

in Delaware—teaches seventh grade science at Sussex Central Middle School in Millsboro, DE. And, although I have never experienced his teaching first hand, I think the biggest testament about what he does in the classroom comes from what his fellow teachers say about him. They talk admiringly of the energy he brings to school each day, of his dedication to educating all children, and of the uplifting inspiration he provides to staff, parents, and most importantly, the students.

But, as is the case with many teachers, Mr. Hudson's involvement in and dedication to education go beyond the classroom. He is a cooperative teacher for Salisbury State University students, a member of the New Directions Educator Corps, and a Mentor for a Wilmington College student.

I should also note that we in Delaware are proud that Mr. Hudson is a product of our own higher education system. In fact, he and I are both Fightin' Blue Hens. For my colleagues who do not know, that means we are both graduates of the University of Delaware. He received his masters degree from Wilmington College. And, at the same time he is teaching seventh graders—a daunting task in and of itself, in my view—he continues to pursue his own education at Salisbury State University just across the Delaware border in Maryland.

Mr. President, a moment ago, I mentioned the way in which a teacher has inspired almost every one of us. And, to give you a perfect illustration of the power of a teacher to mold a mind and build a citizen, Mr. Hudson—a teacher—was himself inspired by a teacher. He says that his sixth grade teacher had more influence on him than anyone else outside his immediate family. And, now, he is having that same influence on countless others.

Again, I want to congratulate Darryl Hudson on his selection as Delaware Teacher of the Year.

#### PREPARING STUDENTS FOR THE COMING CENTURY

• Mr. SIMON. Mr. President, every study that is made suggests that the United States has to do a better job in the field of education.

No one disputes it.

And yet at the congressional level and candidly also at the State level we are going along blissfully ignoring this reality, mouthing pious statements about education, but not really doing much.

One of many economists who has been telling us that we have to do better in the field of education is Lester Thurow of the Massachusetts Institute of Technology and probably the most widely read economist in the country.

He is also one of the most thoughtful.

Recently in the Washington Post he had an article titled "Preparing Students for the Coming Century," which I asked to be printed in the RECORD after my remarks.

I am sure some of my colleagues read it, but since it was in the Education Section of the Sunday edition of the Washington Post, some of you may not have read it.

It is worth reading for Senators, for House Members, for staffers, and for anyone who may pick up a CONGRESSIONAL RECORD and go through it. The article follows:

[From the Washington Post, Apr. 7, 1996]

#### PREPARING STUDENTS FOR THE COMING CENTURY

(By Lester C. Thurow)

Consider an alphabetical list of the 12 largest companies in America at the turn of the 20th century: the American Cotton Oil Company, American Steel, American Sugar Refining Company, Continental Tobacco, Federal Steel, General Electric, National Lead, Pacific Mail, People's Gas, Tennessee Coal and Iron, U.S. Leather and U.S. Rubber. Ten of the 12 were natural resource companies. The economy then was a natural resource economy, and wherever the most highly needed resources were to be found, employment opportunities would follow.

In contrast consider the list made 90 years later by the Japanese Ministry of International Trade and Industry, enumerating what it projected to be the most rapidly growing industries of the 1990s: microelectronics, biotech, the new material-science industries, telecommunications, civilian aircraft manufacturing, machine tools and robots, and computers (hardware and software). All are brainpower industries that could be located anywhere on the face of the earth. Where they will take root and flourish depends upon who organizes the brainpower to capture them. And who organizes the power most efficiently will depend on who educates toward that objective best.

But back to the industries for the moment: Think of the video camera and recorder (invented by Americans), the fax (invented by Americans), and the CD player (invented by the Dutch). When it comes to sales, employment and profits, all have become Japanese products despite the fact that the Japanese did not invent any of them. Product invention, if one is also not the world's low-cost producer, gives a country very little economic advantage. Being the low-cost producer is partly a matter of wages, but to a much greater extent it is a matter of having the skills necessary to put new things together.

Wages don't depend on an individual's skill and productivity alone. To a great extent they reflect team skills and team productivities. The value of any single person's knowledge depends upon the smartness with which that knowledge is used in the overall economic system—the abilities of buyers and suppliers to absorb that individual's skills.

In an era of brainpower industries, however, the picture is even more complicated: The economy is a dynamic economy always in transition—the companies that do best are those able to move from product to product within technological families so quickly that they can always keep one generation ahead. Keeping one jump ahead in software, for instance, Bill Gates's Microsoft had a net income running at 24 percent of sales in 1995.

If a country wants to stay at the leading edge of technology and continue to generate high wages and profits, it must be a participant in the evolutionary progress of brainpower industries so that it is in a position to take advantage of the technical and economic revolutions that occasionally arise. Knowledge has become the only source of

long-run sustainable competitive advantage. Recent studies show that rates of return for industries that invest in knowledge and skill are more than twice those of industries that concentrate on plant and equipment. In the past, First World citizens with Third World skills could earn premium wages simply because they lived in the First World. They had more equipment, better technology and more skilled co-workers than those who lived in the Third World. But that premium is gone. Today's transportation and communications technologies have become so sophisticated that high-wage skilled workers in the First World can work together effectively with low-wage unskilled workers in the Third World. America's unskilled now get paid based on their own abilities and not on those of their better-trained co-workers.

Industrial components that require highly skilled manufacturers can be made in the First World and then shipped to the Third World to be assembled with "low skill" components. Research and design skills can be electronically brought in from the First World. Sales results can be quickly communicated to the Third World factory, and retailers know that the speed of delivery won't be significantly affected by where production occurs. Instant communications and rapid transportation allow markets to be served effectively from production points on the other side of the globe.

Multinational companies are central in this process: Where they develop and keep technological leadership will determine where most of the high-level jobs will be located. If these firms decide to locate their top-wage leadership skills in the United States, it will not be because they happen to be American firms but because America offers them the lowest cost of developing these skills. The decisions will be purely economic. If America is not competitive in this regard, the market will move on. The countries that offer companies the lowest costs of developing technological leadership will be the countries that invest the most in research and development, education and infrastructure (telecommunications systems, etc.).

If the person on a loading dock runs a computerized inventory-control system in which he logs delivered materials right into his hand-held computer and the computer instantly prints out a check that is given to the truck driver to be taken back to his firm (eliminating the need for large white-collar accounting offices that process purchases), the person on the loading dock ceases to be someone who just moves boxes. He or she has to have a very different skill set.

Factory operatives and laborers used to be high school graduates or even high school dropouts. Today 16 percent of them have some college education and 5 percent have graduated from college. Among precision production and craft workers, 32 percent have been to or graduated from college. Among new hires those percentages are much higher. In the last two decades, the linkage between math abilities and wages has tripled for men and doubled for women.

The skill sets required in the economy of the future will be radically different from those required in the past. And the people who acquire those skill sets may not be the unskilled workers who currently live in the first world. With the ability to make anything anywhere in the world and sell it anywhere else in the world, business firms can "cherry pick" the skilled or those easy (i.e., cheap) to teach wherever they live. American firms don't have to hire an American high school graduate if that graduate is not world-class. His or her educational defects are not their problem. Investing to give the necessary market skills to a well-educated Chinese high school graduate may well end

up being a much more attractive (i.e., less costly) investment than having to retrain an American high school dropout or a poorly trained high school graduate.

Take Korea for example. In a global economy, what economists know as "the theory of factor price equalization" holds that an American worker will have to work for wages commensurate with a Korean's wages unless he works with more natural resources than a Korean (and no American can, since there is now a world market for raw material to which everyone has equal access); unless he has access to more capital than a Korean (and no American can since there is a global capital market where everyone borrows in New York, London and Tokyo); unless he has more skilled co-workers than a Korean (and no American can claim to since multinational companies can send needed knowledge and skills anywhere in the world); and unless he has access to better technology than a Korean (and few Americans have, since reverse engineering—tearing a product apart to learn how it is made—has become an international art form, highly refined in Korea). Adjusted for skills, Korean wages will rise and American wages will fall until they equal each other. At that point, factor price equalization will have occurred.

The implications for the future are simple. If America wants to generate a high standard of living for all of its citizens, skill and knowledge development are central. New brainpower industries have to be invented and captured. Organizing brainpower means not just building a research and development system that will put us on the leading edge of technology, but organizing a top-to-bottom work force that has the brainpower necessary to make us masters of the new production and distribution technologies that will allow us to be the world's low-cost producers.

To do this will require a very different American educational system. And building such a system is the new American challenge.

Progress has to start by ratcheting up the intensity of the American high school. The performance of the average American high school graduate simply lags far behind that found in the rest of the industrial world. Those Americans who complete a college course of study end up catching up (the rest of the industrial world doesn't work very hard in the first couple of years of university education), but three quarters of the American work force doesn't ever catch up.

The skill gap doesn't end there. Non-college-bound high school graduates elsewhere in the industrial world go on to some form of post-graduate skill training. Germany has its famous apprenticeship system; in France every business firm by law has to spend one percent of its sales revenue on training its work force; and with lifetime employment as a fact of life, Japanese companies invest heavily in the work force's skills since they know that it is impossible to hire skilled workers from the outside. In America, government-funded programs are very limited in nature, and, with high labor-force turnover rates, American companies quite rationally don't want to make skill investments in people who will leave and take their skills elsewhere. The net result is a compounded skill gap for those Americans who do not graduate from college. Closing this gap and giving the country a competitive edge should be America's number one educational priority.●

#### ARMENIAN GENOCIDE

● Mrs. BOXER. Mr. President, I rise today to commemorate the anniversary of a most tragic chapter in his-

tory—the genocide of the Armenian people. Eighty-one years ago today, the Ottoman Empire began the systematic elimination of the people of Armenia. It is of paramount importance that we recall this horrible time so that it will never be repeated.

On April 24, 1915, the Ottoman Empire began arresting hundreds of political, religious, and intellectual leaders throughout Anatolia. In the following 2 years, the Ottoman regime carried out a systematic, premeditated, centrally planned genocide, taking the lives of approximately 1.5 million people.

The Armenian genocide remains one of the most horrifying events in human history. Armenians perished from execution, starvation, disease, physical abuse, and exposure to a harsh environment. More than 500,000 people were forced from their homes, and within a few years, the entire Armenian population had been either killed or exiled.

On May 28, 1918, the Armenians were able to defeat a Turkish attack, with the help of volunteers from abroad. They gained freedom for a brief period, but in 1920 the Soviet Union joined the Ottoman Empire and subjugated the Armenians once again. It was not until 1991, after the breakup of the Soviet Union, that independence was restored and the Republic of Armenia was born.

I salute the Armenian people for their strength and courage. Yet even though they have gained independence, their struggle still continues. To this day, many people continue to refute the facts of the Armenian Genocide. We cannot let the suffering inflicted upon the Armenian people be forgotten or denied. Only through remembrance can we prevent ourselves from repeating the horrors of the past.

The Armenian tragedy is the world's tragedy, and we must work together to discourage prejudice, to end discrimination, and to prevent genocide at all costs. In a country where we so often take our liberty for granted, we must renew our commitment to preserving the freedom of others.●

#### CARLSBAD CAVERNS NATIONAL PARK

● Mr. BINGAMAN. Mr. President, in December 1994, Congress received the National Cave and Karst Research Institute study from the National Park Service. The report studied the feasibility of creating a National Cave and Karst Research Institute in the vicinity of Carlsbad Caverns National Park, NM, as directed by Public Law 101-578. Today, I am here to introduce a bill which follows the guidelines of that report and which will establish the National Cave and Karst Research Institute in Carlsbad, NM.

While other Nations have recognized the importance of cave resource management information and have sponsored cave and karst research, the United States has failed, until recently, to appreciate or work to understand cave and karst systems and their

importance. As we approach the 21st century, the protection and management of our water resources has been identified as one of the major issues facing the world. In America, the majority of the Nation's fresh water is ground water—of which 25 percent is located in cave and karst regions.

Recent studies have also indicated that caves contain valuable information related to global climate change, waste disposal, ground water supply and contamination, petroleum recovery, and biomedical investigations. Caves provide a unique understanding of the historic events of humankind. Further they are considered sacred and have religious significance for American Indians and other Native Americans.

According to the Federal Cave Resources Protection Act, karst is defined as a landform characterized by sinkholes, caves, dry valleys, fluted rocks, enclosed depressions, underground streamways and spring resurgences. As a whole, 20 percent of the United States is karst. In fact, east of central Oklahoma, 40 percent of the country is karst. Our National Park System manages 58 units with caves and karst features, yet academic programs on these systems are virtually nonexistent. Most research is conducted with little or no funding and the resulting data is scattered and often hard to locate. The few cave and karst organizations and programs which do exist, have substantially different missions, locations and funding sources and there is no centralized program to analyze data or determine future research needs.

In 1988 Congress directed the Secretaries of the Interior and Agriculture to provide an inventory of caves on Federal lands and to provide for the management and dissemination of information about the caves. That directive has served only to make Federal land management agencies more aware of the need for a cave research program and a repository for cave and karst resources. In 1990, Congress further directed the Secretary of the Interior, through the Director of the National Park Service, to establish and administer a Cave Research Program and prepare a proposal for Congress on the feasibility of a centralized National Cave and Karst Research Institute.

The National Cave and Karst Research Institute Study Report to Congress was released in December 1994 and not only supports establishing the Institute, but lists several serious threats to continued uninformed management practices.

Threats such as: alterations in the surface water flow patterns in karst regions, alterations in or pollution of water infiltration routes, inappropriately placed toxic waste repositories and poorly managed or designed sewage systems and landfills. The findings of the report conclude that it is only through a better understanding of cave