

Lyman Briggs College Commencement Address 2011

Don Howard

It is an honor to receive a Distinguished Alumnus award from my undergraduate alma mater, Lyman Briggs College, and it is a privilege to be allowed to say a few words of congratulations and encouragement to the Briggs class of 2011. We also celebrate this weekend the fortieth anniversary of the very first graduating class of 1971, my class, many of whose members are with us today. This is an occasion upon which to reflect back on the first years of Lyman Briggs College and to look forward to the lives and careers that you, the class of 2011, will lead, as well as to the future of Briggs, itself.

Years from now, you who graduate today will look back and see your adolescence and emergence into adulthood framed, on the one side, by the tragedy of 9/11 and, on the other side, by the election of the first African-American president in US history. You have grown to maturity in a world overshadowed by the fear of terrorism, anxiety over climate change, and the negotiation of a new, twenty-first century world order. Those circumstances have taught you that the responsibilities that you now inherit are serious. They have also taught you that your Briggs education was preparing you for more than just a fulfilling career, finding a life's partner, and starting a family. Your Briggs education was preparing you to make a better world.

The class of 1971 also emerged into a world fraught with challenge. We were the children of the Cold War and the threat of global nuclear annihilation. We were fourteen years old when John Kennedy was assassinated. We were first-year students in Briggs in that horrible spring of 1968 when both Bobby Kennedy and Martin Luther King were killed. Our adolescence was defined by the Civil Rights Movement. We watched the birth of the Women's Movement and the

Environmental Movement, celebrating the very first Earth Day in the spring of our junior year.

It was not all gloom and doom, of course. Our youth was also defined by what a friend of mine recently termed “a musical paradise,” from Elvis and Buddy Holly to the Beatles, Bob Dylan, Jimi Hendrix, and golden voices like Judy Collins and Joan Baez. The beauty and power of their music was matched by the gravity of the messages it often contained. Truth be told, too much of our youth was spent as well doing rather a lot of extracurricular, experimental chemistry.

But above all else, our college years were shaped by the Vietnam War. Classmates whose grades slipped lost their student deferments, were drafted, and went off to war, some never to return. The campus, like the country, was badly split. I marched on Washington, while my best friend and room mate, Walt Gutowski, went off to Ranger School with his ROTC buddies. The turmoil reached its peak in 1970. In the spring of that year, tens of thousands of students across the country went on strike, as did thousands right here, to protest a widening war. On May 4th, it turned deadly, with the killings at Kent State, and it grew uglier still in August when leftist radicals bombed the Army Mathematics Research Center at the University of Wisconsin, killing one researcher and injuring three more. Our own graduation day was marred by the suicide in Sanford Woods of our friend, Frank Pavia, a gentle and talented young man, a student in Justin Morrill College, and an ROTC cadet who could find no way to reconcile his heartfelt obligation to military service with his growing private doubts about the morality of war.

These memories sound more maudlin than I mean them to be. We also had a whole lot of fun. We partied, we fell in love, we cheered a great football team, and in the spring of our senior year we went crazy when the first legal alcohol was served in what had long been the dry town of East Lansing.

Let me bring this all back now to the founding of Lyman Briggs College in 1967. I emphasize things like the Bomb, the Vietnam War, and the Environmental Movement to make an important point about Briggs.

The college was founded and nurtured in its early years by a man I remember warmly and well, Dean Frederick B. Dutton. Fred Dutton was a chemist and a highly regarded national leader in science education. He loved science, and he was a visionary in recognizing that the times called for a fundamentally new approach to science education, because the place of science in American society was changing rapidly, and not always for the better.

Twenty years earlier, science was seen almost everywhere as a force for universal good. Physics built the bomb, which helped us defeat the evil of Fascism. Chemistry was transforming agriculture and manufacturing, feeding the hungry and putting inexpensive consumer goods in the hands and homes of a booming postwar population. Transistors and microcircuits were launching the computer revolution. Medicine conquered the scourge of polio. Electricity from nuclear power was going to be “too cheap to meter.” And “Better living through chemistry” was the motto of the DuPont chemical company. But by 1967 the public perception of science had changed. The physicists who defeated Hitler were now the mad scientists who gave us Mutually Assured Destruction and the nuclear nightmare. The chemists who gave us Teflon and Tang were now killing off the Bald Eagle with DDT, choking the skies of Los Angeles with smog, and turning the Cuyahoga River into a witch’s cauldron that caught fire – yes, the river caught fire – on June 22nd, 1969.

Fred Dutton realized that for science to be taught well in this new age it had to be taught differently. He understood that if science was to continue to be a force for good, and to be seen as

such, scientists would have to be trained as humanists. They would have to be taught that science was not just a detached form of technical expertise. They would have to learn how science lives in society. They would have to know the history, philosophy, and sociology of science. They would have to be alert to the cultural and moral impact of science. They would have to appreciate that the science that means one thing in suburban America might mean something very different in underdeveloped regions of Africa or Asia.

Thus was the idea of Lyman Briggs College born. I remember vividly Dean Dutton's welcoming address to the entering class of 1967. Speaking in McDonel Kiva, he introduced us to C. P. Snow's argument from the 1959 lecture, "The Two Cultures," in which Snow found the divide between the "scientific" and "literary" intellectuals to be the greatest cultural challenge of the late twentieth century. As a chemist, Dutton preferred the crystallographer's metaphor of the "interface" to name the place where science and the humanities must meet. That place was to be Lyman Briggs College.

It was a bold experiment that succeeded only because of the leadership that Fred Dutton brought to the task. He was helped by an inspired young faculty, one member of which, Steve Spees, we also honor this weekend for his decades of service to Briggs. He was helped by a supportive university administration and by a cohort of enthusiastic students eager to be part of such a radical new venture.

Fast forward forty years. Much changed. The college grew and prospered. It sent a stunning proportion of its people on to graduate and professional school. It produced Wilson Fellows, NSF Fellows, and one Rhodes Scholar. Its army of alumni and alumnae became leaders in business, industry, government, law, medicine, and academia. Collegiate status was lost and regained. Briggs

developed a reputation as the place to be if one were really smart and wanted a first-class technical education, becoming home to a remarkably high percentage of members of the MSU Honors College. One of the biggest changes, not foreseen in 1967, was that Briggs became the cool place for pre-meds. This occasioned lots of discussion, and still does. But I like to point out that, for the average American, the most intense and intensely important encounters with science and technology occur in the examining room and on the operating table. Physicians are among the most important scientific ambassadors to the lay public. Training doctors well, training them to be sensitive to the human impact of science, is just as important as training well an environmental biologist or a mathematician. Another big change is on the horizon as plans evolve for possibly attaching a graduate program to Briggs for the first time, specifically an innovative Ph.D. program in the history, philosophy, and sociology of science. Adding a graduate program is a big challenge, but Briggs is moving forward, even in tough economic times. And as Briggs moves forward, it is in very good hands. I know that Dean Dutton, the chemist, would be very pleased to see Dean Simmons, the physicist, as his successor.

Through all of these changes, however, the core mission of Briggs has remained the same: To provide a first-class scientific education in a meaningfully integrated, interdisciplinary setting; to educate what some of us like to call “citizen-scientists.” And the need for such an education is as compelling today as it was in 1967. The challenges have changed, of course. We are now tackling climate change and engineering a move away from a carbon-fuels economy. We have to figure out how to feed and house a world population that will top 10 billion by the year 2100. We are going to find the Higgs boson – probably next year – and we are drilling down to the quantum scale to build the next generation of computers. We must develop the technical and political tools to protect

ourselves from weapons of mass destruction in the hands of new kinds of adversaries, at the same time that we prepare for new forms of global conflict in cyberspace. And we are going to build both a green transportation system and a smart power grid.

But, if I might, I want to circle back to another challenge that defined my generation as it will define yours. I remember vividly the exact place where I sat – it was, I confess, in a bar in Chillicothe, Ohio – when, at 10:56 pm, on Sunday, July 20th, 1969, Neil Armstrong first set foot on the moon. It was an extraordinary achievement, taking just over eight years and carried out with technology that included computers less powerful than what you find in a toaster today. One of the great frustrations of my generation is that, after a few more moon landings, we never went back. Yours, however, will be the generation that takes humans back to the moon and then beyond. I end here because I want to leave you with a few words that inspired my generation as I hope they will inspire you.

The speeches in the 1960s were as good as the music. You all learned in school about Martin Luther King’s “I Have a Dream” speech, and John Kennedy’s inaugural address, when he said, “Ask not what your country can do for you; ask what you can do for your country.” Tiresome repetition drains those words of meaning, sad to say. My favorite, however, and a favorite of many of the ambitious, optimistic techies who were drawn to Briggs, was a rather less well known Kennedy speech, a speech about the Apollo program that Kennedy gave at Rice University on September 12th, 1962. To a public skeptical about the cost and scale of the Apollo project, Kennedy said something that expressed the spirit, then and now, of the kinds of young scientists and scholars who elect to get their education at Briggs. He said:

“We choose to go to the Moon in this decade and do the other things, not because

they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills.”

We graduated in 1971. The war in Vietnam wound down. The music became harsh, acid, and metallic. As individuals, we grew and prospered, while the world and our nation changed. There was Watergate, the Oil Crisis, stagflation, the Aids Crisis, and Iran Contra. The Cold War ended, and with it disappeared the old adversary – the Soviet Union – by contrast with which we used to define what was distinctively “American.” The national mood turned cynical. Individuals turned inward. We lost faith in the political process. We redefined the common good as the sum of personal goods. As a nation, we forgot how to dream. Detached irony became the hip, cool, and safe attitude toward life. Words such as Kennedy spoke in Houston on that distant late summer day in 1962 came to sound naive, perhaps even juvenile in their simple optimism. Then came 9/11, and we all were left numb.

But, in fact, in secret, we all remembered a day when, in the midst of war and unprecedented national turmoil, we could nonetheless eagerly embrace and meet the challenge to put a human on the moon within a decade. We were Briggs graduates. We were smart and resourceful. We cared about our nation and our world. We understood how science could serve the common good. In fact, in private, we still believed that we could do remarkable things if only we put our brains and our hearts to work.

Now it is your turn. The challenges, once again, are great. But you are Briggs graduates. You are smart and resourceful. You care about your nation and your world. You understand that science can serve the common good. You are ready to do many things, “not because they are easy, but because they are hard.” You are ready to take on the big goals such as fixing a broken global

climate and building a new, twenty-first century international order precisely because, as Kennedy said, those goals “will serve to organize and measure the best of [*your*] energies and skills.” The first Briggs class, the class of 1971, salutes the class of 2011 and wishes its members the best of fortune as you turn to those tasks.