NO BROTHER LEFT BEHIND, NO SISTER LEFT BELOW: WINNING THE FUTURE BY TWINNING EDUCATION

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The first time President Barack Obama used the phrase, I had a visceral reaction, feeling literally pressed back into the couch as if the words had blown out of the television, a sudden and strange blast of hot air.

"Blah blah blah blah, ***win the future.***"

Huh?

He did it again.

"Blah blah blah blah. ***The future is ours to win***."

On January 25th, 2011, during his State of the Union address, Obama encouraged and exhorted America, like an earnest basketball coach giving a locker room pep talk, to *win the future*, even laid out his game plan to *win the future*. He spoke this strange rhetorical phraseology five times in his speech, and each of those times, I had no idea what he meant. *How can the future be won?* The future is time, and time cannot be won (though if there was a lottery with time as the prize, I'd certainly purchase a ticket or two). And if we win the future, doesn't that mean others will lose the future? Is this the new American dream, to win the future at the expense of all other nations? Couldn't we share the future rather than compete for it? An image arose of a carnival worker plucking the largest stuffed whale off the wall and handing it to America, while other countries clutch their tiny goldfish and look at us with envy. *Step right up, and win the future.*

In poring over the text of the speech later in an attempt to penetrate this mysterious elocution, though I never came to understand *what* we would win or *why* we should win the future, it became clear to me *how* we would win it: by keeping our eyes on the prize of technology.

Obama's speech was laden with references to technology. He said,

> In a single generation, revolutions in technology have transformed the way we live, work and do business. Steel mills that once needed 1,000 workers can now do the same work with 100. Today, just about any company can

> set up shop, hire workers, and sell their products wherever there's an Internet connection.
>
> Meanwhile, nations like China and India realized that with some changes of their own, they could compete in this new world. And so they started educating their children earlier and longer, with greater emphasis on math and science. They're investing in research and new technologies. Just recently, China became the home to the world's largest private solar research facility, and the world's fastest computer. (Obama 2011)

With a silicon chip on his shoulder, determined to defend against the competition from teams China and India, Obama laid out our offensive strategy.

> The first step in winning the future is encouraging American innovation. None of us can predict with certainty what the next big industry will be or where the new jobs will come from. Thirty years ago, we couldn't know that something called the Internet would lead to an economic revolution. What we can do—what America does better than anyone else—is spark the creativity and imagination of our people. We're the nation that put cars in driveways and computers in offices; the nation of Edison and the Wright brothers; of Google and Facebook. In America, innovation doesn't just change our lives. It is how we make our living. (Obama 2011)

He continued, "Maintaining our leadership in research and technology is crucial to America's success. But if we want to win the future—if we want innovation to produce jobs in America and not overseas—then we also have to win the race to educate our kids." And that education, he told us, would heavily favor science and math, the twin legs upon which technology runs.

"Race to the Top" is the name of the Obama administration's educational agenda, replacing Bush's "No Child Left Behind." Bush's double negative horizontal metaphor was replaced with Obama's positive vertical metaphor. Where we once had a Texas rancher for a president who would herd up all the sheep, making sure none were left behind in the field, we now had a basketball coach for a president who would race us down the court to win the big game by slam dunking the ball over the top of the rim. The names on the backs of the shirts of the players: Google and Facebook.

Fifty years prior to this speech, America was poised to lose a race to the top known as "The Space Race." In the late 1950's and through the 1960's, America and Russia competed for the coveted prize of being the first country to launch a human into space. The Soviet Union won by orbiting Yuri Gagarin on April 12, 1961. It took America a full three weeks before it launched Alan Shepard. He missed the hoop; he failed to achieve orbit. It would be almost another year before astronaut John Glenn became the first American to orbit the Earth, on February 20, 1962 (NASA 2010). About a week after Gagarin's flight, President John F. Kennedy sent a memo to Vice President Lyndon B. Johnson, asking him to look into the state of America's space program, and into other programs that could offer the nation the opportunity to catch up, to even or better Russia's score. Yes, we had lost the space race, Johnson replied, but we could win the moon race (NASA n.d.). President Kennedy seized the challenge, and quite brilliantly, he redefined the game, resetting the score back to zero-zero. The real race, he told the world, would not be won by achieving space, but by landing a man on the moon. In what became known as his "We Choose to Go to the Moon" speech, he stated, "No nation which expects to be the leader of other nations can expect to stay behind in this race for space." The United States would *not be left behind* in this *race to the top*, and what's more, it would come, it *must* come, in first place. President Kennedy made the stakes of the game clear.

> Yet the vows of this Nation can only be fulfilled if we in this Nation are first, and, therefore, we intend to be first. We set sail on this new sea because there is new knowledge to be gained, and new rights to be won, and they must be won and used for the progress of all people. For space science, like nuclear science and all technology, has no conscience of its own. Whether it will become a force for good or ill depends on man, and only if the United States occupies a position of pre-eminence can we help decide whether this new ocean will be a sea of peace or a new terrifying theater of war. (Kennedy 1962)

The stakes of the game were nothing less than War and Peace; the names on the backs of the shirts of the players were Communism and Capitalism, and each team was terrified the other would toss the bomb down the court and slam dunk their respective countries into oblivion. In the Cold War, technology

was both offense and defense; the twin bombs, Atom and Hydrogen, were mean players.

In the country's vapid pursuit of the first moon landing, in January of 1962 the United States introduced Project Gemini, a two-crew-member spacecraft that would eventually support Apollo by developing the key technologies of space rendezvous and docking of two craft with flight durations that would simulate going to the Moon and back. Project Gemini launched ten missions between 1965 and 1966 (NASA 2000).

Between the time of Project Gemini's conception and birth, I was conceived and born, a double Gemini, sun and moon in the sign. My life is marked by the mythological twins, Castor and Pollux. Born of the same mother, they had two different fathers, one mortal, one immortal, making Pollux the immortal twin, and Castor the mortal one. When Castor died, Pollux asked Zeus to let him share his own immortality with his beloved twin to keep them together, and they were transformed into the Gemini constellation.

Pollux didn't want to leave Castor behind. Pollux didn't want to race to the top of the world while Castor was relegated to the underworld. This is a story of brotherly love, two twins living side by side in the cosmos, cooperative, not competitive.

There was no brotherly love in the 50's and 60's between America and Russia, and there was no cooperation, only competition. In a sign of national humility that is hard to imagine today, President Kennedy admitted that his was the country left behind in the space race. In his "We Choose to Go to the Moon" speech, he stated, "To be sure, we are behind, and will be behind for some time in manned flight. But we do not intend to stay behind, and in this decade, we shall make up and move ahead" (Kennedy 1962).

The location where Kennedy gave his speech was important. It was at Rice University, a technical institution in Houston, Texas, which had just crowned Kennedy as an honorary visiting professor. On that blazingly hot day in late summer of 1962, Professor Kennedy declared that we would win the Cold War not by being left behind (we would not "flounder in the backwash") but by racing to the top ("space is there, and we're going to climb it") (Kennedy 1962). The game plan to win the Cold War

was to come in first in the space race, thus winning the right to lead the future. Our educational system, already the whipping boy back then for everything wrong with our country, was blamed for our loss thus far, but on its back was also placed the power to win back the future. Plans were already underway to bolster our national technological prowess through strengthening those twin legs upon which technology runs: math and science. The United States' National Defense Education Act of 1958 increased funding for these goals from childhood education through the post-graduate level (U.S. Department of Education 2011).

Education was twinned with Defense in that act of 1958 and in President/Professor Kennedy's subsequent speech in 1962 on defense at an educational institution. Kennedy linked "our leadership in science and industry" and "our hopes for peace and security" with "the growth of our science and education" (Kennedy). Education was framed and understood as critical to national security. The nation was at risk; education was the difference between life and death, between mortality and immortality. If a humanities education must be left behind in favor of a technological education, surely the stakes warranted the one-legged approach.

What was at stake nearly 50 years later, when President Obama gave his "We Will Win the Future" speech? Why did he call this "our Sputnik moment," and promise to fund "the Apollo projects of our time"? Why did he tell the country that we need "to reach a level of research and development we haven't seen since the height of the Space Race"? (Obama 2011). Why was this mortal brother, Obama, echoing the language of his immortal brother, Kennedy, in calling for a focus on technology, on science and math, as a means of winning this race to the top?

The answer no longer lied in national security. It lied in something else entirely.

After we won the race to put a man on the moon in 1969 through the educational push for more math and science, there was a backlash of progressive education in the late 1960's and into the 1970's. The Open Education Movement or Open Classroom Movement focused on student-centered rather than curriculum-centered education, and much of the education featured the humanities (Cuban 2011). I entered school during

those years. My school did not emphasize rote learning; I remember a little math and very little science but lots of reading, lots of literature, lots of history. We sat on rugs; there was art everywhere; we performed plays; we made a lot of dioramas and gave reports on history's heroes; we wrote on the walls; we moved through learning centers and when we finished our work, we could reward ourselves by returning to the center of our choosing; we were encouraged to find and follow our own bliss in the classroom. I was neither pushed to the top nor left behind; I was taught to cooperate with my classmates, not to compete. And while some parents complained that the school was far too lax, I remember feeling encouraged to challenge myself.

The sense of laxity led to the back-to-the-basics movement, where reading, writing, and arithmetic were stressed. There was too much freedom and indiscretion in our schools, so we got off the rugs and into our desks, got straightened up and serious again about education. In 1983, the National Commission on Excellence in Education published the report *A Nation at Risk* with its message that America was again in peril (U.S. National Commission on Excellence in Education 1983). It was no longer our national security but our economic security at stake, as the United States was falling behind such superpowers as Japan, Germany, and Korea, unable to compete with them economically. Education was once again the whipping boy, technology was once again extolled, and math and science were once again exalted as the keys to victory. We were falling behind in test scores, so test scores would be emphasized. The movement away from open education and toward standardization began, and reforms through the 1980's and 1990's led directly to the "No Child Left Behind" policy where The Test was the über-measure of all things excellent (Education Week 2004). Once again the humanities were swept ignominiously out the back doors of our schools; if not part of the problem, they were definitely not part of the solution.

Out the back door the humanities are still huddled, the mortal twin who dies a little death or is at least left gasping for breath each time technology is resurrected as the winning strategy. In a repeat of the pattern of the 1980's, in 2011 when Obama raised technology to god-like status, it was not in the name of national security, but rather, national prosperity. The competition, as Kennedy framed it in the 1960's, was for knowledge that would lead to a peaceful future. The completion,

as Obama framed it, was for jobs that would lead to a prosperous future. He told the nation, “The competition for jobs is real. But this shouldn’t discourage us. It should challenge us. Remember—for all the hits we’ve taken these last few years, for all the naysayers predicting our decline, America still has the largest, most prosperous economy in the world” (Obama 2011). And to keep it that way, to ensure we would win the future, Technology would be the captain of our team, with Math and Science the point-guards. Humanities was benched for the game.

Perhaps as a double Gemini, it is my lot to root for the underdog. When the sun shines, I root for the moon. When the moon rises, I root for the sun. With Obama a cheerleader on the television for Team Technology, I became a cheerleader on the couch for Team Humanities. When Obama called, “We need to teach our kids that it’s not just the winner of the Super Bowl who deserves to be celebrated, but the winner of the science fair” (Obama 2011), this Gemini responded, “What about the winner of the poetry contest?” When Obama called, “And over the next 10 years, with so many baby boomers retiring from our classrooms, we want to prepare 100,000 new teachers in the fields of science and technology and engineering and math,” this Gemini responded, “What about 100,000 new teachers in the fields of art and literature and history and culture?” When Obama called the American Dream a dream of prosperity, this Gemini recalled an earlier leader who called the American Dream a dream of equality.

In all likelihood, I was conceived right around the time when Martin Luther King, Jr. delivered his galvanizing “I Have a Dream” speech. I like to imagine that the hot August air in 1963 on my young parents’ college campus was infused with the electricity from that King’s speech, and they coupled under the constellations, letting their “freedom ring from the curvaceous slopes of California.” In that speech, King borrowed from the Bible when he stated, “I have a dream that one day every valley shall be exalted, every hill and mountain shall be made low, the rough places will be made plain, and the crooked places will be made straight, and the glory of the Lord shall be revealed, and all flesh shall see it together” (King 1963). These natural images of equality remove the horizontal and vertical planes which privilege top over bottom, ahead over behind, us over them.

There is no competition, only cooperation; *we all* shall see the glory of God. This was King's vision of how we would win the future—together. Both Castor and Pollux will make it to the Promised Land, no brother (or sister) left behind, no brother (or sister) left below.

King came of age during the Cold War; he spoke these words during the Space Race-turned-Moon Race. He knew the marvels of technology, and extolled them often in some of his most eloquent and poetic passages.

> Modern man has brought this whole world to an awe-inspiring threshold of the future. He has reached new and astonishing peaks of scientific success. He has produced machines that think and instruments that peer into the unfathomable ranges of interstellar space. He has built gigantic bridges to span the seas and gargantuan buildings to kiss the skies. His airplanes and spaceships have dwarfed distance, placed time in chains, and carved highways through the stratosphere. This is a dazzling picture of modern man's scientific and technological progress. (King 1964)

However, he noted,

> In spite of these spectacular strides in science and technology, and still unlimited ones to come, something basic is missing. There is a sort of poverty of the spirit which stands in glaring contrast to our scientific and technological abundance. The richer we have become materially, the poorer we have become morally and spiritually. We have learned to fly the air like birds and swim the sea like fish, but we have not learned the simple art of living together as brothers. (ibid.)

He told America, "Through our scientific and technological genius we've made of this world a neighborhood. And now through our moral and ethical commitment we must make of it a brotherhood. We must all learn to live together as brothers—or we will all perish together as fools" (King 1965). Both Castor and Pollux would live together as immortals or they would both perish together as mortals. And how would they survive and thrive? Through the twinning of science and morality; through the twinning of technology and ethics. Yet, he noted, "Our scientific power has outrun our spiritual power. We have guided missiles and misguided men" (King 1963b, 76).

And what would guide men?

> Each of us lives in two realms, the internal and the external. The internal is that realm of spiritual ends expressed in art, literature, morals, and religion. The external is that complex of devices, techniques, mechanisms, and instrumentalities by means of which we live. . . . There is always a danger that we will permit the means by which we live to replace the ends for which we live, the internal to become lost in the external. (King 1963b, 70)

Stated another way, we have allowed the external means of technology to overcome the internal ends expressed in the humanities, through art, literature, morals, religion, philosophy, history, and language. King admonished us not be misguided and believe "Technology shall overcome one day." Our humanity must run as fast as our technology, if not faster.

> We have allowed the means by which we live to outdistance the ends for which we live. So much of modern life can be summarized in that arresting dictum of the poet Thoreau: "Improved means to an unimproved end." This is the serious predicament, the deep and haunting problem confronting modern man. . . When the "without" of man's nature subjugates the "within," dark storm clouds begin to form in the world. (King 1964)

King had lived through dark storm clouds, the mushroom clouds of Hiroshima and Nagasaki that forever stain America's soul. With its insatiable need to be first, America dropped the twin bombs, slam-dunks from the sky, and the innocuously-named teammates Fat Man and Little Boy changed the game forever, causing us to question what is offense, and what is defense.

Though Fat Man and Little Boy had many sperm donors, they were the main prodigy of scientist Robert Oppenheimer. Oppenheimer, Algis Valiunas argued in his essay "The Agony of an Atomic Genius," was caught in a strange time period where the definition of a scientist was changing.

> Under Vannevar Bush [the M.I.T. engineer who sold the Manhattan Project to President Roosevelt], the scientist as the enlightened keeper of cultural ideals and an equal partner with military and political leaders was replaced by a new conception of the scientist as a mere technician

> of physical processes, an employee working under orders at the bottom of a bureaucratic hierarchy. (Valiunas 2006)

"The enlightened keeper of cultural ideas"—in other words, the humanitarian—was replaced by "the scientist as a mere technician . . . an employee" doing work for hire. Whereas scientists were once "revered as white knights consecrated to the cosmopolitan ideals of perpetual peace, [and] rapturous discovery in the name of humankind," increasingly their discoveries were commissioned by the nation-state, in the name of the nation-state, which was synonymous with the military. At first, Valiunas reported, Oppenheimer was not eager to give his intelligence over to the war effort, but for various "tangled and complex" reasons of his own, including a partly egoic, partly humanitarian desire to win honor and renown to his name for having made the weapon that would save civilization, Oppenheimer turned over his knowledge to his nation. His twin sons Fat Man and Little Boy live in infinity, while they rendered one hundred thousand times as many of God's children instantly finite (Valiunas 2006).

Before his sons were unleashed, Oppenheimer wrote in a letter to a friend, "I have a lot more misgivings even than you ever had about what will come of all this; but even so I think surely if I were asked to do a job I could do really well and that needed doing I'd not refuse. I'd worry a lot, perhaps even more than you. But we worry anyway" (quoted in Valiunas 2006). In his inner struggle between the scientist as humanitarian and technician, Oppenheimer as the dutiful and proficient employee won out.

Oppenheimer was by all accounts a conflicted man, both proud of what his intellectual power produced, yet horrified by the ends it had been put to, even as he must have known the probability that his means would be put to that end. After the bombs were dropped, he kept repeating of the Japanese victims, "Those poor little people, those poor little people." His pride gave way to terrible guilt and despair, and when he later met President Truman, he said, "Mr. President, I feel I have blood on my hands." According to legend, Truman handed him a handkerchief and asked him if he would like to wipe his hands. After Oppenheimer left, Truman called him a "cry-baby scientist" and "insisted that nuclear war be conducted without tears" (Valiunus 2006).

Oppenheimer spoke out during his life about the bomb. In an address to the American Philosophical Society, he stated, "We have made a thing, a most terrible weapon, that has altered abruptly and profoundly the nature of the world . . . a thing that by all the standards of the world we grew up in is an evil thing. And by so doing . . . we have raised again the question of whether science is good for man" (quoted in Valiunus 2006).

We can argue about whether the atom bomb saved more lives than it cost; we can argue about whether the threat of nuclear annihilation has ultimately been good for the world, making all wars since World War II relatively tame by comparison in terms of loss of life. What we can't argue, however, is that science is always good for man, that technological advances are always good for humanity. Horrible experiments have been done in the name of science; horrible results have been wrought in the name of technology. C. G. Jung, in his essay "The Effect of Technology on the Human Psyche" wrote, "Considered on its own merits, as a legitimate human activity, technology is neither good nor bad, neither harmful nor harmless. Whether it be used for good or ill depends entirely on man's own attitude" (Jung 1949, 615). This calls to mind Kennedy's statement that "technology has no conscience of its own. Whether it will become a force for good or ill depends on man" (Kennedy) and Albert Einstein's acknowledgement that "technological progress is like an axe in the hands of a pathological criminal" (Einstein 1946).

Inside of the conscience of its creator, the atom bomb had become a force for ill (Oppenheimer came to believe that Japan was ultimately already a defeated enemy), and he was wracked with guilt and despair that grew deeper over time. Valiunas writes,

> Years later he would remember thinking to himself as he saw the towering cloud of the blast, "Now I am become death, the destroyer of worlds"—a quotation from his beloved *Bhagavad Gita*, in which the god Vishnu exhorts Prince Arjuna to do his duty and pursue martial greatness. This quotation would be enshrined as Oppenheimer's signature line, and as the expression of inconsolable regret. (Valiunus 2006)

The fact that Oppenheimer was able to feel regret came in part from his studies of the humanities, which he combined with his study of science. He learned Sanskrit so he could read the classic Indian religious literature, searching for wisdom that

values-neutral science couldn't provide him (Valiunas 2006). He was critiqued for this by some in the scientific community, as if it were a weakness. American physicist and Nobel laureate Isidor Isaac Rabi stated, "In some respects Oppenheimer was overeducated in those fields that lie outside the scientific tradition, such as his interest in religion, in the Hindu religion in particular, which resulted in a feeling for the mystery of the universe that surrounded him almost like a fog" (quoted in ibid).

This statement is both fascinating and frightening, suggesting that any education in the humanities is "overeducation" to the scientist, likely to cause a foggy mind. Einstein disagreed. He wrote,

> It is not enough to teach a man a specialty. Through it he may become a kind of useful machine, but not a harmoniously developed personality. It is essential that the student acquire an understanding of and a lively feeling for values. He must acquire a vivid sense of the beautiful and of the morally good. . . . He must learn to understand the motives of human beings, their illusions and their sufferings, in order to acquire a proper relationship to individual fellow men and to the community. (Einstein 1954)

And where are these qualities developed, acquired, learned? Through an education in the humanities. Depth psychologist C. G. Jung noted the importance of a balanced education as well. He wrote, "The technologist has something of the same problem as the faculty worker. Since he has to do mainly with mechanical factors, there is a danger of his other mental capacities atrophying." His recommendation was to create "Humanistic Faculties" in the polytechnic institutions (Jung 1949, 615). Twin a technological education with one in the humanities.

I hear Einstein's call for us to acquire a proper relationship to others in the community when I hear Obama's speech, and I can't believe that snatching the future out of everyone else's hands is a proper relationship. Nor will teaching everyone to be math and science specialists make us into Einstein's harmoniously developed personalities. I can't accept that the goal of our education should be to win the future, to "out-innovate, out-educate, and out-build the rest of the world," in Obama's words (Obama 2011). Instead, I adhere to Martin Luther King, Jr.'s definition of the goal of education.

> We must remember that intelligence is not enough. Intelligence plus character—that is the goal of true education. The complete education gives one not only power of concentration, but worthy objectives upon which to concentrate. The broad education will, therefore, transmit to one not only the accumulated knowledge of the race but also the accumulated experience of social living. (King 1963b)

The humanities hold "the accumulated experience of social living," while technology, standing on the twin legs of math and science, holds" the accumulated knowledge of the race." America does not need to be the master race, nor does it need to win the race; I would prefer it to hold court as a team player. On the backs of the shirts of the players on King's team are Intelligence and Character. Technology in brotherhood with the humanities can increase both our national intelligence and our national character, and in turn make the international community a much nicer neighborhood in which to live. The humanities are the limbs of education that grow the soul, express the spirit, and contain the repository of human wisdom, the storehouse of our grand experiment in social living, offering a place to discuss the ends for which we live. In the humanities reside the big questions—what makes life worth living? What values should shape the life of the individual and the life of the nation?—and in the humanities we learn the critical thinking tools we need to engage the questions and begin to discern, articulate, and apply our answers. Technology may be the two legs we stand upon, but the humanities are our two arms, able to reach out and transform a neighborhood into a brotherhood. We will all win the future if we let both have their place in the stars.

No brother left behind, no sister left below.

The constellation of Gemini

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