The Futures of Universities:
Ivied Halls, Virtual Malls, or Theme Parks?

Jim Dator

I can't tell you how happy I am to be with you today--you fellow revolutionaries and co-conspirators in the overthrow of the industrial state, and its handmaiden, publicly-funded education. Here you are, double-agents all, pretending to be mere public or private servants laboring in the most forlorn, despised, and neglected of all educational vineyards, the colleges of continuing and distance education; cowering in the towering shadow cast by the mighty flagship campuses of the proud and haughty land-grant universities, with their officious administrators and preening professors--you sit, and work, and wait. Biding your time. Editing a video tape here, going online there, holding a conference now, and all the while slowly spreading the strong but hidden tentacles of the virtual university everywhere until, as the crew of the flagship sleeps, you rise up with fury long repressed, and strangle all the classroom-bound professors and their sucking administrators, burn all libraries which haven't gone digital, and proclaim for all the world to hear that you, and your colleges of continuing and distance education, are the sole and solely worthy conduits for learning, just-in-time, for the 21st Century.

Even though I am a very happily-tenured professor at the University of Hawaii, at Manoa, and would like to be able to tell you that UH, in all its diverse parts, shall continue surging forever forward, until, indeed, oceans' far horizons shall hear her honored name (which, in case you are wondering, is the last line in the last verse of the UH Alma Mater), I just can't promise that. Instead, I might just as well be called the Hunchback of Alma Mater, so burdened down am I by the weight of decades of prophecy and false prophecy about the future, impending demise, and possible transformation of higher (and all) education, here, there, and everywhere.

But now, now is the time. You are the people, and here is the place.

Why Public Education?

But soft! First, consider this: while universities are very ancient institutions, the modern system of public education of which many of you are a part is only about 100-150 years old. It was created specifically to meet the needs of the emerging industrial state of that time. Formal education was expected, to some extent, to pass on the truths of our tradition (in the North American case, Western Civilization--the dead white guys we hear so much about). And colleges were also expected to be places where folks like myself could attempt to pursue and, mayhap, actually uncover a truth from time to time.

But it is very important to understand that our entire publicly-funded educational system everywhere in the world--the reason frugal citizens were, once upon a time, persuaded to part with their hard-earned cash and give it to the likes of people like

me--was only so that we would transform farmers and peasants into the workers and managers (and into the soldiers and generals) needed in the factories and in the killing fields of the emerging industrial state. At the same time, some of us were also expected to do the research and development necessary to produce the guns and products of industrialization. But you may be sure that no legislature anywhere has ever funded a public university, much less any other part of the educational system, primarily to enable scholars to "pursue truth." Publicly-funded education was established entirely to serve the needs of the industrial state, and "truth" was never ever one of its needs. This has been the source of the underlying inevitable tension between town (which wants workers, jobs, products, and a good football team) and gown (which wants a measure of academic freedom and parking nearer the office).

And this is all crashing to an end as some kind of a "post-industrial"--possibly, an "information"--society springs from the putrefying corpse of the malingering industrial state.

Moreover, let me remind you that before 100 years ago--indeed before about 50 years ago--only a tiny handful of people had any formal education at all, much less any formal higher education. Formal education was not needed in traditional, slow-moving, agricultural, feudal societies. And it may or may not be needed in the future. *Learning* will certainly be important in the future, but formal *teaching through publicly-mandated and accredited educational institutions* seems very likely to be at an end.

At the very least, it is important for us to recognize that public institutions of mass education are very new and, I believe, very fragile and ephemeral.

But, even if *schooling* was necessary for industrialization, why were school *buildings* built? Or, more interestingly, *campuses*--collections of school buildings? Why have them all in one particular place? Why have everyone go to school at the same time; study and be tested on standardized curricula together; change classes when bells ring, and come to an end at a certain time in the afternoon--and for the buildings then to remain vacant most evenings, weekends, and summers? People may have to be taught to be workers, managers, and consumers, instead of peasants, nobility and slaves, but why do it in school buildings regulated by clocks, calendars, and grades?

Computers Before Presses?

The answer to that lies in a question which the media philosopher and futurist, Marshall McLuhan, posed thirty years ago. McLuhan asked: "What if television had been invented before the printing press?" If McLuhan had lived a bit longer, he certainly would have added, "and what if Macintosh PowerBooks, Personal Data Assistants, and the World Wide Web had existed before the printing press, too?"

Think for a minute. If globally-networked communication systems had come into existence in the 15th Century, do you think we would have schools and school buildings and curricula as we have them now--or indeed that we would any thing else that we presently do have?

If the answer is that our world would look much different now if we had not grown so dependent upon the printing press and the necessity of congregating in central locations for everything from education to commerce--and I think that is the only reasonable answer--then why does the world persist in looking like it does now, and

how much longer will it--can it--go on looking like this? More to the point, why do faculty, administrators, and politicians insist on erecting even more buildings and planning even more campuses across the land? It's madness. It's inertia. It's greed.

Now, this is something I have been thinking about for virtually all of my academic career. And I have been doing more than just thinking about it. I have tried to be as close to the forefront of experimentation with new communication technologies as possible, because I believe it is only through direct experience, and not through speculation of any kind, that you can come truly to understand the transforming power of any new or emerging technology. Since most of you also use the new communication technologies in your own work and teaching, you know full well the transformation which they bring.

I spent the first six years of my professorial career as the only nonJapanese teaching in the College of Law and Politics of Rikkyo University, in Tokyo, Japan. Since few of the students or faculty could speak or understand spoken English, I did my best to conduct my classes, consultations, and research in Japanese. It was during that time that I first became personally aware of the fact that what we think we understand about the world is entirely dependent on the models and media we use to perceive and reconstruct the world. The world to a native English speaker in America is, I can assure you, fundamentally different from the world of a native Japanese speaker in Japan. And while I lived in Japan, speaking Japanese, I came to see the world quite differently from the way I had previously seen the world in English in America, simply as a consequence of seeing it through Japanese grammar, syntax and vocabulary.

It was that experience, more than any other, that set me off exploring the relationship between what we think with and what we think about. Since that time, I have taught numerous courses (not only in Hawaii, but also in Canada, the UK, and throughout Micronesia) via television, radio, newspaper, PEACESAT, and even three-dimensional, static models. Because I was one of the earliest users of email anywhere, as part of Murray Turoff's Electronic Information Exchange System in the 1970s, even my normal classroom-chained students have for many years been expected to make heavy use of special listservs and now of the World Wide Web. As one consequence, within a few sessions, my classes are no longer "mine" but rather are "owned" by all class members themselves. Most importantly, each class is literally in session 24 hours a day, 7 days a week. Involvement and participation is extremely high, continuous, and effective. Moreover, since email is distance-insensitive, whenever I am (or any class member is) off-island, we can and do continue the course anyway, via our portable computers wherever in the world we might be.

Who Needs Libraries?

I should also add that while I was a member of the University of Hawaii Library Committee, I stood alone in objecting to a new annex being built for bulging Hamilton Library. I argued that the already-excellent work in remote access and digital storage underway should be more fully funded thus allowing, for example, every UH student to have a personal computer and a computer account; increasing the ease of their cabled or microwave access via the internet; converting all library material (except the rarest of rare books) to digital form; ridding all library buildings of books, magazines, and stacks; and installing beds and blankets so that the students one finds now typically sleeping in the library could sleep on in greater air-conditioned comfort.

Needless to say, I am no longer a member of the UH Manoa Library Committee. And, needless to say, efforts to build the new annex have recently been redoubled. Indeed, the wily governor of Hawaii has seduced our otherwise recalcitrant faculty by recently announcing that he will authorize the issuance of public bonds to raise money to build a new library annex. Of course, as with all public buildings these days, operating funds will never be available to use and maintain the annex properly. But no matter. The building will be built and the cravings of the present will be satisfied, while the future sinks ever deeper in debt.

Perhaps you are familiar with the work of Chris Dede, a fellow-futurist who has been tracking the metamorphosis of education for almost as long as I have. Some time ago, he made the following observations, using the term "NII--National Information Infrastructure" to describe the underlying communication technology which is occasioning the transformation:

>"The National Information Infrastructure (NII) is a vehicle for virtual communities, a conduit for knowledge utilities, and a synthetic environment with new frontiers to explore and experience. During the next decade, these emerging capabilities will leverage more change in education than has occurred over the past two centuries.

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>"Ubiquitous access to sophisticated information undermines the campus-based, classroom-centered structure of academic learning environments. Virtual communities can complement face-to-face relationships among students and faculty. In higher education, presented with the alternative of technology-mediated interaction such as telephone registration or video-based classes, an ever increasing number of part-time students appreciate the convenience despite the loss of opportunities for spontaneous, face-to-face socializing.

>"In the NII, broad-band networking coupled with collaborative tools, will empower "telepresence," shared social environments without physical proximity. As education incorporates opportunities for telepresence in remote access to libraries, computer labs, on-line advising, and video-based classes, the convenience of just-in-time, anyplace service will shift academic interactions increasingly--but not completely--into virtual communities and classrooms with electronic walls.

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>"Through such teleapprenticeship approaches, a widely distributed group of students can engage in simulated, real-time experiences (e.g. virtual hospitals, factories). Their ability to apply abstract knowledge is enhanced by situating education in mentored, virtual contexts similar to the environments in which skills will be used. Moreover, knowledge taught just-in-time to resolve a problem is mastered more readily than when taught just-in-case as part of covering material. Interdisciplinary, learning-by-doing experiences in artificial environments made possible by the NII will likely supplement discipline-centered, campus-based teaching-by-telling.

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At present, most faculty and administrators are coping with its first impact: shifting from foraging for data to filtering a plethora of incoming information. Educational leaders in the next decade must develop a comprehension of how to use this new medium to empower new messages and mission, and how to collaborate with and/or outperform competitors."
[Christopher Dede, "Beyond the Information Superhighway," Linkages, 2.2 (Spring/Summer), 1994]

More iconoclastically, Eli Noam, director of Columbia's University's Institute for Tel-Information, wrote an article on the future of the university which was published last year in Science magazine, certainly the most widely read and respected journal of the American scientific community. Prof. Noam also made it clear that, in his words, "many of the physical mega universities of the present are not sustainable, certainly not in their present duplicative variations. " Noam expects that "ten years from now a significant share of conventional mass education will be offered commercially and electronically." ["Eli Noam on the Future of the University," Educom Review, July/August 1996, p. 38]

Burning Candles?

Subsequently, an editorial appeared in Science written by Donald Langenberg, former deputy director of the National Science Foundation, former Chancellor of the University of Illinois, and presently the Chancellor of the gigantic University of Maryland System. Chancellor Langenberg states that

...[M]any universities may die or may change beyond recognition as a result of the IT [Information Technology] revolution. When asked what his light bulb would mean for the candle industry, Thomas Edison reportedly replied, 'We will make electricity so cheap that only the rich will burn candles.' We are entering an era in which most colleges and universities must decide whether to change a little (and thus remain in the academic candle industry) or a lot (and launch themselves into the academic electrical business). Barring a catastrophic reduction in the nation's commitment to research, the 100 or so major research universities probably will persist in recognizable form. Several hundred institutions whose primary focus is liberal education of full-time, campus-resident, recent high-school graduates will persist as well. That leaves about 3000 institutions of higher education serving the vast majority of the nation's 14,400,000 college and university students in ways that will inevitably be profoundly transformed by IT.

"....Resistance to radical change will probably be substantial within academe, many of whose members will argue that IT is a threat to the essential traditional values of real education and that its pervasive use can result only in pervasive mediocrity. I anticipate that much of higher education's clientele will decide otherwise. I expect that we will see academic examples of the phenomenon reported by a bank official who, when visiting a branch office, observed several unoccupied human tellers idly watching the progress of a long line of customers at the ATM."
[Donald Langenberg, "Power Plants or Candle Factories." Science June 21, 1996]

I agree with much of what Chancellor Langenberg says, but please note there is one huge assumption embedded in his forecast. He says that the 100 major research

universities in the US will persist, in his words, "barring a catastrophic reduction in the nation's commitment to research." But of course, one of the major things that is happening is that the nation is engaged in a catastrophic reduction of financial commitment to research--especially basic research. Indeed, we have never had any national commitment to research at all unless there was a direct military payoff to it, and then, perhaps, a direct commercial spin off

But the Cold War has unfortunately come to an end, and despite frantic efforts to keep the military-welfare state going, federal money for defense-related research and development is substantially down, and getting lower, while money for purely academic research and development, especially, but not only, in the humanities and social sciences, is--or soon will be--virtually at an end [Philip H. Abelson, "Global Technology Competition" <u>Science</u>, September 12, 1997, p. 1587]

And not only in the United States. Almost all nations of the world say they are too poor and debt-ridden to support publicly-funded research any more. Research funding is to be left to the private corporation which, we all know, is certainly not going to support any research that does not have an immediate and proprietary pay off to the funding corporation. Yet corporations themselves don't exist long enough any more to be willing to fund anything that might last longer than three months into the future. So who is going to fund research that will keep our Titanic universities afloat?

Indeed, in the same edition of Science that contained Chancellor Langenberg's bold assumption about research funding, there was a letter from twenty famous French scientists bemoaning the "financial chaos" of French science, especially the humanities and social sciences, because of substantial funding cuts in France. This is a story being repeated virtually everywhere in the world. Governments are getting out of the business of education and research, and no one is assuming the burden of the latter.

So, in my opinion, Chancellor Langenberg's bold prophecy about the future of education is timid indeed, and all his university power plants are more likely to be revealed to be nothing but candles burning from both ends.

So what will become of universities and schools in such a world? My guess is that while a few elite colleges may remain as they are now--day camps and marriage bazaars for the adult children of the rich and famous--most campuses will become shelters for the homeless--the vast number of unemployed teachers and professors-- and the unemployed graduates of all our academic programs too, whether campus- based, distributed, or virtual.

But a "2020World" column in the <u>Seattle Times</u> some time ago had a much more interesting suggestion.

> "It's the year 2020. [A] favorite place to vacation is the newest, hottest attraction in Boston: "Harvard, Class of 1925." Just three years ago Bill Gates rescued the shuttered campus from condo developers by turning it into a "re-creation" of a bygone era, a theme park. Now Harvard looks as it had in 1925, with lectures of the period, too: Marxism, physics (Einstein's relativity was the new thing), motion pictures, etc.

"If it could happen to Harvard, it could happen to your organization! Which of today's organizations do you think will become theme parks in 2020World? I think the typical liberal arts universities are good candidates; so are retailers and banks. Try this simple test:

"1. Is your organization primarily in the information business? (If yes, go to 2.)

"2. Does your organization "communicate" existing information to its customers without really adding value? (If yes, go to 3.)

"3. Does your organization require a physical location in order to "communicate" the information to its customers? (If yes, a theme park is in your future!)
["Will Colleges and Banks Turn Into Theme Parks?" 2020 World Digest, Monday 7 November, 1994, Vol. 01, Number 028]

I am sure you know about the development of the virtual educational venture now called "The Western Governor's University." I assume you also know about the IBM decision to set up its own global virtual university network as well. Many of you are no doubt active in creating both of those in one capacity or another. I also sit on the Virtual University committee for the State of Hawaii and believe that, in some ways, what is being created portends to fulfill all my lifelong dreams, and in other ways threatens to create a new lifetime of horrors.

For one thing, I certainly deeply regret not being able to assure my best graduate students now that they will be able to enjoy the kind of life in academia I have had. I have loved every minute of my professional life--well, except for the charade of giving grades. Not only do I wish I could be sure that the kind of life I had was likely to continue robustly into the future, I wish all teachers at all levels had it--indeed, more importantly, I wish all humans could have the kind of free, inquiring, and intellectually-stimulating environment which the University of Hawaii has always provided me. It has been absolutely wonderful, and everyone deserves to be able to live the kind of life I have enjoyed, if they want it.

There clearly is much that will be lost--or extremely difficult to maintain--as the transformation continues. I love reading and writing--why else would I be reading to you from a manuscript that I rather carefully wrote beforehand (though I must also confess that every single quotation in this paper, save one, came to me, and thence to you, from cyberspace, and not from a printed book or journal)?

Good-bye Academic Freedom?

But the biggest challenge which the future brings to what I think is the most valuable aspect of higher education in America is one which has always been fragile and threatened, but has, until now, been comparatively easy to hide and protect-- namely "academic freedom."

In "Intellectual Freedom in the Virtual University," William Morey, Bart Binning, Paul Combs observe that

"The walls of the academy that previously sheltered the concepts of intellectual freedom are becoming electronic tentacles that extend into the

home and the global workplace. The free exchange of ideas and artistic expressions that have traditionally been acceptable inside the classroom may not be so acceptable when other stakeholders in education can view only portions of the educational process.   The messages that are part of the give and take of the college classroom processes of synthesis and evaluation may seem different when being delivered over the information highway. The Internet allows educational stakeholders to glimpse classroom 'sound-bites' that may take on entirely different meanings when viewed outside the context of intellectual give and take."

"The idea of the virtual classroom and its virtual university makes the distinction between inside and outside the university community more difficult to maintain. Electronic multimedia-on-demand are making the protective walls of the university community very permeable. The World Wide Web, with its spreading interconnected links to a world-wide array of documents expressing a plethora of ideas, now allows students to both explore those ideas and to freely express their thoughts to a world-wide audience."

"Liability and copyright laws are of particular concern. How many times has a student made rash and irresponsible statements in a classroom environment that would lead to potential legal liability were the same statements seen in a public television broadcast?"
        [William Morey, Bart Binning, Paul Combs, "Intellectual Freedom in the Virtual University," Bart Binning <binning@aix1.ucok.edu>, presented at the Southwest Business Symposium, April 11, 1996, Oklahoma City, Oklahoma]

Moreover, the Telecommunications Act of 1996 contains many provisions which ultimately will have a chilling effect on much of what goes on intellectually in the protective confines of the old Ivory Tower. And while even a Federal Court had the wisdom recently to strike down some of the provisions of the 1996 law as unconstitutional, the broader business community, in its mad, mad desire to commodify and make a profit off of everything, seems sure to end the one thing about my old Alma Mater that I believe is truly worth saving, and the only thing the public doesn't give a damn about--because they aren't allowed to have it for themselves in their places of work--namely, intellectual freedom.

And with the new president of Chaminade University of Honolulu announcing to the prestigious Social Science Association recently that "faculty tenure may be on its way out" (at least according to the headline to an article written by Bud Smyser [Honolulu Star Bulletin, June 4, 1996])--and I am certain that faculty tenure is on the way out--we can be even more certain that academic freedom won't be far behind.

Sob! Sniffle! and Sob! again.

Well, I was going to add some things about the substantive focus of education in and for the future, but I will conclude only by stating, and not attempting to substantiate, the following three points:

First, Western culture will not be the dominant culture of the 21st Century and beyond. Instead, Western culture will be Number Four behind Confucian, Hindic, and Islamic cultures, and, in Hawaii, behind the revitalized Hawaii cultures. And all cultures will themselves be transformed and changed by the forces I have been discussing, and many I have not. So the future of Confucian--or Hawaiian--or

Western--culture, and all the rest is not likely to be a linear extension of the past or present. Curricula of and for the future should recognize this more manifestly, and celebrate it.

Second, while established academic disciplines, departments, and schools will have a role in the future, they will not, and they cannot, continue to play the rock bottom central core role they play at present. That role was OK in the good old days when many believed that "nature" and "truth" lay "out there" somewhere to be discovered. Even if that was a reasonable assumption "then" it is not tenable "now", much less for tomorrow.

The reason is this. For good or ill, humans have acted in their past so as to have essentially destroyed "nature". It is now humanity's challenge to invent, create, and sustain life, if we wish life, especially humanity, to persist into the future. And so it is the urgent, and largely unfulfilled, task of all education to help us learn how to "govern evolution." That is a task which probably exceeds the capabilities, not only of any educational system conceivable, but of humanity per se. But that, nonetheless, is where we are at present, and the challenge which lies ahead, ready or not.

And so, thirdly, it goes without saying that we do not have a sustainable environment for the future. But neither do we have a sustainable economic system or political system. We clearly must do the very creative and hard work of envisioning, inventing, building, and sustaining a new political-economy as well as a new environment during the 21st century if we think humans should exist in the 22nd. And, of course, I can't think of any good reason why humans should continue to exist, but maybe you can come up with some.

So I believe you've got some great opportunities and challenges ahead of you, and I don't know of any folks in the current education business who are better prepared to surf the tsunamis of change than you wild and flexible guys in distance education. In contrast to the mighty university flagships, surging ahead mindlessly on to the shoals of time, you are like so many PT boats, or, to update it a bit, so many darting mini-spaceships nipping at the buds of doom.

Or, as a modern Maxi-dude might put it:

> Sail on, sail on, universities of state!
> Sail on, blind faculties so great!
> Humanity with all its fears
> With all its hope for future years
> Is drowning in your turgid wake.

So, fellow sailors on life's cosmic main, arise, and set your solar sails! Fellow travelers! Now is the moment of decision! Cast off, and seek yon shimmering shores!

And the rest of you. Well, have a nice day.

But get out of the way: Here comes the future, ready or not.