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Spring Commencement Address, "Educated Choices for a Sustainable Future", Simon A. Levin, April 21, 1990

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EDUCATED CHOICES FOR A SUSTAINABLE FUTURE

Commencement Address

Eastern Michigan University, April 21, 1990

In Celebration of Earth Day, 1990

Simon A. Levin

Mr. President, graduates, honored guests, and other members of this august assembly: Thank you for the honors you bestow upon me today, and especially for the opportunity to address my thoughts to you on this signal occasion, the commemoration of the twentieth anniversary of Earth Day. The environmental consciousness of today's graduates is greater than at any time in the past two decades, building a link between the classes of 1970 and 1990.

The original Earth Day has been termed "the foundation of a national environmental consciousness." Certainly public awareness of environmental degradation was not new in 1970. Had it been, Earth Day could not have succeeded as mightily as it did, because the climate for its acceptance would not have existed.

Indeed, as early as the Twelfth Century, the great philosopher, Moses Maimonides, had lamented that human pollution and tall buildings already had degraded the urban environment; air quality in Alexandria and other cities, he recognized, was already inferior to that of the deserts and forests. But the citizens of Twelfth Century Egypt weren't ready for the message; the first Earth Day had to wait eight centuries, and no Egyptian Environmental Protection Agency was established in 1170.

Rachel Carson set the stage for Earth Day in 1962, in *Silent Spring*, perhaps the most influential book of the environmental movement. Stewart Udall, President Kennedy's Secretary of the Interior, wrote that "A great woman has awakened the Nation by her forceful account of the dangers around us." Public awareness was aroused; and

eight years later, Earth Day, in the words of its founder, Senator Gaylord Nelson, "forced the environmental issue into the political dialogue of the nation. By the sheer force of collective action on that one day," he said, "the American public forever changed the political landscape regarding environmental issues." Americans took their message to the ballot box, driving Congressmen with poor environmental records from office.

The galvanizing of public involvement was the great leap forward for environmental protection. Indeed, there can be no solution to environmental problems without public participation, because the public is part of the problem. Developing a strategy for environmental protection is not like finding a vaccine for polio, or a cure for cancer. Environmental decisions involve choices, choices by an informed public about the kinds of lives they want for themselves, and for their children; choices about the sacrifices they are willing to make to sustain environmental quality for the future. Politicians will act to preserve the environment only when they recognize that such acts are the will of the people. How can they ascertain that will unless we, the people, tell them what we want? And how can we know what to tell them unless we become informed about the issues, and about the tradeoffs that attend particular management decisions? The issues are complex, and responsible participation in the decision-making process requires that we evaluate the scientific facts and the socioeconomic consequences associated with those decisions.

Earth Day is about making our voices heard, but it is also about educating ourselves and others. This year will feature, at universities and other forums across the country, lectures, symposia, teach-ins, and other special programs designed to educate the public about the environmental problems confronting us. It is fitting that the graduates of an institution with a great tradition of training teachers should feature Earth Day in its Commencement; education about environmental matters is the *sine qua non*, without which we have no basis for making the hard choices.

We all must participate in the debates and discussions that will attend the hard decisions, and we must join those debates educated about the issues. Commencement

means a new beginning to learning, not an end; the exams you've taken will be replaced by tests with higher stakes, those that will determine the future of our planet. Commencement is a time to make the commitment to the personal and public actions that will be necessary to preserve our Earth. It is not an impossible task, but is one that will require your full involvement, as the leaders of tomorrow.

Over 20 million people participated in Earth Day 1970, making a collective statement that could not be ignored. Protests against automobile and industrial pollution made clear that environmental decisions may involve painful economic tradeoffs; I do not need to tell an audience in Michigan about the human dimensions of restrictions on the automobile industry, or the social and economic consequences of constraints on any industry. Yet it was the United Auto Workers who, in 1970, led a parade through downtown St. Louis featuring a smog-free car. Environmental protection is not something desired only by an elite cadre of academics; it is a birthright demanded by all of our people.

There is no conflict between a healthy economy and a healthy environment; industry must take the lead in innovative and less-polluting alternatives to today's products, and the public must reinforce and reward such innovation by the choices it makes. Such actions extend beyond automobiles and pollution; a case in point is the very recent decision by the three largest tuna canners to sell only "dolphin-free tuna." This action, which indeed may cost consumers a few cents more per can, may ^{and the less} save 100,000 dolphins per year. ^{applaud} It is the kind of responsible step that we must applaud and support through our personal economic decisions.

In 1970, the automobile, inner city environmental problems, air and water pollution, waste management and recycling, and energy and resource conservation were at the top of the environmental agenda; they remain so today, and can only grow in importance as the Earth's population continues to expand. No single factor is responsible for our problems; rather, pollution and environmental degradation are the inevitable consequences of our lifestyles, and of the choices we make. Population growth, and the

accompanying increases in consumption and pollution, are at the core of the problem; no solutions can succeed that ignore their importance.

In the wake of the original Earth Day, a spate of environmental laws were enacted that remain the cornerstones of environmental policy in the United States. The Senate recently passed a compromise version of a new and tougher clean air bill, with stiff curbs on emissions from cars and factories, and stiff restrictions on the disposal of hazardous wastes. The economic implications of the bill are tremendous. For example, sulfur dioxide emissions must be cut roughly in half; this will have a heavy impact on Midwestern utilities, which use a great deal of high sulfur coal. Yet there are many who feel that the measures still do not go far enough. We ^{have to} must be prepared to pay the economic price if we want our environment cleaned up; we cannot afford to do otherwise.

The momentum that flowed from the original Earth Day stimulated enrollment in environmental studies ^{courses} courses and programs; many of the graduates are today among the leaders of our environmental organizations. ^{unfortunately!} But that momentum slowed in later years as new generations of students arrived who had not heard the message.

Today, however, the pendulum is swinging back. The graduates of today must become the environmental leaders of tomorrow, and many of you ^{will} be among them. There is increasing recognition of the global dimensions of environmental problems, such as the depletion of the ozone layer, and related problems of global climate change and greenhouse gases. There has been considerable debate about the causes of these changes and what we can do about them. This debate will become ever more heated in the years ahead, and will be the basis for making critical decisions about our future. The need for the public to become environmentally educated and involved has never been more apparent. You and I cannot allow others to make the decisions for us.

The first principle of environmental science is that systems are interconnected; hence, so are their problems and possible solutions. For the public and the Congress to make decisions, they need to understand that local and regional environmental problems

cannot be contained within geopolitical boundaries. Natural systems play critical roles in mediating climate; this is especially true of the tropical moist forests, including the rain forests of South America, which are disappearing at the phenomenal rate of thousands of acres per hour. One-half of the tropical rain forests in the world already have been destroyed in the past three decades. Since over half of the world's species are associated with these forests, the implications for the loss of biological diversity are staggering.

And what would preservation of that diversity mean to us? It surely would mean the protection of rare and exotic species, a sufficient justification on aesthetic or humanitarian grounds. But it also would have enormous practical benefits. Exploited resources, such as tropical forests, must be maintained on a sustained basis, simply for reasons of economic common sense. Furthermore, studies of the chemical defenses of biological species have been and remain a rich source of new pharmaceuticals, important tools in our fight against disease. Extinction is forever; once we eliminate these species, we have no hope of capitalizing on the great potential for what my colleague, Tom Eisner, has called "biological prospecting." Forty percent of prescription drugs contain active ingredients originally derived from wild plants and animals. Loss of genetic diversity by the destruction of natural habitats is, in the words of E.O. Wilson, "the folly our descendants are least likely to forgive us."

Natural systems play critical roles in maintaining our environment, and this provides perhaps the most basic reason why we court disaster if we do not preserve them. It has been estimated that more than half the rainfall in the Amazon is associated with the forest cover, and that clear-cutting the Amazon might lead to temperature rises as much as five degrees Centigrade in the agricultural fields of southern Brazil. And such impacts on the services natural systems provide humans are not problems of the tropics alone. The loss of wetlands, which are natural waste management systems and habitat for numerous species, is an environmental tragedy that surely will lead to local and regional, and ultimately global, environmental degradation.

Global climate change and vanishing biodiversity certainly are not the only environmental issues close to the crisis point. Air and water quality remain central concerns, especially with regard to groundwater, and waste management is a problem for which urgent solutions are needed. Albert Schweitzer said, nearly a half century ago, "Man has lost the capacity to foresee and to forestall. He will end by destroying the earth." We must prove him wrong.

In a recent survey conducted for Ford Motor Company, 90% of the respondents agreed that the public's awareness of environmental issues will grow rapidly in the next few years, and 70% believed that the public will accept a moderate reduction in the standard of living in order to protect the environment; but only 25% said that they are committed to making sacrifices themselves. If that seems inconsistent to you, reflect on the fact that there already exist tremendous inequities worldwide: 15% of the world's population consumes 1/3 of the fertilizer, and 1/2 of the energy. It is we, the overconsumers, who must be prepared to make the sacrifices; otherwise, there can be no solutions, especially as developing nations justifiably strive to bring their standards of living to levels that approximate ours. In the words of Frank Press, the President of the National Academy of Sciences, "We cannot preach water but drink wine."

The essential foundation for environmental decision-making is sound science. There is an urgent need simply to describe the biological diversity that is present today, before it disappears; there is an equally compelling mandate to understand how systems function. We must learn how ecosystems respond to stress, how they may be maintained in the face of stress, and how damaged systems can be restored. President Bush is proposing more than one billion dollars next year alone for research on global change, to establish the scientific basis for national and international policymaking, and that is only a beginning. Increasing our knowledge base must be given the highest priority.

However, there are no magic bullets in environmental management. Scientific research is essential, but it cannot make the decisions for us. First of all, there will always be scientific uncertainties, and limitations to our ability to predict what the future holds.

And even if those uncertainties didn't exist, there would be decisions to be made, tradeoffs to be evaluated, involving the public's priorities. How many shopping centers do we want, and how many wetlands? Are there limits that we are willing to accept to our thirst for energy and other resources? These are not scientific questions; but they will be the central questions that will define the Nation's character, and its greatness. They involve decisions for you and me to make, as citizens, through our personal actions and through our elected representatives. The science is essential as the context for those decisions, to provide the underpinning for decision making. But science cannot make the decisions for us; we must make the hard choices that will redefine the character of our society.

Tufts University is developing a program to require all of its graduates to acquire "Environmental Literacy"; this should be a goal for the entire Nation. ^{at all levels} Earth Day must be the beginning of Earth Year, and Earth Year the beginning of Earth Decade. It must be a reawakening of public awareness, and a recognition that we cannot cede responsibility to others for learning the facts, for making the decisions, or for making the sacrifices. *Copy*

We must meet the challenges of conservation, waste reduction, and the search for alternative energy sources to the limited and polluting fuels we use today. We must recognize the international dimensions of environmental problems, and find ways to solve those problems without compromising the search for a more equitable world. We must have as our target the sustainable development of the biosphere—meeting the needs of the present without compromising the ability of future generations to meet their own needs. We must preserve and restore our natural systems. As it says in the Babylonian Talmud, "I found (ready grown) carob trees in the world; as my forefathers planted these for me, so I too plant these for my children."