# ARTICLES FOR UTM SENATE MEMBERS

"Academia: The Way Forward"

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<td>The American Research University from World War II to World Wide Web: Governments, the Private Sector, and the Emerging Meta-University</td>
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About the Author(s):
Holden Thorp is Chancellor of the University of North Carolina at Chapel Hill. Buck Goldstein is University Entrepreneur in Residence at the University of North Carolina at Chapel Hill.

About the Book:

In *Engines of Innovation*, Holden Thorp and Buck Goldstein make the case for the pivotal role of research universities as agents of societal change. They argue that universities must use their vast intellectual and financial resources to confront global challenges such as climate change, extreme poverty, childhood diseases, and an impending worldwide shortage of clean water.

Combining their own experiences cultivating an entrepreneurial mindset within one of the nation's elite public universities with detailed descriptions of the approaches taken by others, Thorp and Goldstein provide not only an urgent call to action but also a practical guide for our nation's leading institutions to become major players in solving the world's biggest problems. The result is a provocative and thoughtful beginning to an important conversation among educators, their supporters and trustees, policymakers, and the public at large as to how the American research university can best meet its societal responsibilities.
Holden Thorp and Buck Goldstein have crafted a utopian imaginary of an American research university for the future, and they want it yesterday. In their new book, *Engines of Innovation: The Entrepreneurial University in the Twenty-First Century*, Thorp and Goldstein put forth their vision of the research institution as a dynamic and flexible bastion of interdisciplinary innovation. Relying heavily on faculty entrepreneurship supported by administrative leadership, the authors argue, these institutions should lead the way in addressing and solving the world’s biggest problems. This book is committed fully to capitalist principles and is optimistic about their promise for ensuring the relevance of the U.S. research university.

The book is an easy read, much like a well-written special feature in the *New York Times Magazine*. It covers a lot of ground, from defining entrepreneurship to reimagining academic roles, from strategizing for organizational change to initiating and sustaining enterprises. Yet the authors remain on message throughout: American research universities must become more entrepreneurial in order to remain relevant and to address society’s big problems in the twenty-first century.

In the first part of *Engines of Innovation*, the authors provide an extended definition of entrepreneurship and describe its significance in creating their utopian university. Chapter 1 posits that research universities are uniquely prepared for opportunities in this era of globalized knowledge generation and digitized circulation. Thorp and Goldstein see the research university as one of this country’s strongest institutions, well-suited to addressing big problems in modern society—but only if it becomes more market-driven and outcomes-oriented.

The next three chapters explain entrepreneurial science, enterprise creation, and social entrepreneurship. The authors explain how principles of entrepreneurship—including having clear objectives, ensuring measurable accountability, maximizing impact, and getting results—are common across these contexts. Essentially, these are core tenets of capitalism, although Thorp and Goldstein seem reluctant to name them as such. They take pains to avoid talk of markets and profits, opting instead for more palatable (perhaps) language such as “impact” and “results.”

Throughout the book, the authors highlight real academic enterprises that operate entrepreneurially, illuminating the possibilities for change and innovation. Bio-X, an interdisciplinary center at Stanford University, is just such an initiative. At Bio-X, research
connected to biology and medicine is conducted with ongoing corporate, government, and nonprofit support.

The second half of *Engines of Innovation* is dedicated primarily to strategic planning for turning universities into these engines of innovation. Chapters 5–7 focus on dynamic visions of university organization, leadership, and the work life of faculty. Each chapter highlights examples of innovative universities and the people who run them. Because the authors are proponents of capitalist theory, it is not surprising that the most striking examples are drawn from the wealthiest and most independent of campuses. Stanford University, Harvard University, the Massachusetts Institute of Technology, and the University of North Carolina at Chapel Hill (where Thorp is chancellor and Goldstein is university entrepreneur in residence) are repeatedly featured for innovative entrepreneurial pursuits. Thorp and Goldstein describe the essential traits of successful entrepreneurial organizations and individuals—chief among them commitment to useful results. These attributes provide a framework for cultivating and fostering a community of academic entrepreneurs.

Chapter 8 focuses on issues of culture and structure in building entrepreneurial universities. It is in this chapter that Thorp and Goldstein clearly articulate what they only allude to earlier in the book: entrepreneurship is a cultural struggle, not a structural problem. Universities must engage in strategic cultural change, rather than bog down in structural reorganization, if they are to serve as strongholds of innovation. Chapter 9 makes this clear as it instructs about core principles and practices in teaching entrepreneurship.

I would have appreciated mention of the ethnographic endeavor as valuable to academic entrepreneurship for keeping itself honest about its process, outcomes, and consequences. The authors do discuss accountability throughout the book and feature it in chapter 10, but it is framed in positivist and capitalist modes—it proves viability and value by objective measures of wealth accumulation. Chapter 11 reinforces these measures further by validating the role of donors and development. However, if entrepreneurship really is a cultural endeavor (with economic and social outcomes, of course), why would we not rely on the institutionalized study of culture through anthropology and ethnography to strengthen our efforts?

I presume that the authors would never risk such an inquiry, yet I must give credit to Thorp and Goldstein for their painstaking efforts at inclusion. Throughout the book, they seek ways to include the social sciences and humanities. Indeed, interdisciplinarity is critical to Thorp and Goldstein, as is a rather socialist value of sharing credit and wealth. However, they resist attending to issues of wealth distribution.

Despite their descriptions of the many potential benefits of entrepreneurship and stories of promising academic ventures, the authors avoid engaging in critical dialogue about capitalism in higher education or discussing the hidden meanings and unrecognized consequences. It does not
take long to figure out that an entrepreneurial university will judge its members by the capital they accumulate. And whereas many fields can contribute to entrepreneurial innovation, not all can leverage the same output from their input. For example, the fields of education and social work will never earn as much as engineering.

When the university becomes a marketplace of enterprises, the threshold of acceptable capital promises to rise and rise. Inevitably, institutions must either accept a multitiered organization or negotiate the differences in capital expenditure and revenue expected to operate or generate across fields of study. Neither avenue promises democracy and egalitarianism.

As a primer for entrepreneurship and capitalist practice in academia, Engines of Innovation succeeds. Anyone concerned about the American research university should read this book to get a glimpse of the market-driven institution of which we will be a part. Thorp and Goldstein’s argument is clear and convincing—make no mistake, their utopia is en route to becoming ubiquitous truth.

Ryan Evely Gildersleeve is assistant professor of educational leadership and policy studies at Iowa State University. His e-mail address is ryaneg@iastate.edu.

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About the Author

Charles M. Vest is President Emeritus and Professor of Mechanical Engineering at the Massachusetts Institute of Technology. He is author of *Pursuing the Endless Frontier: Essays on MIT and the Role of Research Universities and Holographic Interferometry*.

About the Book:

Forty years after Clark Kerr coined the term *multiversity*, the American research university has continued to evolve into a complex force for social and economic good. This volume provides a unique opportunity to explore the current state of the research university system. Charles M. Vest, one of the leading advocates for autonomy for American higher education, offers a multifaceted view of the university at the beginning of a new century. With a complex mission and funding structure, the university finds its international openness challenged by new security concerns and its ability to contribute to worldwide opportunity through sharing and collaboration dramatically expanded by the Internet. In particular, Vest addresses the need to nurture broad access to our universities and stay true to the fundamental mission of creating opportunity.
Book Review:  
The American Research University from World War II to World Wide Web: Governments, the Private Sector, and the Emerging Meta-University  

As president of the Massachusetts Institute of Technology (MIT), Charles Vest publicly acknowledged MIT's history of gender discrimination in sciences and supported reforms to correct it. He fought the Justice Department's challenge to Overlap Group's joint agreement to avoid bidding wars for students by offering uniform need-based financial aid awards. When many other universities were jumping into for-profit online learning, Vest championed the MIT faculty's vision of offering course materials around the world for free through the OpenCourseWare (OCW) initiative.

As such a prominent thought leader in higher education, it was fitting that Vest should be invited to serve as the 2005 Clark Kerr Lecturer on Role of Higher Education in Society at the of California; that those lectures would published in a compact, accessible version, much like Kerr's own famous The Uses of the University; and that Vest would play on and update Kerr's famous coined term "multiversity" with his 21st century "meta-university."

Vest is an unapologetic admirer of American research university. He gushes, remain hopelessly in love with the residential university-with Clark Kerr's multiversity" (p. Vest's is not, thus, a book for would-be reformers. Vest's meta-university does not replace or amend the multiversity, but rather layers "ever-expanding technological tools" such as "globally created shared teaching materials, scholarly archives, even laboratories" on top of the existing campuses (pp. 92, 108, 109).

An interesting contrast between Kerr and is that Kerr, in 1963, was coming to terms with role of the university in society: "We are just perceiving that the university's invisible product, knowledge, may be the most powerful single in our culture" (2001, p. xii). For Vest, decades later, the role of the university in research and the economy was a given, and that is the prominent theme of the book-covering everything from the role of "modern technology economic development of the state" to intellectual property and the growth of competitive research funding (pp. 24, 29, 47).

But also different is that, in Vest's words, saw: "As our universities evolved, they developed complex web of purposes, which created increasing tensions between the goals of societal utility
and academic purity" (p. 2). Indeed, Kerr (himself wrote, "The university is so many things so many different people that it must, of necessity, be partially at war with itself" (p. 7). Vest also a complex web; but where Kerr often criticized multiversity, Vest admits that he was schooled the research paradigm and embraces it as a "and enabling place" and as a "mosaic to be savored and celebrated" (p. 4).

As a compilation of lectures, the book suffers from the limitations of its genre. Obviously, cannot cover every topic in detail in three lectures. But what this genre does so well, which will both contemporary and historical importance, to present the reader with a leader's insights with a snapshot of what the research university the United States looks like today: how it is funded, how it is influenced by the private sector, how interacts with local, state, and federal government, and how it confronts pressing societal issues. Vest touches on topics ranging from endowments and faculty salaries to the privatization public universities, 9-11, government earmarks, and Silicon Valley.

Several sections of the book are of special Vest's overview of the federal government's waxing and waning interest in international openness and exchange, extending back to the and coming up to the post 9-11 environment, provides insights into some rulings and of which most people have only passing knowledge. Vest gives a thoughtful discussion student financial aid and, in particular, of MIT's role in the Overlap lawsuit.

Speaking at the University of California, also asserts that he is "saddened and angered" by Proposition 209, the California ballot initiative that outlawed the consideration of race in college admissions (p. 23). He minced no words: "Simply put, I believe that we as universities must preserve the legal right and moral authority to consider as one of many factors in college and university admissions" (p. 22). He then details how strives to do just that.

Another nice feature of this book is personal recounting of the development of OpenCourseWare, which he describes as "an because it is a free-flowing, empowering, and potentially democratizing force, so we do know in advance the uses to which it will be (pp. 96-97). No doubt, higher education's exploits in online learning will be fodder for much historical writing in the future, and OpenCourseWare's unique-and free-approach will be central those investigations. Vest hints at the richness that story when he reveals, "In another [unnamed] country, an underground university based largely on MIT OCW educates young men and women who, because of their religion, are forbidden attend universities" (p. 97).
Vest opens the book talking about opportunity and, as mentioned, discusses several concepts opportunity in society, including diversity, student aid, and international openness. But those are buried in chapters that on the whole fairly administrative. Given the strong stands has taken to protect access and openness in higher education, it seems surprising that he doesn't more strongly assert the importance of topics. Also, certain topics that would fall that umbrella (such as improving affordability, increasing student success, and reducing gender discrimination in the sciences) are not covered here at all. Furthermore this book is, as the indicates, about research universities-nothing more, nothing less-and Vest is clearly focused science and technology. Thus, anyone looking commentary on the community college or humanities, for example, won't find it here.

Perhaps Vest's next book can expand the or, in the tradition of Clark Kerr, he can update this collection of lectures. One does not full sense of what the meta-university will to the student or to anyone outside the research university. Vest's description of the implications post-9-11 restrictions in areas like student and the openness of publications is compelling chilling. But nowhere does he discuss the need rethink how we educate students to become citizens. The students who occupied Sproul during Kerr's tenure in the 1960s were questioning where and how they fit into a world they growing increasingly materialistic, corporate, nuclear. Today's students are confronting an of issues that are eerily similar, from a war that many don't support to debates over global warming and soaring tuition costs. Vest's perspective on how the meta-university could help today's youth live in this world they have inherited would surely be interesting.

But those qualifications and encouragements aside, this book presents the thoughtful insights a leader who has grappled with everything from the rise of the Internet to increasing competition for students. Thus, it is sure to be, like Kerr's, a placemaker in the development of higher education.

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