

## WILL HARVARD GO BANKRUPT?

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If indeed the seeds for the future are sown through education, the harvest America can expect to reap is not very promising. The production of mediocrity begins early and is at a record high. We are preparing students not for the future, but to carry what we've done. The dumbing-down of education is an outcome of the gamble against a future that might not have more in store than entitlements and high debt.

Faster cycles of change and higher speeds of developments correspond to expectations of efficiency in post-industrial capitalism. These, in turn, make the expectation of prosperity possible. The institution of education is affected by these conjoined expectations. Instead of promoting rigor, education stimulates instant gratification and unfettered consumption. Everyone who wants a degree gets one, if for no other reason than that the student paid for it. What type of work will be available to them—and to anyone in general—is a question no one likes to pose.

### A Portrait in Failure

Twenty-first century America is now many generations away from the motivations that were the underpinnings of its original infatuation with schooling. The initial interest in education was based on religion (leading to the establishment of the Puritan and Congregationalist schools), but also on humanist views. The free elementary education promoted by the Common School reformers reflected their premises. Concerted efforts of family and teachers inspired the beginnings of the public education system. This “romantic” phase was often praised as an expression of understanding the importance of education for the future of the Union.

Over time, public education became a mixture of economic expediency and political opportunism. The industrial model of mass production became the model for education. In the age of machines, education was turned into a machine as well. It ended up as a state institution: costly, inefficient, and,

most significantly, incapable of adapting to change. A *Nation at Risk* (the 1983 report of the National Commission on Excellence in Education) was a wake-up call—albeit inconsequential in the final analysis. It correctly revealed an inventory of shortcomings; but it never addressed the structural inadequacies. It escaped the understanding of everyone involved that the USA had entered a fundamentally new framework of life and work. Thirty years later, the shortcomings of the republic—agonizing between centralism (more intense than ever) and decentralism—are fully reflected in the pitiful condition of the bureaucratized educational system.

Ultimately, taxpayers today entrust their children to a bureaucracy that knows only its own opportunistic interests. The system's "internees" (the children obligated to attend school), graduates, and even dropouts are, or soon will be, consumers—of fashion, drugs, gadgets, mediocre media, unhealthy food, cars, homes, travel, and other commodities—and warriors. The failed education system currently in place produces Americans who are educated in—and for—outmoded paradigms. It also certifies future incompetents, social parasites, and criminals. America spends more money on prisoners and school dropouts than on educating the young. Intellectually handicapped, functionally illiterate, without a sense of time or space, permanently frustrated, and, obviously, unhappy: this description aptly fits many pupils, as well as many teachers. Nothing corresponds to the expectations of these students—whether lofty, realistic, or mediocre. Fully surrounded by the hottest technology—no student lacks a cell phone (if not a smartphone), a game station and an Internet connection—they are just not prepared for the challenges of the new realities of life and work. The technology, more enjoyed than understood, often leads them to avoid reality. They expect chatting and gaming to become their major occupation. And it often does!

Americans have seen the images of students sleeping in class. Their excuse: "Our teachers are so boring." In most cases, the students in fact do not get enough sleep at night. They see students texting, smoking marijuana, or getting stoned in class. ("Why not? Teachers do it too. Some of them sell us drugs.") They have seen the shootings at Columbine (students are increasingly involved in acts of violence). All too common are reports (transmitted via cell phone) of oral sex performed by students in the presence of classmates, of teachers carrying on sexual relations with students, of schoolyard rapes (as the kids cheer on), gang fights, and terrible racist behavior.

Current statistics reveal that about 90 percent of jobs require some form of post-secondary education. This implies that a high school diploma is an expected minimum. For some jobs, school performance on a level corresponding to college admission standards is also useful; however, over 30 percent of students drop out of school as soon as their age allows. Almost 1.4 million pupils will not graduate. Most of the dropouts are Hispanics and Blacks; many are children from poor and very poor families, often on welfare. Poverty and the dissolution of the family, augmented by lack of education, lead to more poverty. Some decades ago, a dropout could still find low-paying jobs that guaranteed a consumption pattern consistent with an annual income of \$17,000 to \$18,000. This was just enough to pay for alcohol, cell phones, cheap fast food, imitation designer goods, television, and computer-game addiction. Today, dropouts just don't find jobs; they enlist in the military.

### To Succeed or to Fail?

What does dropping out of school mean in the broader context, i.e., for the American economy? The loss to the economy at large, over the course of the lifetime of young people who dropped out of school in 2010, has been calculated at \$337 billion.<sup>90</sup> If education is understood as a stepping-stone to indiscriminate consumption—i.e., as a machine that makes consumers—purchasing power is an indicator. However, to consider the consequences in terms of higher tax receipts is ultimately deceiving. Infatuation with oneself to the detriment of everyone else (which defined idiocy in the Greek democracy of antiquity) would be a meaningful indicator, if it could be quantified.

The assessment of economic loss implies something more significant: This is what society will pay so that dropouts can enjoy American prosperity, without contributing to it. The future of America indeed depends on the quality of its people. When a scientist calculates that each dropout loses \$260,000 in potential income over a lifetime, and that the 13 million students who will drop out over the next decade will cause a loss of three trillion dollars in economic activity, the human aspect is entirely overlooked.

America-the-Economy counts dollars; calculations focus on profits not realized. Of course, the 45 percent of Hispanic students who will not graduate, and the almost 50 percent of Black students who will drop out will affect the competitive standing of the USA. Actuarial data tell us that these people will

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90 Alliance for Excellent Education. "High School Dropouts in America." 15 September 2010. N.p., Web. [http://www.all4ed.org/publication\\_material/fact\\_sheets/high\\_school\\_dropouts\\_america](http://www.all4ed.org/publication_material/fact_sheets/high_school_dropouts_america)

live shorter lives; they will add to the growing number of teen parents whose children will rarely be better off than their parents. Such individuals are aware of very little outside their limited world: they think more about the last high, violence, killings, theft, and compulsive gambling and gaming. They know close to nothing about the Constitution, the USA, and the government. They know even less about science, art, culture, and health. Their diet is too often reduced to fast food and soda; most of them use drugs. Such persons abuse their partners, their children, and themselves. They get pregnant or else they impregnate someone in their social circle and then they disappear. For them, the USA is welfare, food stamps, unemployment, the TV set (always on), cell phones, Internet chat rooms, maybe a car, the police, court-appointed lawyers, jail. Or a stint in the military, where they continue in the same pattern. The lowest-achieving 25 percent of pupils are twenty times more likely to drop out of high school. They rarely take a course in life conducive to their betterment. The dropouts from low-income families follow the same pattern—at a 6:1 rate than their better-off peers.

The dropout's attitude is most telling: "I don't need school. I want to have a good time. The rest will work out. *They owe me.*" Racial bias and envy come into the calculation here. If young people with such attitudes eventually worry about the consequences, they assume that someone else will "take care" of them. That's how they are raised, even conditioned. Here is an example from real life: In 1992, a teacher at a Bronx high school that was considered dangerous (every day, students had to go through metal detectors upon entering the building) invited a friend, a native Nigerian, to speak to the class about life in his native country. (Most of the students were "African-Americans.") After the visitor's presentation, the very first question that a student asked was: What welfare benefits does the state provide? The class was truly shocked to hear the answer: "None. You have to work if you want to have money for food" and life's necessities.

It is more profitable to have welfare become a right for them. It is not considered support towards overcoming difficult times and bettering oneself, but rather a market opportunity. Welfare recipients will go out and spend. And if dropouts do strive, they look to what they find around them: football and basketball players, hip-hop stars and rap singers, who make millions. Drug dealers and gang leaders are, together with celebrities, their role models.

Success is also expressed in other numbers. A high school diploma promises an income only 50 percent higher than that of a dropout; an associate's degree,

double the income of a dropout; a Bachelor of Arts degree brings three times a dropout's income. Are these better-educated earners always better human beings? The educational levels of everyone involved in the subprime mortgage crisis, preceded by the huge bubble in housing prices, were characteristic of the American system. Some of the dropouts, with no jobs, and some of the PhDs, in the mirage of speculation, had different things at stake. The people who designed the get-rich-quick schemes were the sophisticated alumni of elite business schools. And the people who invented the super complex derivatives were the "brainiacs," the "quants," who were taught the "religion" of making profits. Clearly, remaining in school to be processed in the traditional industrial model of education did not make them better human beings. In many cases, without fully understanding, or caring, what they were doing, they performed the alchemy of turning "vapor" into wealth. It did not matter that this "magic" brought America to the brink of disaster. There is no place for patriotism in the miserable schools for the poor—or, for that matter, in global hedge fund speculation. *To teach children virtue when in real life no virtue is expected from them is to risk more complaints from them about school being boring.*

Numbers are important when they are associated with proper explanations of what they define. The number of college-educated people has doubled. But are they *better* educated? There is nothing to be gained from idealizing the rather "elitist" model of the past, when only a few could afford to pursue a doctoral degree. The "populist," "democratic," "participatory," "hand-holding" model of today's education promises more, but it is deceiving. Education in America is responsible for the failure of many, but it can take credit for the success of others. Its outcome is represented by the percentage of dropouts and successful speculators. But it is defined as well by those with impressive accomplishments in science, technology, medicine, farming, literature, and the arts. It is a mixed performance.

### Will Schools Change?

The inadequacies of an education system that is based on the machine model are a handicap to everyone who does not fit the mold. Everyone who is different—and each one of us is different—is affected. The inadequacies of the system are also a handicap to everyone who is taught that performance—i.e., meeting the standard requirements—is the only thing that counts. Even the most vocal critics of today's education take note of the fact that passionate educators are trying to come up with alternatives to the public schools. This is not the place to evaluate the charter school movement, frequently supported by

visionary, successful business people.<sup>91</sup> These thinkers realize that education must undergo a fundamental change. They are trying to raise standards to meet current exigencies. Most importantly, they are trying to impart values as well as knowledge to their students.

Despite many debates and various attempts to improve public school education, the most serious underlying problem is that those who make up the institution as such do not realize the nature of the fundamental change from industrial society to post-industrial society. Schools still address students as though they were living in the past. But the condition of the human being has changed—especially our cognitive make-up. Education plods along, filling children’s heads with information that will be of no use to them for their future. In some cases, students are far ahead of their teachers. They are comfortable in using computers and networking. In the higher grades and universities, they have a better understanding of the new sciences (genetics, robotics, nanotechnology) than their teachers do. The tenure system for teachers—once an important achievement—is no excuse for them to stop learning themselves. Nevertheless, many do.

An editorial in a leading newspaper describes the following situation: “Because of union power, California can’t fire teachers—even one who was found with pornography, pot and cocaine in school. California teachers are among the best paid in the country, while the schools are among the worst.”<sup>92</sup> California is by no means an exception. The general decrease in competence and performance among teachers and students is inadvertently financed by taxpayers. Americans, allergic to the word “socialism,” don’t realize that public education is socialized education. This choice was made early in the history of colonial America for the majority, although it was opposed by the elitist private school model.

From kindergarten to grade twelve, each child in the USA will be involved in 14,000 hours of class time, at a cost of more than \$100,000 per child. Thanks to the growing bureaucracy of education, part of that money pays for non-class-related expenses. Although they are often aware of the bureaucratic overhead, parents and all other taxpayers have less and less of a say. Once upon a time, you could read that “[t]he child should be taught to consider his instructor ... superior to the parent [...] The vulgar impression that parents have a legal right to dictate to teachers is entirely erroneous.”<sup>93</sup> The verbiage changed—nobody

91 Strong, Michael, and John Mackey. *Be the Solution: How Entrepreneurs and Conscious Capitalists Can Solve All the Worlds Problems*. New York: Wiley, 2009.

92 Brooks, David. “The Bloody Crossroads.” *The New York Times*. 7 September 2009: N.p., Web.

93 Swett, John.1860. See: <http://www.school-survival.net/quotes.php>

would use this kind of language today—but the attitude, expressed in the rules and regulations governing the relation between schools and parents, is the same. Parents, already less involved with their children, no longer bother to get involved. In the age of indulgence, love for their children means only to satisfy their desires for cars, fashionable clothes, cell phones, and computer games. And fun, endless fun. Instead of *actively and personally* contributing to their children's better education, quite a number of parents prefer to “bond” with them. Alienated in society, they themselves prefer playing the role of friend. “Helicopter parents” (so-called because they hover over their children day and night) are no better than negligent parents. Defending their child against the slightest criticism from teachers, they refuse to let the child learn, just as they themselves refuse to learn.

The sad truth, understood by almost everyone, is that only a small fraction of the student's intellect—high or low IQ—will be applied towards learning. Not so long ago, students, with their parents' active encouragement, were motivated to eventually become better earners. At that time, education was able to keep its promise of a better life in the American industrial-capitalist system. Today, American schools are by far better in making consumers. Defining students' intellectual and moral profile is a marginal priority—forget about stimulating creativity. The degree to which today's schools are integrated in the culture of consumption is worrisome. Socialized public education, like its private alternative, has become the school for generations willing to live on their parents' debt, before they start their own. In order to keep pace with their peers—whether with clothes, gadgets, cars, vacations, or drugs—they give their futures away. Immediacy overrides responsibility.

In addressing education, it is impossible to ignore the role and qualifications of teachers. In 2009, in Massachusetts—a state able and willing to support its school system—three quarters of the people taking the teacher's licensing exam failed the mathematics section. To generalize based on this example alone leads nowhere—just as it also leads to nowhere to claim that the sad state of public education is a matter of money. There are cases in which a school's football coach makes over \$170,000 per year.<sup>94</sup> Teachers earn three to four times the average salary in the USA. Better wages and benefits, however, will not increase their understanding of the time they live in. The educators of the teachers need to provide this understanding. But they themselves need to gain this understanding first.

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94 “Has College Football Become a Campus Commodity?” *60 Minutes*. 18 November 2012. Television. <http://www.cbsnews.com/video/watch?id=50135410n>

## The Magic of Legacy

The super-high league universities like Harvard, Yale, Stanford, and Princeton give out diplomas with a promise printed in invisible ink: You will succeed! But you cannot get a diploma if you can't get in, and not everyone gets in. One of the reasons that not everyone can be admitted to Harvard and similar universities is that they are not “members of the family.”

As the press has extensively reported, nearly every senior who has gone through the admissions mill can recount stories of peers with outstanding academic records—class valedictorians with stellar SATs and perfect GPAs—who were passed over by top colleges while others, with far more modest credentials, got the nod. Elite schools routinely “like” athletes, and they also like the children of celebrities, politicians, and even faculty members.<sup>95</sup> “Development cases,” whose wealthy parents offer hefty donations up front, and the offspring of alumni have priority. Parents of these “legacy” candidates contribute to university endowments after their children are admitted. Legacy preferences are the original sin of admissions; they compromise fair, merit-based standards.

Are these educational establishments exceptional? Of course! Some experts rank them among the best in the world. Check out their endowments. Check out how competitive they are: only eight percent of applicants are admitted. Check out the credentials of faculty members. The manner in which they recruit the minds that best match their expectations from all over the world explains part of the success: including Nobel laureates, women, minorities, young talent—everything it takes to keep the pattern of success going. These institutions are in the eye of the world. Kings and sultans, nobility, families with impressive wealth, but also talent (from China, India, Singapore) keep an eye on those universities. “Should we entrust our offspring to you? Should we send our talent in your direction?” Foundations and endowments also scrutinize them in order to make sure that their gifts reflect back on them in the most flattering way.

As magnets of talent, the universities brought the world's brightest to America. Economically, Harvard, Stanford, Princeton, Columbia, Yale, etc. are like any other enterprise: they are driven by the aim of self-perpetuation. To make money is only part of the drive. None of them would be willing to

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95 Golden, Daniel. *The Price of Admission: How America's Ruling Class Buys Its Way into Elite Colleges—and Who Gets Left Outside the Gates*. New York: Three Rivers Press, 2006.



consider a future in which their pre-eminence could be questioned, or their purpose doubted.

Without donations, universities claim, they could not invest in high-quality faculty and facilities; that is, they could not remain competitive. Even more important from the standpoint of social justice, universities say they couldn't maintain need-blind admission policies—assuming they exist. These policies allow colleges to selectively admit students purely on academic grounds. They can offer financial aid to anyone unable to afford the roughly \$50,000 per year it costs (in tuition and living expenses) to attend a top-notch university these days. Social cosmetics, a bit of luck, and definitely a fair amount of effort after the preliminary ingredients are at work (e.g., racial integration, cultural diversity, gender balance) explain the exceptions. These measures fully confirm the premise that “You will succeed” is not even a choice: it is a mission.

The grounding of the university, i.e., its conceptual foundation, its functions, and its purpose cannot be considered independently of one another. The elite university still filters exceptional aptitude (intelligence or talent) and promotes selective socializing. All other universities have a seat for those who want one, or whose parents think their offspring want one. Even a superficial examination of universities as we know them today allows for the observation that their structure is almost the same as it was in the beginning of the university. (Incidentally, the same holds true for the military.) It has the same hierarchic model (inspired by the Catholic Church, and practiced in political life): a head (sometimes a fundraiser with a certain cachet, like Larry Summers after his short tenure as Treasury Secretary); a board (reputable persons, able to contribute—the word is open to interpretation); colleges and schools (reproducing the same structure); and, yes, “parishioners,” i.e., students in search of an identity (or belief), willing to be certified as such and to bear the word further. The god changed. It is the mighty economy (or the dollar, for those who want to oversimplify).

By the way, almost 25 percent of the student body majors in business. Their education has not helped them “to think outside the box.” That is, they are not taught how things should change for the better, but rather how the systems already in place (e.g., Keynesian models, investment schemes that make financiers rich) should be perfected. After all, the thinking goes, the Great Recession (starting 2008) was much “better”—i.e., less damaging, in that unemployment did not hit 25 percent—than the Great Depression.

## The Commercialized University

Let us distinguish between criticism of the increasingly commercialized university and criticism of the *premise* of the commercialized university for its current success or failure. The structure described—hierarchical, centralized, sequential (i.e., all the prescribed steps towards graduation)—was adequate in the reality in which universities emerged, i.e., the Middle Ages. The post-industrial era corresponds to human endeavors freed from the constraints of hierarchy and centralism. Integration of efforts over large networks is a necessity. Parallelism replaced the old model of production lines (linear by their nature). All the activities, distributed throughout the world, converge in the production of sophisticated automobiles, airplanes, computers, and intelligent processes. The old university served as a model for the real world of yesteryear. The current university—whether with a historic campus or online, elite or state-run—tries to force the real world—that continues to change—to conform to its obsolete mode of operation.

Nobody can deny the role universities play in attracting young talent. But no one can ignore the fact that their commercialization has led to a practice of higher education that is neither higher—in terms of academic standards—nor education, but is rather vocational training. More often than not, colleges and universities are enterprises, offering the service of “credentializing.” Like all other enterprises that compete for their market share, they calculate the return on the investment. The obsession with the financial equation is such that no one can continue to refer to universities as “temples of knowledge” (as idealized as this description was), and even less as mere “socializing environments.” They are investment avenues and savvy marketing outlets. They need stars for success; they need coaches (especially for football and basketball), some who receive a salary of a million dollars (or several millions) that correspond to their ability to bring in the money; they need Nobel laureates, and they need lobbyists. Universities always need more funds, even though tuition increases exceed the rate of inflation. “Star” scholars and researchers are expensive. So is the cost of the favors universities buy from the rich and powerful through contributions to political parties. Indeed, Stanford, Harvard, and many others contribute to political campaigns, competing with Goldman Sachs, Google, Pfizer, lawyers, physicians, arms makers and dealers, the NRA, etc.

University endowments took a beating as they tried to play the same game that banks and businesses play. Because they got involved in risky operations and speculation, these endowments shrank by over 30 percent in 2008.

Surprise? To speculate in the billions of dollars on money donated to a not-for-profit organization is to a great extent the same as *de facto* becoming a for-profit company. Therefore, no one can expect the market to be soft on universities. Markets are merciless, regardless of what they deal in: guns, oil, or university endowments. In the autumn of 2008, when the financial crisis scared the nation, Harvard tried to sell off a chunk (\$1.5 billion worth) of its private equity portfolio. One money manager who was offered an opportunity (a bargain: 50 cents on the dollar) could not refrain from being blunt: "If you guys [Harvard's endowment managers] want to sell, I'm happy to rip your lungs out. If you are desperate, I'm a buyer."<sup>96</sup> This was an alumnus, showing how well the university taught him. But that scenario also demonstrates that universities are all part of the same economic system as other industries, in which profit is all that counts.

America is home to almost 6,000 institutions of higher education. Some are your typical not-for-profit colleges (the US Department of Education identifies almost 5,000); others are the new Internet-based operations, for-profit establishments, and hybrid enterprises. Thousands of intellectual property licenses and patents originate from these institutions. Start-up companies spring from their various schools and departments.

The accreditation process, developed as an independent quality-control mechanism, is supposed to legitimize the outcomes of these institutions (i.e., degrees conferred); however, in recent years, the outcome-based performance typical of trade schools has been adopted in accreditation. Too many classes are taught not by professors (accomplished or not), but by students who have not yet received any degree. Dependent on foreign demand, many programs in American colleges would be downsized, or even closed, were it not for students from India, Pakistan, the oil-rich Arab states, and China.

"Outcome-based performance," the new metric of such education, means nothing more than "How well are you satisfying the immediate demands of the corporations?" This is also the level at which research is conducted. The cheapest creative workforce is made up of students, all in search of opportunities to pay for their tuition and, if possible, for their entertainment. At the elite universities, graduate students are almost always fully funded; their post-doctoral work is even better funded. The economy knows that it is cheaper to pay for a young researcher than to cultivate your own researchers. Free of labor contracts and other regulations, conducted under the supervision of a faculty member, student research is profitable. The huge government defense

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96 Munk, Nina. "Rich Harvard, Poor Harvard." *Vanity Fair*. 30 June 2009.

establishment learned how to play this game even better than industry. It dispenses public money, often under the pressure of elected officials or other members of the government, from budget allocation, for subjects on which no private company would risk its own capital. Were it not for the universities, eager to get contracts from the defense organizations, the huge bureaucracy would have little to show for the huge amount it costs to maintain it. Some members of academia are vociferous in denouncing military activities or, for that matter, Homeland Security. Still, academia remains eager to get some of the public money funding these organizations. It is duplicity, of course, extending into the moral relativism of the students. It also influences those young entrepreneurs, who, after graduation, chase after the same money, should they decide to play the start-up game.

We are teaching our students the art of making profit, of consumption, of securing prosperity through wars. The future of less available employment and work, of increasing demands, and of sustainability will require a different awareness of consumption. It will also require the realization that wars are not the answer to our own inadequacies. Such and similar understandings of the future do not appear as offerings in any curriculum.

Yes, in education, as in the economy, America socializes risk, and nobody objects. Should profit be generated, the entrepreneur, not society, reaps the reward. In college, many entrepreneurs have learned that they are “entitled” to receive public money in order to make personal profit.

In a recent attempt to build up more enthusiasm for federally supported research, the following remark was made (by a scientist who should know about it):

*We took something that was a pretty big game changer, which is the iPad. (You could also consider the iPhone.) It's an amazing innovation. But if you look at every one of its components, the majority actually come [sic] from federally supported research.*

*The fact that the chips can be so small, to sensors [such as] the GPS—all of it comes from federally supported research. A lot of times, the research was just done to understand the physical world better. But at the end of the day, an innovative company like Apple can take these things and put them together into a really game-changing product.<sup>97</sup>*

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97 Luis von Ahn, quoted in Thibodeau Q&A: “‘iPad deconstructed’ Forum Makes Case for Federal Research.” *Computerworld*. 22 September 2011. Web. [http://www.computerworld.com/s/article/9220207/Q\\_A\\_IPad\\_deconstructed\\_forum\\_makes\\_case\\_for\\_federal\\_research](http://www.computerworld.com/s/article/9220207/Q_A_IPad_deconstructed_forum_makes_case_for_federal_research)

The scientist did not mention the following: The transactional capitalist sector will happily take the money from the public, but it will not share the profit with the public. Apple made a huge profit (one trillion dollars at some moment in time), and still wonders what to do with it. If an investor (venture capitalist, bank, corporation) had financed the development of the iPad (or many other “game-changing products”), it would ask for its share of profits. In a democracy, those who pay should not have lesser rights than those who own the capital, or the means of production. If a fair share of the profits had been returned, research would get more support, and so would universities and schools. To socialize risk and to capitalize profit is to undermine the democratic foundation of research and education.

### Lower Criteria—And Getting Lower

Politicians and the educational bureaucracy brag that the USA has the best universities in the world. This might indeed be an accurate description of some. Yet a question lingers: How can this possibly occur in a context of deficient primary and secondary education that cannot deliver the students that universities would like to have? Given the manner in which American students, from kindergarten to high school, are educated, American universities and colleges should be half empty. Yet another puzzle: How is it possible that despite an inadequate educational system, an impressive outburst of creativity still makes America the enviable place to be? Isn't this still, despite its many shortcomings, the land of opportunity, attracting the most talented people from around the world? The most exciting research is still carried out here; Americans of all backgrounds produce rigorous scholarly work. Where would you encourage your children to get their university education if not in the USA?

Success is a relative qualifier. In sports, the fastest, the strongest (drugs not withstanding) enjoy success. In the economy, it is the most profitable business (even if profit is derived through questionable means). In higher education, the metrics of success is multidimensional. On one side are the graduates, who are supposed to be competent, ethical, creative, principled, dedicated, and responsible in all they do. Not all of them are geniuses, or winners, or even always happy. On the other side, the so-called objective side, are the numbers: of graduates, of well-employed graduates, of inventions and start-up businesses, of the value of research grants and other funding. A Bachelor of Arts or Sciences degree—as already mentioned—should lead to a yearly salary of well over \$50,000. Yet the unemployment rate for such graduates is

between two and five percent (still far lower than that of less qualified young adults). However, numbers tell only one side of the story. Inadequacies tend to hide behind the well-lit assessments of success.

The extension of opportunity is respectable. But the price must be acknowledged. Faced with the reality of progressively lower levels of elementary and secondary education, colleges took it upon themselves to compensate for what high schools do not deliver. There is no official record of the many children of immigrants astonished at how much more they know—of mathematics, physics, chemistry, geography, music—than their American classmates. In some ways, a Bachelor’s degree from a college in the USA is equivalent to a high school degree in Europe or Russia. An asylum seeker from Rwanda went on record, saying, “A C student from Rwanda will automatically be an A student here.” He taught French in public schools, and he found the standards of the schools he experienced to be very low.<sup>98</sup> Both private and public colleges and universities end up compensating for what high schools did not, or could not provide, and at costs that not everyone can pay.

Under the pressure of mandated racial integration, many important universities created colleges that accepted insufficiently prepared students in the hope of eventually mainstreaming them into the university at large. To encourage integration, money was made available from the states and from foundations. The watered-down pre-college education forced colleges to dilute their own standards. Moreover, many students drop out of university shortly after they are admitted. “Our education pipeline leaks badly. Of every 100 ninth graders, only 18 come out at the other end ten years later with a college degree.”<sup>99</sup> If dropouts from high school are a major issue of concern, the college dropout rate—students who do not get their degrees—is also disturbing.

“Mickey Mouse” courses, as they are called, have replaced serious academic offerings even in the most demanding disciplines (mathematics, physics, computer science). They provide neither style nor substance. Professors who do not want to be accomplices to dumbing-down are sometimes called snobs, racist, too old, or “not open to new offerings” (read: vocational courses). Students shun the courses of professors who actually require university-level

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98 Suketu, Mehta. “The Asylum Seeker.” *The New Yorker* 1 August 2011: 32-37, p. 34. Print.

99 Tierney, Thomas J. “How Is American Higher Education Measuring Up? An Outsider’s Perspective.” National Center for Public Policy and Higher Education: [www.highereducation.org/reports/hunt\\_tierney/tierney.shtml](http://www.highereducation.org/reports/hunt_tierney/tierney.shtml).

work. And so, young adults end up with degrees in, for example, multimedia design—a very important field in an economy dominated by communication. But for this, all they have to learn is Photoshop or PowerPoint—which they can actually do on their own. They become game experts after a course on dealing poker or craps. Over 100 Master’s degrees—awarded in such “domains” as leisure, avian medicine, the grid (smart electric meters is one specialization here), homeland security, even cybersecurity—testify to the transformation of degrees into job requirements. This is neither a joke nor an exaggeration. College diplomas and certificates are becoming prerequisites for joining the workforce (if you don’t like driving a taxi or waiting tables). In pursuing the goal of maximizing profit, the private economy transferred on-the-job training (which is very expensive) to the higher educational system.

Ninety-nine percent of America’s 113 million households own a refrigerator and a stove, and at least one television set (usually two or more). They own more than one car, and more than one cell phone—smartphone is the new standard—and, of course, a game playing station, usually the most recent. But over 50 percent of the population is functionally illiterate; almost 70 percent never open a book, never write a letter, and do not know how to add numbers.

As glorious as the major universities might be, they may as well be on another continent or on the moon when it comes to their impact on the level of civilization in the USA. In the absence of civilization, society experiences outbursts of racism, sexism, intolerance, thievery, charlatanism, and criminal activity. It is not the so-called low IQ that explains Abu Ghraib, or why some soldiers urinate over dead bodies. The Stupidity Quotient (SQ), which describes actions detrimental to those who commit them, and to everyone else, is probably connected to the lack of civilization, for which education, at all levels, is responsible. The IQ is no guarantee of character; but the SQ is guarantee of moral failure.

“As California goes, so goes the nation.” In the context of education, the specter of a California-type decline is frightening. Until the recent rise in tuition—32 percent—the major problems facing California were never discussed on university campuses. The subjects of student activism—gay marriage, a requirement that only fair-trade coffee to be served on campus, legalization of marijuana, decriminalization of child pornography, among many others—were injected from off campus. But they found a fertile environment among students lacking in proper education from their parents and a civic foundation for their studies. Students wanted more rights—all irrelevant to their

educations—not higher standards. They expected guaranteed employment, regardless of what they studied—genetics or square dancing. In California, more than in any other state, the economy and government are intertwined. Consequently, one might expect a form of social activism leading to a civic and professional education corresponding to the exigencies of our time. Instead, utopian slogans coming from way out in left field prevail. “Californians voted to tax themselves like libertarians” (i.e., in favor of minimal government) “and subsidize themselves like socialists”<sup>100</sup> (expecting everything from government). Yes, the students want to be paid for studying. The expected “Good try!” sticker from kindergarten and grade school should, in their opinion, morph into a check for college tuition. The diploma as a guarantee of a well-paying job should be a civil right. Ideally, these students believe, they would have no responsibilities, except to have a good time.

To generalize is risky. The role that Americans play in the democratic process has diminished. In the past few years, American college campuses, whether in California, New York, Massachusetts, or other states, were no longer the places where ideas are debated. Social and political causes motivate students and faculty only marginally. To intelligently discuss the values that defined America at its inception is considered a waste of time. The contributions of American intellectuals (left and right) since the 18th century are in the main ignored. The podium has been usurped by moral relativism, political correctness, and moneymaking strategies. To “occupy” something is much more exciting, and easier, than engaging in a purposeful attempt to change oneself, as a prerequisite for changing the world.

### An Education for Freedom

The project called America was built according to the assumption that limited republican government structure would be supported by educated Americans. These individuals would, it was supposed, realize that freedom makes sense only if associated with a high degree of responsibility. John Adams warned, “The Constitution was made only for moral and religious people. It is wholly inadequate for the government of any other.”

Adams was not referring to anything like today’s transitory Jedi religion, or the “moral code” of identity theft. Without predicting the decay of the country he so much loved, and of the Americans to whom he was so devoted, he went on to state that only a virtuous people are capable of freedom. Only as nations become “corrupt and vicious,” do they have need for “masters.”

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100 Brooks, David. “The Bloody Crossroads.” *New York Times*. 8 September 2009.



It is important to realize that America's current crisis—in society, politics, the economy—is to a large extent the result of an inadequate education system that “fails to develop native intelligence.”<sup>101</sup> America, the superpower, is caught in the crossfire of its own demise while still celebrating its glory. The answer—better yet, the many answers—to this state of affairs will not come from self-flagellation or sermonizing. To blame the economic condition of educational institutions will not help either. Consumption cannot be wished away in a system that survives and prospers on the basis of consumer spending. This is the formula of capitalism, not to be vilified, but rather understood as a choice that America made as it transcended its beginnings. Consumption can be blamed; the ever-increasing expectations of abundance, including the abundance of entertainment deserve their own share of criticism. But this kind of censure will not result in a better understanding of the problems that America faces, and even less the role that education should be called to play if it is to help in the process of amelioration.

### Nurturing Differences

America still has not committed itself to an educational system that does justice to all Americans. Nor can it do so in any meaningful way until Americans understand what education is. To provide a foundation for human interaction on the basis of shared values and a sense of mutual respect is only the first step. The second and far more important step is to allow for the development of talent.

To achieve this, education must first abandon the model of industrial processing, which pushes the students through the pipeline so that a homogenous product comes out at the end. The metaphor of a cannery applies: all students are filled with the same ingredients, at the same rate, regardless of their talents and aptitudes. After that, lids are snapped on and a label (the diplomas) applied (no expiration date).<sup>102</sup> Every student is treated like the other—in the name of “equality.”

Since every human being is different, the necessary change in education is obvious: *differences ought to be nurtured*. Every person is creative, but each in a different way.<sup>103</sup> Americans will continue to require a common sense of right and wrong—this is the basis of civic education. But they cannot acquire

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101 Barzun, Jacques. *The Forgotten Conditions of Teaching and Learning*. Ed. M. Philipson. Chicago: University of Chicago Press, 1991. Print.

102 Nadin, Mihai. *The Civilization of Illiteracy*. Dresden: Dresden University Press, 1998.

103 Nadin, Mihai. *Mind—Anticipation and Chaos*. Stuttgart: Belsler Verlag, 1991.

this kind of education by reading texts that make little sense today. Engaging students in a learning process that corresponds to the current context of life and work should be the goal. The 43 hours per week of socializing that a student spends on campus is almost ten times the number of hours (five, at last count) spent on study. Self-absorbed in their cell-phone communication, obsessively filling their time with instant messaging, chatting day and night on every new “social” [really?] medium, playing computer games until they have a heart attack, students use technology to indulge in the trivial. Technology should not direct education. Rather, the inverse should take place.

Education in America today faces a fundamental challenge: it must be emancipated from its industrial condition. As a machine for imparting no more and no less knowledge than what it takes to function acceptably within a capitalist economy, it failed. But this is the negative definition, what education should not be. Education is interaction, informed by social responsibility, with the aim of allowing individuals to find their paths in life, each according to his or her talents and inclinations. Education should give up reacting to breakdowns. It has to be proactive, precisely in order to assist society and individuals in mitigating risk. In the age of global mobility, fast change, and individualism, the focus can be only on distinctions, more precisely, on differences. An educational foundation starts with the goal of understanding difference not as a shortcoming to be fixed; rather, *difference as opportunity*.

Of course, for education to make this huge step from molding a homogeneous society to allowing for and nurturing differences, politics and policies would have to change as well.

Education has often engaged in political change, as it does in cultural, scientific, and technological innovation. Awareness of difference should effectively inform political activities and the formulation of social goals. The Constitution affirmed America as the land of the free because only freedom can keep the economic engine running. Freedom and equality do not require sameness. Men are different from women; Whites, Blacks, Browns, and Orientals are different as well, and individuals within the White, Black, Brown, or Oriental communities are also different. The same applies to gays—for some reason statistically prevalent among dancers, actors, fashion designers, and other artists.

It cannot be stated too many times: Education must build on differences and stop making uniformity its goal. We are equal, but—thank heaven—we are not the same. The source of energy is difference, not artificial sameness.

Today's university is already experiencing the consequences of living in the information society. Yet it still does not realize what the shift from industrial society to information society means. Think about it in terms of an analogy. A player (basketball, football, or hockey) needs to understand not only his own role, but also the role of his teammates. A mediocre player reacts; a good player is heading where the ball will be. It is a fascinating process, not reducible to how many computers the students use, how many online classes are available, how much the classes extend into the new networks (to be replaced by newer networks). *It is time for a new understanding of the kind of knowledge we need and how to acquire it.*

Another urgent concern is how to disseminate knowledge in forms that allow for further progress in knowledge acquisition and practical activity. It is safe to say that knowledge acquisition—in forms that will also change—and knowledge dissemination need to be related. This means new, multimedia “literacies,” i.e., ones that address all the senses. It also means effective multidisciplinary. So far, American universities have not positioned themselves for this change.

### In the Footsteps of Others

Higher education must emancipate itself from the tutelage of bureaucracies. It has to resume the function of informing society about future opportunities, instead of playing catch-up once these opportunities have passed. Such a goal might sound like wishful thinking. But it is better to follow the imagination and be innovative than to run behind others who, as innovators, pursue bold ideas that might be ahead of their time. “He who follows in the footsteps of others leaves none of his own behind,” is a saying that universities would do well to adopt.

America created an economy of research. Since its inception, it was relatively disconnected from the rest of the world. To break dependence on the Old World, it had to be inventive. The universities of Europe built upon a tradition of inquiry in which experiment and theory were intertwined. Two of the Founding Fathers—Benjamin Franklin and Thomas Jefferson—were dedicated to science and its applications. They were researchers and inventors in their own right. The astronomer David Rittenhouse improved or invented navigation equipment and road and canal systems; Benjamin Rush was active in medicine; Charles Wilson Peale laid the foundation for the American tradition of disseminating knowledge about natural history to the public. Nevertheless, research does not make many inroads into the early educational system (public

or private) in the USA. As with Eli Whitney's inventions, research aligns with economic factors and affirms the American understanding of science as a major agent of change. The development of useful knowledge, protected by patent and copyright laws, was guaranteed when Washington signed such a bill into law on April 10, 1790. This consolidated America-the-Economy. The immigration of scientists, probably due to the freedom and opportunity that the USA offered, has continued since that time.

A time went by, universities discovered the relevance of research to their own goals. Teaching remained the focus of faculty activity until World War II. Within the industrial model, science had changed little since the 18th century. It afforded improvements, not a new perspective. Today, that relatively slow rhythm of change is inconceivable, but it explains why it took so long for universities to discover that they needed professors who were able to partake in change, not just to document it. Indeed, the substance of education is the knowledge acquired as more and better questions are posed. To provide an education that results in competent graduates, able to operate in a world reshaped by the most recent science, the faculty members themselves must be part of that science.

Europe's dominance in science ended with World War II. Leading scientists survived because they escaped Germany. Others realized that only America—the victor not affected by war's destruction—was in the position to encourage science and draw economic advantage from it. In today's extremely competitive world, the university gets better students if its faculty members are more successful. And they are more successful to the extent that they “pay” for their positions. Professors—ordinary or with endowed chairs—“pay” with research money from industry, from the military, from the government, or from the increasing number of foundations.

Is the return on the investment in research good enough? This return is primarily represented by the classes, seminars, and laboratories offered. It reflects upon the competence of teachers and students; it triggers more creativity. These are not easily quantifiable parameters. Easier, of course, is to quantify the impact of a particular research undertaking: How do we get a better outcome from a process? How do we save time, and energy? And so on. The accomplishments of American science are spectacular. Still, one cannot avoid wondering: Is the investment always justified? Does the research, as part of education's broader agenda, contribute to a better human being, or only to more prosperous consumers, obsessed only with their well-being?

If this question sounds like preaching or moralizing, it is because American science, in its quest for success, has given up any shade of self-doubt. The

awesome atomic bombs were the result of scientific research informed by a sense of urgency that even today is not fully understood. The threat from Nazi Germany and Japan prompted scientists to address society in respect to the dangers entailed in their own discoveries. But in our days, of infinitely more promising and at the same time more dangerous science, the broader questions of consequences are rarely, if ever, addressed. Universities deliver cheap qualified research work, and benefit from funding regardless of its source. *Science is consumed*. This science is embodied in the new post-industrial wars of remotely triggered weapons and intelligent carriers of deadly material (explosives, chemicals, microbes, etc.). Technology applied in entertainment—*Avatar* is only the most costly example—guarantees high combat performance. In the virtual world, this science partakes in the act of turning people's free time into the indulgent experiences of pornography, endless game playing, and chat room irrelevancy. On the other hand, the fact that the same science is also extremely useful in other contexts—e.g., neurosurgery, space exploration, synthesis of new materials—from which all Americans, and the world at large profit, cannot be ignored.

Scientific research creates impressive knowledge, but it can also increase stupidity. Science and technology make it possible for individuals to engage ever less human ability and skill in their lives and work. It is no tragedy that a calculator stores all the arithmetic, or that a spell-checking program contains all the spelling that one needs. These are new circumstances; this is the amazing context of the information society. There is a sense of tragedy in lives wasted only because science promises everyone an answer to all our failures and shortcomings. We are promised a pill to overcome obsessive eating, a vaccine to compensate for sexual excess, drugs to help us get higher grades. Add to this list games, virtual environments, and genetic manipulations. The emphasis is almost never on personal responsibility. In this sense, research and education that are disconnected from ethical considerations are well synchronized to support a sense of entitlement.

### Science On the Cheap

Most disturbing of all the issues relating to research is the manner in which science is funded. Competition—the American force of blind change—is now, after being neutralized in classes (where everyone is the best) literally neutralized in science. Bureaucracies, never interested in anything besides their own agenda of permanence at any price, have overtaken a large segment of the research economy. In a top-down scheme, they disburse public money within the same framework of corruption and influence peddling that society

experiences on a larger scale. There are often good arguments for making more means available for scientific research. However, more money in the hands of bureaucrats tends towards more corruption—not necessarily better science. Once again, anecdotal evidence is no evidence. Many researchers suffered because of evaluations written by less than qualified peers (anonymous, of course). Not rarely, the reviewer will confess to knowing nothing (or close to nothing) about the subject, but a lot about procedure. Since an extremely large number of players enter the funding lottery, many attempts at getting support end up rejected for procedural shortcomings. Each new funding opportunity—usually with a political twist—comes with a predefined number of dollars attached to it. Therefore, lack of funds is the final excuse for eliminating competition. The game is played in the area of averages, where mediocrity flourishes, and where established avenues always win out over new directions. Peer review committees are notorious for being conservative, not politically, but in the science they promote. They follow in the footsteps of accepted science. Original ideas have no chance, unless they are garbed in “old clothes.” There are examples galore of grants that have been approved for outdated theories and procedures. Use the right words! The rest doesn’t count—as long as you have the right connections.

The press has reported on cases involving conflict of interest in which researchers, typically university professors, have been paid by industry to advance various agendas. Among the cases detailed were those involving funding for computer programs, medicine, pharmaceuticals, and climate research. Scientists working for the Food and Drug Administration (FDA) revealed that 20 percent of their number (6,000 at the time of the report) had been explicitly asked, by the politically appointed administrators, to provide incomplete, inaccurate, or misleading information to the public. Up to 60 percent of the scientists reported that commercial interests resulted in attempts to induce modification, reversal, or withdrawal of FDA actions. The press also reported—this to the satisfaction of those adverse to science and public support of research—on how effective bureaucracies are in funding the irrelevant.

Given the bandwidth of media (searching for the sensational), we read about a grant from the National Institute of Alcohol Abuse and Alcoholism (NIAA) to “train prostitutes to drink responsibly on the job”—the prostitutes were actually in China. A National Institutes of Health (NIH) grant supports

the discovery—in Argentina—of a link between drinking and having sex among homosexuals. In the USA, NIH grants funded research on how dragon boating can help cancer survivors, how canoes can help cultural identity, how snorting cocaine creates anxiety, sword swallowing and its side effects, and the development of the so-called “gay bomb” that would cause soldiers—the enemies, of course—to become irresistible to one another and lose the will to fight. One “explanation” for such decisions is that members of the bureaucracy, i.e., some of the experts working at the National Science Foundation (NSF), spend their time, in well-remunerated jobs, playing online video games (at taxpayer expense) and viewing pornography on the Web. A new program at the National Endowment for the Arts (NEA) invited submissions from experts, but had them evaluated by incompetent “friends” of the administration. Those who decide, within the military establishment, what kind of research to fund, place more trust in people with a military record (the networking factor) than anyone else.

In the extremely hyper-partisan world in which Americans live, any crisis—real or imagined—is used to gain political advantage and economic profit. Any high-hope technology is “milked” to the last drop to do the same. Science, in the spirit of which education is supposed to take place, effectively treats people as stupid in such cases: What do they know? We—DARPA, NSF, NIH, etc.—define priorities; they (the researchers) will step in line. Consequently, stupidity generates more stupidity. Hence, everyone sells, on every imaginable media channel, new drugs (of course presented as something else which needs no approval), new methods for dealing with climate change, for reducing energy consumption, for eliminating the consequences of the disastrous oil spill, for anything and everything. The promises of penis growth and doctoral titles guaranteeing successful careers that make up the avalanche of spam messages that Americans receive probably have equal justifications. In the republic of useless liberties, a whole new technology (the digital) was developed with public money, but in total disregard of the risks to which everyone is exposed. Profit dictated compromises that, in the long run, make the most promising technology ever the most threatening. Society installs ramps for the handicapped, but no one cares for the aging as they try to keep up with miniaturized computers. A study of social networking revealed that “grandiose exhibitionism” and “entitlement/exploitives” define the condition of those shaped by the experience.<sup>104</sup>

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104 Research carried out at Western Illinois University.

America did not invent or discover the corruption of science. Neither its politicization nor its total subordination to economic interests begins in the USA. Just one example: At the beginning of the 20th century, America was hot on eugenics. At that point, Nazi Germany seemed to follow, not lead, in the madness of the idea. Indeed, knowledge is power; it was always so, and it can be abused for purposes totally unrelated to what science is supposed to be. Corruption defines not only human beings, and not only capitalism. Research has documented corruption in ant colonies, even in the beehive, and in the behavior of birds and fish. The idealized image of social insect colonies, based on egalitarianism and cooperation, are as accurate as the image of selfless physicians, of science pursued with purity of goals, of educators totally dedicated to their students.

“Territoriality,” jealousy, and intellectual snobbery detract from research endeavors. Young researchers must swear fealty to their professors or risk dismissal from the project. In most cases, extremely specialized scientists treat as alien any idea that does not fit their narrow agenda. In many universities, there is such disinterest in—not to say ignorance of—what other faculty members are doing that research suffers from the lack of new insight and cross-pollination. Add to this the sheer incompetence and lack of originality of some researchers, who receive funding only because of the right connections, or because they fit into the category of the “underrepresented” (as the National Science Foundation describes certain minorities). “Underrepresentation” of new ideas and challenging viewpoints does not count.

Education will not reverse the course of human greed, egotism, obsession with the self, and increasing territoriality. But it can provide a framework within which awareness of such behavior and of its consequences becomes possible. In order to achieve such awareness, the research establishment will have to promote full transparency, extended to the evaluation process. Under requirements of full transparency, we could at least avoid noxious anonymity, as well as the continuous degradation of ethics in the peer review process.

Corruption of the publication process ought to be considered as well. It is worrisome that fraud in published research is on the rise.<sup>105</sup> Just as troubling is the fact that public money invested in research is turned into the wealth of publishers. Journals and books resulting from tax-supported inquiry are

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105 Borenstein, Seth. “Fraud growing in scientific research papers.” *The Washington Guardian*. 1 October 2012: N.p., Web. <http://www.guardian.co.uk/world/feedarticle/10464024>



sold to tax-funded universities at prices that prohibit access to knowledge by the less than wealthy. A \$10,000 annual subscription to a journal only makes rich publishers richer. Instead of becoming public knowledge, in the public domain, research results become another commodity. In the age of transactions, allowing access to science to be yet another profit-making adventure is offensive. Scientists should rail against this, even if it is only grant money (that is, public money) that pays for these publications. To add insult to injury, some journals—among the most “prestigious”—even charge authors before publishing an article deemed worthy by peers.

In this context, the excessive prosecutorial passion led a young man to commit suicide.<sup>106</sup> He was trying to place scientific publications—for sale through various websites—in the public domain. He was facing the need to spend huge amounts of money for legal defense against a sentence of 35 years in prison. It is no crime to make available to the public what they already paid for through their taxes. In the majority of cases, researchers and scholars get no money for their publications; but publishers charge huge sums (sometimes hundreds of dollars) for one issue.

Nobody ever asks the question: Can science, can innovation, result in detrimental consequences? Sure, the atomic bomb brought World War II to an end; and afterwards, as the enemies faced each other, constituted a deterrent. The millions killed and forever affected by the explosion will not necessarily see the bomb as a glorious result of science.

But let us not dwell on the A-bomb; it is always used as an example of a destructive expression of the most advanced science. Isn't it almost just as evident that the most recent economic crisis is the expression of progress in mathematics and data processing with no thought to financial speculation and its consequences? The formula for those derivative packages results from the mathematics of stochastic and probability. The so-called “quants” (quantitative analysts, i.e., wizards of large data sets) developed those computer programs for high volume, superfast trading of equities that every now and then results in shutting down the stock exchange. Data flows through fiber optic cables at a rate calculated in nanoseconds. (One hedge fund plans to deploy drones for the purpose of transmitting data faster than their competitors in order to move capital faster and make higher profits thereby, no matter who else loses in the process.) The question of undesired consequences is related to

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106 Lessig, Lawrence. “Prosecutor as bully.” *Lessig Blog* v2. See: <http://lessig.tumblr.com/post/40347463044/prosecutor-as-bully>

that of the goals pursued. Even pure science, if there ever was such a thing, can inform activities that are detrimental. When the profit motive is the main drive behind science and its applications, the danger of not asking “Profit at what cost, and to whose detriment?” increases. So does the risk to which society is exposed. well beyond the inclinations of the researching scientists to consider consequences beyond their control.

### The Knowledge Society Does Not Have All the Answers

The owners of the world today are only in a limited manner those who have land, or buildings, or even machines (including weapons). Data is more important than ever. In case you did not know it, Google became the mega-company of the new economy not by owning oil, gold reserves, or diamonds, neither by manufacturing computers, but by processing data. Its competitors are trying to do the same. Extracting information from all the streams of data describing what people are searching for is like discovering diamonds. Sovereignty over land, machines, and factories has given way to sovereignty over information and knowledge extracted from it. Education is trying to catch up with this new reality. To empower those seeking relevant knowledge is no longer the responsibility of educational institutions alone. New knowledge facilitation programs, usually commercial enterprises (Udacity, Coursera) are mushrooming. If in the past education facilitated the advancement of America’s economy, today this is only partially the case. Education is expensive and is too slow in adapting to the new dynamics of work and life.

It is probably common knowledge that the stupidity of many Americans is to a large degree the result of a less-than-appropriate system of education. Gaining awareness of its many inadequacies cannot be conceived without putting knowledge to work for this purpose. Of course, those who see no reason for worry as they continue to provide self-delusional statements will not necessarily change their position. The answer is not to seek more money, but rather adequate knowledge. Therefore, let us consider the best-case scenario.

Somehow (*Deus ex machina*) we get it all right: primary, secondary, college, graduate programs, research, and beyond. No more dropouts, no more situations in which people have to give up dreams and abilities because they lack money. No more industrial processing of minds, but individualized education. No more bureaucratic burdens and corruption. Will this lead to citizens dedicated to their country? That in itself would be worth the effort. No more millions of couch potatoes frying their brains in front of huge TV monitors while ingesting alcohol, drugs, and unhealthy food. No more

shootings; no more gang rapes. A really brave new world, with exemplary individuals, passionate about science or art, eager to help each other. No more racism. No more degrading shows with women reduced to superficial roles, indicative more of sexism than of respect for their talent. No more vacuous obsession with celebrity. Rather a state of informed decisions, and the ability to assume personal responsibility when confronted with choices.

Let's not describe angels (or paradise). Let's not project an idealized image of the human being somehow brought to perfection through knowledge. And, even less, let us not fall prey to the illusion that a good educational system, involving many choices, based on solid science, pursued for more than profit and glory will deliver such a person. It might be the case that such an education is a necessary condition, but it will not be a sufficient condition.

Education can make those involved in the process aware of broader changes that are necessary. But education will not compensate for the lack of equal rights. It will not address the profound causes of poverty in the richest and most successful country in the world. It will empower those who still don't know how generous the framework of the Constitution is, but it will not protect them against the abuse perpetrated under alibis relating to that same Constitution. If indeed America wants to reach the goals articulated in its founding documents, it will have to engage Americans in making this possible, as they themselves become its new framers. But this will not be attained by looking to the past for answers to today's questions, and to the new questions we will have to answer tomorrow. The erroneous practice of perpetuating current values must be replaced by an education that shapes the future, as it also overcomes the obsession with immediacy and instant gratification. Education, including civic education, is a premise. The realization that no one else but Americans can save America from herself will take time to absorb, as will fostering the determination that will make this happen.