent agreements by over 190 countries on the Sustainable Development Goals provide an unprecedented opportunity to examine how higher education can and must help lead, rather than follow, in the Great Transition. Business-as-usual higher education is a recipe for failure in a fast-changing world that calls for transformative action to serve the needs of a complex, interdependent, crisis-prone world in need of a new generation of bold visions, leaders, and institutions.

About the Author



Anthony Cortese is a principal of the Intentional Endowments Network, which works to foster sustainable investing, and was the founder of Second Nature, an advocacy organization for a just and sustainable society through higher education. Among other accomplishments, he organized a pact among 685 colleges and universities that committed them to becoming carbon neutral in operations and to educating their students in issues of sustainability. Previously, he worked for the US EPA and served as Commissioner of the Massachusetts Department of Environmental Protection. He was the first Dean of Environmental Programs at Tufts University and is currently the Chairman of the Board of Trustees of Green Mountain College. He holds a BS and MS in Civil & Environmental Engineering from Tufts and an ScD in Environmental Health Sciences from the Harvard School of Public Health.

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