

also extends to affiliations with the NAACP, the Fraternal Order of Police, and Operation PUSH.

Rev. Steven D. Riley has devoted his life to his community and the betterment of humankind, and in doing so has become a role model for us all. I know that my Senate colleagues join me in honoring Reverend Riley on his 15 years of outstanding service at Christ Temple Baptist Church. •

WILMINGTON BLUE ROCKS WIN CAROLINA LEAGUE CHAMPIONSHIP

• Mr. BIDEN. Mr. President, last Wednesday evening, with a 6-4, 11th-inning victory over the Kinston Indians, the Wilmington Blue Rocks captured the Carolina League championship for the second time in their 4-year history. I would like to take this opportunity to join all Delawareans in congratulating Manager John Mizerock, his players and coaches, and the entire Blue Rocks' organization for their outstanding season, and—again on behalf of all Delawareans—I'd like to thank them for providing us with yet another summer of enjoyable family entertainment.

For 40 years, up until the spring of 1993, Wilmington was without professional baseball until our late Mayor Dan Frawley, former State Representative Steve Taylor, and dozens of other public officials, businesspersons, and community leaders made a commitment to build a stadium and lure a minor league franchise to the city. Now, "The Boys of Summer" have returned each spring, averaging more than 300,000 fans annually as the Blue Rocks have captured the Northern Division title in each of their 4 years, winning the League Championship in 1994 and again this year.

But for all of their success on the field, the Blue Rocks' real contribution has been the sense of community pride which they have brought to the Wilmington area. The people of Wilmington have welcomed these young men from around the country and from as far away as Latin America into their homes and their hearts, and in droves have brought their families out to Frawley Stadium on spring and summer afternoons and evenings to share a few hours of family fun watching their boys in action. In return, the Blue Rocks players and management have involved themselves in the community, visiting schools and conducting baseball clinics, providing our youngsters with fine role models. What's more, the construction of Frawley Stadium and the activity at the stadium has led to the revitalization of an old neighborhood, with the South Madison Street corridor becoming a prime location for restaurants and community events.

Matt Minker and his partners, including my good friends Frank and Fran Long, have given the club ownership with a local flavor, ensuring that the franchise is more than just a business, but an integral part of commu-

nity life in Wilmington. Ken Shepard, the vice president of baseball operations, and his fine staff have run a first-rate operation where excellent baseball is played in a stadium that is fan-friendly—and especially kid-friendly—and always immaculately clean. A friend of mine remembers hearing Ken Shepard tell his staff just minutes after the Blue Rocks concluded their championship season of 1994, that even though there wouldn't be another game for more than 6 months, he wanted the stadium cleaned up "as if there was going to be a game here tomorrow night"—and it was. That commitment to excellence has led to national recognition of the Wilmington Blue Rocks' as one of the premier minor-league organizations in the Nation.

Blue Rocks' fans will remember another season of first-rate baseball on the diamond at Frawley Stadium; the dramatic win last Wednesday night on Matt Smith's 11th-inning home run; Sean McNally's ninth-inning scamper around the bases to score all the way from first-base on Michael Evans' hit to right-center field clinching the Northern Division title on Labor Day night; Jimmy Byington playing all nine positions in a single game in June; and countless other late-inning rallies, dramatic home runs, and superb pitching performances.

But they've taken home a lot of other memories this summer as well. Memories of clear blue-sky afternoons when the yard work took a back seat to a couple of hours with the kids in the sun at Frawley Stadium; and of summer evenings with the sun setting beyond the stands down the left-field line as a crowd of 5 or 6,000 stood and cheered as the Blue Rocks' pitcher fired a strike to open the game. There'll be memories of legions of kids trailing along behind Rocky Bluewinkle, the blue moose who is the team's mascot; and memories of the mad scrambles to catch the souvenir frisbees that Rocky threw into the stands; of the hilarious Dizzy Bat Races which every evening left several volunteers from the audience sprawled on the green grass, disoriented, and having the time of their lives; and of The Macarena dance at the end of the fifth inning and thousands of fans moving in unison to "YMCA" during the seventh-inning stretch each evening.

Nor will fans forget some of the characters who highlighted their afternoons and evenings at our "Field of Dreams"; Blue Rocks employee Chris "The Dancing Machine" Parise standing on the third-base dugout and leading the fans in "The Chicken Dance"; stadium organist Mike Mixon playing "McNamara's Band" whenever third-baseman Sean McNally came to bat; Jimmy, the soft-pretzel vendor in the stands whose energy and charisma probably doubled the sale of soft pretzels at the stadium; the "Balloon Man" enchanting the younger children with hats and animals made out of balloons; and countless other players, employ-

ees, and fans who made each trip to the ballpark a memorable one.

For most fans, however, the Blue Rocks memories of summer 1996 will revolve around the family and friends who shared those good times with them. It is the sharing of good times like that that binds families and friends together, and as we congratulate the Blue Rocks on their Carolina League championship, we thank them for allowing us to share their success with one another. •

"COUNTDOWN TO A MELTDOWN"

• Mr. MOYNIHAN. Mr. President, this past Sunday, September 15, 1996, the Outlook section of the Washington Post contained an excellent article, "Countdown to a Meltdown," by Lanny J. Davis, an attorney with the firm of Patton Boggs, L.L.P. The article concerns the Y2K problem, as the computer literate refer to it. What happens to the internal clocks and software of the Nation's—indeed, the world's—government, business, and personal computers at 12:01 a.m. on January 1, 2000, when they need date code space for four digits, rather than two? Will the computers crash? Will they assume the year is 1900? Mr. Davis quotes one industry expert as calling the Y2K defect "the most devastating virus ever to infect the world's business and information technology systems." Estimates of the cost of fixing this defect range as high as \$75 billion—if we act expeditiously. The longer we delay, the more costly the solution.

On July 31, I wrote to the President concerning this problem. I offered the following suggestion:

A presidential aide should be appointed to take responsibility for assuring that all Federal agencies including the military be Y2K date compliant by January 1, 1999 and that all commercial and industrial firms doing business with the Federal government also be compliant by that date. I am advised that the Pentagon is further ahead on the curve here than any of the Federal agencies. You may wish to turn to the military to take command of dealing with the problem.

A general—given the national security implications—to take charge, to determine what the Federal government must do to respond to this looming menace, and how it ought to go about doing it. I put a copy of this letter, along with the summary of a Congressional Research Service (CRS) report I requested on the subject, in the September 5 CONGRESSIONAL RECORD.

I will introduce legislation shortly to establish a commission to investigate the problem and suggest remedies. There is not much time left to resolve it. The consequences of procrastination, as the attached article indicates, are grave indeed.

I ask that the article, "Countdown to a Meltdown," appear in the RECORD at this point.

The article follows:

[The Washington Post, Sept. 15, 1996]

COUNTDOWN TO A MELTDOWN

BEFORE THE YEAR 2000, WE HAVE TO SPEND
BILLIONS TO FIX A VERY STRANGE GLITCH

(By Lanny J. Davis)

In the classic '50s science fiction film "The Day the Earth Stood Still," an alien lands his flying saucer in front of the Washington Monument and demands that the earthlings destroy their nuclear weapons. When they doubt his powers, the alien gives them a demonstration. At noon on a designated day, he eliminates all sources of energy on the planet, from electricity to water power to gasoline. Cars stop. Trains stop. Telephones stop. The lights go out.

At 12:01 a.m., Jan. 1, year 2000—or the "Y2K," as computer aficionados refer to it—the world won't exactly "stand still." But it could come close unless the world's major governments and businesses start to fix their computer systems right away.

The general public knows Y2K (for Year Two Kilo—the Greek prefix kilo meaning 1,000) as the "Year 200 Problem." Although it's finally beginning to get some attention, there is still little sense of urgency because it is seen as three years away. But the fact is that for some institutions, including parts of the federal government, it will very soon be too late. We could end up with a real catastrophe that could affect many people's lives around the globe in annoying and profound ways.

The reason is simple: Virtually all computers used by business and government won't know what to do when their internal clocks try to switch from 1999 to 2000. They'll go haywire. (Most newer personal computers for home use will be unaffected.)

The problem is that computers (and the software inside that tells them what to do) are programmed with only the last two digits in the year being variable, i.e., 19XX. But when the clock moves to 12:01 a.m. on Jan. 1, 2000, the computer's program will need code space for four digits. One of two things will happen: The computer will cease functioning ("crash"); or more likely, it will change the last two digits from "99" to "00," thus causing the computer's internal calendar to register as if the current date is Jan. 1, 1900.

There is a solution, but it is time consuming and costly.

Current estimates for business and government range from \$50 billion to \$75 billion—and will only increase as 2000 draws closer. Unfortunately, the alternative is unthinkable. One industry expert has called the Y2K defect "the most devastating virus ever to infect the world's business and information technology systems." If the problem isn't fixed, here are just some of the things that will happen:

Vital military and defense systems will shut down.

Taxpayers will receive notices from the IRS saying that they owe millions of dollars in back taxes.

Banks will shut off credit and send foreclosure notices to millions.

Social Security, Medicare and other government benefit programs based on age will not function, as the computer determines, for instance, that retirees are minus 35 years old, instead of 65 (take the year 1900 and subtract their birth year of 1935). Millions of workers will not receive their pension checks.

Thousands of airplanes all over the world will be grounded when records show that maintenance has not been done for 100 years.

For the same reason, prison records will show criminals overdue for release.

The economic and political ramifications of this issue are immense. Kevin Shick, research director of the Gartner Group, a con-

sulting firm that developed early expertise on this issue, told the House Information and Technology subcommittee in April that it is highly probable that 90 percent of all computer program applications in the world are dependent on the correct date being recorded.

The questions are: How'd we get into this mess? Who's to blame? What do we do about it? Who's going to pay to fix it?

A major sub-industry has arisen in the last few years to correct the problems. There are many small software houses and consulting companies that have developed "software for the calendrically challenged" and other "tools" to address the problem. And such giants as Oracle, Computer Associates, IBM and Arthur Anderson have shown interest in assisting companies to solve the Y2K problems, often at costs in the tens of millions of dollars or more.

Experts differ on the extent of corporate America's state of readiness for the Y2K: The computer magazine *Datamation* estimated that, as of last year, more than two-thirds of the companies that use mainframe computers at least has a team in place to consider how to deal with the problem. However the Gartner Group's Schick says that only 17 percent of the companies have sought the necessary outside help.

Governments are waking up, but slowly. At a recent Y2K conference in Austin, an industry expert warned that fewer than 25 percent of state government systems will be ready. One of the first public officials to take notice of the problem, Sen. Daniel Patrick Moynihan (D-N.Y.), is just now planning to ask President Clinton to appoint a blue ribbon commission to study and make recommendations on this issue. They're going to need to work fast. Recently, the Securities and Exchange Commission announced that it may promulgate rules requiring public companies to detail their readiness for the Y2K.

One reason for the urgency is that this is not a simple problem to fix. There are three options: replace all old software, which would likely be prohibitively expensive; modify the software's two-digit year code to a four-digit code, with instructions that 2000 follows 1999, which would require the location and correction of every "time field" in millions of lines of code in every software and hardware system; or program the computer so that, when faced with two double-zero dates, it chooses the more logical of them. For example, a computer can be told that a 1996 driver's license with a five-year term has expired in the year 2001, even though the internal clock reads 1901. This last solution seems on its face the simplest, and cheapest. Unfortunately, it doesn't do the job in most instances. For example, if the issue is knowing the person's age, the computer has no way of knowing whether someone born in the year 2002 is 2 years old or 102 years old.

Finding a solution that identifies and corrects all Y2K defects may well prove impossible. Certain programs were deliberately written in obscure programming languages. In the Pentagon, for example, many of the codes were uniquely written by one or two individuals using top-secret technology and cannot be addressed by off-the-shelf software.

Even for the best technicians, the nightmare is finding all the Y2K defects in a computer system. For instance, the dates themselves have been expressed in a variety of ways by programmers—December 12, 1945, 12 December 1945, 12-12-45, etc. All conceivable methods of expressing those date fields must be located and corrections made. If only a few have been missed, it can cause a ripple effect through a computer network, leading to a crash.

The solution is time and money.

But why should those who bought computer products be left with the tab for cleaning this mess up? Wasn't it obvious when software was being written that at some point the year 2000 would come? Why didn't programmers anticipate the problem and deal with it?

As one leading Y2K commentator, Warren Reid, notes: "The Year 2000 problem was caused by shortsightedness and human error." One thing is certain—there is plenty of blame to go around.

Programmers and software houses say the main reason was cost. George Munoz, chief financial officer of the Treasury Department, testified recently that in the early 1980s, when most of these systems were being developed, memory was expensive and the cost of adding another two digits to every date field would have been considerable. Thus, he and other industry experts explain, programmers decided to save the money and make the fix when 2000 got closer.

For this reason, many in the industry suggest that responsibility for the Y2K problem is not assignable. As Munoz testified in April: "Did this problem arise because of someone's negligence? To this, we emphatically respond: No."

But if that is the "no fault" explanation, why weren't the purchasers and licensees of these software programs and computer systems at least informed about the coming problem? Why weren't they allowed to decide for themselves whether they wanted to pay then or pay later? And what about hardware and software sold in the recent years, when memory is much less of a problem (with today's PCs having more storage space and processing capacity than many mainframes 30 years ago)?

These questions may get answered in court as businesses go looking to recover their costs from the vendors who sold them these products, though no major Y2K lawsuits have yet been filed.

On the other hand, vendors (and their attorneys) are likely to remind any customers pressing these theories that they should have known that when the year 2000 tolled, the problem would arise. For the most part, the buyers of these big systems are sophisticated information managers.

Ultimately, the verdict is likely to be that everyone shares a piece of the blame—both vendors who failed to inform and buyers who chose to ignore, figuring someone else would fix it. Perhaps it's human nature: Governments, and people, are more likely to respond to a crisis than anticipate it.

Though costs are hard to estimate, they can be approximated, based on the amount of computer code within a particular company or government agency. Coopers & Lybrand has found that on average one of every 50 lines of code contains a date reference. Each individual application may contain thousands of lines of code. All software must be searched line by line; for every million lines of code, nine to 16 staff years will be needed to correct the problem.

It costs about \$1-\$2 per line of code, most industry analysts say. The Information Technology Association of America, representing the software and information services industry, estimates the total U.S. cost in the range of \$50 billion to \$75 billion. The Social Security Administration says it will take between \$30 million and \$60 million to fix its programs, the Defense Department over \$1 billion. For the state of Maryland, current estimates for the fix exceed \$25 million. Recent hearings by the House Information Technology Subcommittee found that when state and local government costs are taken into account, as well as the various indirect costs of lost productivity and diversion of personnel and resources, the public

sector costs of the Y2K crisis reaches tens of billions of dollars in the United States alone.

Private sector costs are likely to be as high. The Gartner Group estimates that a mid-sized company with 8,000 computer programs will spend between \$3.6 million and \$4.2 million to repair "date challenged" software.

Who's left paying the bill? Surprise: first and foremost, the taxpayer. Then, either in the courts or by negotiation, the rest of the pain of solving the problem is likely to be shared by vendors, users and consumers. And the longer a company or an agency waits, the more it will cost. At the start of 1999, the cost will be three times that of starting today, because the supply of trained programmers able to fix the problem will not keep up with demand.

Once the alien in the movie made the Earth stand still, he convened the leaders of the world to a meeting in front of his space ship. The Earth's leaders told him they now believed in his powers and promised to destroy all the planet's nuclear weapons forthwith. But as soon as the alien left, they went back to their old habits of building more.

The real-life inhabitants of a planet that is so dependent on computers might take a lesson from that. Having let the technology experts put one past us this time, we shouldn't let them do it again.●

RECLAMATION RECYCLING AND WATER CONSERVATION ACT

● Mr. REID. Mr. President, I want to express my support for the Reclamation Recycling and Water Conservation Act, S. 1901, and its companion bill, H.R. 3660, that promotes the desalination and water reclamation projects in the arid West. I have long supported water reclamation and desalination as a means of conserving water which is a precious commodity in Nevada and other Western States.

In the past, with the senior Senator from Illinois [Senator SIMON], I have advocated legislation that would authorize desalination technology research on a national scale. Public investment in desalination technology is vital to the future of fresh water supply of the Nation. Nevertheless, I support this regional legislation because of the special water needs of NV, Utah, California, and New Mexico. I particularly note that this bill will provide for Clark County, NV, the fastest growing county in the Nation, to reduce its dependence on fresh water from the Colorado River and rely on desalination and wastewater recycling to meet the needs of the expanding community. This approach by Clark County and other Western communities to their water problems appears to be insightful recognition of the limited fresh water resources of the West.

This legislation is good common sense and I commend my colleague from Utah [Senator BENNETT], for his sponsorship. Not only does reclamation and reuse make good conservation policy but will also prove cost effective because it will cost less for municipalities to provide for recycling than to build new reservoirs and conduits. Consequently, there should not be any opposition to a bill that encourages con-

servation initiatives as well as fiscal responsibility of municipalities and Federal assistance.

I recommend this authorizing bill to my colleagues for unanimous consent so that the Secretary of the Interior can initiate such planning, designing, and construction of the projects that are itemized within the bill.●

NATIONAL PAYROLL WEEK

● Mr. WARNER. Mr. President, I rise today during National Payroll Week to recognize the contributions to American businesses and workers that are regularly made by payroll professionals. I am proud to participate in National Payroll Week by paying tribute to the professionals who pay the wages, report the earnings, and withhold the taxes of over 124 million American workers annually.

Payroll departments collectively withhold, report, and deposit nearly \$880 billion in taxes on behalf of the Federal Government alone. They spend more than \$15 billion each year just to comply with the huge web of Federal, State, and local wage and tax laws and an additional \$6 billion annually complying with Federal, State, and local, unemployment insurance laws.

More importantly, however, payroll professionals routinely protect American workers by helping to enforce fair labor practices by ensuring that workers receive overtime pay that they are due. Payroll departments also ensure through wage reporting that retirees' Social Security benefits accurately reflect their career earnings.

The work of payroll departments transcends office matters, though. Payroll professionals help identify deadbeat parents by filing new hire reports to child support enforcement agencies in more than two dozen States. This action helps identify noncustodial parents and ensures that child support payments can be withheld from a parent's pay, if appropriate. In fact, payroll departments collect from noncustodial parents more than half of all child support payments—more than \$8.1 billion over the last 10 years.

Mr. President, payroll professionals clearly play an essential role benefiting millions of Americans across our Nation. I am indeed glad to take this opportunity to express my appreciation and that of the people of Virginia for the fine work of America's payroll professionals.●

THE IMPORTANCE OF DIET IN CANCER PREVENTION

● Mr. HOLLINGS. Mr. President, very few cancer researchers have stressed the importance of diet in the prevention of cancer. Dr. Daniel Nixon of Charleston, SC is a pioneer in this field. I ask that there be printed in the RECORD an article from the *Post and Courier* profiling Dr. Nixon's professional accomplishments in preventative medicine.

The article follows:

DANIEL NIXON—HE FIGHTS CANCER WITH STRAWBERRIES

(By Dottie Ashley)

Some people dream of having a lavish home in the Bahamas or owning a private jet.

Dr. Daniel Nixon dreams of a super strawberry springing from the soil in South Carolina.

If Nixon's dream comes true, the results could prolong the lives of thousands of cancer patients so that they, too, may dream once more.

"South Carolina is a perfect place for cancer research because here we have both tumors of affluence and tumors of poverty, a large population of the very rich and of the very poor," say Nixon.

In the war against cancer, Nixon, associate director for Cancer Prevention and Control of the Hollings Cancer Center at the Medical University of South Carolina, is in charge of special weapons and tactics.

As the Folk Professor of Experimental Oncology at MUSC, Nixon has mounted his attack on cancer with an arsenal of cancer-preventing compounds that block the formation of cancer cells.

VOLUNTEERS ARE TESTED

A former associate director for the Cancer Prevention Research Program of the National Cancer Institute, Nixon has formed a networking arrangement between MUSC and other state agencies.

To conduct his research, which is funded largely by grants from the Washington State Raspberry Commission, Nixon has called on the services of the General Clinical Research Center at MUSC to monitor the concentrations of ellagic acid in the blood and urine of 12 healthy volunteers who are fed bowls of raspberries.

His research has been recognized by the Society for Nutritional Oncology Adjuvant Therapy, and Nixon will receive the Green Ribbon Award at a ceremony Sept. 18 in Philadelphia. The award is given by the society to recognize outstanding clinical research contributions to nutritional oncology in the areas of prevention, supportive nutrition and adjunctive therapy.

Nixon has seen both sides of the cancer-treatment coin.

"For 13 years, I administered chemotherapy to cancer patients, and finally I had to convince myself that we were not going to get rid of cancer by treatment only, that we had to have prevention as well," says Nixon, who also is the former head of medical oncology at Emory University's Winship Oncology clinic.

TREATED MISS LILLIAN

At Emory, Nixon was oncologist for Lillian Carter, mother of President Jimmy Carter.

"Dan Nixon is the most dedicated doctor I know. No matter how bad the news may be, he exudes hope," says Carter's sister-in-law, Sybil Carter, reached at her home in Plains, Ga. "He's Jimmy Carter's favorite physician."

Nixon recalls, "Miss Lillian was wonderful. She gave me a baseball that Fernando Valenzuela had signed and I still have it."

Prevention research is designed not only for those who do not have cancer, but also for those who have received, or are receiving treatment for cancer. Nixon believes that where cancer cells are already growing, in many cases, they may retreat when bombarded with raspberries and strawberries—more specifically, ellagic acid.

Raspberries and strawberries are extremely high in ellagic acid, a nutrient Nixon believes will prevent both the formation and advance of certain cancers, even in