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Commencement Address of

Ernest L. Boyer

United States Commissioner of Education

University of Maryland

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When President Toll asked me to be your commencement speaker he encouraged me, unknowingly, to talk about a subject close to my heart. I hope it's also close to yours, especially on this important evening.

I'd like to talk about the unlimited opportunities for unusual people -- people who use to the fullest their gifts or talents or insights or commitments -- not only to excel in our society but also to make it a more knowledgeable, just, humane, and enjoyable society.

This is a time of change for most of you. Commencement means the end of formal education and the beginning of a new career, of new opportunities and responsibilities, perhaps even of a new life style as you leave home and family and start out on your own.

It's a time to make -- or renew -- some promises to yourself about what you aspire to or what you will settle for in life. In many ways, life is a trade-off. A cabin in the woods offers solitude and the simple life. But in most

fields of endeavor the pursuit of excellence is an urban pursuit, with all the frustrations, as well the as advantages, of urban living.

Wherever you live, whatever career you choose, the most important promise you can make is the one that commits you to cherish, nurture, and expand the special talents, abilities, interests, and beliefs that make you who you are.

Too much creativity, too much talent, get lost amid the pressures of daily living. That shouldn't happen to any young person. It's not only a loss to the individual. It's a loss to society too, and that diminishes us all.

Johnny Toll is one of the most unusual people I know. We worked closely together when he was president of the State University of New York at Stony Brook and I was chancellor of the State university system. I came to know and admire his quality of mind, his dedication to academic excellence, his conviction that every student can excel. These attributes have given his leadership a special quality.

Astronomer Halton Arp once said: "Mavericks disturb things, rock the boat, cause trouble, and some, a majority, are dead wrong. But the ones who are right are very, very valuable."

Johnny is a boat rocker when he needs to be, but when things settle down you find the course corrections he's made are usually right.

You have a very valuable maverick at the helm, and I know that he and Chancellor Gluckstern and their colleagues will make this campus the center piece of a truly superior university in the next few years.

It's difficult to pin down the combination of talent, inner conviction, and staying power that enables some people but not others to excel in our society.

Eubie Blake is one of these exceptional people many times over, and I'm honored to be on the same platform with him and Athelstan Spilhaus. Mr. Blake's remarkable talent and staying power -- as jazz pianist, conductor, composer, and a leader of the Black Renaissance in the arts -- have enriched the musical life and culture of the century.

In conferring upon Eubie Blake an honorary doctorate of fine arts, this university speaks for the Nation. He has used his gifts to the fullest. He has brought pleasure through his music to millions of Americans of all races. By example he has raised the aspirations of young people everywhere.

In conferring upon Athelstan Spilhaus the doctorate of science, the university recognizes the remarkable achievement of a man whose commitment and perseverance made the Sea Grant program possible.

You honor two truly unusual men.

The University of Maryland has consistently graduated young people who went on to make the most of exceptional talent. Let me mention just a few.

- o Jane Cahill Pfeiffer, who was IBM's first woman vice president, was recently named chairman of the board of the National Broadcasting Company.

- o Frederick O'Green is president of Litton Industries.

- o Russell McFall is president of Western Union.

- o Robert Flint Chandler served with distinction as president of the University of New Hampshire, then developed high yield strains of rice that have dramatically improved food reserves in much of Asia.

- o In public life are Maryland's Governor-elect Harry Hughes and Charles Schultze, President Carter's economic adviser, who is not only a graduate but also a member of the faculty.

- + In the arts, Carmen Balthrop has sung to great acclaim at the Metropolitan Opera.

- + And Jim Henson has created Kermit the Frog and his Muppet friends to show millions of youngsters -- and some of us not-so-young as well -- that television can offer fantasy that's witty, whimsical, and just plain fun.

These are gifted people, committed people, who are making significant contributions to society even as they pursue their own career. I suspect they made some early

promises to themselves, the kind I hope you're making to yourselves now.

We know that people like these have some things in common. They are original and creative thinkers. They influence others and are trusted by others. They want to succeed and are willing to look ahead to goals that may be some years off. They take rebuffs and setbacks in stride.

They're the people William Blake must have had in mind nearly 200 years ago.

"Improvement makes straight roads," Blake wrote, "but the crooked roads without improvement are roads of genius."

Men and women who are recognized for their contributions to science, literature, diplomacy, and other fields, as Nobel laureates or winners of other prestigious awards, almost always say "My work is my life."

Alfred Nobel himself put a slight variation into this theme. "My home is where my work is," he said, "and I can work everywhere."

Winners appreciate recognition, but they climb their mountain because it's there -- sometimes reaching the peak, as even they will concede, with the help of a lucky accident.

Arno Penzias and Robert Wilson of Bell Telephone Laboratories are the American laureates in physics this year, sharing the prize with a Soviet physicist. They won for a discovery in the mid-1960s that was more or less accidental.

Bell Laboratories had asked them to develop a radio antenna to test the signal from the newly launched Telstar communications satellite. The antenna wasn't much of a problem to build, but when they turned it toward Telstar, whatever its orbital position, they heard a persistent background noise.

At first they reasoned the trouble had to be in the antenna. They dismantled it. There certainly was a problem there -- a pair of nesting pigeons.

But, even with the pigeons evicted and suspicious antenna parts replaced, the noise continued. Then the Bell scientists heard about the theoretical work of astrophysicist P.J.E. Peebles and his group at Princeton, who reasoned that, if the universe had been created by a gigantic explosion of gaseous materials, there should still be residual radiation in the cosmos.

Penzias and Wilson instantly realized what they were hearing -- microwave transmissions caused by radiation 15 to 20 billion years ago.

This is certainly one of the most important scientific discoveries in many years. Penzias simply says "We knew the find was really important when it was picked up by The New York Times."

As for its being at least partly an accident . . .

The thing is that an accident like that could happen to a lot of people and nothing would come of it. Something does come of it when it happens to people of single-minded dedication like Penzias and Wilson -- or, say, Sir Alexander Fleming. Some of Fleming's bacteriological cultures were accidentally invaded by an unknown organism. Out of that accident came penicillin.

Single-minded dedication in any field of inquiry can solve almost anything. We now live with virtually no fear of polio, tuberculosis, typhoid, small pox, and other scourges of the past because gifted and determined men and women worked by trial and error in laboratories around the world to develop safe vaccines and effective treatments.

Of course, single-mindedness could backfire. Some people are talented in more than one field, and it would be a pity if they were so single-minded as to concentrate on only one.

Lewis Carroll was an eminent mathematician who wrote children's books on the side. A hundred years later, we don't remember what he did for mathematics. But, depending on what we read into it, "Alice's Adventures in Wonderland"

is one of the most delightful fantasies or one of the greatest social satires ever written. Suppose Carroll had elbowed writing aside and stayed single-mindedly with mathematics?

Paul Gauguin was a successful banker until he gave up finance to concentrate on art. With Van Gogh, Cezanne, and one or two others, he went on to become a founding father of modern art.

In our own time, Rachel Carson spent her entire working life as an oceanographer in the U.S. Department of the Interior. In her leisure time she wrote several beautifully evocative books about the sea. She also produced a slim volume called "Silent Spring," a telling indictment of DDT as a killer of birds and other wildlife.

"As crude a weapon as the cave man's club," she wrote, "the chemical barrage has been hurled against the fabric of life."

With this book Miss Carson virtually alone aroused national indignation, and the pesticide was permanently banned.

This big, complex, seemingly impersonal society of ours does respond to a single voice raised in alarm when the environment is damaged.

Society does respond to a single creative talent that can make us laugh or cry or recognize a social injustice and take steps to end it.

Society does respond to individuals who increase our knowledge base or improve our health or make the democratic process democratic for everyone.

More than any previous generation, you have the opportunity to excel. You have the education and you have the opportunity to gain the support offered by government, private foundations, and corporations in many lines of endeavor.

Moreover, the racial barriers and sexual barriers that may have stopped gifted young people in your parents' generation are all but gone. The doors are open to any young person who has the ability, education, and will to succeed.

Let me suggest a few mountains that need climbing in your lifetime.

In science and technology we need solutions to energy problems that are grave indeed. We need geologists and engineers who can locate and develop new deposits of fossil fuels. We need transportation and marketing specialists who can deliver these fuels quickly and efficiently to world markets. We need the theoretical and practical know-how to advance solar energy and geothermal energy well beyond their present experimental stage.

In science and technology we also need hydrologists who can show us how to use our limited water supplies to best

advantage. We need agronomists and soil conservationists who can increase food production for malnourished parts of the world. We need seismologists who can improve techniques for predicting earthquakes and other natural disasters that imperil life and property.

We need cosmologists -- and I think clergymen -- to explain why a small planet in an insignificant solar system appears to have the only intelligent life in the universe.

And we need another Albert Einstein to stimulate another quantum leap into the unknown.

In diplomacy we need political scientists, linguists, humanists, economists, and historians to reconcile the conflicting needs and aspirations that separate nations. We need men and women whose contributions to international understanding are worthy of the Nobel Peace Prize. We need another Ralph Bunche or Martin Luther King, Jr., or a woman of equal stature. Five women have already won this supreme accolade, the first as early as 1905.

In health and social services we need biochemists and other specialists who can narrow the search for the causes and cures of diseases that shorten productive lives. We need social workers and physical therapists to serve the ill and aging. We need urban planners and architects and business executives to restore the vitality of our inner cities.

We need an Albert Schweitzer to rally the world to the plight of the poor, the sick, the dispossessed.

"You don't live in a world all alone," Dr. Schweitzer said. "Your brothers are here too."

In the arts and humanities we need painters, musicians, dancers, and writers who speak for your generation, who can express the ideals you believe in and raise to national conscience the issues that disturb you. We need a Woody Guthrie, a Marian Anderson, a James Agee, a Langston Hughes.

In education we need teachers and administrators to prepare the next generation of young people -- not to follow in your footsteps, but to go beyond. More than in any other field I've mentioned, we need creative people in education. For education shapes the innate abilities we bring to it and is largely responsible for what we all become.

British astronomer Sir Arthur Stanley Eddington talked about the infinite capacity of the human mind to look beyond truths that appear to be fundamental, inviolate. He asked young scientists to question the unquestionable because that's the way breakthroughs in scientific knowledge occur.

For thousands of years man believed the sun revolved around the earth, that only birds could fly, that disease was inflicted by evil spirits. Man was dead wrong on all

those counts. But it took people who doubted, who sought better answers, based on observation and experimentation, to prove him wrong.

Sir Arthur wrote:

We have found a strange footprint on the shores of the unknown. We have devised profound theories, one after another, to account for its origin. At last we have succeeded in reconstructing the creature that made the footprint. And lo! it is our own.

I hope each of you will leave a footprint on the shores of the unknown. I wish you good luck, Godspeed, and safe passage.

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