

Commencement
University of Tennessee
13 December 2014 (Saturday)
Edward O. Wilson

Thank you so much Chancellor Cheek, members of the administration, members of the Board, faculty, graduates and families.

As your Commencement speaker, I *will* be brief, not so brief as Salvador Dali, who once gave the world's shortest speech. He said, "I will be so brief I have already finished," and then he sat down. He was the perfect commencement speaker. I am not, but I will be reasonably brief, I promise.

And to the point. I'm going to seize on this opportunity to describe the condition of the world in a way you may not have often heard it expressed, at least not widely, even at our best universities. It is that the 21st Century is going to be known in world history as the Century of the Environment, and in science as the Century of Biology. Let me explain. Quite simply, this is the time we will either settle down as a species or completely wreck the planet.

This is the time that in order to do so we will evolve a better world order than we have now, which I like to call our Star Wars Civilization, after the Star Wars film series. By this I mean we human beings have stone-age emotions, which evolved during millions of years of evolution, combined with medieval institutions that fail too easily in the modern world, and finally we have a godlike technology. That is a dangerous combination. We have developed the ability to destroy most of the rest of life, and with it ourselves. And today we are still far from a solution. We remain a dysfunctional species.

At the base of the problem are the three still mostly unanswered fundamental questions of religion, philosophy, and science. They are, *Where do we come from? What are we? and Where are we going?* You have dealt with aspects of these questions here at this university, in parts and pieces, but everywhere our best thinkers are confounded by them. It is still the case, as the French writer Jean Bruller put it during the dark 1930s. He said for then as well as now, "All of mankind's problems are due to the fact that we do not know what we are and cannot agree on what we wish to become."

In one area in particular, the environment, humanity has to decide what to become, and where we are going. And that is especially true for the way we relate ourselves to the rest of life. And we must do it soon. Here's the problem.

The world is fortunately beginning to turn green, at least a shade of pastel green. But I'd like to call your attention to an imbalance in the way we are turning green. The emphasis today is on the physical environment, that is, on climate change, pollution, the decline of fresh water and arable land, and the depletion of irreplaceable natural resources. Well and good that we should focus on these matters.

But there has been proportionately much less attention paid to the living environment, and especially the diversity of life—biodiversity—which is the totality of ecosystems, such as ponds, forests, and coral reefs; the species of plants, animals, and microorganisms that compose each of these ecosystems; and the genes that prescribe the traits of the species that compose each of the ecosystems.

That great hierarchy and resource, the living part of Earth's environment, has taken three-and-a-half billion years to emerge. Our lives depend on it, because we are first and above all things a biological species living in a biological world. Our relation to it can be put in a nutshell

as follows. Scientists have found the biosphere, that razor-thin membrane plastered onto the surface of the earth, to be richer than ever before conceived. But due to human activity it is being eroded at an accelerating rate. We estimate that the rate of species extinction is now about a thousand times higher than before humanity entered the scene, and furthermore if it is unabated, half the species on Earth will be gone or on the edge of extinction by the end of the century. That loss of so much of the rest of life, if allowed to continue, will inflict a heavy price on you and future generations in wealth, security, and spirit. If on the other hand, the problem is solved, the benefits in wealth, security, and spirit will be beyond measure.

So please pay attention to this great problem, and opportunity, and understand, and contribute to its solution.

And now a bit of personal advice. This university, one of the best in America, has given you the means to be flexible, to look ahead and that, with determination and hard work, means you will lead a fulfilling and honorable life. If you are planning for graduate studies and they feel right, good for you. If you opted out of advanced studies, but think it *might* have been right, consider trying it and find out. We need as many determined, highly educated citizens in this faltering country of ours as we can get.

At Harvard I advised students for decades on these matters and here is what I've said to those in particular who were planning to go into Medical and Law Schools, but were still a little shaky about the whole thing.

There is an enormous built-in professional flexibility in an M.D. In addition to a large array of specializations within medicine itself, there is public health, there is hospital and medical institute administration, and then there is the vast and very rewarding world of medical research.

For the graduate in Law, there are endless avenues open in practice and application, in business, in public service, in public and private administration in a wide diversity of venues.

And for you graduates in science, technology, and education, the 21st Century is indeed one to make a huge contribution.

For all of you, for whatever future you have in mind, there lies before you a world that is becoming radically new and different at warp speed. Ours is an exponential world, changing faster than at any period of history before. You are now in the early period of an overwhelmingly technoscientific civilization. The accumulated knowledge of the world is already at the zettabyte level—that's a one followed by 21 zeroes of bytes. It is growing faster and faster by the digital revolution in communication, which is changing everything—all that we know, all that we need to quickly learn, all that we need to understand in order to survive as a species. The trajectory of history can only be dimly foreseen. It will have many shocks and surprises ahead. This country and the rest of the world needs university-trained young people prepared not only with knowledge itself but with the capacity to find new knowledge in order to respond quickly to needs and crises, in their various professions, in public affairs, and in their daily life. And, with it all, to understand the meaning of humanity. So, go forth, lead, excel.

But for now, congratulations to you and to your wonderful, justly proud, and much relieved parents. And thank you for having me here with you today.