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REMARKS OF GOVERNOR BILL CLINTON

Drexel University
Philadelphia, Pennsylvania
Earth Day -- April 22, 1992

Twenty-two years ago today, thousands of Americans marched and met and spoke out across the country to raise a new concern onto our nation's agenda: the protection of America's environment. That first Earth Day in 1970 awakened our nation to the ticking of a different kind of biological clock -- a clock that measured the careless degradation of America's air, water, land and natural resources.

Many of you here were not even born yet. And it's worth recalling the whirlwind of change and progress that followed that day. Within two years, our nation created the Environmental Protection Agency, passed the Clean Air, Clean Water, and Endangered Species Acts, and banned DDT. For my generation, it was a heady, hopeful experience.

Two decades later, all those efforts seem dwarfed by the enormity of old and new threats to our communities, our resources, and our planet.

We restricted open dumping into our rivers, but now we see used hypodermic needles washing up on our beaches.

We banished lead from our gas tanks, but still find it concentrated where the children of our cities live and play.

We pinpointed the nation's toxic waste dumps, but have only cleaned up a handful.

We confronted the acid rain killing our trees, but not the rush of development that is wiping out wetlands at home and rainforests abroad.

We stopped building nuclear power plants, but now see our addiction to fossil fuels wrapping the earth in a deadly shroud of greenhouse gasses.

We opened our eyes to the threats posed by oil-soaked beaches, smoggy skies, and burning rivers; yet we still struggle to comprehend less apparent dangers, such as an invisible hole in a distant ozone layer that allows unseen rays to plant the microscopic seeds of cancer.

The question that falls to your generation is this: will the march that began 22 years ago move forward, or will we stand in place?

Over the past generation, much has changed in our thinking. Children now teach their parents to sort their garbage. Colleges like Drexel train young people in environmental engineering. A Big Mac at McDonald's comes in a recyclable cardboard container in a recycled paper bag.

Yet while the thinking of most Americans has changed, the thinking of our recent leaders has not. For more than a decade, we've had no national energy strategy, no environmental strategy, no economic strategy to capture the markets of the future with new technologies that are energy-efficient and environmentally sound.

Within the past decade, climate change, ozone depletion, and other global environmental problems have emerged as threats to our very survival. Dependence on foreign oil has been the cornerstone of our energy policy, and oil imports now make up half our trade imbalance. The collapse of communism and the end of the Cold War have created new markets and a new urgency for environmental cleanup. We have an unprecedented opportunity to protect the earth and make our economy grow.

Too often, on the environment as on so many issues, the Bush Administration has been reactive, rudderless, and expedient. Under George Bush and Ronald Reagan, presidential leadership on the environment has become an endangered species.

George Bush promised to be the Environment President, but a photo op at the Grand Canyon is about all we have to show for it.

He made Boston Harbor a prop in his negative campaign in 1988, but four years later has done precious little to help clean it up.

He promised "no net loss" of America's precious wetlands, then tried to hand half of them over to developers.

He invoked Teddy Roosevelt's devotion to preserving our natural heritage, then called for opening the Arctic wilderness to oil drilling.

He talked about the need for an energy policy, then went to Detroit on the eve of the Michigan primary to promise American automakers that he wouldn't raise fuel efficiency standards for American cars.

He called for an international summit on the environment but now is singlehandedly blocking an historic meeting in Rio de Janeiro of a hundred nations to control global warming.

And just yesterday, I read in the paper that he wants to make another attack ad, this time about problems along the White River in Arkansas. We're fighting the battle to clean up the White River, and I welcome the President's attention.

So, Mr. President, when you return from Rio, I hope you'll visit Northwest Arkansas and the White River. I'll show you what the problems are and what progress we've made. I'll show you rivers you can fish in, and streams kids can swim in.

And if you really want to clean up the problem, I'll make an agreement with you. We'll outline federal and state responsibilities -- and we'll get results. Our people are tired of the politics of blame. But this is no Boston Harbor. If you want to place blame, you'll have to shoulder some.

Let me be clear. I don't believe President Bush is bent on destroying the environment. But his views were shaped in another era, when the world faced other threats, and economic growth and environmental protection were seen as mutually exclusive.

I've spent the last decade as Governor of a poor state, fighting to keep jobs and make up for lost time. I know how much our people are hurting after the longest recession and slowest economic growth in the last 50 years.

In the '80s, I also faced the old short-term tradeoffs between jobs and the environment, made tougher by cutbacks in federal aid and the lack of clear policies in some areas which allowed states to be played off against one another. In this context, I've made the choice for jobs in a poor state without enough jobs or federal help for environmental protection and cleanup.

But over the years I've learned something that George Bush and his advisers still don't understand, to reject the false choice between economic growth and environmental protection. Today, you can't have a healthy economy without a healthy environment, and you don't have to sacrifice environmental protection to get economic growth.

Our competitors know that you can't have one without the other. One of the reasons German workers make 25% more than the average American worker is that their economy uses half the energy to produce the same amount of goods. Japanese companies enjoy a 5% competitive advantage in the global marketplace because of higher energy efficiency. Our competitors are rushing to develop new environmental technologies that will enable them to capture the markets of the future. Only the United States is heading toward the 21st Century without a long-term strategy to achieve sustainable economic growth.

The Bush Administration doesn't understand that perpetuating the false choice between environmental protection and economic growth is bad for the environment and bad for the economy. Our lakes will be dirtier and our air will be more dangerous because George Bush put Dan Quayle in charge of the Competitiveness Council, a group which lets major polluters in through the back door at the White House to kill environmental regulations they don't like. And the most disturbing thing is, they call that competitiveness.

Over the long run, the Bush Administration isn't doing American business any favors by pretending that energy efficiency and improved environmental protection are at odds with economic growth. If we're going to compete and win in the world economy, if we want to improve our quality of life as well as our standard of living, we need to learn to use environmental protection as a tool for economic growth.

That is what I've tried to do in Arkansas. As Governor, I've worked hard to pursue both environmental quality and economic growth. In my first term, I took on one of my state's strongest special interests when I tried to focus our utilities more on conservation than construction of new power plants. Today that approach is called "least cost planning," and nearly half the states use it to conserve resources and save ratepayers money. Back then, the name didn't exist and the utilities fought it tooth and nail. By the end of the '80s they had come around, and Arkansas consumers and businesses will save lots of money in future.

We did other things, too. We set up one of the nation's first state-level paper recycling programs, helped establish nearly 40 new wildlife preserves and parks to protect our rivers, forests, wetlands, and prairies, and created a new statewide reforestation program that has planted 25 million trees in the last two years. We've provided Arkansas business a 30% tax credit for installing waste reduction and recycling facilities -- a measure that is protecting Arkansas's environment and creating Arkansas jobs.

There was a time in this country when environmental protection was viewed as at best a necessary burden for industry to bear. Today that idea just isn't true. Technology has changed; the stakes have changed; and it's time for our thinking to change, too. In today's economy, there doesn't have to be a tradeoff between growth and environmental protection. We now have the tools and the need to choose both.

What we need today is a New Covenant for Environmental Progress. That covenant is built on a renewed commitment to leave our children a better nation -- a nation whose air, water, and land are unspoiled; whose natural beauty is undimmed; and whose leadership for sustainable global growth is unsurpassed. This new covenant will challenge Americans and demand responsibility at every level -- from individuals, families, communities, corporations, and government agencies -- to do more to preserve the quality of our environment and our world.

A new covenant for environmental progress will have three priorities: exerting new American leadership to protect the global environment; preserving the quality of our environment here at home; and finding ways to promote innovation and growth consistent with firm environmental goals.

The first part of a new covenant for environmental progress must be for the U.S. to exert international leadership for the health of the planet. The Cold War is over, and we have entered a new era in which threats to our security are less evident, but no less dangerous, than before. As Senator Gore has dramatized in his recent book, *Earth in the Balance*, if we do not find the vision and leadership to defeat the unprecedented new threats of global climate change, ozone depletion, and unsustainable population growth, then those threats may defeat us instead.

This June, the nations of the world will meet in Rio to negotiate reductions in their output of carbon dioxide and other greenhouse gasses; to end the destruction of the ozone layer; and to find rules for sustainable development to ensure that our species does not outlive its welcome on this planet. Nearly a hundred heads of state have firmly committed to attend. But yesterday, the President said he can't decide whether or not to go.

We've seen eight of the hottest years in history in the last decade. The world's rainforests are disappearing at the rate of one football field a minute. An ozone hole is growing over Kennebunkport. And the leaders of nearly every nation on earth are waiting while the President of the United States makes up his mind whether to act.

I say this is one foreign trip George Bush can't afford to miss.

If the President does decide to go, simply showing up in Rio is not enough. Unless he makes the U.S. a leader against global warming and removes the obstacles he has thrown in the way of a climate change treaty, nothing will come of the Rio meeting. President Bush should commit the U.S. to limit U.S. carbon dioxide emissions to 1990 levels by the year 2000; and to join in new efforts to protect the planet's biodiversity and preserve its forests. As Senator Gore says, this is now ~~the~~ most important global environmental challenge.

OUR

In a Clinton Administration, the U.S. will take the lead in promoting sustainable development. We'll call on major banks and multilateral institutions like the IMF and the World Bank to negotiate debt-for-nature swaps that allow developing nations to reduce their crippling international debt burden by setting aside precious lands. We should explore establishing the international equivalent of the Nature Conservancy, a fund contributed to by developed nations and pharmaceutical companies to purchase easements in the rainforests for medical research. These easements and the profits from new drugs could make not developing the forests more profitable than tearing them down.

We can also lead the quest for sustainable development by supporting efforts to stem global population growth. As Al Gore has noted, it took mankind 10,000 generations to reach a population of 2 billion. Yet we will likely see that number triple in my lifetime. The earth's resources and delicate eco-systems are straining and breaking under this unsustainable burden. President Bush was once a strong supporter of efforts to limit global population growth, and it is shameful that he blocked our contributions to those efforts to appease the anti-choice wing of his party. A Clinton Administration will restore U.S. funding for the U.N.'s population stabilization efforts, and allow U.S. foreign aid to support Planned Parenthood.

But we cannot lead the fight for environmental progress abroad unless we do more here at home. The U.S. constitutes just five percent of the world's population, yet we consume over a quarter of its oil. We need to reduce our oil consumption and increase our energy efficiency dramatically if we are to lead the fight against global warming, sharpen our competitive edge in trade, and reduce our vulnerability to cutoffs in the availability of foreign oil.

For the past 11 years, we have had no national energy policy. In a Clinton Administration, we'll have an energy policy the day I take office:

- ◆ We'll accelerate our progress toward more fuel-efficient cars, and seek to raise the average goal for automakers to 45 miles per gallon.
- ◆ We'll increase our reliance on natural gas, which is inexpensive, clean-burning and abundant, and can reduce our carbon dioxide emissions. I'll start with an executive order to purchase natural gas powered vehicles for the federal fleet, following the lead of Gov. Ann Richards in Texas.
- ◆ We'll push for revenue-neutral incentives that reward conservation and make polluters and energy-wasters pay. California, for example, has proposed giving purchasers of fuel-efficient cars rebates paid for by a special fee on those who buy gas-guzzlers.

- ◆ We'll invest more in the development of renewable energy sources. Federal funding for renewables has dropped from \$850 million to \$114 million in the last decade. There's no reason why 60 percent of the Department of Energy's money should still be going to nuclear weapons, with nuclear power and fossil fuels getting most of the rest. We'll encourage the use of new energy sources like wind and solar, and new ways to get better results out of the sources we already have. In a Clinton Administration, we will designate as wilderness the Arctic National Wildlife Refuge and stop the crusade for new drilling off our coasts.
- ◆ As part of an effort to convert some of our Cold War military spending to civilian purposes, we'll use research and development funds to develop light rail, which can speed travel, save fuel, and provide transportation for people less able to afford it.
- ◆ Finally, we'll make energy conservation and efficiency central goals in every field of policy -- in designing our offices, planning our communities, designing our transportation systems and regulating our utilities. My goal is to improve America's overall energy efficiency by 20 percent by the year 2000.

We also need a policy to prevent pollution. Since 1970, we've made great strides in controlling pollution "at the pipe" -- regulating how much could be dumped and where. Now we need to expand our efforts earlier in the process and move from control to prevention.

One of our most urgent challenges is to reduce the amount of solid waste we generate. A Clinton Administration will find new ways to prevent pollution in the first place:

- ◆ We'll create a system of tradeable credits that will reward companies that recover a greater portion of their waste and penalize those that don't.
- ◆ We'll create incentives for firms and government to recycle, and use federal purchasing power to create markets in recycled materials.
- ◆ We'll pass a national bottle bill to encourage recycling by creating small deposits on all glass and plastic bottles.

To improve the quality of our water, we need to turn greater attention to the polluting effect of water running off our agricultural fields, city streets, and suburban developments. We need a new Clean Water Act with standards for non-point-source pollution and incentives that will unleash the creative and technological potential of our firms, farmers, and families to reduce and prevent polluted run-off at the source.

We also need to strengthen our efforts on toxic wastes. The Superfund program has been disastrously mismanaged. We've spent \$13 billion to clean up only 80 of the 1200 deadliest dump sites -- with much of the money squandered on legal fees and cost overruns to contractors who bought Rolex watches and art for their walls.

The Superfund program was a historic breakthrough in 1980. In my first term, Arkansas was the first state in the country to have an EPA-approved hazardous waste management program. Superfund enabled us to contain the most immediate risks, and provided a powerful deterrent against toxic dumping. Now those of us who care about the environment must take the lead to explore every possible improvement that might get more sites cleaned up sooner for less, without letting responsible parties off the hook.

We also need to improve America's resources by preserving our natural heritage for future generations. As President, I will protect our old growth forests and other vital habitats, and make the "no net loss" promise on wetlands a reality. I'll rededicate the agencies that manage our national parks and wilderness lands to a true conservation ethic. And I'll expand our efforts to acquire new parklands and recreational sites with the funds already available under the federal Land and Water Conservation Fund. Every year, millions of American families vacation in national parks, from Yosemite to Yellowstone. They deserve an administration that cares about America's parks as much as they do.

All of our efforts to improve the nation's resources ultimately depend on enforcement and public awareness. In a Clinton Administration, we'll stop shortchanging EPA's enforcement efforts, and ensure that we hold companies and polluters responsible for their behavior. When corporate executives deliberately violate environmental laws, they must pay the price.

The third priority I want to speak about today is the need to bring powerful market forces to bear on America's pollution problems. Many of our environmental efforts in the past were based on a "command and control" approach to regulation that told firms how much pollution to produce and what kind of technology to use. While that approach produced important successes, it sometimes stifled innovation by locking firms into a specific kind of equipment, and increased regulatory costs and burdens by taking such a detailed and inflexible approach.

I believe it is time for a new era in environmental protection which uses the market to help us get our environment back on track -- to recognize that Adam Smith's invisible hand can have a green thumb. While we need to maintain tough guidelines and goals for reducing pollution, charging companies for their pollution would give them a daily incentive to find progressively cleaner technologies and manufacturing processes. In certain settings, this results-oriented approach can cut compliance costs, shrink regulatory bureaucracies, enlist corporate support, take environmental policy away from the specialists and lobbyists, and open it up more to the general public.

But freeing up our companies to find cost-effective pollution control methods is not the only step we need to take. It is time we recognized that environmental technology will be one of the most vital and profitable economic sectors of the 21st Century. The market for environmental technology and services is already around \$200 billion a year, and developing nations will need to install a trillion dollars' worth of energy technology over the next 15 years.

Unfortunately, we're losing that battle. In 1980, the U.S. had three quarters of the world sales of solar technology. By 1990, German and Japanese competition had cut our share to 30 percent. We need to recognize that green economics is a booming business. And as President, I'll ensure that the nation that pioneered the environmental movement will be the world's foremost producer and exporter of environmental technology and services by the end of this decade.



As I have travelled across this country campaigning for President, I have been struck by the yearning I see among Americans of all backgrounds, incomes, and colors to be united again in common purpose. If there is one thing that has united Americans across dozens of generations, it is the feeling we have for this rich and expansive land. Our forebears were passionate about it. They were farmers and pioneers, who made these two billion acres we call America the canvas of their dreams.

That stubborn, protective love of the land, which flows like a mighty underground current through our national character, is what burst to the surface of American life on April 22, 1970. And it was the well-spring for one of the most important marches for progress we have known in our time.

For over a decade, that progress has been arrested. And for too many of those years, we have walked backwards. Too many times we were told that trees cause pollution and that sunglasses are the best answer to the ozone problem. And far too many times we were divided against ourselves, falsely told to choose between our quality of life and our standard of living. I believe now it is time to move past the false choices, unite our nation again, and resume our progress for the land we cherish, the values we share, and the only earth we have.

A generation ago, conservationist Aldo Leopold wrote that, "History consists of successive excursions from a single starting point, to which man returns again and again to organize yet another search for a durable set of values." One of the starting points for America will always be our devotion to our natural heritage. And today I ask you to join me in beginning an excursion from that starting point anew. Thank you.

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GORE: ENVIRONMENTAL LEGISLATION**

Clean Air Act Amendments of 1990

Gore amendments passed by the Senate and enacted into law:

- o To stop ozone depletion by requiring the phase-out of the production and use of ozone-depleting hydrochlorofluorocarbons (HCFCs).

- o Prohibiting the export of CFC-producing technologies to countries that are not party to the Montreal Protocol, an international agreement setting phase-out deadlines for ozone-depleting chemicals.

- o Forcing polluters to reduce pollution instead of destroying neighborhoods by creating polluted "dead zones" around their plants.

- o Including carbon dioxide emissions in studies of highway pollution so that we don't just build bigger highways to deal with emission problems but instead move to reduce pollution.

- o Requiring federal procuring agencies to procure safe substitutes for ozone-depleting substances.

Strategic Environmental Research and Development Program:

Adopted in 1990 as part of the Department of Defense Authorization bill for Fiscal 1991, the SERDP brings the capabilities of the Defense Department to global environmental problems.

Also initiated efforts that led to work with CIA Director Robert Gates to make available to civilian environmental scientists previously classified scientific data about the earth that is critical to the research efforts of these scientists.

Energy:

Gore amendments enacted by the Senate as part of the 1992 energy bill:

(NOTE ALSO: Gore was a leader in the successful efforts to kill provisions that would have allowed drilling in the Arctic National Wildlife Refuge.)

- o The Gore Resolution (S. Res. 95) calling for an accelerated phaseout of ozone-destroying chemicals pursuant to the Clean Air Act amendments of 1991; the Resolution passed 96-0 in March, 1992, after being filibustered by Republicans at the end of the previous session. NOTE: The Clean Air Act amendments required the Administration to speed up the phase-out of ozone depleting chemicals if new scientific evidence demonstrated that the ozone depletion problem had gotten

worse since passage of those amendments. Despite new scientific evidence, the Administration did not act until after Gore's amendment was passed.

- o To help small businesses increase their energy efficiency and cut their energy bills by establishing energy diagnostic centers where engineering students and their professors can work with small businesses.

- o To accelerate the government's efforts to procure the most energy efficient products and to provide grant money to states to fund energy efficiency and conservation initiatives

- o Requiring the Tennessee Valley Authority to conduct least-cost planning analyses of energy supply and demand requirements (with Sen. Wirth)

Antarctica Protection:

- o Author of Public Law 101-620, a resolution calling for the protection of Antarctica from mining and development and declaring the area a global ecological commons.

- o Co-sponsor of Resolution adopted by the Senate in 1991 to ban mining in Antarctica; led to Administration's adoption of current policy to ban mining in Antarctica.

Interior Bill 1991

- o Led efforts, with Sen. Wyche Fowler, to eliminate below-cost timber sales and forest road subsidies.

- o Led efforts to retain funding for research and development joint venture funds for solar and other renewable forms of energy.

General

- o Sponsor of legislation enacted prohibiting "backhauling", a practice in which trucks carrying hazardous material in one direction are loaded with food products for return trip, often with inadequate cleanup from hazardous load.

- o As a member of the the House of Representatives, chaired hearings that revealed illegal dumping of billions of pounds of hazardous chemical waste and co-sponsored the original Superfund Act which resulted from those hearings.

- o Sponsor of resolution declaring April 22, 1990 as Earth Day, marking the 20th anniversary of the first Earth Day.

o Co-sponsored legislation, now law, providing a method of locating private and government research on environmental issues by geographic location, The Environmental Research Geographic Location Information Act.

o Held hearings and led effort, with Rep. Marilyn Lloyd of Chattanooga, to establish TIGER TEAMS to investigate environmental contamination and human health and safety concerns due to radioactive and toxic waste produced at national labs and weapons facilities.

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** NOTE: This includes ONLY legislation passed. It does not include legislation introduced by Sen. Gore or, Sen. Gore's other activities and accomplishments on these issues.

Boston Sunday Globe

SUNDAY, DECEMBER 13, 1992

THE BOSTON SUNDAY GLOBE • DECEMBER 13, 1992

Gore playing key role in shaping transition

Senator's influence seen in policy and personnel choices

By Adam Pertman
GLOBE STAFF

WASHINGTON — There have been few public sightings of Vice President elect Al Gore since Election Day. And, when he has appeared, he's been standing silently at press conferences in Little Rock, Ark., looking every bit the traditional running mate whose primary purpose — helping his party win — has already been served.

In this case, though, the reality belies the image.

According to senior Democratic officials in Washington and Arkansas, Gore has been playing an unprecedented role during Bill Clinton's transition to power. The officials said Gore has not only been helping shape policy but also has exerted considerable influence in the selection of top-level administration nominees.

"I think it's fair to say that Al

Gore has had an impact on every Cabinet appointment . . . even if it is in a modest form," said Roy M. Neel, the Tennessee senator's chief of staff.

Bruce Reed, one of Clinton's principal domestic advisers, made the same point in a separate interview in Washington. He said Clinton sought Gore's advice on a wide range of personnel and policy questions, particularly relating to foreign affairs and the environment.

Transition officials acknowledged that portraying Gore as a key player serves Clinton well. It sends a signal that the new White House will remain true to the issues Gore has championed, they said, and demonstrates that Clinton will live up to his vow to give his No. 2 unprecedented responsibilities.

At the same time, the officials insisted that there is nothing cosmetic or temporary about Gore's influence. The two running mates developed an

unusually close rapport during the fall campaign, they said, and Clinton seems intent on maintaining it after taking office next month.

"Skeptics beware, history teaches you nothing on this count," said a senior Clinton aide in Little Rock, referring to vice presidents being relegated to attending funerals or given some specific limited responsibilities.

"Besides," the aide added, "all you have to do is look at how much

*President-elect
Bill Clinton and
Al Gore 'developed
this intense
trusting
relationship on
the campaign
trail and it's
evident every day
now.'*

BRUCE REED
Clinton aide

clout Al has exercised already to understand that this is really, really different."

The clearest example of Gore's sway thus far was last week's selection of Carol Browner as administrator of the Environmental Protection Agency. Browner was a top aide in Gore's Senate office before assuming her current post as Florida's environmental enforcement chief.

Sources said that, when the initial list of prospects for the EPA job was drawn up, Browner was not even on it, but was added at her former boss' suggestion. The sources stressed that Browner rose to the top of most transition officials' lists on her own merit, and that Gore was careful not to disparage the other candidates - including former Vermont Gov. Madeleine Kunin, who most observers thought would win the EPA post.

Still, Gore got his first choice when Clinton made his final cut.

Gore also cast his shadow, albeit more faintly, during last week's discussions on nominations for key Clinton administration economic posts.

Lawrence Summers, a highly regarded Harvard economist, had been considered a top candidate for the new post of Economic Security Adviser. But, when he was chief economist at the World Bank, Summers had written a memo in which he raised the prospect of disposing of toxic waste in developing nations.

Summers has since said he was merely offering an option, not an opinion, but Gore is known to have become wary of the economist as a result. While Gore reportedly did not try to undermine Summers' prospects for the security adviser's job, the senator's allies made their displeasure known to Clinton, and the position went to investment

banker Robert Rubin.

Besides the environment, on which Gore is considered one of the nation's authorities, officials interviewed last week said they expected his recommendations to be given particular weight in the areas of foreign policy, technology and communications. That presumably includes policy and personnel decisions affecting such pivotal Cabinet departments as state and defense, and such

powerful agencies as the Federal Communications Commission and the Federal Trade Commission.

Already, Democratic officials said, Gore has influenced public statements made by Clinton on such international issues as US involvement in Bosnia and Somalia. And, they said, his recommendations have been incorporated into the new administration's ethics guidelines and still-developing government-reorganization blueprints.

"Clinton has relied on him heavily on both people-related matters

and in areas of the federal government where Clinton has less experience," said Neel.

He pointed out that Gore is one of a handful of close Clinton advisors who discusses final decisions in the governor's mansion in Little Rock every night.

"They developed this intense trusting relationship on the campaign trail and it's evident every day now," Reed, the domestic policy aide, said. "I think you can bet that won't change once they move into the White House."

ENVIRONMENT

Remaking society to save the planet

By Ross Gelbspan
GLOBE STAFF

Gore asks radical global fix

Like a freight train careening downhill out of control, the planet Earth seems to many scientists to be speeding toward environmental apocalypse.

Many despair of doing anything about it, but Sen. Al Gore (D-Tenn.), a 1988 presidential contender and a leader in the US Senate, has decided to throw his political future across the tracks.

He has done so in a new book that calls on Americans, and the world, to apply the brakes by embracing individual, societal and economic life-style changes that would seem sweeping and radical coming from the environmental establishment, let alone from the heart of the political mainstream.

Its call for restructuring modern civilization around the principle of global environmental redemption proposes strategies far more radical on Capitol Hill than anything publicly espoused by many environmental groups, concerned about their credibility in the hardball world of political compromise.

Gore's interest in environmental issues is nothing new. Last week, the Senate voted 96 to 0 to adopt his resolution to speed the phase-out of ozone-depleting chemicals. And colleagues expect him to vigor-

ously oppose an administration-sponsored energy bill that would create hundreds of oil, coal and nuclear power plants over the next four decades while doing little to promote conservation and renewable energy sources.

But those initiatives pale in the face of his global blueprint, which includes a "Global Marshall Plan" to stabilize skyrocketing population and halt deforestation and destructive agricultural practices in developing countries; to switch from oil, coal and nuclear energy to solar, wind and other renewables; impose stringent taxes on virgin materials to force producers to recycle and reuse products; and change the way national budgets are calculated to reflect the true costs of resource depletion

and pollution.

In "Earth in the Balance: Ecology and the Human Spirit," Gore makes the case for such steps by relentlessly cataloguing a list of accelerating planetary catastrophes — global warming, climate change, sea level rise, deforestation, skyrocketing population growth — that threaten the survival of civilization.

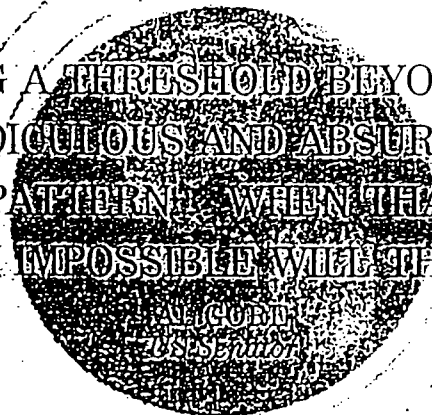
In a particularly impolitic chapter, Gore, the scion of one of Tennessee's leading Democratic families, warns Americans they are fundamentally alienated from nature and their own experience, a split that has led to what he calls a "dysfunctional civilization" marked by addictive con-

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SEN. AL GORE

“WE’RE NEARING A THRESHOLD BEYOND WHICH PEOPLE WILL REALIZE THAT THIS RIDICULOUS AND ABSURD FRENZY OF EXPLOITATION IS REALLY A DUMB PATTERN. WHEN THAT HAPPENS, THINGS THAT TODAY SEEM POLITICALLY IMPOSSIBLE WILL THEN BE POLITICALLY IMPERATIVE.”



Remaking society to save planet

■ GORE

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sumption of oil and natural resources and an escalating frenzy of empty and unfulfilling consumerism.

Although many of the ideas and data in Gore's book come from scientists and other environmental thinkers, some who have read it say it is so radical that Gore runs the risk of marginalizing his political career. "Maybe Gore feels his stage is outside the Senate and that's why he wrote a book like this," said a senior Senate staffer who asked not to be named.

But others believe that, rather than courting political disaster, Gore is speaking over the heads of a hostile Washington establishment to a more receptive public.

"Gore is doing a smart thing politically," said David Gardiner, the Washington-based legislative director of the Sierra Club. "His book is likely to be very well received by the public. The people who find his ideas scary are the lobbyists who don't want to make the changes we need to make."

"I think Gore's book is a signal of how mainstream the public's concern about the environmental crisis has become. The public is far ahead of most politicians on these issues," he added, citing a survey that found 80 percent of Americans would pay more for cars that achieved 45 miles per gallon of gas.

"Al Gore's prescription - which is bold enough to actually cure the patient - puts him several orders of magnitude beyond where Congress, the President or either political party is willing to go," said James Maddy, director of the Washington-based League of Conservation Voters. He contrasted Gore's boldness

with the caution of environmental leaders who feel that in the world of Washington politics they can win only marginal improvements, saying the senator is "willing to be candid and honest about the future of the planet, and tell people the shocking truth about what's really required."

Gore himself insists that his book is not politically motivated, but some critics on Capitol Hill, who asked not to be named, question his disclaimer. They note that while seeking the presidential nomination in 1988, Gore rode the environmental issue as hard as he could - until it became clear the Democratic selection would turn on other issues.

A personal rubicon

He dismisses the political tea-leaf reading, saying that three years ago he crossed a personal threshold in which political aspirations were overwhelmed by conscience. The issue, he said, is how to reconcile the need for radical remedies with the incremental change of the politically possible.

"I've tried to find the outer boundary of what is politically feasible within the framework we have," he said in an interview last week. "But I see social markers which are expanding that boundary. People object when their backyards are threatened by a new landfill or incinerator. But people's definition of backyard is changing. Each breath we take has 600 percent more chlorine than 40 years ago. The new intensity of storms due to climate changes will also affect backyards."

"When people make the connection between their own backyards and the devastation of global environment, you will see the same in-



1988 GLOBE STAFF PHOTO / SUZANNE KREITER

A large number of forest fires in the Pacific Northwest have been caused by lightning.

He expressed disdain for those who say the global danger is being exaggerated. He specifically challenged a small minority of scientists, actively supported by the Bush Administration, who deny there is a crisis because of scientific uncertainties about patterns of variation and specific causes and effects. Gore compared them to tobacco company scientists who cite the lack of proven specific pathways by which smoking causes cancer to deny the overwhelming evidence of such a link.

Just as the United States rebuilt Europe after World War II in a policy of enlightened self-interest, Gore's book urges the developed nations to embark on a "Global Marshall Plan" to eliminate the buildup of greenhouse gases by switching to renewable, non-polluting energy sources such as solar, wind and photovoltaic cells. It also calls for drastic reduction in the use of industrial chemicals and soil-depleting chemical-intensive agriculture. And it calls on the world to provide education, infant health care and contraceptives to women in poor countries to check population growth.

Factoring in hidden costs

Key to his plan is worldwide adoption of an economic budgeting system that includes the hidden costs of pollution and resource depletion in calculating the Gross National Product, an approach advocated by several economists who say the current system masks massive costs that then fall on future generations.

Gore, again echoing economists, says that by reducing pollution and increasing energy efficiency, firms actually increase competitiveness by finding ways to improve production, maximize the ingenuity of their workforces and cut waste.

Observers in Congress note that Gore has long had an environmental focus, focusing on toxic waste problems as a young congressman and helping establish the 42-nation Interparliamentary Conference on the Global Environment, an international group to monitor global climate change.

But, Gore says, it was a convergence of seismic personal changes, marked by deep frustration and pain, that prompted him to write his book. During his aborted 1988 presidential run, he recalled, he gave speech after speech about environmental problems "only to pick up the newspapers the next day and see not one reference to those speeches."

"I started to wonder whether those issues... were peripheral after all. I began to doubt my own political judgment, so I began to ask the pollsters... what they thought I ought to talk about," he wrote. As a result, "I discussed what everybody else discussed, which too often was a... list of what insiders agree are 'the issues'."

Then, in 1989, he says, he underwent a period of soul-searching after his six-year-old son was hit and nearly killed by a car. During the weeks he and his wife spent in the hospital caring for their child, Gore wrote, he realized "the change that sought me out in the middle of my life... gave me a new sense of urgency about those things I value the most."

A horrifying tableau

The result, "Earth in the Balance" (published by Houghton Mifflin), presents a horrifying tableau of accelerating, unrestrained destruction that threatens in the next few decades to stress the global environment to the breaking point.

It foresees massive climate change marked by wild increases in

droughts, flood and storms, propelled by a growing atmospheric overload of carbon dioxide and other "greenhouse gases." Those changes, accompanied by rising sea levels, are being accelerated by the ferocious destruction of forests that consume carbon dioxide and replenish our oxygen supply.

It also forecasts rapid wilting of the food supply under the pressure of wasteful and destructive agricultural practices.

And it suggests the inevitability of overpopulation coming to an abrupt halt in a massive population crash driven by drought, famine, deforestation or other causes.

Among other findings Gore cites to support his alarm:

- While the global average temperature dropped by slightly more than 1.8 degrees Fahrenheit during the Earth's last "little" ice age between 1550 and 1850, scientists expect it to increase 4.5 to 7.2 degrees over the next 50 years.

- Atmospheric concentrations of carbon dioxide have ranged from 200 to 300 parts per million during the last two ice ages, but is expected to skyrocket to 600 ppm in 50 years.

- The world's tropical rain forests, which consume carbon dioxide and provide homes to millions of species, are being destroyed at the rate of one football field per second, more than one Tennessee per year.

- Partly as a result, wildlife species are being destroyed a thousand times faster than at any time in history.

- Earth's population, which grew to 2 billion between the dawn of human history and 1945, will more than quadruple, to 9 billion, by 2020.

At the same time, Gore says, there has been a destruction of the

internal ecology of human feelings and responses by the numbing power of alienation and denial, which has deafened leaders and paralyzed many of the world's people.

On one level, he wrote, politicians, news editors and individuals who refuse to address the threat "are really saying they simply do not want to think about the disruption that would accompany any serious effort to confront the problem."

At a deeper level, the apathy is caused by "dysfunctional patterns of behavior" resulting from losing touch with humanity's natural roots.

"People object when their backyards are threatened by a new landfill or incinerator. But people's definition of backyard is changing."

SEN. AL GORE

Driven to consume

The source of the crisis lies in our "addiction to the consumption of the Earth itself," he wrote, an addiction that "distracts us from the pain of what we have lost: a direct experience of our connection to the... natural world..."

That addiction must be faced before it can be curbed, he asserts, for only then "can we recognize the destructive impact" of our habits. That is the first step, "toward mourning what we have lost, healing the damage we have done to the Earth and to our civilization, and coming to terms with... what it means to be a steward of the Earth."

ST. LOUIS POST-DISPATCH

TUESDAY, SEPTEMBER 1, 1992

EDITORIALS

Environmental Distortions

Among his targets for the fall re-election campaign, Vice President Dan Quayle has chosen "Earth In The Balance," the recent and now controversial book by his opposite number, Sen. Al Gore. Mr. Gore, the Democratic nominee for vice president, has written of the difficulties of sustaining life on this planet at the present rate of consumption, particularly in highly industrialized countries like the United States.

Here is how Mr. Quayle summed up the differences in the environmental philosophies of the Republican and Democratic parties. In a speech last week to the Economic Club of Grand Rapids, Mich., Mr. Quayle said: "We envision man as the harvester, working with the Earth to raise up homes and cities, respecting nature but shaping it to legitimate ends. . . . They [Democrats] view man more as an uninvited guest here on Earth, settling down and consuming resources to which he has no right."

What a gross oversimplification. The modern American environmental movement began with such Republicans as Theodore Roosevelt, who believed in setting aside precious resources like the national parks for future generations to enjoy. Many moderate Republicans who recoil at the existence of the likes of Dan Quayle in their party long have worked to protect and preserve the environment for one and all. Other Republicans have embraced the concept of conservation to save trees, minerals, wildlife and vegetation.

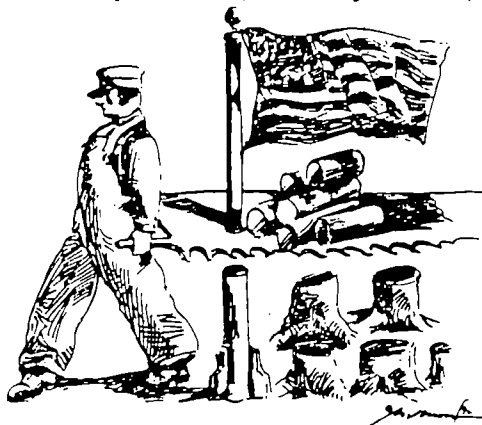
But those Republicans are not in control of the

party. Those in control now cast the issue as environmental protection versus jobs, though that is seldom the case. And too often they are willing to allow industry to pass on the cost of environmental degradation to the general public.

Conversely, Democrats across the board do not believe that human beings and economic development are incompatible. But many do believe that great care must be given when forests are felled and lands mined, lest permanent damage to the environment be done.

They believe, like moderate Republicans, that scarce resources should be husbanded, that wastes that come from economic inefficiencies are wastes that cannot be sustained. And they realize that small, thoughtful changes in living habits can sometimes result in great savings for society, whether that be by a fuel tax that encourages greater efficiency or by insulation standards that make homes cheaper to heat and cool.

Mr. Gore's views are neither new nor extreme, but he does argue that sometimes painful measures may have to be taken by government and individuals to curtail activities by human beings that are counterproductive in the long run. And part of the burden will fall on Americans, who consume more per capita in fuel, food and raw materials than any other nationality in the world, now or in the past. Mr. Gore's message is complex. Unfortunately, that makes it vulnerable to the cheap distortions of a Dan Quayle.



The Philadelphia Inquirer

Wednesday, September 16, 1992

Saving earth for and from mankind

By JAMES R. SPOTILA

Sen. Al Gore's *Earth in the Balance* is the most important book of the decade, not because it contains the answer, but because it focuses on the question. How do we face a global environmental crisis that threatens civilization as we know it?

If we continue our neglect of ecological issues, the end will not come with a bang, as in a nuclear war, but will arrive imperceptibly. Our grandchildren might not enjoy the clean air and water, the protective sky and changing seasons that we expect as our birthright.

Sen. Gore points out in accessible language that if we do not begin to address that growing environmental threat now, we may be able to accumulate short-term profits for a while, but our long-term legacy will be a world barren of nature due to a depleted ozone shield.

Gore exhorts us to change our ways of thinking and of doing business.

Since these conclusions have long been obvious to environmental scientists, it was with more than a little skepticism that I began to read Sen. Gore's book. To my surprise, I was compelled not only by his clear presentation of the data on global warming, ozone depletion and other environmental horror stories, but also by his proposed solution to the crisis — A Global Marshall Plan.

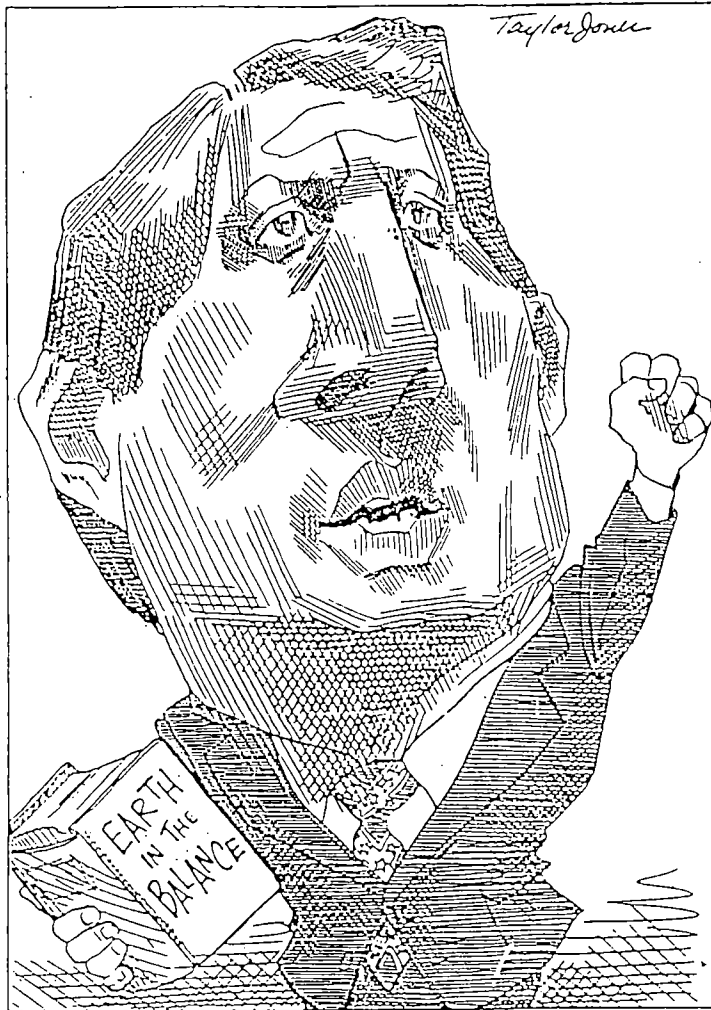
Gore calls for improved automobile technology — such as the Japanese ceramic engine that runs at higher temperatures and thus minimizes pollution — because our cars with their outdated engines pose "a mortal threat to the security of every nation that is more deadly than that of any military enemy we are ever again likely to confront."

He's right. A 2-to-5 degree Celsius rise in global temperature poses a greater danger to the U.S. than Iraq does.

There is nothing more important to our future than a safe and sustainable environment. Without it there is no economy and our civilization will fade into oblivion.

For America to maintain a viable environment, Sen. Gore advocates government planning like that used to build up our military strength during World War II and the Cold War.

Over the last 12 years our government has minimized our environmental crisis while maximizing short-term economic gains. The Reagan and Bush administrations have dismantled our environmental safeguards, cancelled ecological studies, and gutted the Environmental Protection Agency (EPA.). Though the savings and loan bailout and budget deficit are on the national agenda, if we fail to take action on the environment, the costs of the "Environmental Debate" will dwarf both of these problems.



ALBERT GORE

Los Angeles Times / TAYLOR JONES

Sen. Gore makes clear we must act to change our approach to the environment. Not to act now would be to bequeath our grandchildren a life so filled with disease and famine that they would look back and rue the selfish actions we are taking today.

Sen. Gore states, "We tolerate... the violation of the rights of those who will come after us. As we strip-mine the earth at a completely unsustainable rate, we are making it impossible for our children's children to have a standard of living even remotely similar to ours."

He also contends, "With the future so open to doubt, we routinely choose to indulge our own generation at the expense of all who will follow. We enshrine the self as the unit of ethical account, separate and distinct not just from the natural world but even from a sense of obligation to others — not just others in future generations, but increasingly even to others in the same generation; and not just those in distant lands, but increasingly even in our own."

How can we have a healthy economy if we do not have a healthy environment? One of the most prescient actions of late was America's passage clean water and air legislation during the 1960's and 1970's. We only have to compare our environment to that of eastern Europe to appreciate the horror we avoided and the high quality of life we obtained by those actions. Money invested in that effort paid for itself in jobs and quality of life a hundred times over.

The question is not, as Gore's critics would have it, which do you want, jobs or a clean environment? The question is, how do we create jobs that contribute to maintaining a sustainable and safe environment? Since 1970 many companies have grown, created jobs and prospered by combining concern for environmental quality with technological innovation.

The 3-M company improved profits with its Pollution Prevention Pays program. Xerox and Dow instituted similar measures. Here in the Delaware Valley, Betz Laboratories, Roy F. Weston, Inc. and Environmental Tectonics Corp. have grown to employ over 6,000 blue collar, technical and scientific workers. They have demonstrated that caring for the environment and creating jobs are compatible.

Gore sets six strategic goals for the Global Marshall Plan.

- Stabilizing the world population.
- Rapid creation and development of environmentally appropriate technologies.
- A comprehensive change in the economic "rules of the road" by which we measure the impact of our decisions on the environment.
- The negotiation and approval of a new generation of international agreements to make the overall plan a success.

■ The establishment of a cooperative plan for educating the world's citizens about our global environment.

■ The establishment, especially in the developing world, of the social and political conditions most conducive to the emergence of sustainable societies.

An environmental scientist could not have said it better.

After 12 years of undermining support of family centered programs, the Republicans are talking to us about family values. Don't they think family values also include ensuring that our grandchildren have clean air to breathe and clean water to drink?

If you care about your grandchildren, read Gore's book.

James R. Spotila is a professor of environmental science at Drexel University.

REVIEWS

BOOKS

A Crisis as Real as Rain

TITLE: *EARTH IN THE BALANCE*

AUTHOR: AL GORE

PUBLISHER: HOUGHTON MIFFLIN; 407

PAGES: \$22.95

THE BOTTOM LINE: *A work of intelligence and passionate authenticity.*

By LANCE MORROW

SENATOR AL GORE HAD JUST turned 40 years old. His presidential campaign had broken up in the primaries the previous spring. Then, as he reports, "one afternoon in April 1989, I walked out of a baseball stadium and saw my son, Albert, then six years old, get hit by a car, fly thirty feet through the air and scrape along the pavement another twenty feet

until he came to rest in a gutter." The child, at first near death, eventually recovered. It was in his son's hospital room in Baltimore that Gore began writing *Earth in the Balance*.

Since the book arises in part from a moment of personal crisis, it speaks with a certain passionate authenticity, a ring of the unfakable that is rare enough in the (usually ghostwritten) outpourings of politicians. The American public, much afflicted by sound bites, has all but abandoned hope for intelligent life in Washington. It may be impressed by Gore's sustained intellectual concentration and mastery of his subject, the environment. Gore has studied it a while. In the 1988 campaign, the Senator held the wedding guests with his glittering eye and talked about such obscurities as the greenhouse effect and the thinning ozone. Another candidate said he sounded as if he were running for national scientist.

The subjects are less obscure now. In *Earth in the Balance* Gore writes, "The global environmental crisis is, as we say in Tennessee, real as rain, and I cannot stand the thought of leaving my children with a degraded earth and a diminished future."

Gore has produced a labor of statesmanship, evangelism and scientific exposition. He does not so much break new ground as organize a wide variety of material and experience to state the case of environmental urgency and the need for change, for what he calls a "Global Marshall Plan." He has digested books, made friends with experts and traveled. Gore went, for example, to the Aral Sea in Central Asia—10 years ago the fourth largest inland sea in the world, now dead, its fishing fleets stranded surreally in dry desert. The water that once fed the Aral was diverted in an ill-considered irrigation project to grow cotton. Gore traveled to the vanishing Amazon

rain forest and to the globe's other environmental Stations of the Cross. He knows too much, however, to indulge in mere sentimentalism about Earth-Motherhood, or to join a doctrinaire rush to simplification.

In drawing a line connecting the individual to the global, Gore here and there sounds as if his inner Ancient Mariner had lingered too long in adult-children seminars with John Bradshaw, and humankind might 12-step the earth green again. Still, the vocabularies of the recovery movement open interesting windows upon a civilization that is dysfunctional, much given to denial, addiction, co-dependency and brutal nature abuse.

If the future (to use Gore-esque imagery) remains as dark as a mine shaft, humankind has at least begun to notice the alarming accumulation of dead canaries about its feet. In part because of his son's accident—and perhaps in part because of George Bush's overwhelming popularity in the polls after Desert Storm—Al Gore decided to sit out the 1992 campaign. Instead of Gore for President, the public has his book, which is itself an act of leadership. ■

TELEVISION

Graduating With Honors

SHOW: *THE COSBY SHOW*

TIME: THURSDAY, APRIL 30, 8 P.M. EDT. NBC, FOR THE LAST TIME

THE BOTTOM LINE: *The most successful sitcom of the '80s makes a graceful exit.*

By RICHARD ZOGLIN

NOTHING ON TV AGES FASTER than a family show. The regulars at the *Cheers* bar or the *M*A*S*H* unit can stick around for years, with only occasional cast changes to accommodate stars who want to get into movies. But kids have a bad habit of growing up. Anyone tuning in after a few years' absence to this week's final episode of *The Cosby Show* may get a shock. Theo (Malcolm-Jamal Warner), a junior-high student when the series began, is graduating from college. Vanessa (Tempestt Bledsoe), once a pudgy preteen, is in college too, and has weathered a broken engagement. Cute little Rudy (Keshia Knight Pulliam) has ceded the spotlight to a passel of even cuter, littler kids: Olivia, 6, stepdaughter of No. 2 daughter Denise (who



CYNTHIA JOHNSON FOR TIME

Gore at home near Washington: his travels took him to the Aral Sea, now dead, and other disasters

Sound Environment, Sound Economy

BY AL GORE

Special to The National Law Journal

THE AMERICAN people are being asked to choose between protecting our environment and strengthening our economy. That's the choice President George Bush and Vice President Dan Quayle are asking us to make. It is not just short-sighted, it is irresponsible. And it is just plain wrong.

Fortunately, the American people are getting a second opinion before accepting this false choice as true. They're willing to work for a strong economy. And because they care about protecting the environment they will leave their children, they're willing to work to clean it up.

The simple truth is that protecting our environment means new business and increasing profits. Protecting our environment ensures that the United States will remain competitive in the international marketplace in the future. It means strengthening our economy. It means meeting the challenge from our competitors, such as Germany and Japan and others already moving to secure their place and their profits from these growing markets.

If we fail to act, we lose. We lose jobs, we lose opportunities, we lose our natural resources and the brighter future every parent hopes to offer their child.

For example, during negotiations on a climate convention signed at the June International Earth Summit in Rio de Janeiro, Brazil, the administra-

tion argued that the United States could not afford to stabilize emissions of carbon dioxide, the major cause of global warming, at 1990 levels by the year 2000. That argument ignored the administration's own data and analyses showing that we can not only afford to stabilize emissions through voluntary energy conservation and other measures, but we can do it at a profit. We can enhance business profits and protect our environment *at the same time*.

What was once called too expensive is now called a bargain too good to pass up.

We have had a difficult time in the past coming to grips with the fantastic new powers we've gained from the

Continued on page 18

A Clean World Is Good for Business

Continued from page 17

technologies that drive our industrial society. Just as nuclear weapons transformed the consequences of all-out warfare, so thousands of new technologies that magnify our ability to exploit the earth have transformed our relationship with the earth.

At the dawning of the nuclear age, Albert Einstein said, "Everything has changed, except our way of thinking." During the last few decades, human beings have tried to come to grips with a new way of thinking about warfare. We have not fully acknowledged the debt that all humankind owes to Brazil and Argentina and other nations in South America that had the courage to abandon this technology of nuclear weapons and make a pact to stop the march that other nations began toward nuclear weaponry. If such progress can be made in the area of war technology, we can certainly move forward together to improve our management of industrial technology.

So now we face the necessity of arriving at a new way of thinking about our relationship to technologies for exploiting the earth. Our successful start in dealing with CFCs, or chlorofluorocarbons, give us cause for hope because agreements have been reached by most nations of the world that will eventually result in their phaseout. We must build on that success by developing a new partnership between North

and South, industrial countries and developing countries, that will work to counter global warming; to preserve our dwindling forest resources and other critical ecosystems; and to clean our air, our fresh-water resources and our oceans.

Here at home, we must accelerate the development of new technologies that foster economic progress without environmental destruction. We must commit to using and promoting renewable energy technologies and work to move these programs from the bottom of the list of priorities to the top. We can start by taking advantage of the wealth of expertise and talent in our national labs and other federal facilities, bringing them together with the private sector to produce these new technologies.

New Technologies

Policies, technologies and processes that prevent or stop pollution at its source rather than clean it up later offer unprecedented business opportunities. Last year, Northern Telecom Ltd., which has its American headquarters in Nashville, Tenn., became the first major electronics company to eliminate the cleaning solvent CFC-113 from its manufacturing operations. The company used available technology, working with its customers and vendors to create alternatives to the CFC solvent. Northern Telecom estimates that the use of the alternative

process will prevent nearly 9,000 tons of CFCs from being released over the next eight years, while generating savings of \$50 million.

Companies with the best environmental strategies will lead business in the 21st century. They are among the most competitive and profitable. Japan has already recognized and seized upon this economic opportunity through energy efficiency and also by investing in the future.

For example, Japan's Ministry of International Trade & Industry began work in 1990 to create the Research Institute of Innovative Technology for the Earth, intended to develop environmental technologies. In addition to \$80 million in seed money from the ministry, Japanese industry invested \$45 million in the first year of operation. Japanese companies have recognized that huge profits can be made by developing and using environmental technology.

The American people know, too, that we can both save the environment and strengthen the economy. They know we do not have to sacrifice economic stability and jobs to protect the world around us. It can and must be done.

The American people want from their leaders vision and courage, understanding, compassion and real commitment on these issues. They expect and deserve leaders who will amplify their voices, not overpower them.

Green giant

Looking at Al Gore's legislative record, one would hardly judge him an "environmental extremist," the label the White House has tried to pin on him. Though he has been a vocal and effective critic of the Bush Administration's environmental failures, and though greens support him enthusiastically, his ecological voting record puts him well into the middle of the pack of Democratic senators. Indeed, Gore's lifetime grade from the League of Conservation Voters, a consortium of mainstream environmental groups, is a middling seventy-seven out of a possible 100. Early in his congressional career, in fact, Gore failed one of the environmentalists' litmus test issues of the late '70s by voting against protecting the endangered snail darter in favor of constructing the Tellico dam in his home state of Tennessee.

Critics in the Bush Administration want it both ways. While branding Gore an extremist, they accuse him of not being an effective legislator on the issues. "Quite frankly, there is not much there," said Michael Deland, chairman of the White House Council on Environmental Quality. "There has been a lot of rhetoric but not much in the way of performance." Administration officials point out that Gore was not a major player on many of the most important environmental bills taken up by recent Congresses. These include the Clean Air Act amendments of 1990, the 1990 farm bill, the national energy strategy, the highway bill, the elevation of the EPA to cabinet level, the oil pollution act, nuclear liability legislation, and others. Indeed, even some environmental lobbyists say Gore has been less influential than he could be because he does not serve on the Senate Environment and Public Works Committee or any other key committee concerned with environmental matters.

In fact, Gore's record is substantial. He was the author of several major

amendments of the 1990 Clean Air Act re-authorization, including requiring the phaseout of ozone-depleting hydrochlorofluorocarbons. His proposal for a "strategic environmental research and development program" to bring the research resources of the Defense Department to bear on global environmental problems was adopted in 1990. He was the author of a resolution calling for the protection of Antarctica from mining and other development. He was also a leader of the successful effort to bar oil development from the Arctic National Wildlife Refuge. He has been particularly active in promoting environmentally sound technology to help restore the nation's competitiveness in international markets, successfully pushing, for example, for the creation of a new national network of high-speed information "super-highways" that would link powerful computers with schools and research centers. Since his vote on the snail darter, Gore "has worked strongly for the protection for species and habitat," according to the League of Conservation Voters. And as a member of the House in the late '70s, Gore presided over a landmark investigation that disclosed the magnitude of the nation's hazardous waste problem. Shortly thereafter, he co-sponsored the Superfund bill to clean up toxic waste sites.

Gore is not a member of "The Club," the coterie of influential senators who cut deals over legislation. But despite his lack of insider status, he is without question the most prominent environmental activist in the United States Congress. His leadership stems from his demonstrated ability to recognize, master, and articulate emerging issues. He has been well ahead of the curve on issues from hazardous waste in the '70s to global warming, destruction of the earth's protective ozone layer, and the disappearance of species in the '80s and '90s. *Earth in the Balance*, Gore's best-selling book on the global environment, is a meticulously researched, careful analysis of some of the most important geopolitical issues of our

time. What is more, the book offers a long-range strategy for asserting American leadership in a new system of collective security built around the "central organizing principle" of environmentally sustainable economic development.

The Bush-Quayle campaign has used the book as exhibit A for its charges that Gore is an extremist. Quayle has called it the Democratic "manifesto" and said that following its recommendations would require sharp increases in taxes and lose thousands of jobs. The Republicans are particularly shrill about Gore's suggestions on the use of carbon taxes to encourage the reduced consumption of fossil fuels, hoping once again to stimulate a knee-jerk reaction to the word "tax." The Clinton campaign has handled the book rather gingerly, particularly the carbon tax idea, which it has described as only a suggestion for study. In fact, Gore's own words unmistakably show that he thinks it would be a good idea. But he also states unequivocally that he is not advocating a tax increase. Under the plan, other taxes would be lowered commensurately. As for the idea of building a new system of collective security around sustainable development, it was embraced by almost all governments at the Earth Summit in Rio. If Gore is an extremist for proposing it, so are the leaders of Germany, Japan, and other industrialized democracies.

The good news for Gore is that the extremist tag does not appear to be sucking, even within the Administration. Gore "cares a lot and knows a lot about the issues," EPA administrator William K. Reilly said in a recent television interview, adding, "I don't think he's an environmental extremist." Of course, within the administration, Reilly's a bit of a fringe figure himself.

PHILIP SHABECOFF

Philip Shabecoff's book on the environmental movement, *A Fierce Green Fire*, will be published in January by Hill & Wang.

THE ECOLOGY OF SURVIVAL

By Al Gore

Theories about history are built on sand. Yet millions have died believing in their ultimate truth. It's because we have paid such a high price for historical theorizing that we can ill afford to lose our perspective now, or to stop thinking about where we've been and what it tells us about where we're going. To paraphrase Santayana, those who cannot remember the past ought to be condemned to reread it.

Seventy-five years, the measure of one magazine, is now the measure of one human lifetime—the number of years an American child born today can expect to live. Looking back 75 years, we can accept or ignore any number of political, cultural, or strategic lessons. Looking ahead into the life of that child, however, we see two indisputable patterns. With the invention of nuclear weapons we changed the character of warfare in ways that must preclude any conflict on the scale of the one that began in 1914. That lesson is widely understood, and we have some basis for hoping that it will guide our future affairs. The second dramatic change has not yet been so widely accepted. Humankind has suddenly entered into a new relationship with the planet Earth. Our survival depends upon our capacity to grasp, and quickly, the extent to which the current pattern of world civilization threatens the ecological system that sustains life as we know it.

From this side of the Atlantic, at least, the future looked better in 1914. Back then America didn't need a coup in Panama; that year we opened the Canal. Productivity growth in the United States was almost too fast to measure. In the fall of 1913 a Model T came off the assembly line at Henry Ford's new Highland Park plant every 12 hours. By the spring of 1914 that plant was producing one car every hour. The world environment was as untrampled as the poppies in Flanders Fields. The biggest threat to the rain forest was Tarzan, created that year by Edgar Rice Burroughs.

From politics to art, the world was breaking loose from the old order. The acceleration of history was already well under way. Einstein's theory of relativity had jolted science. Cubism was fracturing the way artists interpreted the world. Ancient dynasties and im-

mense empires began to die with the Archduke Ferdinand. The World War hardly made the world safe for democracy, but it did put the foes of democracy on notice. The period since then represents a succession of struggles between democratic powers and tyranny in all its guises. In 1914, as Europe descended into carnage, by far the greater number of the world's peoples lived under tyrannies. But of the major nations that went to war in Europe, only the established democracies survived with their political systems intact. The interwar years were marked by philosophical as well as geopolitical struggles on a global scale, with the ideologies of fascism, communism, and democracy in contention. In World War II, not only was fascism defeated; its exemplars underwent apparently permanent societal conversions, from which they emerged as democracies themselves. Now we appear to be experiencing the rapid dissolution of Communist tyranny. The process is advancing in Europe and perhaps gathering strength in Asia, the result of irresistible internal forces that can be set back but not permanently stopped.

In the developing worlds of Latin America, Africa, and Asia, the battle between democratic and tyrannical forms of government has been less decisive. Nevertheless, over the last decade the trend has been toward democratic forms, from Argentina and Brazil to the Philippines. Looking at this pattern, some conclude that humankind is maturing out of tutelage, throwing off submission to the arbitrary rule of those who claim legitimacy by divine right or historical "law" and embracing instead the self-rule that derives its legitimacy from the will of the electorate. Perhaps so. But experience ought to make us wary of premature declarations of victory, and we should certainly reject the idea that we have arrived at the end of political history. The human imagination is much too fertile for that, and the human capacity for inventing systems of political belief has not exhausted itself. We can expect that "isms" will continue to appear, displacing others in the hearts and minds of millions, over cycles of time that may run from decades to centuries and even to millennia.

Yet because of the events and accomplishments of the last 75 years, there are indeed critical, and permanent, new factors in the life of humanity. These relate to the physical world, whose constants are beyond the

AL GORE is a U.S. Senator from Tennessee.

power of ideological manipulation. We have, in the course of a single life span, managed to grasp the levers of our own destruction: first, in the form of nuclear weapons; and second, in the form of the industrial destruction of the biosphere, which has begun to move ahead at geometric rates of increase. When you consider the relationship of the human species to the planet Earth, not much change is visible in a single year, in a single nation. Yet if you look at the entire pattern of that relationship from the beginning of the modern era in 1914 until today, the contrast is starkly clear.

In 422 years, from the time of Christopher Columbus until 1914, world population tripled, to 1.6 billion. In the last 75 years it has tripled again, to 5.2 billion. We are told that in the next 75 years it will double and perhaps even triple once more. Nearly every index of the impact of modern industrial society follows the same pattern of sudden, unprecedented acceleration. Americans consumed around 40 billion kilowatt-hours of electricity in 1914. Last year we used 60 times that much. U.S. production of synthetic organic chemicals (from PCBs to pesticides to plastics) has gone from almost nothing to 225 billion pounds per year—half a ton for every American. The world's fossil fuel use has increased ten times over, and with it, carbon dioxide has flooded the Earth's at-

mosphere. Other greenhouse gases have soared upward at similar rates: U.S. nitrogen oxide emissions are up 800 percent since 1914; methane concentrations have nearly doubled; and the world's emissions of chlorofluorocarbons, which had not yet been invented in 1914, have increased by 80 times since World War II, and are still doubling every decade, posing a deadly threat to the Earth's protective ozone shield.

The hole in the ozone layer is only the most widely accepted manifestation of a much broader challenge to the Earth's environment. We are destroying forest land at the rate of one acre per second; we are poisoning our rivers, lakes, groundwater, and oceans; we are causing living species to be destroyed at a rate 1,000

times greater than at any time in the last 65 million years; we are filling the atmosphere with gaseous wastes that threaten changes to the climatic system in the next 75 years as large as those that accompanied the ice ages over hundreds of thousands of years. These dramatic changes are taking place not only because the human population is surging and our standard of living has increased, but because we tolerate environmental vandalism on a global scale.

For 75 years the price we would have to pay for our actions has seemed impossibly remote. Only now are we beginning to see, in Ivan Ilych's phrase, "the

shadow our future throws." Whether we look forward in hopes of glimpsing what the future holds or gaze backward at the events that have dominated the world since 1914, we see something that resembles one of those artist's depictions of relativity theory, with time and space curved like a checkerboard grid painted by Salvador Dali. Our political awareness of the world is shaped and bent by events. Vast calamities such as the world wars exert a powerful gravitational pull on every idea we have about the world around us. And, just as in Einstein's theory, future events can exert the same gravitational pull on our thinking as events in the past. The political will to slow down the nuclear arms race came from the

feeling that we were being pulled toward a future we had never seen but didn't want. Now, as we are being drawn toward the brink of ecological collapse, we must be willing to consider drastic ecological action.

There is no way for humanity to forget its skills for self-destruction, by war upon each other or by war upon the environment. In an exchange of Promethean proportions, we have acquired deadly knowledge that we can never lose but must learn to keep under control forever. That is the new and permanent point of departure for political wisdom. And if we are to succeed in keeping civilization intact, it is clear that one ism must be revived and renewed: globalism—by which I mean not some kind of world order prescribed and imposed

Thorstein Veblen Reconsidered *George Charney*

THE NEW REPUBLIC

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from above, but rather a sense of responsibility for the good order of the world, rising upward from all of its peoples, and ultimately manifesting itself in the behavior of their governments, both domestically and in international relations.

A new globalism cannot be based on some transformation of human nature, by which people will be endowed with new virtues of foresight and restraint. In the last 75 years we have had enough of efforts to create the New Man in one image or another. Jefferson's educated citizenry will have to suffice. The globalism we need can develop out of roots already universally present. It will be an enlightened, informed extension of our desire to survive, and of our often even more intense desire to provide for the survival and well-being of our children and grandchildren. Globalism will be marked by the sense that if our affairs are conducted on the basis of an unlimited struggle for supremacy—whether among nations or over nature—the result will be an increasingly high risk of almost immeasurable loss for all. It will be marked also by a sense that at some level, cooperation secures for all of us what strife cannot.

Mikhail Gorbachev now speaks as an advocate of a globalist approach based on mutual consent, rather than hegemony. It is certainly a revolution of sorts to hear such things from a Soviet leader. But it is well to remember that Gorbachev has at best caught up with the doctrine of collective security as propounded by Woodrow Wilson in 1918 and again by Franklin Roosevelt in 1945.

The essence of the doctrine of collective security is that security is indivisible and mutual: it must be provided for all, by actions to which all must contribute, or it exists for no one. That is certainly the lesson we must apply as we struggle to redefine our security relationship in military terms. Reductions of strategic and conventional weapons are desirable, but not in the abstract. They must seek a result in which the residual forces are perceived by all concerned parties to be stable, in the sense of lacking the capacity for decisive surprise. And reductions must be carried out in a political context that buttresses the expectation of peace and justifies diminished preparation for war.

But the notion of mutual security must now move from an exclusive concern with security as an issue of peace or war to a definition of security that includes the global environment. With that in mind, I have proposed a Strategic Environment Initiative (SEI). Let's face it: the Strategic Defense Initiative can't assure our survival for the next 75 years. A Strategic Environment Initiative might. I am no admirer of SDI, but one doesn't have to be an admirer to recognize that it drew together previously scattered facilities and resources and that it attracted a generous share of the government's budget for research and development. We need to approach the technological challenge of environmental protection and economic growth with at least the same intensity—and with comparable or greater levels of funding.

If we continue our current pattern of technology and production, we will be able to achieve economic growth in the near term only at the cost of massive environmen-

tal disorder in the not so distant future. For the developing world, the problems of reconciling economic growth and environmental protection are compounded by high rates of population growth and a massive debt burden. Yet the cooperation of Third World nations is crucial to controlling problems as vast as global warming. Their share of greenhouse gas emissions from fossil fuels could grow from about 20 percent today to as much as 60 percent by 2050. A Strategic Environment Initiative would promote environmentally sustainable development by identifying and spreading new technologies to developing countries, where 95 percent of world population growth will take place during the next century. Here in the United States, the Strategic Environment Initiative must modernize technologies and practices in every economic sector, from more fuel-efficient cars and energy-efficient appliances to manufacturing that relies on recycled material, to a second green revolution requiring fewer fertilizers and pesticides. The emerging consensus for environmental protection is opening the door to solutions once considered politically impossible.

It will not be enough, however, to change our laws, policies, and programs. We must also change the way we think about ourselves, our children, and our future. For a very long time, we have seen ourselves as separate from the world around us. At least since the beginning of the scientific method, and probably since Aristotle, we have seen nature as the object of our experiments, exploitation, and dominion. As scientists reflected on Einstein's revolution, they discovered that the act of observing alters what is observed. Heisenberg established that "uncertainty principle" in 1923. But its philosophical application is not limited to the subatomic world he described. In a kind of Heisenberg Principle writ large, we have altered—without realizing it—our relationship to nature itself. We must now create a new pattern of thinking in which we once again see ourselves as a part of the ecological system in which we live. We have lost, so to speak, our eco-librium.

How can we gain sufficient distance from ourselves to see a pattern that contains us in a larger context? My own religious faith teaches me that while we are given dominion over the Earth, we also are required to be good stewards of the Earth. If our actions cause the destruction of half the living species God put on this Earth during our lifetimes, we will have failed in the responsibility of stewardship. Are those actions, because of their result, "evil"? The answer depends not upon the everyday nature of the actions, but upon our knowledge of their consequences. For the individual actions that collectively produce the world's environmental evil are indeed banal when they are looked at one by one: the cutting of a tree, the flicking on of an air conditioner, the dumping of some inconvenient waste.

"Evil" and "good" are terms not used frequently by politicians. Yet I do not see how this problem can be solved without reference to spiritual values found in every faith. For many scientists on the edge of new discov-

eries in cosmology and quantum physics, the reconciliation of science and religion sometimes now seems near at hand. It is a reconciliation not unlike the one we seek between humankind and nature. But even without defining the problem in religious terms, it is possible to conclude that the solutions we seek will be found in a new

faith in the future of life on Earth after our own, a faith in the future that justifies sacrifices in the present, a new moral courage to choose higher values in the conduct of human affairs, and a new reverence for absolute principles that can serve as stars by which to map the future course of our species and our place within creation.

To Skeptics on Global Warming . . .

By Al Gore Jr.

WASHINGTON — When environmental and financial experts from around the world gathered in Washington this week for a White House-sponsored conference on global warming, they expected a serious discussion. Instead, they were surprised and angered to hear President Bush wholeheartedly endorse delay and inaction.

Global climate change is real. It is the single most serious manifestation of a larger problem: the collision course between industrial civilization and the ecological system that supports life as we know it.

The purpose of Earth Day is to alert people around the world to that impending collision. And yet the Bush administration, according to a leaked memo, is advising its policymakers that "a better approach is to raise the many uncertainties," and argue with their skeptics that nothing should be done until unresolved questions are definitively answered.

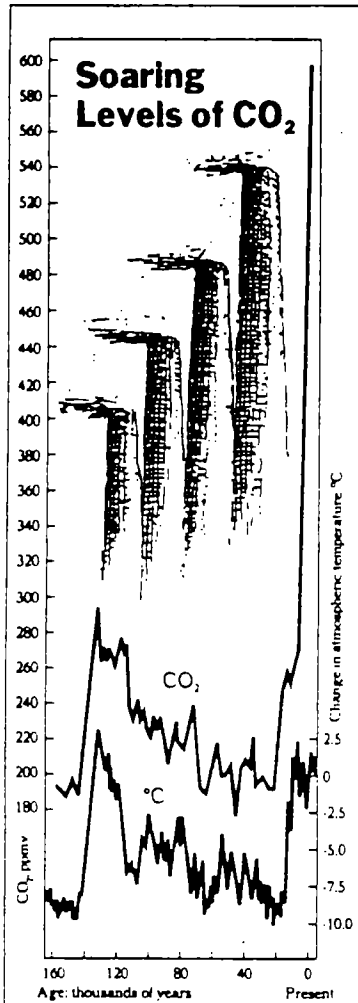
What are the skeptics' questions? Here are several of the most prominent. None of them stands up under scrutiny.

Q: Aren't the dire predictions about global warming based on unreliable computer models? How do we know that there is any correlation between increased levels of carbon dioxide in the atmosphere and changes in temperature?

A: The most compelling evidence comes from careful studies of tiny air bubbles in Antarctic ice. These show that has actually happened to the earth's climate during the last 50,000 years. As illustrated by the accompanying graph, carbon dioxide and temperature have gone up and down in lockstep for as far back as scientists can measure.

Through the last two ice ages and the period of great warming in between, levels of carbon dioxide have fluctuated between 200 and 300 parts per million. Even the skeptics agree that concentrations of carbon dioxide will be pushed to levels of 600 parts per million within the next 35 to 45 years. It is irresponsible to assume that after moving in tandem with carbon dioxide for 160,000 years, temperatures will not be affected by these dramatic increases.

Q: Do we know enough to act? Shouldn't we study the problem until



The New York Times; Illustration by Janusz Kapusta

we eliminate the uncertainties?

A: That was the Administration's excuse last year, when it asked a distinguished United Nations-sponsored group of scientists to answer that question. A draft of the scientists' long-awaited report, leaked to the press this week, concludes that we must act now. The scientists say there's still a chance that the problem won't be as bad as they fear, but there's an equal chance that it will be much worse than predicted.

Q: Come on, isn't this really a little far-fetched? After all, the Earth is a big place and probably has some kind of natural "thermostat" to maintain the present climate. Don't some scientists say that clouds or the oceans or sunspots will offset any effect caused by human activity?

A: While the Earth is indeed vast in size, the atmosphere surrounding it is less than one one-thousandth the

thickness of the Earth's diameter, a thin blue line around the crust of the Earth. Unprecedented population growth and new technologies for burning fuels, clearing forests and manufacturing chemicals have given humankind the ability to alter the composition of the atmosphere.

Everywhere on Earth, for example, each lungful of air now contains 600 percent more chlorine atoms than it did 40 years ago — or 3 billion years ago, for that matter. That chlorine is responsible for burning a hole in the stratospheric ozone layer. Similar increases in methane, nitrous oxide and other polluting gases add to the seriousness of global warming.

Q: But how can we trust scientists on this issue when some of them say global climate change is real and some of them say it's not?

A: Five hundred years ago, most scientists said the world was flat. Most people believed them because the Earth did indeed look flat. The new "model" of a round Earth was based on mathematical calculations that they could neither touch nor understand. Similarly, Galileo was punished for his then-novel view that the Earth orbited the sun, instead of the other way around.

In the last 20 years, eminent scientists continued to ridicule the theory of continental drift. The theory of global climate change used to be ridiculed, too. But in the last few years, the overwhelming majority of scientists who have examined the evidence have agreed that the problem is real.

Q: Didn't NASA just report that new measurements of the Earth's temperature in the last 10 years showed no evidence of warming?

A: That was the impression some people got. What NASA actually reported was that "nothing could be said" about a warming trend one way or another "due to the relatively short satellite data record." Temperatures naturally fluctuate so much from year to year that a single decade is not a long enough yardstick for a long-term trend. The decade as a whole, according to several other studies, was the hottest since temperatures have been recorded. The six hottest years on record occurred in the 1980's.

Q: O.K., suppose temperatures do rise by a few degrees. So what?

A: Even small changes in the average global temperature can have dramatic consequences. The last time there was a change as big as the one some now predict, temperatures dropped several degrees and what is now New York City was covered by ice one kilometer thick.

But this isn't about temperatures

alone. It's about drastically changing climatic patterns that affect the distribution of rainfall, the intensity of storms and droughts and the directions of prevailing winds and ocean currents, which in turn dramatically affect our weather and climate. Some scientists say the first effects will be erratic weather patterns with extremes of heat and cold.

Q: Isn't it easier to adapt to these changes than to prevent them?

A: The changes could occur so swiftly that effective adaptation might become virtually impossible. The longer we wait, the more unpleasant our choices become.

We are in fact conducting a massive, unprecedented — some say unethical — experiment with consequences for all future generations. As

... You're wrong on facts and reasoning.

you make your choice, bear in mind that you're choosing not only for your own generation but for your grandchildren as well. And remember too that our abuse of the environment could lead to the extinction of more than half of all species within the lifetimes of our children.

Q: Isn't the cost of preventing this problem too high?

A: Many of the solutions, such as eliminating subsidies for clear-cutting forests, actually save money. In any event, the costs of inaction are much higher, even if the skeptics refuse to measure them.

Q: The changes you say are needed are too sweeping to be politically possible.

A: What if I had asked you six months ago to assess the possibility that people in every country in Eastern Europe would abandon Communism, sing "We Shall Overcome" and embrace democracy within 90 days? Would you have called that "unlikely?" We all would have. But it happened because people changed their way of thinking about Communism.

People are changing their thinking about the importance of protecting the global environment. We too are showing our willingness to act. The obstacles may seem immovable, but so did the Berlin wall. With bold leadership and a new political "ecolibrum," we too shall overcome. □

Al Gore Jr., a Democrat, is a Senator from Tennessee.

POSTCARD ANTARCTICA

UNBEARABLE WHITENESS

I'M TRYING TO remember what I thought about Antarctica before I came here. For the most part, I didn't think about it at all. It is just plain remote. From the other side of the world, in Christchurch, New Zealand, it is another eight hours due south by plane to the main U.S. base, McMurdo, and then another three hours from there to the South Pole.

I came to the coldest place on Earth to hunt for information about global warming, but I was unprepared for the continent itself. For example, I didn't know that the land area is half again as large as the entire United States. Or that 90 percent of all the ice in the world is here—which means, among other things, that there is really no comparison between this place and the Arctic. Antarctica is larger, more isolated, more important in the global ecosystem—and much colder.

You don't expect a continent at the "bottom" of the world to have an altitude three times higher than any other continent. When I stepped out of the ski plane at the Pole, my awareness was divided between the 56-degree-below-zero weather and the dizziness of being at almost 10,000 feet. The altitude of the enormous polar plateau is due primarily to ice that is almost two miles thick. Although its ice and snow contain 70 percent of all the fresh water on Earth, Antarctica gets so little precipitation that it is classified as the world's largest desert. And while the continent goes dark for six months in winter, it still receives more sunlight during its six-month-long summer day than the equatorial regions receive in an entire year. Yet all that light creates virtually no surface heat, because most of it is reflected right back up into space. For anyone caught in that crossfire of whiteness, sunglasses are a medical necessity.

The ice shelf expands in winter to seven times its summer maximum. The small population of human beings sent here by 22 nations expands in summer and contracts in winter by proportions almost precisely inverse to those of the ice.

WHILE MOST of Antarctica is the cleanest, most pristine area on Earth, the waters immediately adjacent to the American base are among the most polluted in the world. PCBs and "we don't know what else," dumped years ago, have killed every vestige of life in a small area of McMurdo Sound. The nuclear power plant that leaked in 1962 was dismantled and returned to the United States. But even today the base dumps "diluted" raw sewage directly into the sound and burns its solid waste in an open pit.

In the last few years, several other developments have brought new attention to Antarctica. In 1985 an emergency expedition confirmed the existence of a large and growing polar hole in the stratospheric ozone layer (which protects humans from deadly ultraviolet-B radiation). The same team found incontrovertible evidence

that man-made chemicals called chlorofluorocarbons (CFCs) were responsible.

A new international agreement was signed this year to reduce CFC production a little, though not enough. Meanwhile, the world's fossil fuels are being burned at such a rapid rate that the resulting carbon dioxide, along with other "greenhouse gases," may have already triggered the long-predicted global warming. At least some scientists said this summer that they are finally convinced.

The air is clearer and crisper in Antarctica than anywhere I've ever been, and visibility is remarkable over great distances. But that can suddenly change, as I learned firsthand, during something known as a "whiteout." The winds of a sudden storm saturate the air so thoroughly with snow that first the horizon, then closer landmarks, and then even the hood of your vehicle can disappear in a shroud of whiteness. Travelers lose their orientation and perspective. Some tell stories of seeing a building in the distance only to find that it was a pack of cigarettes a few feet away. Having just lived through a general election campaign in which Willie Horton was a more prominent political landmark than the budget or trade deficit, I had the feeling I had gone from one whiteout to another.

I CAME HERE because Antarctica is now the frontier of the global ecological crisis. High in the Transantarctic Mountains, a badly sunburned scientist talked about the ice cores he and his team were pulling from a deep hole drilled into the glacier on which we stood. He interpreted the annual layers of ice and snow the way woodsmen read tree rings. "Here is where the U.S. Congress passed the Clean Air Act," he said, pointing to the beginning of the 1970s. Moving down the ice core, back to the early 1960s, he added, "And here is where the world stopped atmospheric nuclear testing." These and other ice cores contain highly accurate information about the makeup of the Earth's atmosphere year by year for tens of thousands of years. From such cores, we know, for example, that there were dramatically lower levels of carbon dioxide in the atmosphere at the peak of the last Ice Age, 20,000 years ago, when the island of Manhattan was under one kilometer of ice. By contrast, the ice and snow laid down in the 1980s show levels of carbon dioxide, methane, CFCs, nitrous oxide, and other gases responsible for the greenhouse effect higher than they have been in at least 160,000 years (as far back as the ice cores measure). CFCs are receiving particular attention because they cause not only 20 percent of the greenhouse effect but virtually all of the destruction of the ozone layer.

Something else is different about the ice layers from the 1980s—they *look* different to the naked eye because of thick, alternating layers of "hoar" ice, apparently caused by partial melting and recrystallization into larger granules. The scientists are as yet cautiously withholding judgment on whether this is the clear signal of Antarctic warming that many have anticipated.

When I say Antarctica is the frontier of the ecological crisis, I don't mean only that pollution can now be found at the remotest point on Earth. Antarctica is also the place

where both ozone destruction and global warming have their first and most dramatic impacts. It is also increasingly apparent that Antarctica plays a far more significant role than any other part of the Earth in the global climate system. For one thing, the cold waters surrounding the continent absorb more carbon dioxide from the atmosphere than all the rain forests, and create the nutrient-rich "bottom water" for most of the world ocean of which Antarctica is the epicenter. Also, aside from the sun and the rotation of the Earth, Antarctica is the single most powerful engine driving the world's weather, redistributing its massive coldness through the winds of the air and the currents of the sea. As greenhouse gases trap more heat in the Earth's atmosphere and temperatures climb, they are expected to climb fastest of all here in Antarctica, because any melting at the edge of the ice shelf is accompanied by a dramatic change in the albedo—reflectivity—of the surface exposed to sunlight. The increased absorption of the sun's rays by the ocean then magnifies the local warming trend, melting more ice at the margin and absorbing yet more radiation from the sun.

THERE ARE three potential catastrophes that scientists fear could eventually be caused by the warming of Antarctica. First, a dramatic rise in sea level. This would come not from the melting of sea ice, which is already floating in the ocean, but from a rapid breakup of the massive West Antarctic ice shelf, which scientists believe could then plop into the ocean, raising the sea level 15 to 20 feet, wiping out low-lying coastal cities and nations like Bangladesh. But this is further off than most greenhouse impacts, perhaps 200 years.

Second, something that some scientists worry could occur much sooner is a change in the ability of the Antarctic seas to absorb carbon dioxide as they get warmer. Partly because it is so cold, the southern ocean now absorbs between one-third and one-half of all carbon dioxide emissions from industrial nations. Since carbon dioxide is by far the most important greenhouse gas, we must concern ourselves not only with the rate at which our civilization produces it but also the rate at which the Earth absorbs it.

The Earth has two lungs—the forests and the southern ocean. Unfortunately, we are destroying our forests at the rate of one football field every second, an area the size of Tennessee every year. Since the oceans of the world contain 50 times as much carbon dioxide as the atmosphere, even small changes in the temperature-sensitive mechanisms by which carbon dioxide is transferred back and forth between the oceans and the air can have profound implications.

Third, scientists fear that if their predictions are correct, and temperatures at the poles increase far more rapidly than at the equator, then the very pattern of the world weather system might change. This is because the difference between temperatures at the equator and at the poles has been relatively constant for a long time. As a result, the

redistribution of heat from the equator to the poles and cold from the poles to the equator has been accomplished through an essentially constant pattern of wind and ocean

currents. If temperatures rise disproportionately in Antarctica, the equilibrium could change, creating new patterns that would redistribute less cold and more heat. Something like this once happened on a small scale in Greenland. The so-called "little ice age" beginning 500 years ago abruptly covered the southern and western agricultural areas that gave Greenland its name with the ice and snow that now make people wonder where the name came from.

Similar though larger and anthropogenic global weather changes now thought to be under way are expected to cause widespread droughts and heat waves within our children's lifetimes. Indeed, some argue they have already begun.

In spite of these enormous stakes and in spite of the central role played by Antarctica, an international scientific conference in Tasmania this fall concluded, "There is no established strategy either for early detection of climate change in Antarctica or understanding and prediction of the probable effect of climate warming on atmospheric and oceanic circulation, ice-sheet volume, and sea level."

Even at that, the scientists are further along than the politicians. Why are we waiting to act?

Perhaps partly because of the unprecedented nature of the crisis. It is simply beyond our experience and outside of what we call common sense. So we put it in the place in our minds where Antarctica exists and tag it with the same mental labels—remote, alien, hopelessly distorted by the maps of the world we inhabit, too hard to get to and too unforgiving for us to stay very long.

The real question is whether the world's political system can find a new equilibrium before the world's climate system loses its current one. Even now, the winds of change are approaching hurricane force. It took a million years for the population of the world to reach two billion. Now, in the course of a single human lifetime—mine—it is rocketing toward ten billion (and is already halfway there). Startling graphs showing the loss of forest land, topsoil, stratospheric ozone, and species all follow the same pattern of sudden, unprecedented acceleration in the latter half of the 20th century. And yet, so far, the pattern of our politics remains remarkably unchanged.

When it does come, the change will involve a new set of global goals, and a new way of thinking about ourselves, our children, and our whole world—even Antarctica.

AL GORE

Al Gore is U.S. senator from Tennessee.

The Green Factor

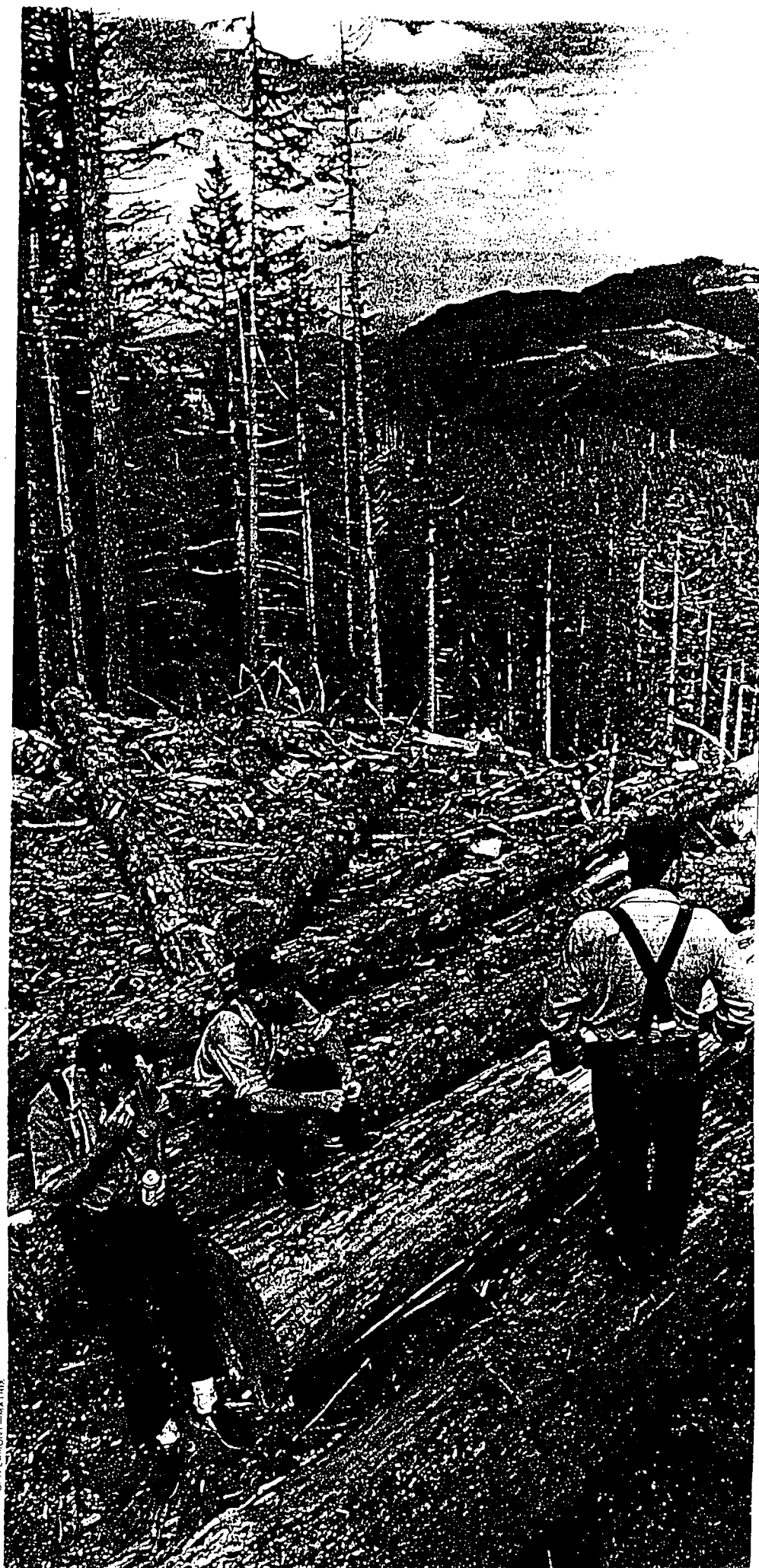
Does protecting the planet destroy jobs? Bush says yes, Clinton says no, and their running mates fight it out on the stump

By EUGENE LINDEN

WHAT HAPPENED TO THE "Environmental President"? In 1988 Vice President Bush vowed to combat the greenhouse effect with the "White House effect," and mercilessly attacked Michael Dukakis for his failure to clean up Boston Harbor. But last June, President Bush played Scrooge at the Earth Summit in Brazil. In September he visited timber country in the Pacific Northwest, where he promised to lift a court-imposed injunction that has halted logging in federally owned ancient forests. His Interior Department is planning to open national forests to private strip mining. What happened between 1988 and 1992? Politics happened.

While the Administration has not entirely abandoned its green appeal—White House officials claim that Bush has done more for the environment than any other President since Teddy Roosevelt—the reelection team is betting that U.S. voters will put their anxiety over the economy ahead of their worries about the planet. Thus the Bush campaign is attempting to paint Bill Clinton as a hostage to environmental extremists who would sacrifice American jobs to mollify the tree huggers. Point man in this assault: Vice President Dan Quayle. His main target: Clinton's running mate, Al Gore.

Clinton, for his part, is betting that concern for the environment is more than



MAN VS. NATURE: loggers clear-cut a stretch of forest in Washington State

DAN LANOIT—MAGNET

a fad. He has assigned Gore the mission of delivering the message that working to preserve the biosphere can create rather than cost jobs. Clinton and Gore contend that sound environmental policies can be an engine of growth that will help the American economy compete with Germany and Japan in the 1990s.

The different ways the two camps use environmental issues reflect their divergent visions about the forces that will shape America's future. The Democrats argue that environmental decisions should be an integral part of economic planning. The Republicans seem to be saying the country should address environmental problems only when it can afford to. Nowhere do these differences emerge more sharply than in the attitudes of the vice-presidential contenders.

Senator Gore, who led the congressional delegation that attended the Earth Summit in Rio, is the Senate's most committed and knowledgeable environmentalist. Last spring Houghton Mifflin published Gore's best-selling *Earth in the Balance: Ecology and the Human Spirit*, a call for Americans to take urgent action in the face of a global ecological crisis.

Vice President Quayle, by contrast, argues that existing programs to improve the environment are more than adequate, that the state of America's air, water and forests is getting better, and that further improvements will come at the expense of jobs. Quayle plays a major policymaking role in this area as chairman of the President's Council on Competitiveness, an eight-member panel that, in the name of reducing government impediments to business, has worked to loosen environmental regulations on everything from wetlands to air pollution. The council was influential in persuading President Bush, virtually alone among world leaders, not to sign a treaty to protect endangered species at the Rio conference. The Administration's argument: that the treaty would harm the U.S. biotechnology industry.

In taking aim at the Democrats' environmental policies, Quayle ridicules Gore's book as "their manifesto." As described by the Vice President, *Earth in the Balance* is a collection of lunatic proposals that calls for a \$100 billion giveaway to the Third World, recommends new taxes that would put millions out of work, compares

capitalists to Nazis and calls for the elimination of the internal-combustion engine. "It's all pretty bizarre stuff," said Quayle in a speech in Grand Rapids, Michigan, last August. "This is a view detached from reality and devoid of common sense."

In his book, Gore does call for new taxes—but only to replace old ones. The idea is to tax ordinary workers less while making polluting industries pay the true costs of their activities. The \$100 billion figure is not a suggested giveaway but merely a computation of what the post-World War II Marshall Plan to reconstruct Europe would cost in today's dollars. The reference to Nazis is a greatly stretched interpretation of Gore's comment in the book that the failure in the past to heed the distress signals coming from the planet is analogous to the failure of the outside world to realize the seriousness of the German threat after Nazis destroyed Jewish homes and synagogues during the Kristallnacht rampage in 1936.

Gore also argues that during the next 25 years the U.S. should develop a more efficient alternative to the internal-combustion engine. It is hard to see why this is any more bizarre than sanctifying a 19th century technology as the core of American prosperity. "If Bush and Quayle want to pretend that 25 years from now our global competitors will be using the same technology on automobile engines that we are using today, they are kidding themselves," says Gore.

In Grand Rapids, Quayle attacked Gore for supporting congressional efforts to raise average fuel economy from 27 to 40 m.p.g., a move, Quayle argued, that would cost 300,000 jobs nationwide. This figure, taken from a study by the Motor Vehicle Manufacturers Association, is based on the unrealistic assumption that everyone now making a car that gets less than 40 m.p.g. would be put out of work. In contrast, a study to be released this week by the American Council for an Energy-Efficient Economy contends that improving fuel economy to 40 m.p.g. would lead to a net gain of 70,000 jobs by the year 2000. Howard Geller, executive director of the council, says fuel economy creates jobs by spurring the development of efficient new technologies for automobiles and putting money from gasoline savings into the hands of consumers. These gains, adds Geller, will more

than offset job losses in the oil business.

Gore says the jobs-vs.-environment argument is based on the same flawed logic that caused American businesses to disregard business guru W. Edwards Deming's seminal ideas on quality in past decades. "American manufacturers assumed that market forces had already perfectly balanced quality against cost and that any improvements would hurt the bottom line," says Gore. "Deming took his ideas to the Japanese, who proved that you could simultaneously improve quality and profits and proceeded to steal markets from American companies." Gore argues that Bush is now making the same mistake with pollution. The Japanese, already more energy efficient than the U.S., recognize that excessive pollution is a sign of inefficiency and that reducing pollution can help make industry more competitive. For Gore the real job of a competitiveness council would be to foster similar efforts to develop efficient technologies in the U.S.

PRESIDENT BUSH ALSO HAS ATTACKED Gore on the jobs-vs.-environment issue. During a visit to Colville, Washington, last month, he chastised the Senator for advocating protection of the spotted owl, which is endangered because 90% of its old-growth forest habitat has been cut. "It's time to put people ahead of owls," he said, and mockingly challenged Clinton to endorse Gore's book.

Though that message was obviously meant to appeal to Western voters, Bush may have miscalculated its effect. While he was applauded by the region's timber workers, many other Westerners realize that the issue of preserving the remaining fragments of old-growth forest is more complex than owls vs. lumberjacks. George Atiyeh, a former timberman and fourth-generation Oregonian, left the business after watching what clear-cuts have done to the Oregon landscape. "Either my eyes were lying, or I was kidding myself about logging being sustainable," he says. From the air, Oregon's national forests look far worse than the rain forests of Rondônia, Brazil, which has become a symbol of the wanton destruction of the Amazon. Atiyeh argues that automation and exports have cost far more jobs than the protection of endangered species has. Between 1980 and '88 the amount of timber cut in western Oregon increased 13%, while timber employment fell 14%. The Administration's hard line on the environment does not appear to be winning many votes—and may even be hurting the Republicans. In a TIME/cnn poll of likely voters taken in late September, half the respondents said the loss of jobs because of environmental regulations was a "big problem." Yet when asked to choose between protecting the environment and protecting jobs, 48% chose the environ-

Is the quality of the environment getting better?

Yes 30%

No 62%

Will the government's current environmental regulations weaken or strengthen the economy in the long run?

Weaken 23%

Strengthen 27%

No effect 36%

Was Bush's statement that he would be the "environmental President" a lie?

Yes 60%

No 28%

From a telephone poll of 1,400 adult Americans taken by TIME/cnn on Sept. 22-24 by Yardelevich/Ganey Shuman. Sampling error is ± 2.5.

ment while 36% chose jobs. Forty percent of those questioned said they would be less likely to vote for a candidate if they disagreed with his environmental position even if they agreed on other major issues.

That could spell trouble for the President, whose credibility on the issue is not high. When asked whether they felt Bush lied when he said he would be the "environmental President," 60% said yes. The figures were larger among baby boomers (62%) and independents (63%). Even

among Republicans, 40% of those polled said he lied about his intentions. Ironically, the more Bush hammers at the jobs-vs.-environment issue, the more he seems to convince voters that he never meant to carry out his earlier promise.

Bush's advisers may have begun to weigh the political risks of their hard-line stance on environment. Last week White House chief of staff James Baker vetoed a proposal by Quayle's Competitiveness Council that would have allowed business-

es to use town dumps as disposal sites for certain hazardous wastes. Administration spokesmen have also begun to back away from another Competitiveness Council proposal that would vastly decrease the acreage now protected by wetlands legislation. The timing of all this could be coincidental. But it may be that, in the final stretch of his re-election campaign, Bush has concluded that one endangered species he would like to protect is his own presidency. ■

Preserving the 'Web of Life'

U.S. Sen. Al Gore, 43, is one of the most active defenders of the environment in Washington and is the author of a new book "Earth in the Balance." Recently he met with NEWSWEEK's Mary Hager to discuss his concerns about the global environment and what changes he believes are needed to preserve it. Excerpts:

HAGER: You saw the environment as an issue long before it was the popular thing to do. Why were you such an early convert?

GORE: I had a professor, Roger Revelle, who was the first person to measure CO₂ in the global atmosphere. I had tremendous respect for his mind and I believed him, not his critics. That was the initial seed. The issue itself pulled me deeper into an effort to understand it. Now, every time I pause to do a reality check about how serious this really is, the answer is, it is even more serious than we thought. It is a real challenge to our civilization to realize the enormity of what we're doing and then to imagine and organize an effective response. I'm reminded of the old parable of the blind man and the elephant. We see the problems of ozone depletion, global climate change, destruction of tropical rain forests, loss of biological species and ecological catastrophes like the Aral Sea, but it takes a little time to realize they are all part of the same underlying crisis.

What is that "same underlying crisis"?

A collision between industrial civilization as we presently organize it and the ecological system of the earth. Basically, three factors have led to this. The first is population, with a staggering increase in our lifetime. Second, the scientific and technological revolution has magnified our ability to affect the environment and changed the consequences of exploiting the earth as profoundly as nuclear weapons changed warfare. Third, and most important, a change in our way of thinking which began with the scientific revolution 350 years ago but was basically benign until our greater numbers and ecological power made it dangerous to the earth. That change was based on the assumption that we are separate from the earth. In fact, we are part of the web of life and we are recklessly endangering ourselves as we go about this process of destroying the ecological balance of the earth.

Al Gore



JOHN FICARA—NEWSWEEK

A leading U.S. senator says the environment will become a defining political issue around the world

Are you a voice in the wilderness, or are others beginning to see and say the same things?

The new way of thinking about our responsibility to the global environment is gaining momentum rapidly. Young people think this is the No. 1 issue facing the world. Europe has already modified its political equilibrium to take these issues into account, [and] Japan is moving so much more rapidly than we are. It is only a matter of time before our political system shifts and takes this into account. I think this must and will become the central organizing principle for the post-cold-war world.

How will that come about?

In most counties in my home state of Tennessee, the hottest single issue is where to put the new landfill or the new incinerator. The reason people get so intimately involved is they think it involves their backyard, and that overrides economic concerns. What is in the process of changing politically is the definition of "backyard." Young people under-

stand the global environment is part of their backyard. When the connection between the devastation of the global environment and our backyard is made emotionally, not intellectually, then the same intensity you see with local landfill issues will be brought to global environmental issues.

What role should governments play?

Affirmative measures by the nations of the world to address specific points will be necessary. I propose a global Marshall Plan, with Japanese and European capital helping to lead the way, to address those factors which cause the demographic transition, to make possible the development and dissemination of new technologies to substitute for the ones that are so harmful. A lot of these changes are ones we need to make for other reasons anyway. Pollution is waste. It is economic waste. It is environmental waste. Eliminate one, you eliminate the other. When enough people are committed, the transformation is going to be a lot easier than people think.

How close are we to that critical mass?

I think within a very few years—much closer than most people believe. The political equilibrium is about to shift.

Why did you write "Earth in the Balance"?

In hopes of hastening the arrival of that shift. I think we are in a race. I don't think we have that much time before we do irreparable damage to the ecological balance. The rate of loss of living species is now 1,000 times greater than any time in the last 65 million years. The accumulation of greenhouse gases is proceeding at a reckless pace. It is crazy to keep this up. We have to change the pattern of our political system before the earth's ecological system loses its current pattern. Civilization has prospered for the last 9,000 years within a global climate balance that has remained essentially unchanged. Civilization is carefully configured to that climate balance. If we change it suddenly, the consequences will be devastating and extremely difficult to cope with. The amount of suffering, loss of life, disruption in civilization's ability to move forward will be unimaginable. Some change is already built into the system, but the worst of it can be avoided.

GORE: ENVIRONMENTAL LEGISLATION**

Clean Air Act Amendments of 1990

Gore amendments passed by the Senate and enacted into law:

- o To stop ozone depletion by requiring the phase-out of the production and use of ozone-depleting hydrochlorofluorocarbons (HCFCs).

- o Prohibiting the export of CFC-producing technologies to countries that are not party to the Montreal Protocol, an international agreement setting phase-out deadlines for ozone-depleting chemicals.

- o Forcing polluters to reduce pollution instead of destroying neighborhoods by creating polluted "dead zones" around their plants.

- o Including carbon dioxide emissions in studies of highway pollution so that we don't just build bigger highways to deal with emission problems but instead move to reduce pollution.

- o Requiring federal procuring agencies to procure safe substitutes for ozone-depleting substances.

Strategic Environmental Research and Development Program:

Adopted in 1990 as part of the Department of Defense Authorization bill for Fiscal 1991, the SERDP brings the capabilities of the Defense Department to global environmental problems.

Also initiated efforts that led to work with CIA Director Robert Gates to make available to civilian environmental scientists previously classified scientific data about the earth that is critical to the research efforts of these scientists.

Energy:

Gore amendments enacted by the Senate as part of the 1992 energy bill:

(NOTE ALSO: Gore was a leader in the successful efforts to kill provisions that would have allowed drilling in the Arctic National Wildlife Refuge.)

- o The Gore Resolution (S. Res. 95) calling for an accelerated phaseout of ozone-destroying chemicals pursuant to the Clean Air Act amendments of 1991; the Resolution passed 96-0 in March, 1992, after being filibustered by Republicans at the end of the previous session. NOTE: The Clean Air Act amendments required the Administration to speed up the phase-out of ozone depleting chemicals if new scientific evidence demonstrated that the ozone depletion problem had gotten

worse since passage of those amendments. Despite new scientific evidence, the Administration did not act until after Gore's amendment was passed.

- o To help small businesses increase their energy efficiency and cut their energy bills by establishing energy diagnostic centers where engineering students and their professors can work with small businesses.

- o To accelerate the government's efforts to procure the most energy efficient products and to provide grant money to states to fund energy efficiency and conservation initiatives

- o Requiring the Tennessee Valley Authority of conduct least-cost planning analyses of energy supply and demand requirements (with Sen. Wirth)

Antarctica Protection:

- o Author of Public Law 101-620, a resolution calling for the protection of Antarctica from mining and development and declaring the area a global ecological commons.

- o Co-sponsor of Resolution adopted by the Senate in 1991 to ban mining in Antarctica; led to Administration's adoption of current policy to ban mining in Antarctica.

Interior Bill 1991

- o Led efforts, with Sen. Wyche Fowler, to eliminate below-cost timber sales and forest road subsidies.

- o Led efforts to retain funding for research and development joint venture funds for solar and other renewable forms of energy.

General

- o Sponsor of legislation enacted prohibiting "backhauling", a practice in which trucks carrying hazardous material in one direction are loaded with food products for return trip, often with inadequate cleanup from hazardous load.

- o As a member of the the House of Representatives, chaired hearings that revealed illegal dumping of billions of pounds of hazardous chemical waste and co-sponsored the original Superfund Act which resulted from those hearings.

- o Sponsor of resolution declaring April 22, 1990 as Earth Day, marking the 20th anniversary of the first Earth Day.

From : Pam

RE: Some recycled thoughts on recycling

o Recycling offers us a very real and immediate opportunity to make strides toward addressing the many global environmental problems we face. Global warming, ozone depletion, and pollution abatement are all interconnected with the resource conservation that recycling permits. If we would recycle more than 37 percent of our newspapers, for example, we would not need to cut the 500,000 trees we fell each week for newspaper production.

o Each man, woman, and child in America produces 3 1/2 pounds of trash every day. The Japanese recycle half their trash and people in Western Europe recycle 30 percent. Here in the US, where only ten states require it, we recycle a mere 10 percent.

o A critical element to successful recycling is, however, missing: Cities and towns that have worked hard to initiate successful recycling programs now find they can't get rid of their recycled products because there are no markets for them.

o To remedy this problem, Al introduced the National Recyclable Commodities Act for the last two legislative sessions. The bill is intended to strengthen and expand markets for recycled products. Specifically, the bill will create demand for recycled commodities by requiring federal agencies to procure those commodities in preference to virgin materials. Although we have held hearings, the bill has not come up for a floor vote, and no important recycling bills passed this legislative session.

o More on Al's National Environmental Policy Act (which the National Recyclable Commodities Act is a part of)

1. Establish an office of recycling and waste minimization within the EPA to study and develop ways to reduce consumption of products which cannot be recycled.

2. Establish a national clearinghouse for information and successful recycling programs across the country.

3. Gradually phase out the use of non-recyclable packaging within five years.

4. Set standards for the recycling and use of recycled products for various commodities (i.e. in order to be called 'recycled', a product would have to meet certain federal requirements).

o Under Al's legislation, the federal government sets the standards for recycling and procurement, but states will have the power to carry them out. In drafting the bill, Al felt it was very important not to propose a single national program, but to let individual states design programs that make the most sense for them.

o Al has also introduced an bill, The Environmental Aid and Trade Act that would promote environmental technologies. It would:

- give special emphasis to promoting the exports of enviro techonology
- create an "Environmental Business Center" to promte US goods abroad.
- establish credit and loan guaranty programs to support US environmental export (which would give financial boosts to many companies, such as recycling technology firms).

However, the bill did not pass this session.

o Al held a conference on July 15, 1989 at UT Knoxville to "educate Tennesseans about waste minimization and recycling efforts and approaches nationwide and in TN". So we have worked both nationally and locally to increase recycling.

March 18, 1992

Mr. Tom Gniewek
123 Norwood Circle
Camden, TN 38320

Dear Mr. Gniewek:

Thank you for writing me concerning several important matters. I appreciate your words of support about my views on foreign trade and the war in the Persian Gulf last year, and I sincerely regret the delay in my response.

You might be interested to know that I offered an amendment to the energy bill earlier this month that responds to an international scientific study on ozone depletion. My amendment, which the Senate approved by a vote of 96 to 0, calls on the Administrator of the Environmental Protection Agency to accelerate the phase-out of ozone-destroying chemicals in light of this data which shows that the ozone layer over densely populated areas of the United States and Europe has thinned twice as fast as had been previously measured and that an ozone hole may open over northern New England. I strongly believe, and hope you will agree, that my amendment is an appropriate response to the conclusion drawn by the hundreds of experts who prepared the report. I have enclosed for your review a copy of this report, as well as information on alternatives for chlorofluorocarbons as you requested.

As you may know, I introduced several measures in the 101st Congress addressing this matter. These include legislation designed to protect the stratospheric ozone layer through the phase-out of ozone-destroying chemicals, a ban on non-essential consumer products containing these chemicals, new provisions requiring labeling of products containing these chemical, and requirements for recycling these chemicals to prevent their release into the atmosphere. I also was responsible for several provisions to protect the ozone layer that were passed as part of the Clean Air Act.

Finally, I am sending you a copy of my letter to Chairman Marvin Runyon of the Tennessee Valley Authority regarding the proposed wood chipping facilities along the Tennessee River. I assure you that I will continue to monitor developments in this area.

Again, thank you for sharing your views with me.

Sincerely,

Albert Gore, Jr.
United States Senator

AG/ea
enclosures

To: Katie

Frm: Pam

Re: Hazel Rollins O'Leary

Hazel Rollins testified numerous times during her stint at DOE before the Subcommittee on Oversight and Investigations of the House Interstate and Foreign Commerce committee on which al sat. The most salient hearings follow:

-- April 18, 1980. Stripper Oil Miscertification.

The committee was looking into the allegations that big oil companies were miscertifying oil as "stripper oil", that is, oil that comes from a well that produces less than 10 barrels a day. Stripper oil was heavily subsidized and brought higher prices on the market (i.e. \$35 for stripper oil to \$6 for regular oil). The idea was that if stripper oil didn't bring higher prices, those wells would go out of production because it wasn't economical to continue producing. That of course leaves open a large window for chicanery -- oil companies were reporting more oil from stripper wells than was actually coming from the wells. The discrepancy between the data reported by the stripper production sites and the data reported by the big refineries started averaging around 200,000 barrels a day in 1979. The committee calculated that the cost to the consumers of stripper miscertification at \$1 billion per year.

Ms. Rollins testified as the Administrator of the Economic Regulatory Administration in DOE. The ERA oversaw both the people who collect the data on the oil and also the enforcement section. Rollins testified that: one, she thought some of the discrepancy was unintentional misreporting and two, her agency didn't have the resources to deal with prosecuting the big oil companies.

Al got into it with Rollins over both these points. He accused the oil industries of "lying, cheating and stealing" in no uncertain terms and also accused Rollin's agency of not pursuing the violations aggressively enough. I have attached the relevant pages from the hearing.

-- July 30, 1980. Cost to Consumers of Deregulation of Crude Oil

Rollins testified again as head of the ERA regarding the cost of oil deregulation. The hearing consisted mostly of bickering between the committee and the panel regarding whose statistics were more accurate. The House committee believed the cost of dereg to be somewhere around \$9.5 billion above what DOE was estimating. Rollins also testified to the possibility of revising the nation's emergency gasoline plans by allowing states with severe shortages to participate in a state set aside program. Pretty dry stuff -- Rollins saying she

was doing as much as she could in the DOE bureaucracy, Congress saying she should do more. Al didn't ask Rollins any questions here.

-- March 9, 1982. DOE's Emergencies Preparedness Budget

Rollins testified as a private energy consultant on the Reagan Administration's DOE saying that "DOE has already, quite deliberately, and without regard to congressional intent, done away with its capacity to deal with future energy emergencies." She declared that the Committee should move to install more people and increase the budget at DOE to be able to handle another energy emergency. Al had no statement.

To: Katie

From: Pam

Re: WTI, the incinerator from hell...

WTI CHRONOLOGY:

March 14, 1977 - Economically depressed Columbiana County, Ohio, creates through the county commission a Columbia County Port Authority (CCPA) charged with developing a port on the Ohio river to create jobs and revenue.

March 21, 1979 - East Liverpool Chamber of Commerce director supports new port idea and requests funds from the state.

July 30, 1979 - The Ohio General Assembly appropriates \$4 million to the Ohio Department of Transportation (ODOT) to acquire property and make improvements to enhance the use of the Ohio river.

February 28, 1980 - An agreement is reached between the State of Ohio and the Columbiana Port Authority to purchase land for a port facility on behalf of the CCPA.

May 19, 1980 - EPA hazardous waste permitting regulations are adopted to implement the Hazardous Waste Permit Program of the Solid Waste Disposal Act, as amended by RCRA. The regulations specifically require that the landowner of an EPA permitted hazardous waste facility must be held equally responsible with the operator and must co-sign the permit applications (this was done for liability purposes). NOTE that the Columbiana Port Authority, the owners of the WTI site, were not listed as such on the permit processed at a later date by the EPA.

September 16, 1980 - Army Corps of Engineers issues approved permit for a river port facility, but prohibits the handling of hazardous wastes at the site.

February 11, 1981 - Wayne Disposal, Inc. in Dearborn Michigan, submits a application to US EPA Region V for a Hazardous Waste Management Facility. Application is signed by both the landowner, Ford Motor Company and the facility owner, Wayne Disposal Inc. (This sets a precedent for Region V's permitting process -- i.e. the assertion that the regulations for landowners signatures were loosely followed by the Regions is belied by the fact that other permits were properly issued before the WTI permitting was done.)

May 15, 1981 - Waste Technologies, Incorporated signs a lease option to lease 22.5 acres of riverfront property from the CCPA on which to

build a commercial hazardous waste incinerator. Waste Technologies, a subsidiary of Jackson Stevens' financial empire is later sold to Von Roll (America), Inc.

June 26, 1981 - Waste Technologies Industries files a joint venture agreement with four corporate partners : Koppers Environmental Corporations {a wholly owned subsidiary of Koppers Company Inc}; Energy Technology Company { a wholly owned subsidiary of the Mustang Fuel Corporation}; Waste Technologies, Incorporated { wholly owned by Stephens, Inc (NOTE: as in Jackson Stephens, ARK native and \$100,000 contributor to the Clinton campaign)}; and Von Roll America, Inc. {wholly owned by Von Roll AG, a Swiss company}.

August 18, 1981 - Land is taken by CCPA and Ohio Department of Transportation under eminent domain from River Services Company for \$900,000 + in compensation.

September 4, 1981 - Waste Technologies Industries files permit application with US EPA to build a hazardous waste incinerator on CCPA land. The RCRA permit (required by the RCRA regulations 45CFR 33074, issued May 19, 1980) does not include the CCPA as the owner of the land.

July 28, 1982 - WTI files permit application with Ohio EPA for state hazardous waste permit. Application is referred to the Ohio Hazardous Waste Facility Board for public hearing and permit approval. Note that Ohio law also requires landowners to be included on the permit application. CCPA is not included as a landowner on this permit either.

February 8, 1983 - Koppers Environmental Corporation changes its name to Environmental Elements Ohio (Inc.).

June 7, 1983 - Congressman Doug Applegate writes to US EPA Administrator William Ruckelshaus concerning the WTI permit, stating: "Part of the proposal by WTI includes estimates of particulate emissions in Columbiana County -- a non-attainment area for particulates -- of 95 tons per year in particulates. This figure is predicated on the electrostatic precipitator operating at 99.6% efficiency. Simple mathematics will tell you that a decrease of .05% in efficiency will result in emissions in excess of 100 tons per year -- in excess of the "trigger" figure needed to require a Clean Air Act Discharge Permit WTI could not obtain."

June 14, 1983 - Hearing Examiner of the Hazardous Waste Facility Approval Board recommends denying the WTI State Hazardous Waste permit, based on an incomplete application. Inadequacies included: waste analysis, closure plan, contingency plan, personnel training and performance standards, no analysis of emissions.

June 17, 1983 - Memo circulated by John Skinner, US EPA Director, Office of Solid Waste to all hazardous waste branch chiefs, notifying

offices that the landowner must sign the permit as required by the regulations or the permit is not valid or legal.

June 24, 1983 - US EPA issues Federal RCRA permit to WTI without the required landowners signature (CCPA). The State of West Virginia appeals the decision by US EPA to issue WTI a RCRA permit. WV will continue to battle US EPA and Ohio EPA and WTI in court for years. Final decision in final temporary restraining order (TRO) injunction issued fall of 1992.

April 27, 1984 - Ohio Hazardous Waste Facilities Approval board issues permit to WTI without the required landowner signature, in spite of recommendation by the Hearing Examiner that the permit be denying or amended.

July 25, 1983 - Congressman Applegate writes again to Ruckleshaus stating that: "I have raised concerns about the process used to permit the facility used by the US EPA... frankly, I am not sure the procedures have adequately safeguarded the public in this instance. Again the response "not within the scope of RCRA". Finally I have raised technical questions that have brought about a slew of nonsequiturs and bureaucratic rhetoric -- and no real answer except "we believe them"... In sum, Mr. Ruckleshaus, I would be much more comfortable with this situation if it were not for a decided feeling that EPA wants this facility as much as WTI does and that this permit is too important to the agency to deny no matter what the consequences are to East Liverpool."

August of 1984 - Ohio enacts new siting criteria which would prohibit the siting of a waste incinerator 2000 feet from any school, hospital, prison or residence or in a flood plain. WTI is within 1100 feet of a school and in a 100 year flood plain. Should WTI's permit be declared invalid, these new permitting requirements would most likely prevent the approval of a new permit.

November 19, 1986 - A WTI Acquisition, Inc. incorporates in ARK.

December 1, 1986 - Waste Technologies, Incorporated changes its name to WTI, Inc.

December 4, 1986 - Waste Technologies, Incorporated gives consent to WTI Acquisitions, Inc to use a similar name Waste Technologies Incorporated.

May 20, 1987 - Memo by US EPA Air and Radiation Branch Chief Steve Rothblatt to Deputy Regional Counsel Dave Ullrich concerning WTI's Air Pollution permits issued by Ohio EPA states:

"The location of the proposed construction is under Section 110(a) (2) (I) construction ban for total suspended particulates... The permit would allow a major source to construct in violation of the Federal construction ban. The permit may be considered valid by the

Ohio EPA because the state would consider only Ohio law. However, since the construction ban is a Federal regulation, US EPA should consider the permit invalid." In spite of determinations that WTI is a "major source" under Clean Air Act (CAA) laws, and that the amount of lead emitted by WTI would likely violate federal standards, EPA concludes that since the levels of lead allowed are so far below the possibility of impacts of human health, WTI should not be punished for its excessive emissions. There is no precedent for such action with regards to other incinerators.

July 10, 1987 - The partners in the plant are listed as Environmental Elements Ohio (Inc) {a wholly owned subsidiary of Environmental Elements (Delaware) Inc.}; Energy Technology Company {wholly owned by Mustang Production Company}; Waste Technologies Incorporated { wholly owned by Stephens Holding Company} ; and Von Roll (Ohio), Inc. {wholly owned by Von Roll (America), Inc}.

December 3, 1987 - WTI applies for financing assistance from the Ohio Water Development Authority requesting OWDA permission in issuing tax free revenue bonds for up to \$139,000,000. In WTI's description of permitted equipment, WTI lists a spray dryer.

December 3, 1987 - WTI, Inc. (formerly Waste Technologies Incorporated) is dissolved.

February 11, 1988 - Business disclosure statements with the Ohio Attorney General's office show that the officers and directors of Environmental Elements Ohio, Inc., Energy Technologies, Inc., Waste Technologies Incorporated, and Von Roll (Ohio) Inc. are the same for each company and all took office on this day.

October 1989 - Ohio EPA completes its Capacity Assurance Plan as required by the federal Superfund law, showing that Ohio has more than 2 1/2 times the capacity needed by the state to burn all of the hazardous waste generated in Ohio.

May 7, 1990 - US EPA contends that records indicate WTI construction commenced on May 7, 1990.

June 22, 1990 - Agreement between Environmental Elements (Delaware) Inc, and Von Roll (America), Inc. to sell and purchase all of the issued and outstanding stock of Environmental Elements (Ohio) Inc to Von Roll (America), Inc. Von Roll (America), Inc. becomes the sole owner of WTI.

July 9, 1990 - WTI files request for 8 changes to its Ohio EPA Installation and Operation Permit. Included among other changes is the addition of a spray dryer to the incineration system

September 21, 1990 - Operating contract signed by WTI as owner and Von Roll (Ohio), Inc. as operator indicating management control by Von Roll (Ohio), Inc. This change in operational control was done in

violation of RCRA regulations which specifically require 90 notice and written pre-approval of the administrator.

October 8, 1990 - The Ohio EPA classifies WTI's July 9, 1990 permit changes including the spray dryer, as revisions. Had the changes been labelled as modifications, repermitting through the Ohio hazardous materials board would have been required.

October 29, 1990 - WTI requests one change to its US EPA RCRA permits for the addition of the spray dryer, which WTI has characterized as advanced pollution control equipment that would bring the WTI facility up to date.

January 17, 1991 - Ohio EPA holds a public hearing regarding the permit change request for the Ohio EPA Air pollution permit to add the spray dryer.

January 30, 1991 - WTI cited by Ohio EPA for four Construction violations - most stemming from failing to change requirements for its permits. These are eventually resolved as "revisions", not modifications.

April 22, 1991 - WTI submits revised hazardous waste permit application to Ohio and US EPA with the proposed changed listing Von Roll (Ohio) Inc., as the operator of the WTI facility.

May 15, 1991 - Memo written in Ohio EPA Air Enforcement Branch raising the question of illegality of WTI building in a prevention of significant deterioration zone.

May 24, 1991 - Ohio EPA approves the addition of the spray dryer to the Ohio EPA Air Pollution Permit.

July 29, 1991 - US EPA writes to Ohio EPA warning them again that the violation of the permit for Prevention of significant deterioration requirements had not been corrected. Note there is a great deal of infighting between Ohio and federal EPA. WTI later cites this as "bureaucratic red tape" in their appeal to the Competitiveness Council.

August 21, 1991 - Ohio EPA classifies WTI's April 12, 1991 permit changes request as revisions.

November 12, 1991 - Metzenbaum, Glenn, Rockefeller staffers hold first meeting with citizen and EPA officials. Bill Muno, the EPA Region 5 official in charge of permitting the WTI incinerator said that EPA did know of the illegality of not including the Columbiana Port as an owner of the WTI site.

December 2, 1991 - Region V Administrator Adamkus writes to Senator Rockefeller concerning landowner signatures on permits, stating that "In 1988 the Agency did not make the distinction between property

owners and facility owners. WTI owns the facility; it does not own the property. Since 1988, the Agency has changed its policy." This contradicts, however, the memo from John Skinner, Office of Solid Waste, in 1983 stating that landowner must be on permits. Note also that EPA Region V had required a landowner signature on the Michigan permit referred to earlier.

December 20, 1991 - US EPA Region 5 Counsel Nancy Ellen Zusman notifies the CCPA by letter the Region 5 intends to modify the US EPA-WTI permit to include CCPA as a co-permittee.

January 9, 1992 - WTI proceeds with construction of the spray dryer and is fined \$129,000 by US EPA for proceeding without a permit. Although WTI has a state permit revision for the dryer, they do not have a federal permit revision yet.

January 20, 1992 - Von Roll President Blake Marshall writes to the Associate Director of the Office of Cabinet Affairs, James Fitzhenry, at the White House saying that regulatory relief was needed for his company. He particularly asked for relief in granting consideration for EPA Region V to approve a spray dryer for the facility, since the dryer was not approved in the original WTI permit.

January 30, 1992 - J. Michael Kapp, attorney for the CCPA responds to the US EPA letter of December 20, 1991 notifying the EPA that the CCPA did NOT wish to be named as a co-permittee for the incinerator, in spite of their ownership of the land.

February 3, 1992 - US EPA issues a RCRA permit including approval for a spray dryer to WTI. The Columbiana County Port Authority is added to this permit revision as a landowner over CCPA's previous objections.

March 13, 1992 - WTI makes request for a temporary authorization from US EPA for a 180 test burn period.

April 21, 1992 - The Attorney General's office of West Virginia files a lawsuit against WTI, U.S. EPA and Ohio EPA asserting claims under common law and federal environmental law.

May 7, 1992 - Congressional Hearing is held before the House Judiciary Subcommittee on Administrative Law to explore the WTI controversy. US EPA witnesses testify that EPA had issued illegal permits originally by not listing CCPA as a co-permittee. Claim mistake was inadvertent. Attention is also drawn to the fact the Von Roll (Ohio), Inc. -- an owner of WTI -- had become responsible for the day to day operation of the facility. EPA was not notified of this change to WTI's 1990 Operating Contract. U.S. EPA then requests that WTI initiate a modification to its permit to add Von Roll (Ohio), Inc. as an additional operator. A thirty day comment period on this proposed modification closed on Nov. 2, 1992. Responses have not been published.

May 20, 1992 - Ohio Senator Metzenbaum introduces an amendment to the RCRA reauthorization (S. 976) that would prohibit WTI from burning hazardous waste until court and administrative appeals have been fully resolved.

May 21, 1992 Blake Marshall again writes the White House, this time to Quayle's Competitiveness Council, asking again for a 180 day temporary permit to conduct a test burn.

June 10, 1992 - The Competitiveness Council, along with OMB and CEA, conduct a meeting with WTI proponents.

June 12, 1992 - US EPA informs WTI's attorney that the Sept. 21, 1990 operational contract which was signed as WTI as owner and Von Roll (Ohio) as operator was a change in operational control from the original permits as granted to the four company partnership constitute a change in operational control and the WTI should have notified the Agency about this change.

July 7, 1992 - US EPA Region 5 issues formal information request inquiring into the identification of the corporate partners of WTI.

July 9, 1992 - EPA issued the first phase of the Agency's risk assessment of WTI. Final risk assessment will be completed after the Trial Burn period. This risk assessment is not required by law.

July 9, 1992 - US EPA grants WTI a temporary authorization to proceed with the shakedown (preparation for test burn).

The congressman from the East Liverpool Ohio area, Douglas Applegate, offers an amendment to HR 3865, a RCRA bill, that says: (a) The Comptroller General shall conduct a study of the manner in which the Environmental Protection Agency handled the hazardous waste permit application for the commercial hazardous waste incinerator located in East Liverpool, Ohio, with respect to which a permit was issued with the Environmental Protection Agency hazardous waste permit identification number OH980613541. The Comptroller General shall submit to Congress a report on such study not later than 6 months after the date of the enactment of this Act. The report shall include such recommendations as the Comptroller General considers necessary for the Environmental Protection Agency to correct irregularities in the process by which the permit was issued. (b) The Administrator of the Environmental Protection Agency may not approve a trial burn plan for the commercial hazardous waste incinerator referred to in subsection (a) until such time as the Administrator implements all recommendations contained in the report of the study conducted under subsection (a). (c) Nothing in this section shall be construed as authorizing an investigation or review into the merits of the commercial hazardous waste incinerator referred to in subsection (a). The amendment passes but the final bill does not.

July 10, 1992 - Citizens groups travel to Washington to protest the EPA decision. They occupy Reilly's office - Associate Administrator Lew Crampton is assigned to handle discussions with the citizens.

July 15, 1992 - The Inspector General's Office of EPA issues an audit stating no illegalities in the permitting had occurred.

July 20, 1992 - Another meeting in Washington between citizens and Lew Crampton of the EPA is held. After meeting for several hours, the citizens declare they will not leave EPA until EPA signed a document that revoked WTI's temporary permit. They are arrested.

July 22, 1992 - US EPA Assistant Administrator Don Clay sends memo to EPA staff on WTI, saying that while it is "true that the individual partners constituting WTI have changed, but this does not affect the permit status."

July 23, 1992 - WTI attorney Charles Waterman responded to US EPA's information request on ownership. The WTI incinerator is owned and operated by a 1986 created affiliate of Von Roll (America), Inc. - Von Roll (Ohio) Inc. The changes in the original four partners to one Von Roll subsidiary had occurred without mandatory EPA notification and pre-approval.

July 24, 1992 - Environmental Appeals Boards of the US EPA overturns the EPA Region V decision of February 3, 1992 to arbitrarily add the CCPA to the WTI permit. The determination was not made, however, that this oversight of adding the CCPA renders the permit invalid, but recommended that the permit be modified to include the Port Authority. The EAB upheld the spray dryer modification for the permit.

August 1, 1992 - CCPA announces it will sell the land -- taken by eminent domain and paid for with state tax dollars -- on which the incinerator is located to WTI.

August 4, 1992 - Ohio EPA director Don Schregardus asks CCPA to add their name as co-permittee to the WTI permit. The permit change will then be sent to the Ohio Hazardous Waste Board.

August 11, 1992 - CCPA and WTI signed a real estate purchase contract for \$5 million for the sale of CCPA public property to WTI.

August 20, 1992 - Memo from Law Clerk Ignacio Arrazola to US EPA Region 5 Council Nancy Ellen Zusman. The memo explores the legal aspects of whether there has been an unapproved transfer of the ownership of WTI for purposes of the RCRA permit - and should the permit be revoked?

"Good faith legal arguments can be made to either buoy or sink WTI's existing permit. Ultimately, the decision of whether the permit should pass through the legal niceties unscathed is a policy

determination," the memo says. This is repeated to me (Pam McElwee) by the Ohio AG's office. Paula Cotter, the staffer heading the AG's investigation told me that "Ohio law will ignore the formalities if it doesn't express true reality. If something is done to defraud somebody, that's one thing. Under the law, I don't believe this is the case with WTI".

August 20, 1992 - Memo written by Nancy-Ellen Zusman, Region 5 counsel to other EPA officials laying out a schedule of items to be accomplished in relation to the WTI incinerator. The memo assumes that EPA will eventually approve the permits although legal investigations were ongoing. The memo "serves to memorialize the schedule of times to be accomplished in relation to the WTI incinerator... which was discussed in a briefing of the Regional Administrator on August 20, 1992." In it, a timeline of action was laid out in which the actions included:

- A letter would be written to the Ohio AG's office that formally requests its determination on the ownership and operational control issues for the WTI permit.

- The US EPA will inspect the WTI facility on 8/25 and 8/26 to determine compliance with its permit. {The inspection later was positive and WTI was allowed to bring waste on site.}

- The EPA will issue a letter to WTI stating the results of the technical inspection and that there are problems with the permit in relation to the ownership and operation control of the facility. Until those issues are cleared up to U.S. EPA's satisfaction no hazardous waste will be permitted to be brought on site. (Early Sept.)

- The real estate transaction between the Columbiana County Port Authority and WTI/Von Roll will be consummated, clearing up the property owner problem. (Mid Sept).

- WTI will submit its revised permit application, as previously requested (Mid Sept).

- The Ohio AG's office will give US EPA its preliminary assessment of the owner/operator issue (mid Oct) { NOTE THAT THIS IS NOT DONE AS OF JAN 2, 1992.}

- US EPA will take enforcement action against WTI for failure to notify and will request a Class 2 modification to correct the problems with the current permit. (Mid Oct)

- Ohio will issue its formal determination (Early Nov.)

- WTI will initiate a Class 2 modification (Early Nov)

-- The permit will be modified to correct the owner operator issue.
(Jan - Feb. 1993)

-- WTI will be allowed to bring hazardous waste on-site. {Approved
September 30, 1992.}

The big uproar over this memo was that it seemed to assume, before ownership questions were resolved and inspections done, that WTI would be allowed to operate. However, the memo does add this caveat: "The majority of these dates are tentative. The dates and/or milestones may change at any time if U.S. EPA determines that human health or the environment is not being protected." So while EPA does make clear that they intend to process WTI with caution, this memo is so controversial that Metzenbaum calls for all involved to "resign".

The memo concludes with the statement, "There is nothing to indicate that the original permit is invalid, nor that the Agency did not have a viable liable party to pursue...". However, note that a law clerk memo dated that same day makes clear that there are some legal loopholes that EPA has left open.

August 24, 1992 - Nancy Ellen Zusman writes to Paula Cotter in the Ohio AG's office formally requesting the AG investigation of the change of ownership and partnership status for WTI under Ohio state law. This is the report that is ongoing. NOTE that the AG report was requested AFTER the temporary "shakedown period" burn was approved. Also note that the Ohio report will deal only with Ohio state issues.

September 1, 1992 - Hearing on a Temporary Restraining Order filed by the West Virginia Attorney General's office. WTI agrees to give seven days notice to all the parties before accepting hazardous waste.

Septmeber 8, 1992 - Nancy Ellen Zusman writes to WTI Attorney Chuck Waterman asking WTI to submit a formal modification request to list on the facility permit Von Roll (America), Inc. as the owner of the facility (since the original four partners had all been bought out by Von Roll (America), Inc.)

September 18, 1992 - CCPA sells land to WTI.

September 30, 1992- Region 5 EPA, changing its mind from 3 weeks earlier, writes to WTI president Blake Marshall that US EPA has concluded that there has been no change in ownership for the purposes of RCRA that would require modifications in the permit. Region V concludes that WTI can begin accepting hazardous waste.

October 1, 1992 - EPA determines that WTI may accept hazardous waste and begin shakedown period. In the shakedown, non-hazardous materials (i.e. fossil fuels) are burned to determine if the equipment works properly. A Trial Burn plan must be approved by US EPA before hazardous waste may be burned. Note that a failure of equipment to perform properly during the shakedown is not necessarily taken into

account in the approval of the Trial Burn plan. WTI has serious problems with a fan in the incinerator, but this fan is not addressed in the Trial Burn plan now being reviewed by US EPA.

October 5, 1992 - Metzenbaum finds out about August 21 memo setting out a finalized schedule of permitting changes and declares that he was shocked by the memo and asks EPA administrator Reilly to suspend all parties involved and make a new team to deal with WTI.

October 8, 1992 - The judge in the WV TRO case dismisses defendants US EPA and Ohio EPA, on the grounds that there was no jurisdiction over the federal and Ohio EPA, leaving WTI as the sole defendant.

October 9, 1992 - WTI gives seven days notice that it will begin accepting hazardous waste.

October 13, 1992 - Hearing on injunction against WTI begins.

November 12, 1992 - US district court judge Frederick Stamp Jr. rules against AG Mario Palumbo of WV in his injunction to prevent the WTI shakedown on behalf of the citizens of WV. Stamp rules that Palumbo failed to prove that the state or public would be harmed without the injunction. He also stated that the WTI officials had testified that they were losing \$115,000 each day the incinerator was not running and that jobs were in danger of being lost (100 people are employed at the plant). NOTE that this case did not reopen the legal permitting issues. This case explored whether or not there was cause for an injunction. Because US EPA testified on behalf of WTI, the judge deferred to their judgement on the health and safety of the incinerator. However, US EPA whistleblower Hugh Kaufmann, an opponent of the incinerator, was not allowed to testify for the state of WV by a federal administrative rule enacted by Reagan that prevents testimony against the government by its employees. However, note that EPA or Ohio EPA were not parties to the suit, so its is unclear why exactly Kaufmann was prevented from presenting his testimony.

November 13, 1992 - Ohio EPA issues conditional air permit to allow the plant to conduct the test burns. WTI begins bringing hazardous waste on site.

November 30, 1992 - Arrests at the plant of WTI protestors have been going on for several weeks. Over 100 people have been arrested for trespassing on WTI property. Most pay fines but 8 people with multiple arrests face trial and go to jail.

December 7, 1992 - Senators Gore, Metzenbaum, Specter, Rockefeller, Byrd, Wofford, Glenn and Congressman Mollohan of WV write to the General Accounting Office (GAO) asking for an investigation of the EPA approval process. Specific areas of concern are: the proper handling of the EPA permit process; the landowner issue; the ownership issue; and the health and safety concerns of residents.

December 7, 1992 - WTI issues statement in response to GAO investigation that states:

"The US EPA also conducted an extensive and thorough investigation into the so-called ownership issues, and both regulatory agencies and the courts are thoroughly satisfied with the ownership of the plant and that responsibility for the facility has in no way been compromised... The company did not receive permission for a temporary permit because of a visit to the Competitiveness Council. To our knowledge, the Competitiveness Council never took any interest in the plight of incineration advocates in general, or WTI in particular."

December 16, 1992 - WTI supporters take out full page ads in the Washington Post, NY Times, WSJ, and Arkansas Democrat Gazette protesting the Gore GAO letter.

December 17, 1992 - The Ohio Senate approves a moratorium on the construction of hazardous waste incinerators. The bill is supported by the Governor and probably will be signed. The bill does not affect start up of WTI, but does prevent the construction of an incinerator in Nova, Ohio. The state currently has four times the capacity to burn hazardous waste generated within Ohio. Ohio currently disposes of 20 percent of the nations commercial hazardous waste without WTI start up.

December 18, 1992 - AP reports that the EPA "will act on WTI's request to conduct a test burn at its hazardous waste incinerator in East Liverpool." Administrator Reilly says that the Region V office will handle the WTI permit before inauguration. "They will have action on their trial burn proposal in the very near future." said Reilly. Reilly also says "It could have been better sited... but siting is not the jurisdiction of EPA".

December 22, 1992 - GAO representatives meet with Congressional Staff of the Senators making the investigative request. GAO asks for more specific guidelines on questions to be explored. A three month time line for the initial report exploring the most serious allegation surrounding WTI is requested by the Senators' staffs.

December 25, 1992 - Region V Administrator Adamkus writes to Von Roll (Ohio) Inc. President Blake Marshall after reviewing the WTI Trial Burn plan. Adamkus states that more information on the trial burn is needed before approval will be granted by the EPA. Specific areas of concern are technical, such as "estimating the fate of the trial burn principal organic hazardous constituents" and "establishing a relationship between the incinerator volumetric flue gas flow and the induced draft fan motor current". Adamkus also asks WTI to clarify a Supply Contract with Chemical Waste Management, Inc. that the US EPA was not previously made aware of, and to clarify the role that Von Roll Inc (VRI) will play in WTI and how that is distinguished from Von Roll (Ohio), Inc. and Von Roll (America) Inc. {-- There is a reputed connection between Von Roll Inc -- the Swiss Corp -- and New Jersey Steel, which is a VRI subsidiary that may involve a Thomas Petrizzo, a

alleged mob boss. The role of VRI and subsidiaries in operating WTI is unclear which is presumably why EPA is asking for clarification of VRI's role.}

MAJOR ISSUES GORE AND OTHERS WILL BE ASKING THE GAO TO INVESTIGATE:

1) The role of the landowner on the RCRA Permit.

The EPA permit for WTI, issued on June 24, 1983, did not include the land owner, the Columbiana County Port Authority as a permittee. The Port Authority did not sign the permit application, as required by EPA regulations (45 Fed. Reg. 33074, May 19, 1980) and was not identified in the permit application as an owner of the facility.

The Region V office knew how to process the permits -- on Feb 11, 1981 they processed a Michigan application with the landowner and operator. The office was also reminded by the US EPA on June 17, 1983 by John Skinner, head of the Office of Solid Waste, that landowners must be on the permit or it is not valid or legal. The permit was approved without the signature by the US EPA on June 24, 1983 and by Ohio on April 27, 1984.

In a meeting with Senatorial Staff on November 12, 1991 with Bill Muno, a EPA Region V official, Muno admits that EPA knew that CCPA was the landowner and WTI the operator even though the permits did not reflect this. Again on May 7, 1992, EPA admits in Congressional testimony to violating federal laws by excluding CCPA from the original permit, and then by adding CCPA to the permit -- without their permission -- and without public comment.

The CCPA was added to the original permit on February 3, 1992, even though the Port Authority did not apply and if fact, their attorney wrote to EPA saying the Port Authority refused to be a co-permittee because of liability problems.

In December of 1991, Region V Administrator Adamkus wrote to Senator Rockefeller concerning landowner signatures on permits, stating that "In 1988 the Agency did not make the distinction between property owners and facility owners. WTI owns the facility; it does not own the property. Since 1988, the Agency has changed its policy." This contradicts, however, the memo from John Skinner, Office of Solid Waste, in 1983 stating that landowner must be on permits. Note also that EPA Region V had required a landowner signature on the Michigan permit referred to earlier.

EPA said again in a memo dated Sept. 30, 1992 that "Although US EPA's regulations require that landowners be included on RCRA permits, the practice in US EPA regional offices at the time of permit issuance varied, and WTI's permit, as well as others, was issued without identifying the landowner as permittee. As we have explained, the failure to include the Port Authority was inadvertent, and the issue

was not raised by anyone during two rounds of public comment on the draft permit... In any event, the issue is now moot because WTI purchased the land from the Port Authority effective Sept. 18, 1992".

SPECIFIC QUESTIONS WE WILL BE POSING FOR THE GAO:

- a) Who has owned the land on which WTI operates under Ohio law since 1977 and for what periods of time?
- b) Was the taking of land under eminent domain for commercial purposes legal? The lease option between the Ohio Department of Transportation, River Services Company, CCPA and VRA was clearly for commercial purposes, and not for a port.
- c) Please provide evidence of all deeds for the transactions between these companies.
- d) The Army Corps of Engineers permit for a port specifically said the port development was not to handle hazardous waste. What are the ramifications of the violation of this permit?

2) Ownership of WTI has changed since the original permit.

The original four partners in the permit were Koppers Environmental Corp, Energy Technology Co, Waste Technologies, Inc., and Von Roll America, Inc. However, through name switching and subsidiary buyups, WTI was sold to WTI Acquisitions, wholly owned by Stephens, Inc. Additionally, VRA created Von Roll (Ohio), Inc. as a subsidiary, and then sold its shares to VRO. Koppers changed its name to Environmental Elements Ohio, Inc. Although the four original companies had separate corporate parents, all are now owned by VRA. The EPA permit for WTI does not identify the facilities operator, Von Roll (Ohio), Inc., because VRO did not come into existence until 1986, three years after the permit was issued.

Although Nancy Ellen Zusman of Region V EPA wrote to WTI on September 2, 1992 and ask that the permit be modified to reflect that Von Roll (America) Inc. was now the owner of the facility and Von Roll (Ohio) Inc, the operator, that decision was mysteriously overturned three weeks later when Region V Administrator Adamkus wrote to Blake Marshall on September 30, stating that "US EPA has concluded that there has been no change in ownership for the purposes of the Resource Conservation and Recovery Act which would require modification of the WTI permit."

Regarding the dissolution of the original four partners of WTI, US EPA has since determined that "based on the express provisions of the joint venture agreement, we cannot conclude that the transfer of partnership interest dissolved WTI." However, an Ohio State University business law professor has written that "the WTI of 1981 is not the WTI of 1992...WTI does not meet the definition of a partnership in Ohio law any longer." He based this determination on

the fact that not only had all the partners had changed, but also on the fact the Von Roll (America), Inc. owns all the stock in the corporate entities now, but does not share those profits with these entities. VRA is not one of the partners claimed by the owners (Von Roll (Ohio), Inc.) of the plant. The Ohio AG's office thinks that although formal legal law probably has been broken with regards to the original permit, they do not think the partnership is a sham. The original partnership may be different, but the AG's office does not think this was done in willful attempt to defraud.

The August 20, 1992 EPA memo written by an EPA law clerk assigned to determine the legal status of this partnership concluded that "good faith legal arguments can be made to either buoy or sink WTI's existing permit. Ultimately the decision of whether the permit should pass through the legal niceties unscathed is a policy determination." This same clerk concluded that "WTI appears to be a valid partnership on paper because there are four validly existing corporations acting as general partners... If these subsidiaries are the "mere instrumentalities" of Von Roll America Inc, a valid argument could be made that WTI is no longer a legitimate partnership because it is no longer an associations of two or more persons. A single individual or entity cannot be the owner of a partnership." Stock records should help clarify whether WTI is an instrumentality of VRA.

SPECIFIC QUESTIONS WE WILL BE POSING TO GAO:

a) Under what authority does EPA have to waive the federal requirements of a minimum 90 day pre-notification/approval process pending a change in owner or operator of a facility?

b) Does EPA have the authority to issue negotiable financial instruments? I.e. can EPA transfer the original permit for WTI to a new owner/operator if that company was not even in existence at the time of the permitting?

c) Please provide a copy of stock certificates, board of director lists and meetings of all companies named as original or later owners of WTI. Additionally, please track the sale of the original stock to Von Roll (America), Inc. and establish the exact nature of liability in light of stock transfers.

d) Did WTI and/ or Von Roll (Ohio), Inc. notify EPA prior to the change of operating control vis-a-vis the Sept. 21, 1990 Operation Contract that established Von Roll (Ohio), Inc as the operator of the facility?

e) When was the EPA permit modified to show Von Roll (Ohio), Inc. as the managing partner and Von Roll (America), Inc. as owner? Under what authority may EPA change the RCRA permit in this fashion?

3) What was the role of the Competitiveness Council in allowing EPA to issue a temporary start up permit?

On January 20, 1992, Von Roll President Blake Marshall wrote to the Associate Director of the Office of Cabinet Affairs, James Fitzhenry, at the White House saying that regulatory relief was needed for his company. He particularly asked for relief in granting consideration for EPA Region V to approve a spray dryer for the facility, since the dryer was not approved in the original WTI permit. Ohio had approved the permit but EPA had not at the time the spray dryer was built. Hence, EPA fined Von Roll \$129,000 for this violation.

Blake Marshall wrote to the Council again on May 21, 1992, asking for help. Although the permit for the spray dryer is approved at this point, Marshall wants a shakedown approval. He states that "To move forward we must have a 180 day temporary authorization permit from US EPA." Von Roll representatives subsequently meet with the Council and White House staff on June 10, 1992. EPA then issued on July 5 -- without precedent and provided for under no federal law -- a temporary authorization for WTI to bring in hazardous waste and proceed with shakedown while the ownership issue was still up in the air.

An EPA memo from Nancy-Ellen Zusman dated August 20 sets out a timeline for approval of WTI, even though the report from the EPA law clerk on the legal aspects of the permits did not come out until that day. Was the approval of WTI a foregone conclusion after the Competitiveness Council meeting?

On December 7, 1992, Blake Marshall responds to the request for a GAO investigation with a statement that "The Company did not receive permission for a temporary permit because of a visit to the Competitiveness Council. To our knowledge, the Competitiveness Council never took any interest in the plight of incineration advocates in general, or WTI in particular." We know this is not true, as a meeting was held on June 20, 1992 with the Council.

SPECIFIC GAO QUESTIONS:

a) Did EPA have instruction from the Council to approve the permits, regardless of what the ownership investigation turned up?

b) What previous contact, either written or verbal, did WTI have with the White House or Competitiveness Council besides the Jan 20 and May 21st letters and the June 10 meeting? What contact did the Competitiveness Council have with EPA after the June 10 meeting?

c) Who was at the June 10 meeting and what was discussed? Please provide notes, agendas or telephone logs.

December 16, 1992

Mr. Harry Snyder
Director
Office of Surface Mining,
Reclamation, and Enforcement
U.S. Department of the Interior
1951 Constitution Avenue, N.W.
Washington, D.C. 20009

Dear Mr. Snyder:

I wish to bring to your attention a situation in Tennessee that requires immediate resolution. The Skyline Coal Company, a subsidiary of the AMAX corporation, has been operating for over two years without a Toxic Materials Handling Plan (TMHP), as required by the 1977 Surface Mining Act. The company was granted a "interm temporary relief" permit this summer, allowing the company to continue to mine in without a TMHP. The legality of this temporary permit has since been questioned. I understand that the Knoxville field office of OSM has sent a letter to Skyline notifying them that they must cease mining until such a plan is formulated and approved by your office.

I am requesting that you involve the Environmental Protection Agency in the formulation and eventual evaluation of the Skyline materials handling plan. I requested such action in the case of Rith Energy, a surface mining company in Bledsoe County, Tennessee in 1989, and I believe the situation worked to the benefit of all parties involved. It is my hope that a similar situation could be used to address the very serious problems involving Skyline Coal.

I stand ready to work with you and the Environmental Protection Agency to protect the health and safety of Tennessee residents concerned about the toxic seepage from Skyline, as well as miners and their families concerned about their jobs. I look forward to hearing from you soon.

Sincerely,

Albert Gore, Jr.
United States Senator

AG/pdm

A cooperative effort must be undertaken as soon as possible involving the Office of Surface Mining (OSM), the U.S. Environmental Protection Agency, citizen's groups and miners, to make progress toward a mining permit plan for the Skyline Coal Company that takes into account both economic and environmental concerns and allows Skyline to operate within our federal surface mining laws. I would encourage the Skyline mining company to enter into a dialogue with these parties to begin to remedy this situation.

I understand the concerns of miners affected by the closing of the Skyline coal mine. It is my understanding that this action by the Knoxville field office of the Office of Surface Mining (OSM) was a result of the OSM's finding that the Skyline toxic materials handling plan was inadequate. I have followed developments in this area and believe that a cooperative effort among the concerned parties can begin to resolve this issue.

To: Katie

From: Pam

Re: Skyline

More updates on the Skyline Coal Company. You will remember that Skyline was the focus of Keith Schneider's front page story in the Times about two weeks ago. The Knoxville Office of Surface Mining Field Office has just written a letter dated Dec 11 to Skyline Coal asking them to cease mining because of a lack of an approved toxic materials management plan. (They have been operating for over two years with out one in violation of the 1977 Surface minig Act. The citizen's group Save Our Cumberland Mountains is asking us to step in and request EPA's involvement in formulating a plan for skyline. The citizens fear that the Washington OSM office will interfere in this request to shut down Skyline, just like the Washington office overruled the Knoxville office this July and granted a "interm temporary relief" permit for them to keep mining without their toxic materials handling plan.

One option for us is to handle Skyline like we handled Rith Eneryg, a similar coal mining operation in 1988. In that case, Rith Energy surface coal mine wanted a permit revision from the OSM. OSM was to conduct an environmental impact assessment of Rith's toxic materials handling plan, and to ensure ts environmental soundness, we asked EPA to review and comment on the plan before the permit was granted. In the case of Skyline, we could send a similar letter to the OSM office in Washington, asking them to consult with EPA while OSM requires a handling plan from Skyline.

We need to do something -- this will not go away. Its obvious that the Washington OSM office violated teh law -- not just in the Skyline case but other cases around the country as well. In fact, OSM's troubles are so bad that rumors have started that Harry Synder, the head of OSM, will be indicted by thei Inspector General of teh Interior department pending an investigation into bribery and other nasty charges. I suggest we issue a statement andn sent a letter to OSM -- I have drafted such and it follows.

HISTORY ON SKYLINE

In 1990 a notice of violation was issued to the Skyline Coal Company (a subsidiary of AMAX Coal Co) because uncontrolled iron seeps were impacting Gladys Fork Creek in TN. Office of Surface Mining ordered Skyline to submit revisions to their permit for mining to address plans to treat exisiting seeps and prevent the formation of future problems. Under the 1977 Surface Mining Law, a company has 90 days to abate a violation. If the violation is not addressed, then a cease order to stop mining is issued and fines are levied until the problem is addressed. In the Skyline case, the extension was granted for 10 x the usual period (i.e. almost two years)

After the cease order was issued, AMAX filed a appeal thru the Solicitors Office in DC. Thru Harry Snyder (head of OSM) and the chief solicitor of OSM, the extention (called a "temporary interm relief" and NOT granted by any surface mining law -- basically an arbitrary OSM decision to allow them to continue) was granted for AMAX. Normally, this would all go thru the Knoxville field office of OSM, who has the statutory authority to issue extentions or revisions, but they were merely told by Washington how to handle this.

The status now is that a hearing on this "temporary" permit is being held at the request of a citizen's groups Save Our Cumberland Mountains. An adminstrative law judge hears this case and then determines whether or not to grant relief to the company from the law or not. (The 1977 Surface Minig Law grants this hearing process for citizens and companies). Skyline is still mining thru out this time period, and the hearing will probably not end until January (Skyline keeps calling more witnesses and dragging this thing out).

STATEMENT OF SENATOR AL GORE ON THE PROTOCOL ON ENVIRONMENTAL
PROTECTION TO THE ANTARCTIC TREATY

On October 4, 1991 the Antarctic Treaty Consultative Parties adopted and opened for signature the Protocol on Environmental Protection to the Antarctic Treaty. Twenty-five Consultative Parties have signed the Protocol, including the US. I urge my colleagues to ratify this protocol.

The Protocol builds upon the 1959 Antarctic Treaty, extending and improving the Treaty's effectiveness as a mechanism for ensuring the protection of the Antarctic environment. It designates Antarctica as a natural reserve, devoted to peace and science, and sets forth environmental protection principles applicable to human activities in Antarctica that will be binding under international law. These include obligations to accord priority to scientific research and a prohibition of Antarctic mineral resource activities. The Protocol is intended to replace existing Treaty recommendations addressing the protection of the Antarctic environment, including the Agreed Measures for the Conservation of Antarctic Flora and Fauna.

Additionally, the Protocol enforces an indefinite ban on mineral prospecting, exploration and development activities. This ban is not reviewable for fifty years, and has no termination date, unless agreed upon by 75% of the consultative members. This ban is essential to uphold the integrity of the Antarctic environment.

The Protocol is urgently needed to protect Antarctica's fragile environment. The Antarctic is remote from our thinking on most occasions and, yet, as we become more concerned about global climate changes, we begin to understand Antarctica. Far from being at the fringes of life on Earth, Antarctica is near its core, a prime mover in the organic food chain, a principal cause of the the wind and ocean currents which make up the system of weather as we know it.

Anyone who visits Antarctica cannot help but experience a sense that the place dwarfs all human scale. I travelled to Antarctica in 1988, to gather evidence on global warming and ozone depletion. In many ways, Antarctica is the frontier of the ecological crisis. It is the Antarctic where the first evidence of an ozone hole was discovered. The Antarctic provides ice cores that indicate high levels of carbon dioxide in the atmosphere correlate with changes in global temperature. And it is the Antarctic that acts as a massive engine driving the world's weather, redistributing its massive coldness through the winds of the air and currents of the sea.

It is also the Antarctic that contains some of the most polluted waters in the world. A soup of PCBs, raw sewage and other unknown substances contaminates much of McMurdo Sound. Without the Protocol,

more tragic situations like this are likely to develop, as yet more scientists and tourists make the long journey to the South Pole.

Most alarming is the possibility that mining could be carried out in the fragile Antarctic environment. Mining in Antarctica could have global consequences. Oil spills and pollution could kill the plankters that convert carbon dioxide into oxygen in the cold waters surrounding Antarctica. Other zooplankton provide the bottom layer of the food chain that so many marine organisms depend on.

That is why in 1989 I introduced a bill to protect Antarctica as a global ecological commons. That bill, and another measure by my colleague Senator Kerry, were signed into law in 1990 by President Bush. But while we in Congress had clearly stated that it should be the policy of the US to pursue an indefinite prohibition on commercial mineral development and related industrial activities in Antarctica, President Bush went about undermining such a position.

When the Antarctic Treaty parties met in Madrid in the spring of 1991 to negotiate the future of Antarctica, the President sent his representatives with the instruction to push for a temporary ban on mineral exploration - maybe 20 or 30 years- after which time the moratorium would be lifted. That is clearly not an indefinite ban, which we in Congress had passed into law. The President was ignoring the wishes of the American people as expressed through votes here in Congress.

It should have come as no surprise that the Bush Administration would attempt to scrap a treaty on environmental protection. It's a strategy we've seen played out in subsequent negotiations on other global environmental issues. The Interior Department, in 1990, urged President Bush not to sign my legislation, claiming that there should be an open door to mineral exploration in Antarctica. President Bush ignored the request at the time, but went on to eventually embrace such a position at the Madrid negotiations - a blatant defiance of the laws we worked so hard to pass. I and 15 of my colleagues, in a bipartisan effort, wrote to the Administration on March 27, 1991 and urged him to abandon his policy that would ultimately facilitate and encourage mining activities in Antarctica. The Administration took no heed and proceeded to Madrid, virtually isolated from the world community, set to stonewall the negotiations.

The incredible thing about the President's position is that there is no reason to push for mining in Antarctica. The US mining industry has had little interest in mining there - the environment is too harsh for uncertain rewards. Furthermore, the Office of Technology Assessment has stated the "There are no known oil, gas or mineral deposits in Antarctica of commercial value, and furthermore, the technology does not presently exist to recover minerals in the harsh environment of Antarctica."

While other nations at the Madrid negotiations pushed for a permanent and indefinite ban on mining activities in Antarctica, the US continued to ask for only a 20-40 year moratorium. The talks appeared to be doomed to failure until an eleventh hour change of heart hit the US delegates. The Administration finally softened its opposition to a total ban after a compromise agreement was offered to them. The compromise called for a 50 year mining moratorium, and the indefinite extension of a ban, unless 75% of the signatory parties agreed to alternate measures. The rest of the negotiating teams had been prepared to agree to a permanent ban, but the US defeated this provision of the Protocol.

To add to the outrage, the Bush Administration demanded last minute changes in the Protocol after the first round of Madrid negotiations had concluded. The US arrived at the meeting that was to have been the ceremonial signing of the treaty, and demanded a substantive addition. The US position was that unless a provision was added to allow any government to exempt itself from the minerals prohibition, if the amendment to allow mining under a new legal regime had not come into force within three years, that the US would not sign. They essentially demanded that the veto power over minerals exploration that was wielded by any of the signatories be removed. And they asked for this change without consulting any of the other signatory countries. Their demand reflected an ideology that we have seen over and over when the Administration addresses environmental issues. Short term, shortsighted policy making, influenced by the possibility - however remote - of securing economic advantage always outweighs any other conceivable considerations. Preservation and protection of the global environment is not even in the running to challenge that myopic interest.

Rather than risk the demise of the whole treaty, the other signatory countries acquiesced to the US demands and created a compromise treaty that would ban minerals exploration for 50 years and would continue the ban unless 75% of the consulting countries agreed to rescind it. This final compromise is what we are here to ratify today.

It is not a perfect measure. It is weaker than what I and others in Congress had hoped for. It is not the strongest bill the world could have had. The Administration made sure of that. But it is a first step. It is a clear advantage over what the status quo offers, which is no protection whatsoever for Antarctica's environment. In spite of the fact that the Bush Administration torpedoed a stronger protocol, I support this measure, and ask my colleagues to do the same.

The International Tropical Timber Agreement was negotiated in 1983 by all major producers and consumers of tropical timber. It is an international treaty focusing solely on tropical forests and their sustainable utilization as well as the expansion and diversification of trade and wood-based industries. The International Tropical Timber Organization is the intergovernmental administrative arm of the ITTA, but is not an executing agency. Rather, it is a commodity management organization. Member countries suggest projects for development and study to the ITTO, which is funded by donations from those countries.

The ITTA is up for complete reauthorization this year. Some of the issues to be addressed in the negotiating sessions are:

- * A push by developing countries, led by Malaysia, to include temperate and boreal forests in the agreement. At the Nov. 1992 meeting in preparation for ITTA renegotiation, the members stated that they would like to see this proposal included in the negotiations. The US did not have a position at this meeting although most US negotiators are very opposed to this idea. The US is currently ironing out a position before the next prep meeting in January.

- * Meeting the self stated goal of harvesting ALL tropical forest in a sustainable manner by 2000. This is a very lofty goal, as the ITTO is currently in the process of funding projects to determine just what sustainable development for each forest is.

The Tropical Forestry Action Plan was a plan of for the development of tropical forests while sustaining their general integrity. It was a cross-sectional plan developed by the UN Food and Agriculture Organization, the World Bank and the World Resources Institute.

TFAP has come under fierce fire since its inception in 1985. Many NGO's claimed that TFAP encouraged developing countries to increase development of tropical timber at the expense of conservation. The TFAP is under discussion at FAO as to how it could be reformulated to deal with serious deficiencies. It is unlikely that TFAP will continue as a viable program for the management of tropical forests.

To marla

From katie

re: alaska wetlands

Reilly announcemet today .. decision to exempt Alaskan wetlands from Sec. 404 of the Clean Water Act. Alaska will be the ONLY state with this special exemption. The exemption is absolutely illegal... The is no foundation ofr it in sec 404. Reason: oil folks want to drill and fill these wetlands. Developers in Ak will be able to destroy wetlands even if alternatives to wetlands destruction exist and they will not be required to compensate for wetlands destruction thru wetlands restoration.

Why wetlands are important to AK:

- o AK's fisheries thrive because wetlands filter and purify surface runoff and provide important spawning areas for fish. The commercial fishing industry is the largest private employers in the state and is the second largest revenue generator. The gross revenues from the harvest of salmon alone exceed \$500 million annually and the gross revenues to processors exceed \$1 billion annually. Salmon harvest involves nearly 17,000 licensed vessels, over 500 processors and more than 70,000 jobs.

- o Altho AK has a vast number of unspoiled wetlands, only 345, 000 acres are coastal wetlands regualted under the Clean Water Act. These wetlands, regarded as especially important to wildlife, are the wetlands most vulnerable to development.

- o About 70 percent of America's remaining wetlands are in AK. EPA's exemption ignores the national significance of AK's wetlands to migratory birds. AK wetlands provide a fall flight of 80,000 swans, 750,000 geese and 10 million ducks to all corners of the world. 96% of all seabirds found in U.S. waters breed in AK.

Why is rule is inane:

- o The existing guidelines are flexible enough to allow appropriate economic development and growth in AK. The Army Corp of Engineers processed 3,997 permit applications for wetlands fills in AK from 1972 thru 1992. The agency denied only 2.7% percent of those applications.

- o EPA's Region X office predicted that "this proposal will result in extensive losses of significant wetlands. Even the most valuable, most rare and most unique wetlands would not be subject to the careful assessment required by the current guidelines.... (V)irtually all the estuarine wetlands of the state could be destroyed" (Inside EPA)

o EPA's Alaska office cautioned: "An alteration of the 404 (b) (1) Guidelines with potential impacts to millions of acres of wetlands would be considered significant. Results may include severe water quality impacts, especially for watersheds within local population centers. This may directly affect a substantial number of small entities, including commercial fishermen, subsistence groups, and the tourism industry." (Inside EPA)

October 13, 1992

Dr. Phil Vargas
Human Research and Development, Inc.
2060 North Fourteenth Street
Suite 109
Arlington, VA 22201

Dear Dr. Vargas:

Thank you for contacting my office. I appreciate receiving a copy of your report, "Revitalizing American Society," and your kind words of support, and I sincerely regret the delay in my response.

You might be interested to know that I introduced several bills addressing federal laboratories and technology transfer this year. S. 2866 would have established a program that gave the thirteen national laboratories of the Department of Energy authority to take the lead in applying their human and technical resources toward environmental technologies. The Assisting Deployment of Energy and Environmental Practices and Technologies Program (ADEPT) sought to use the national labs in coordination with other government agencies to promote the development and international export of clean technologies for environmental protection and restoration.

In a related matter, I introduced the Environmental Aid and Trade Act of 1992. This bill, S. 3261, would have required agencies, including the Commerce and State departments, the Agency for International Development, and the Export-Import Bank, to give special emphasis to promoting the exports of environmental goods and services through better use of existing resources and programs. However, the 102nd Congress adjourned before either of these measures was addressed. You may be assured that I will continue to work to preserve our natural resources.

Again, thank you for letting me hear from you.

Sincerely,

Albert Gore, Jr.
United States Senator

AG/pdm

cc: Congresswoman Pat Schroeder

Our new Administration will build a partnership with the American people. That partnership will be built on a genuine commitment to leave our children a better nation whose air, water, and land are unspoiled; whose natural beauty is undimmed; and whose leadership for sustainable growth is unsurpassed. We will challenge Americans and demand responsibility at every level from individuals, families, communities, corporations, and government agencies to do more to preserve the quality of our environment -- and at the same time to improve the quality of our lives. This is the challenge I issue to you today. We need your help and expertise in designing the type of society we want and need in the future. We stand at the brink of an unprecedented and unparelled time, and I ask you to join with Bill Clinton and I as we assemble the vision needed to address our environmental chanellenges with innovation and courage.

Again, thank you for this honor.

Date: October 28, 1992
Topic: tn projects
Subtopic: corps of engineers
Synopsis: new chip mills CON; WL

Aide's Initials: pdm PCD: Item #: update 2774
Enclosure: no

Thank you for contacting me regarding your concern about wood chip mills. I appreciate hearing your views.

Over the past year, I have heard from hundreds of Tennesseans both supporting and opposing the proposed wood chip mills on the Tennessee River. Most of those in opposition to the mills raised the concern that unregulated clearcutting of timber for the mills would cause irreparable damage to Tennessee's environment. To clarify these potential problems, I requested an Environmental Impact Statement (EIS) on the possible impacts of the mills.

After examining the draft EIS and the EIS review by the U.S. Environmental Protection Agency, I am still convinced that the chip mills are not in the long term economic or environmental interest of Tennessee. The Tennessee Valley Authority (TVA) and EPA both concurred that they were inclined to deny the permits based on the evidence of environmental damage to the Tennessee Valley. I have urged TVA and the Corps of Engineers to deny the permits for the chipping mills and I will continue to oppose not only the permits, but the mills themselves.

Recently, however, the possibility has been raised by one chip mill operator that construction on the mills will proceed without TVA permits. In this scenario, the wood chips would be shipped from the mill by truck or rail, rather than by barge on the Tennessee River. This action would preempt TVA's authority and therefore require no federal or state approval process.

In my view, such a plan would demonstrate both a lack of concern and a lack of environmental responsibility on the part of the company operating the mill. I assure you that I will continue to urge practices that ensure the sustainable harvesting of timber for the chip mills. Although federal agencies cannot prevent the chip mills from being built, I will work with state officials to protect environmental standards in the region.

Again, thank you for letting me know your views on this issue.

October 30, 1992

Ms. Louise Pendley
34 Sharon Circle
Rossville, GA 30741

Dear Ms. Pendley:

Thank you for contacting my office with your concerns on the issue of religion and the environment. I appreciate hearing from you.

The world faces an unprecedented environmental crisis of global proportions. The hole in the ozone layer, the burning of the tropical forests, the poisoning of lakes and rivers, and the explosion of the world's population are all part of the problem. Because I am a person of faith, I respond to this challenge through the lens of my religious background. My faith teaches me that "the earth is the Lord's and the fullness thereof," and that although man was given dominion over the earth, we must be good stewards of the planet that was entrusted to us.

In my efforts to call for protection of the environment, I have joined with many other people of faith at meetings of the Joint Appeal on Religion and Science over the last few years. Together with some of the leading scientists in the country, the Joint Appeal includes the widest spectrum of American church leaders, including the head of the Christian Life Commission of the Southern Baptist Convention, the National Council of Churches, and representatives of the U.S. Catholic Conference. This group has called upon people of all faiths to work to protect the environment. My interaction with the Joint Appeal has been extremely enlightening, as well as enriching and inspiring.

Again, thank you for contacting me with your concerns.

Sincerely,

Albert Gore, Jr.
United States Senator

AG/pdm

Date: October 30, 1992
Topic: environment
Subtopic: general
Synopsis: cost of rio trip

Aide's Initials: pdm PCD: Item #: pls assign
Enclosure: no

I travelled to Rio de Janeiro this past summer as the official chairman of the U.S. Senate delegation to the United Nations Conference on Environment and Development (UNCED). I was appointed by the Senate Majority Leader to lead this effort and to study and report to the Senate on the legally binding international treaties that had been negotiated and were to be signed at the summit. Those treaties included the Framework Convention on Climate Change and the biodiversity treaty. In addition, the more than 120 nations that were represented in Rio agreed to a massive program of action called Agenda 21. This program is intended to promote sustainable patterns of development. As you can imagine, these documents are very complex and represent an enormous undertaking by the U.S. and other countries. I studied these thoroughly and issued a detailed report to my colleagues in the Senate as we deliberated these matters during treaty ratification procedures. As you know, it is incumbent upon the Senate to address these efforts pursuant to Article Two, Section Two of the U.S. Constitution. I appreciate the benefit of your views on this matter and assure you that I will keep them in mind.

I. Marbelled murrellet

* The murrellet is a fish-eating bird that lives in the old growth forests of the coast ranges of northern California, Oregon and Washington. The extent of habitat overlap with spotted owls is not known: i.e. there may be some but protection for the murrellet could also cause additional forest to be put off limits to logging.

* The murrelet was listed today as threatened. It is effective MONDAY.

* A Sept. 18th court order stopped logging in Washington's Olympic and Mount Baker Snoqualmie National Forests, because enviros wanted the murrellet listed on the endangered species list, and are in court about it. The ban on logging was temporary but now the Interior Dpt. will have to designate critical habitat for the murrellet.

* This will prohibit the taking of the birds, either directly or through habitat destruction. Listing may mean that already sold timber could be prevented from logging. IT IS UNCLEAR WHETHER ADDITIONAL SALES APART FROM THOSE PREVENTED BY THE SPOTTED OWL LISTING WILL BE CANCELLED. There may be more, there may not.

* But Bush has been President for four years and yet he made NO attempts to provide management plans for the spotted owl, the murrellet or any other species. He has allowed this crisis to build. Where was he when a concerted plan could have prevented this crisis??? Scientists have been telling him for years the not just these two birds, but a whole series of species are threatened by the decimation of old growth forests.

II. ESA:

1. Bush has sat by and watched as thousands of jobs have been lost in the timber industry. (Best figure here is that from 1979 to 1989, 26,000 jobs have been lost).

2. He only cares about those losses now that his own job is on the line.

3. Posing a false choice -- once again -- between the environment and the economy, Bush is pointing the finger of blame at the endangered species act.

5. Fact of the matter is that it is not the endangered species act that is causing job loss (GAO study documented that -- of 18,211 project reviews conducted pursuant to the ESA from 1987 to 1991, only 23 had to be extensively modified or cancelled). The fact of the matter is that it is the Bush administration's utter disregard for working American families and struggling communities -- rural and urban -- that is causing the crisis we now face.

6. President Bush has known for 10 years that our old growth forests are in trouble (this when spotted owl first identified as an indicator species). Rather than follow the law -- which would have put in place a process to find a strategy to preserve jobs and the natural resource base they depend on, Bush has ignored and blatantly violated the law -- and thrown timber communities needlessly into a state of crisis and despair.

7. There are alot of changes in the timber industry. While all of these jobs have been lost, timber production has actually increased 19 percent (due to increased automation and exports). Bill Clinton and I understand this. We know that what timber communities need is a strategy to maintain and expand and diversify their economic opportunities. What they do not need is to be the pawns in Mr. Bush's blame game.

8. We're prepared to listen and to ensure that communities do have the opportunity for a promising economic future.

9. Some communities are already doing that:

--Lebanon, Oregon was in a crisis 4 years ago when Champion paper co. shut down there. Since that time they have worked hard to develop new oppotunities -- they've attracted light manufacturing; heavy industry; new solid wood product manufacturing facilities.

--In Aberdeen, Washington they're converting their current port -- that can only handle log exports -- into a deep draft port that can handle imports of all kinds -- grains, autos, etc. They are also emphasizing tourism -- and it has become their second largest souce of

income. And they are conducting a comprehensive review of their land use plan so that they can better attract businesses to their community.

10. Rather than just denying that we have a problem -- which Mr. Bush has done -- Bill Clinton and I will work with communities to help them identify and pursue these opportunities for families and workers.

To: Katie

From: Pam

Re: Al's visit to Hanford

- * Hanford is the world's largest nuclear weapons building complex.

- * In July of 1990, DOE acknowledged that over 540,000 curies of iodine 131 were inadvertently released into the atmosphere from Hanford's nuclear reactors between 1944 and the mid-1950s. (TMI was a release of 15 curies). The families living around Hanford may have received radiation doses over the years ten times higher than did residents living near Chernobyl at the time it melted down.

- * Hanford is a 560 square mile reservation. It was founded in 1943 to make plutonium for the a-bombs. Hanford closed in 1988 for safety reasons and a lack of plutonium. Hanford contains 2/3 of the high level radioactive waste from weapons production in the entire US. Clean up could cost over \$50 billion. 149 underground storage tanks hold almost 1 million gallons of high level mixed radioactive waste. No one quite knows what to do with it - hence the creation of the Environmental labs at Hanford to investigate clean up options. Most of the tanks even have yet to be sampled to find out what kind of soup is inside.

- * DOE reportedly dumped millions of gallons of radioactive and chemically hazardous waste into unlined trenches. Citizens want DOE to unclassify the documents related to DOE's mishandling of this waste. Watkins' arrival in 1989 led to some new disclosures (such as those about the iodine releases) but much has yet to be uncovered.

- * Cong. Norm Dicks of WA asserts that some of DOE's clean up money - \$250 million - is going to other new DOE projects, like new plutonium processing facilities. The GAO is investigating.

- * Watkins has said that Hanford will be a "model" for clean up and will keep its 14,000 workforce - but there is some question if Hanford will ever be decontaminated given the slow progress of work so far.

- * One big complaint toward DOE is their continued holding of info. Watkins personally tries to review all documents before release - leading to a huge backlog. Information that is released is often outdated or too technical for citizen's groups to understand.

- * Lawsuits filed by enviros and citizens groups are pending in WA to increase DOE liability for the damages thus far. A 1988 study by a House approp. subcommittee found that on average, DOE's cost estimates for various clean ups increased by an average of about 500 percent between the time of proposal and the completion or cancellation - i.e. some contractors are gettin' by and perhaps lining their pockets.

* more horror stories at hanford:

- groundwater pollution with levels of radioactivity several hundred times higher than federal standards.

- whistle blowers getting harassed.

- DOE wanted to start up one of the nuke reactors (the N reactor) at Hanford despite the fact that they knew it was less safe than Chernobyl had been. They gave up the plan in 1988 after NRDC threatened to sue.

* Northwest Regional Power Council:

- This council was established by a 1980 federal law (which i cannot find the name of or al's vote on it) that sought to deal with both power generation and water rights in the NW. The law mandated the establishment of this council whose recommendations carry the full force of law.

- The council has jurisdiction over both energy planning and fish/wildlife issues, as conservation plays a big role in solving both problems of energy use and salmon issues.

- The council has developed a plan to increase stocks of salmon on the snake and columbia rivers, because 76 stocks in WA and ID are threatened with depletion. Additionally, some 3 species of salmon are on the threatened list.

The plan adopted in Dec of 1991 would:

- o Drawdown of water for salmon in rivers. Historically, salmon have relied on the force of water rushing downstream to push the smolts to the ocean after mating (There are now "ladders" - paths in the river - around dams so that fish can go UPSTREAM, but now the little fishies are having trouble getting back down). So the plan recommends that hydro plants and the other dams on the river store up a lot of water in the fall and then use it for winter power generation (when demand is the highest anyway) and release it so by spring the flow of water downstream is stronger than in the fall.

- o Drawdown of water from certain reservoirs. Currently, reservoirs behind dams spread out and decrease the flow of water. Salmon smolts need fast rushing streams to move downstream. These drawdowns will not be feasible for a few years. One prototype study is being carried out now - one dam on the Columbia is being lowered. In 1995, all the studies of the drawdowns should be completed and implementation of the council's plan should start in 1996. There is opposition to this, however. Farmers and barge operators fear that with less water in reservoirs, less water for them. The studies will try to resolve this question.

- o decreased use of river water for irrigation. Currently, one-fifth of the Columbia and Snake river water is used for irrigation. If farmers used less water, there would be more for the salmon. One recommendation of the plan is to pay farmers not to irrigate. Bonneville Power - the main electric co - would provide the money for paying the farmers b/c more water in the river means increased value for hydropower (its easier to generate elect. with faster flowing rivers). Enviros would like to see more water saved than is currently proposed by the council - they have suggested supporting water

conservation measures as policy (like use water only during the night or something).

* Columbia Basin Project:

This is a water diversion project out of the Columbia River in central Wash. About 100,00 acre ft of water will be drawn out in the area for farmers. Enviros are po'd cause they think the farmers don't need as much water (heavily subsidized of course). But this plan is much reduced from a previous plan to draw out 500,000 acre ft. The river ecosystem of course sustains some damage from large diversions, tho some wetlands areas are created in the process.

ENVIRONMENTAL AND MOLECULAR SCIENCES LABORATORY:

-The energy and Water Appropriations Conference Report passed by teh Sneate on 9/15 contains \$28.5 million for the EMSL. EMSL is basic and applied research lab that will work on site characterization and clean up at Hanford. Eventually, Hanford hopes it will be a center for environmental research of all types. EMSL is currently funded solely by federal appropriations. Private sector involvement is expected to increase as more projects are planned.

International Environmental Institute:

The institute was founded in May, 1991 to study the Hanford site and then determine the best, most cost-efficient means to clean-up Hanford. Professors from various universities -- across the globe -- serve on its Board of Directors. Funding for the Institute comes from both the government and corporations.

9/18/92

To: Katie
From: Pam

Re: Hot Issues in North Carolina

Some of the people who will be at the town meeting are the folks who will be cleaning up the Wilmington, N.C. beaches before and after the Gore visit. So the coastal issues that were discussed in NJ are still quite relevant. In addition, there are other N.C. specific issues that people may want addressed:

**** OIL AND GAS DRILLING:** Bush did not include N.C. in his 1990 list of areas to be protected by a drilling moratorium. North Carolinians feel rather miffed because they also have fragile coastal ecosystems, like the Florida Keys, that would be impacted negatively by oil/gas drilling. The Outer Banks - the thin line of coastal islands running down the coast of NC - are a vulnerable ecosystem. Sen. Sanford and Congressman Rose of N.C. have long pushed for a moratorium on drilling. Congress has passed a one-year moratorium (which includes N.C. and most other coastal areas except the eastern Gulf of Mexico) every year since 1988, as part of Interior Appropriations. Sen. Sanford wants to see a moratorium until the year 2000. The federal government is in the process of buying back the only oil and gas lease that has been issued in NC waters, so oil drilling has never, and hopefully will never, occur in the Outer Banks. The Gore position is that a moratorium on new drilling in NC should be extended.

**** CLEAN WATER:** Two decades ago, when the Clean Water Act was passed, the law declared that all waters would eventually be "swimmable and fishable". That has obviously not been accomplished. In fact, water quality in some areas has gotten worse under Reagan-Bush-Quayle. Examples include:

-- Reagan-Bush, in 1987, vetoed the reauthorization of CWA TWICE, claiming that the bill's \$18 billion authorization for local sewage treatment plants was triple the amount they had asked for and therefore was too much. Congress passed the reauthorization over the veto. Raw sewage and trash that is washing into our rivers and oceans were responsible for 2400 beach closings in 10 states in 1989 and 1990, with economic impacts measurable in the billions, due to lost tourism, fishing, etc.

-- The Administration has missed every deadline for action established in the 1987 Clean Water Act reauthorization.

--The Administration has not forwarded a reauthorization proposal for the CWA to Congress this year. (One is due). And Bush proposed a cut in EPA's budget by \$25 million this year in the water pollution abatement and compliance section.

**** WATER IN NC:** Several areas around Wilmington, such as Bradley, Howe and Hewletts Creek, are under a shellfish ban. The State closed the creeks for oystering when fecal coliform levels became dangerously high. Enviros say the high coliform counts are from poision stormwater runoff; developers say it is faulty residential septic systems. Whichever is true - studies are being conducted now by Univ. of NC - point is that Bush adminstration has not made clean water a priority since it cut EPA's budget. States have less resources to deal with problems like these thanks to Bush.

**** OVERFISHING:** A ban on recreational fishing has been proposed by the state fisheries board for parts of NC. The stocks of grouper/snapper/other bottom dwelling fish have been almost totaly depleted. People may asked how Gore feels about the ban. Sanford's office thinks the best thing to say is that a management plan needs to be developed that would allow sport fishermen to continue fishing, without allowing overfishing. Point here is that if we don't manage our resources well, whatever they may be, they won't be around long.

**** INCINERATION:** Gov. Jim Martin is seeking to build a hazardous waste incinernator for five states in the region - some people are up in arms. Be ready for questions about incineration.

To: Al, Marla
From: Katie
Re: Endangered Species Act Response and Gnatcatcher.

In case needed -- some talk points on the Endangered species act/logging controversy and on our friend the gnatcatcher.

I. ESA:

1. Bush has sat by and watched as thousands of jobs have been lost in the timber industry. (Best figure here is that from 1979 to 1989, 26,000 jobs have been lost).
2. He only cares about those losses now that his own job is on the line.
3. Posing a false choice -- once again -- between the environment and the economy, Bush is pointing the finger of blame at the endangered species act.
4. His arrogance here is only matched by ignorance.
5. Fact of the matter is that it is not the endangered species act that is causing job loss (GAO study documented that -- of 18,211 project reviews conducted pursuant to the ESA from 1987 to 1991, only 23 had to be extensively modified or cancelled). The fact of the matter is that it is the Bush administration's utter disregard for working American families and struggling communities -- rural and urban -- that is causing the crisis we now face.
6. President Bush has known for 10 years that our old growth forests are in trouble (this when spotted owl first identified as an indicator species). Rather than follow the law -- which would have put in place a process to find a strategy to preserve jobs and the natural resource base they depend on, Bush has ignored and blatantly violated the law -- and thrown timber communities needlessly into a state of crisis and despair.
7. There are alot of changes in the timber industry. While all of these jobs have been lost, timber production has actually increased 19 percent (due to increased automation and exports). Bill Clinton and I understand this. We know that what timber communities need is a strategy to maintain and expand and diversify their economic opportunities. What they do not need is to be the pawns in Mr. Bush's blame game.
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9. Some communities are already doing that:

--Lebanon, Oregon was in a crisis 4 years ago when Champion paper co. shut down there. Since that time they have worked hard to develop new oppotunities -- they've attracted light manufacturing; heavy industry; new solid wood product manufacturing facilities.

--In Aberdeen, Washington they're converting their current port -- that can only handle log exports -- into a deep draft port that can handle imports of all kinds -- grains, autos, etc. They are also emphasizing tourism -- and it has become their second largest souce of income. And they are conducting a comprehensive review of their land use plan so that they can better attract businesses to their community.

10. Rather than just denying that we have a problem -- which Mr. Bush has done -- Bill Clinton and I will work with communities to help them identify and pursue these opportunities for families and workers.

II. Gnatcatcher

Bush today in San Diego praised the Natural Community Conservation Program -- a program set up by the State to have enviro, industry, municipalities, etc. to come up with a land management plan that can protect the gnatcatcher.

Gnatcatcher habitat is coastal sage scrub. Habitat is unique to Southern California. Effort to put management plan together (started 1.5 years ago) welcomed as a cooperative effort and also because it was designed to manage the whole ecosystem -- rather than just step in to save the gnatcather itself.

Enviro problems with the effort: (1) the state is using it as an excuse not to list the gnatcatcher pursuant to state endangered species act. (2) this is important because, if it gets listed, then all gnatcatcher habitat falls within the purview of the act and would be subject to provisions requiring management plans to preserve the species. Under the NCCP, industry gets to select which lands will be preserved as critical habitat.

Enviros sued the state for failure to list; state lost and court has required state to come up with reasons for not listing.

The NCCP was also defunded this year at enviros insistence because a bill failed in state legislature that would have required that all coastal scrub sage lands be reviewed for possible inclusion as critical habitat (therefore it is kind of crazy that Bush was commending the effort today).

Fish and Wildlife service faces a deadline on the 17th on whether or not to list under federal ESA. Expected decision is that

Lujan will punt -- ESA gives 60 day extended review period. NRDC has put Lujan on notice that they will sue if a decision is not made when that statutory period expires.

BOTTOM LINE is that (1) the NCCP is a good idea -- cooperative effort to come up with a comprehensive management scheme that looks at a whole ecosystem -- rather than just a single species. But (2) SCIENCE should determine whether the bird should get listed and, if it is listed, which lands should be preserved as critical habitat. Basically -- the effort should complement the ESA; NOT be considered a substitute for it.

OUTER CONTINENTAL SHELF EXPLORATION

BOTTOM LINE:

- o You have not voted for any "bans" on oil and gas drilling.
- o You have supported "moratoria" on drilling. However, you have only gone further than Bush on this front in calling for a moratorium on the entire coast of Florida (i.e. the Eastern Gulf of Mexico) -- rather than just the around the Keyes and the Everglades as he has done.
- o You have not supported moratoria on drilling off the coasts of Louisiana or Texas (i.e. the Western Gulf of Mexico). This is where the action is -- and this is where Bush et. al would like to have people believe you have supported a moratorium.
- o Clinton/Gore position -- moratorium except for the Western Gulf.
- o Where does moratorium now apply? Nearly entire coast of California; Pacific Northwest; Bristol Bay, Alaska; Georges Banks off Mass.
- o Why in these areas? All coastal areas ecologically sensitive to some degree because of reef/shelf activity -- rich ecosystems; critical barrier functions. However, current moratoria are more significantly a product of the squeaky wheel gettin' the grease (or in this case -- not gettin' the grease....(i.e. -- those states that have protested most loudly have gotten the protection)).)
- o Further extensions possible: Miller got language in House energy bill that extends moratorium to all coastal waters except most of Alaska (there is currently a moratorium in Bristol Bay) and the Western Gulf (again -- doesn't even try to touch Texas or Louisiana). This is currently being duked out in conference.

MORE DETAILED BACKGROUND:

A. The Bush record. I'm assuming here that you have seen the flip/flop document that Little Rock ginned up (am faxing again just in case).

B. The Bush Declaration:

Soon after taking office in February of 1989, Bush announced that three of the most controversial of the OCS lease sales proposed by Interior under Reagan would be delayed until a Cabinet-level task force could evaluate the environmental consequences of drilling in

those areas. The Florida Keys was one of these parcels; other two were in California (one in Southern California; other in Northern California). The task force concluded that the leases should be delayed until extensive environmental testing could be done on the areas.

On June 26, 1990, Bush followed the task force recommendation and declared a moratorium on oil and gas leasing and development off most of California and the area south of the 26 degrees north latitude line in Florida, which comprises the Keys and the area leading into the Everglades. Although there is no oil and gas production within these areas, 73 active leases are held there by 10 companies. The Bush proposal advocated cancellation of existing leases and the initiation of discussions with the state of Florida for its participation in a joint buyback of the leases.

C. Your Record:

- o You voted for a Graham amendment to the energy bill that would have included the Florida coastline above the 26 latitude line (i.e. -- not just the Keyes, but the Panhandle, too) in the moratorium on leasing oil and gas rights. The amendment specified that -- for the areas outside the Keyes -- the moratorium should be in place until a comprehensive set of environmental and other studies are completed or until the year 2002.

- o You never supported an outright ban for this area. (Note here, however, that, because there is currently no drilling activity in the area, the moratorium amounts to a ban during the period the moratorium will be kept in effect. This is because, as I understand it, the effect of a moratorium is to prevent any NEW drilling activity. It does NOT interfere with drilling that is already going on pursuant to an outstanding lease, NOR does it prevent the renewal of that lease when it expires if drilling is still on-going at the time of expiration (to the best of my knowledge, an active lease is AUTOMATICALLY renewed). There is not -- and never has been to my knowledge -- drilling in the Keyes. I am not absolutely certain of the situation in the rest of the Panhandle. However, I believe that -- while there are leases outstanding there -- there has not been drilling or exploratory activity.)

- o With respect to the Keyes and the Everglades areas, the Graham amendment provided for a permanent moratorium on drilling. (This goes further than the Bush position which is that a moratorium should be in place until studies are completed or the year 2000).

- o Your view is consistent with that of both Senators from Florida, Graham and Mack. Therefore another justification for your stance is that this is to a large extent a state's rights issue and you have supported the right of these states to make that determination.

o Co-sponsored legislation, now law, providing a method of locating private and government research on environmental issues by geographic location, The Environmental Research Geographic Location Information Act.

o Held hearings and led effort, with Rep. Marilyn Lloyd of Chattanooga, to establish TIGER TEAMS to investigate environmental contamination and human health and safety concerns due to radioactive and toxic waste produced at national labs and weapons facilities.

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** NOTE: This includes ONLY legislation passed. It does not include legislation introduced by Sen. Gore or, Sen. Gore's other activities and accomplishments on these issues.

Boston Sunday Globe

SUNDAY, DECEMBER 13, 1992

THE BOSTON SUNDAY GLOBE • DECEMBER 13, 1992

Gore playing key role in shaping transition

Senator's influence seen in policy and personnel choices

By Adam Pertman
GLOBE STAFF

WASHINGTON — There have been few public sightings of Vice President-elect Al Gore since Election Day. And, when he has appeared, he's been standing silently at press conferences in Little Rock, Ark., looking every bit the traditional running mate whose primary purpose — helping his party win — has already been served.

In this case, though, the reality belies the image.

According to senior Democratic officials in Washington and Arkansas, Gore has been playing an unprecedented role during Bill Clinton's transition to power. The officials said Gore has not only been helping shape policy but also has exerted considerable influence in the selection of top-level administration nominees.

"I think it's fair to say that Al

Gore has had an impact on every Cabinet appointment ... even if it is in a modest form," said Roy M. Neel, the Tennessee senator's chief of staff.

Bruce Reed, one of Clinton's principal domestic advisers, made the same point in a separate interview in Washington. He said Clinton sought Gore's advice on a wide range of personnel and policy questions, particularly relating to foreign affairs and the environment.

Transition officials acknowledged that portraying Gore as a key player serves Clinton well. It sends a signal that the new White House will remain true to the issues Gore has championed, they said, and demonstrates that Clinton will live up to his vow to give his No. 2 unprecedented responsibilities.

At the same time, the officials insisted that there is nothing cosmetic or temporary about Gore's influence. The two running mates developed an

unusually close rapport during the fall campaign, they said, and Clinton seems intent on maintaining it after taking office next month.

"Skeptics beware, history teaches you nothing on this count," said a senior Clinton aide in Little Rock, referring to vice presidents being relegated to attending funerals or given some specific limited responsibilities.

"Besides," the aide added, "all you have to do is look at how much

*President-elect
Bill Clinton and
Al Gore 'developed
this intense
trusting
relationship on
the campaign
trail and it's
evident every day
now.'*

BRUCE REED
Clinton aide

clout Al has exercised already to understand that this is really, really different."

The clearest example of Gore's sway thus far was last week's selection of Carol Browner as administrator of the Environmental Protection Agency. Browner was a top aide in Gore's Senate office before assuming her current post as Florida's environmental enforcement chief.

Sources said that, when the initial list of prospects for the EPA job was drawn up, Browner was not even on it, but was added at her former boss' suggestion. The sources stressed that Browner rose to the top of most transition officials' lists on her own merit, and that Gore was careful not to disparage the other candidates -- including former Vermont Gov. Madeleine Kunin, who most observers thought would win the EPA post.

Still, Gore got his first choice when Clinton made his final cut.

Gore also cast his shadow, albeit more faintly, during last week's discussions on nominations for key Clinton administration economic posts.

Lawrence Summers, a highly regarded Harvard economist, had been considered a top candidate for the new post of Economic Security Adviser. But, when he was chief economist at the World Bank, Summers had written a memo in which

he raised the prospect of disposing of toxic waste in developing nations.

Summers has since said he was merely offering an option, not an opinion, but Gore is known to have become wary of the economist as a result. While Gore reportedly did not try to undermine Summers' prospects for the security adviser's job, the senator's allies made their displeasure known to Clinton, and the position went to investment

banker Robert Rubin.

Besides the environment, on which Gore is considered one of the nation's authorities, officials interviewed last week said they expected his recommendations to be given particular weight in the areas of foreign policy, technology and communications. That presumably includes policy and personnel decisions affecting such pivotal Cabinet departments as state and defense, and such

powerful agencies as the Federal Communications Commission and the Federal Trade Commission.

Already, Democratic officials said, Gore has influenced public statements made by Clinton on such international issues as US involvement in Bosnia and Somalia. And, they said, his recommendations have been incorporated into the new administration's ethics guidelines and still-developing government-reorganization blueprints.

"Clinton has relied on him heavily on both people-related matters

and in areas of the federal government where Clinton has less experience," said Neel.

He pointed out that Gore is one of a handful of close Clinton advisors who discusses final decisions in the governor's mansion in Little Rock every night.

"They developed this intense trusting relationship on the campaign trail and it's evident every day now," Reed, the domestic policy aide, said. "I think you can bet that won't change once they move into the White House."

ENVIRONMENT

Remaking society to save the planet

By Ross Gelbspan
GLOBE STAFF

Like a freight train careening downhill out of control, the planet Earth seems to many scientists to be speeding toward environmental apocalypse.

Many despair of doing anything about it, but Sen. Al Gore (D-Tenn.), a 1988 presidential contender and a leader in the US Senate, has decided to throw his political future across the tracks.

He has done so in a new book that calls on Americans, and the world, to apply the brakes by embracing individual, societal and economic life-style changes that would seem sweeping and radical coming from the environmental establishment, let alone from the heart of the political mainstream.

Its call for restructuring modern civilization around the principle of global environmental redemption proposes strategies far more radical on Capitol Hill than anything publicly espoused by many environmental groups, concerned about their credibility in the hardball world of political compromise.

Gore's interest in environmental issues is nothing new. Last week, the Senate voted 96 to 0 to adopt his resolution to speed the phase-out of ozone-depleting chemicals. And colleagues expect him to vigor-

Gore asks radical global fix

ously oppose an administration-sponsored energy bill that would create hundreds of oil, coal and nuclear power plants over the next four decades while doing little to promote conservation and renewable energy sources.

But those initiatives pale in the face of his global blueprint, which includes a "Global Marshall Plan" to stabilize skyrocketing population and halt deforestation and destructive agricultural practices in developing countries; to switch from oil, coal and nuclear energy to solar, wind and other renewables; impose stringent taxes on virgin materials to force producers to recycle and reuse products; and change the way national budgets are calculated to reflect the true costs of resource depletion

and pollution.

In "Earth in the Balance: Ecology and the Human Spirit," Gore makes the case for such steps by relentlessly cataloguing a list of accelerating planetary catastrophes — global warming, climate change, sea level rise, deforestation, skyrocketing population growth — that threaten the survival of civilization.

In a particularly impolitic chapter, Gore, the scion of one of Tennessee's leading Democratic families, warns Americans they are fundamentally alienated from nature and their own experience, a split that has led to what he calls a "dysfunctional civilization" marked by addictive con-

GORE, Page 33



SEN. AL GORE

'WE'RE NEARING A THRESHOLD BEYOND WHICH PEOPLE WILL REALIZE THAT THIS RIDICULOUS AND ABSURD FRENZY OF EXPLOITATION IS REALLY A DUMB PATTERN. WHEN THAT HAPPENS, THINGS THAT TODAY SEEM POLITICALLY IMPOSSIBLE WILL THEN BE POLITICALLY IMPERATIVE.'

AL GORE
US Senator

He expressed disdain for those who say the global danger is being exaggerated. He specifically challenged a small minority of scientists, actively supported by the Bush Administration, who deny there is a crisis because of scientific uncertainties about patterns of variation and specific causes and effects. Gore compared them to tobacco company scientists who cite the lack of proven specific pathways by which smoking causes cancer to deny the overwhelming evidence of such a link.

Just as the United States rebuilt Europe after World War II in a policy of enlightened self-interest, Gore's book urges the developed nations to embark on a "Global Marshall Plan" to eliminate the buildup of greenhouse gases by switching to renewable, non-polluting energy sources such as solar, wind and photovoltaic cells. It also calls for drastic reduction in the use of industrial chemicals and soil-depleting chemical-intensive agriculture. And it calls on the world to provide education, infant health care and contraceptives to women in poor countries to check population growth.

Factoring In hidden costs

Key to his plan is worldwide adoption of an economic budgeting system that includes the hidden costs of pollution and resource depletion in calculating the Gross National Product, an approach advocated by several economists who say the current system masks massive costs that then fall on future generations.

Gore, again echoing economists, says that by reducing pollution and increasing energy efficiency, firms actually increase competitiveness by finding ways to improve production, maximize the ingenuity of their workforces and cut waste.

Observers in Congress note that Gore has long had an environmental focus, focusing on toxic waste problems as a young congressman and helping establish the 42-nation Interparliamentary Conference on the Global Environment, an international group to monitor global climate change.

But, Gore says, it was a convergence of seismic personal changes, marked by deep frustration and pain, that prompted him to write his book. During his aborted 1988 presidential run, he recalled, he gave speech after speech about environmental problems "only to pick up the newspapers the next day and see not one reference to those speeches."

"I started to wonder whether those issues... were peripheral after all. I began to doubt my own political judgment, so I began to ask the pollsters... what they thought I ought to talk about," he wrote. As a result, "I discussed what everybody else discussed, which too often was a... list of what insiders agree are 'the issues'."

Then, in 1989, he says, he underwent a period of soul-searching after his six-year-old son was hit and nearly killed by a car. During the weeks he and his wife spent in the hospital caring for their child, Gore wrote, he realized "the change that sought me out in the middle of my life... gave me a new sense of urgency about those things I value the most."

A horrifying tableau

The result, "Earth in the Balance" (published by Houghton Mifflin), presents a horrifying tableau of accelerating, unrestrained destruction that threatens in the next few decades to stress the global environment to the breaking point.

It foresees massive climate change marked by wild increases in

droughts, flood and storms, propelled by a growing atmospheric overload of carbon dioxide and other "greenhouse gases." Those changes, accompanied by rising sea levels, are being accelerated by the ferocious destruction of forests that consume carbon dioxide and replenish our oxygen supply.

It also forecasts rapid wilting of the food supply under the pressure of wasteful and destructive agricultural practices.

And it suggests the inevitability of overpopulation coming to an abrupt halt in a massive population crash driven by drought, famine, deforestation or other causes.

Among other findings Gore cites to support his alarm:

- While the global average temperature dropped by slightly more than 1.8 degrees Fahrenheit during the Earth's last "little" ice age between 1550 and 1850, scientists expect it to increase 4.5 to 7.2 degrees over the next 50 years.

- Atmospheric concentrations of carbon dioxide have ranged from 200 to 300 parts per million during the last two ice ages, but is expected to skyrocket to 600 ppm in 50 years.

- The world's tropical rain forests, which consume carbon dioxide and provide homes to millions of species, are being destroyed at the rate of one football field per second, more than one Tennessee per year.

- Partly as a result, wildlife species are being destroyed a thousand times faster than at any time in history.

- Earth's population, which grew to 2 billion between the dawn of human history and 1945, will more than quadruple, to 9 billion, by 2020.

At the same time, Gore says, there has been a destruction of the

internal ecology of human feelings and responses by the numbing power of alienation and denial, which has deafened leaders and paralyzed many of the world's people.

On one level, he wrote, politicians, news editors and individuals who refuse to address the threat "are really saying they simply do not want to think about the disruption that would accompany any serious effort to confront the problem."

At a deeper level, the apathy is caused by "dysfunctional patterns of behavior" resulting from losing touch with humanity's natural roots.

"People object when their backyards are threatened by a new landfill or incinerator. But people's definition of backyard is changing."

SEN. AL GORE

Driven to consume

The source of the crisis lies in our "addiction to the consumption of the Earth itself," he wrote, an addiction that "distracts us from the pain of what we have lost: a direct experience of our connection to the... natural world..."

That addiction must be faced before it can be curbed, he asserts, for only then "can we recognize the destructive impact" of our habits. That is the first step, "toward mourning what we have lost, healing the damage we have done to the Earth and to our civilization, and coming to terms with... what it means to be a steward of the Earth."

ST. LOUIS POST-DISPATCH

TUESDAY, SEPTEMBER 1, 1992

EDITORIALS

Environmental Distortions

Among his targets for the fall re-election campaign, Vice President Dan Quayle has chosen "Earth In The Balance," the recent and now controversial book by his opposite number, Sen. Al Gore. Mr. Gore, the Democratic nominee for vice president, has written of the difficulties of sustaining life on this planet at the present rate of consumption, particularly in highly industrialized countries like the United States.

Here is how Mr. Quayle summed up the differences in the environmental philosophies of the Republican and Democratic parties. In a speech last week to the Economic Club of Grand Rapids, Mich., Mr. Quayle said: "We envision man as the harvester, working with the Earth to raise up homes and cities, respecting nature but shaping it to legitimate ends. . . . They [Democrats] view man more as an uninvited guest here on Earth, settling down and consuming resources to which he has no right."

What a gross oversimplification. The modern American environmental movement began with such Republicans as Theodore Roosevelt, who believed in setting aside precious resources like the national parks for future generations to enjoy. Many moderate Republicans who recoil at the existence of the likes of Dan Quayle in their party long have worked to protect and preserve the environment for one and all. Other Republicans have embraced the concept of conservation to save trees, minerals, wildlife and vegetation.

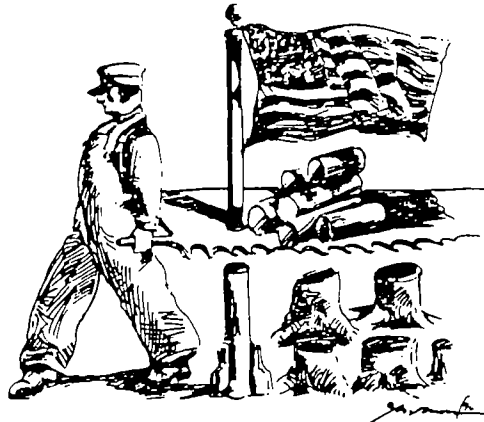
But those Republicans are not in control of the

party. Those in control now cast the issue as environmental protection versus jobs, though that is seldom the case. And too often they are willing to allow industry to pass on the cost of environmental degradation to the general public.

Conversely, Democrats across the board do not believe that human beings and economic development are incompatible. But many do believe that great care must be given when forests are felled and lands mined, lest permanent damage to the environment be done.

They believe, like moderate Republicans, that scarce resources should be husbanded, that wastes that come from economic inefficiencies are wastes that cannot be sustained. And they realize that small, thoughtful changes in living habits can sometimes result in great savings for society, whether that be by a fuel tax that encourages greater efficiency or by insulation standards that make homes cheaper to heat and cool.

Mr. Gore's views are neither new nor extreme, but he does argue that sometimes painful measures may have to be taken by government and individuals to curtail activities by human beings that are counterproductive in the long run. And part of the burden will fall on Americans, who consume more per capita in fuel, food and raw materials than any other nationality in the world, now or in the past. Mr. Gore's message is complex. Unfortunately, that makes it vulnerable to the cheap distortions of a Dan Quayle.



The Philadelphia Inquirer

Wednesday, September 16, 1992

Saving earth for and from mankind

By JAMES R. SPOTILA

Sen. Al Gore's *Earth in the Balance* is the most important book of the decade, not because it contains the answer, but because it focuses on the question. How do we face a global environmental crisis that threatens civilization as we know it?

If we continue our neglect of ecological issues, the end will not come with a bang, as in a nuclear war, but will arrive imperceptibly. Our grandchildren might not enjoy the clean air and water, the protective sky and changing seasons that we expect as our birthright.

Sen. Gore points out in accessible language that if we do not begin to address that growing environmental threat now, we may be able to accumulate short-term profits for a while, but our long-term legacy will be a world barren of nature due to a depleted ozone shield.

Gore exhorts us to change our ways of thinking and of doing business.

Since these conclusions have long been obvious to environmental scientists, it was with more than a little skepticism that I began to read Sen. Gore's book. To my surprise, I was compelled not only by his clear presentation of the data on global warming, ozone depletion and other environmental horror stories, but also by his proposed solution to the crisis — A Global Marshall Plan.

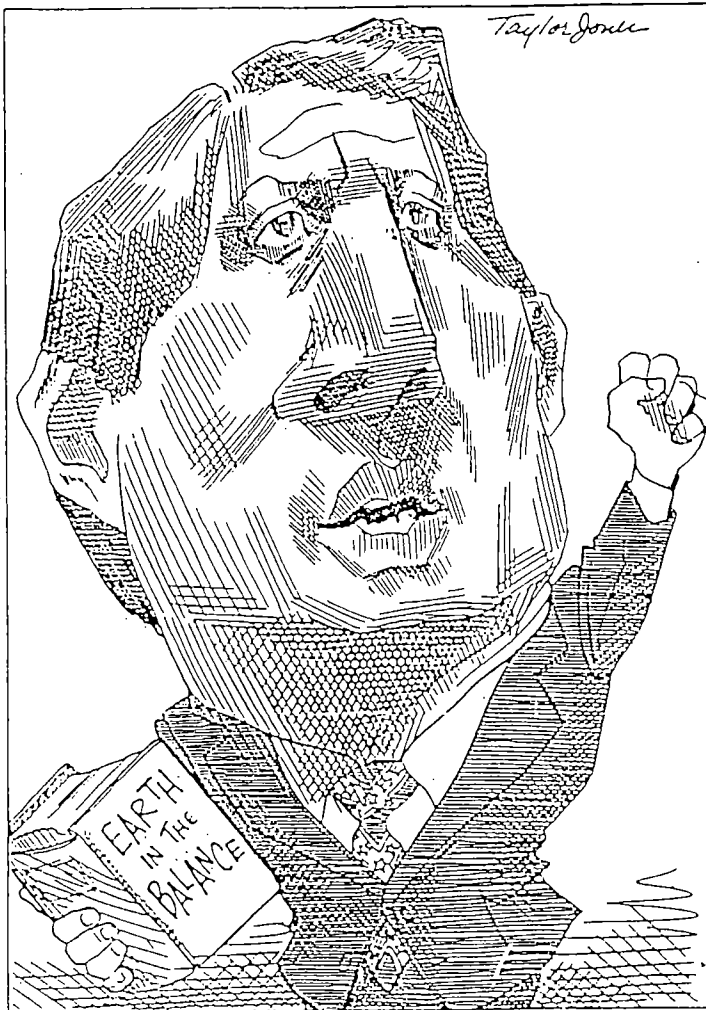
Gore calls for improved automobile technology — such as the Japanese ceramic engine that runs at higher temperatures and thus minimizes pollution — because our cars with their outdated engines pose "a mortal threat to the security of every nation that is more deadly than that of any military enemy we are ever again likely to confront."

He's right. A 2-to-5 degree Celsius rise in global temperature poses a greater danger to the U.S. than Iraq does.

There is nothing more important to our future than a safe and sustainable environment. Without it there is no economy and our civilization will fade into oblivion.

For America to maintain a viable environment, Sen. Gore advocates government planning like that used to build up our military strength during World War II and the Cold War.

Over the last 12 years our government has minimized our environmental crisis while maximizing short-term economic gains. The Reagan and Bush administrations have dismantled our environmental safeguards, cancelled ecological studies, and gutted the Environmental Protection Agency (EPA). Though the savings and loan bailout and budget deficit are on the national agenda, if we fail to take action on the environment, the costs of the "Environmental Debacle" will dwarf both of these problems.



ALBERT GORE

Los Angeles Times / TAYLOR JONES

Sen. Gore makes clear we must act to change our approach to the environment. Not to act now would be to bequeath our grandchildren a life so filled with disease and famine that they would look back and rue the selfish actions we are taking today.

Sen. Gore states, "We tolerate... the violation of the rights of those who will come after us. As we strip-mine the earth at a completely unsustainable rate, we are making it impossible for our children's children to have a standard of living even remotely similar to ours."

He also contends, "With the future so open to doubt, we routinely choose to indulge our own generation at the expense of all who will follow. We enshrine the self as the unit of ethical account, separate and distinct not just from the natural world but even from a sense of obligation to others — not just others in future generations, but increasingly even to others in the same generation; and not just those in distant lands, but increasingly even in our own."

How can we have a healthy economy if we do not have a healthy environment? One of the most prescient actions of late was America's passage clean water and air legislation during the 1960's and 1970's. We only have to compare our environment to that of eastern Europe to appreciate the horror we avoided and the high quality of life we obtained by those actions. Money invested in that effort paid for itself in jobs and quality of life a hundred times over.

The question is not, as Gore's critics would have it, which do you want, jobs or a clean environment? The question is, how do we create jobs that contribute to maintaining a sustainable and safe environment? Since 1970 many companies have grown, created jobs and prospered by combining concern for environmental quality with technological innovation.

The 3-M company improved profits with its Pollution Prevention Pays program. Xerox and Dow instituted similar measures. Here in the Delaware Valley, Betz Laboratories, Roy F. Weston, Inc. and Environmental Tectonics Corp. have grown to employ over 6,000 blue collar, technical and scientific workers. They have demonstrated that caring for the environment and creating jobs are compatible.

Gore sets six strategic goals for the Global Marshall Plan.

- Stabilizing the world population.
- Rapid creation and development of environmentally appropriate technologies.
- A comprehensive change in the economic "rules of the road" by which we measure the impact of our decisions on the environment.
- The negotiation and approval of a new generation of international agreements to make the overall plan a success.

■ The establishment of a cooperative plan for educating the world's citizens about our global environment.

■ The establishment, especially in the developing world, of the social and political conditions most conducive to the emergence of sustainable societies.

An environmental scientist could not have said it better.

After 12 years of undermining support of family centered programs, the Republicans are talking to us about family values. Don't they think family values also include ensuring that our grandchildren have clean air to breathe and clean water to drink?

If you care about your grandchildren, read Gore's book.

James R. Spotila is a professor of environmental science at Drexel University.

REVIEWS

BOOKS

A Crisis as Real as Rain

TITLE: *EARTH IN THE BALANCE*

AUTHOR: AL GORE

PUBLISHER: HOUGHTON MIFFLIN; 407

PAGES: \$22.95

THE BOTTOM LINE: *A work of intelligence and passionate authenticity.*

By LANCE MORROW

SENATOR AL GORE HAD JUST turned 40 years old. His presidential campaign had broken up in the primaries the previous spring. Then, as he reports, "one afternoon in April 1989, I walked out of a baseball stadium and saw my son, Albert, then six years old, get hit by a car, fly thirty feet through the air and scrape along the pavement another twenty feet

until he came to rest in a gutter." The child, at first near death, eventually recovered. It was in his son's hospital room in Baltimore that Gore began writing *Earth in the Balance*.

Since the book arises in part from a moment of personal crisis, it speaks with a certain passionate authenticity, a ring of the unfakable that is rare enough in the (usually ghostwritten) outpourings of politicians. The American public, much afflicted by sound bites, has all but abandoned hope for intelligent life in Washington. It may be impressed by Gore's sustained intellectual concentration and mastery of his subject, the environment. Gore has studied it a while. In the 1988 campaign, the Senator held the wedding guests with his glittering eye and talked about such obscurities as the greenhouse effect and the thinning ozone. Another candidate said he sounded as if he were running for national scientist.

The subjects are less obscure now. In *Earth in the Balance* Gore writes, "The global environmental crisis is, as we say in Tennessee, real as rain, and I cannot stand the thought of leaving my children with a degraded earth and a diminished future."

Gore has produced a labor of statesmanship, evangelism and scientific exposition. He does not so much break new ground as organize a wide variety of material and experience to state the case of environmental urgency and the need for change, for what he calls a "Global Marshall Plan." He has digested books, made friends with experts and traveled. Gore went, for example, to the Aral Sea in Central Asia—10 years ago the fourth largest inland sea in the world, now dead, its fishing fleets stranded surreally in dry desert. The water that once fed the Aral was diverted in an ill-considered irrigation project to grow cotton. Gore traveled to the vanishing Amazon

rain forest and to the globe's other environmental Stations of the Cross. He knows too much, however, to indulge in mere sentimentalism about Earth-Motherhood, or to join a doctrinaire rush to simplification.

In drawing a line connecting the individual to the global, Gore here and there sounds as if his inner Ancient Mariner had lingered too long in adult-children seminars with John Bradshaw, and humankind might 12-step the earth green again. Still, the vocabularies of the recovery movement open interesting windows upon a civilization that is dysfunctional, much given to denial, addiction, co-dependency and brutal nature abuse.

If the future (to use Gore-esque imagery) remains as dark as a mine shaft, humankind has at least begun to notice the alarming accumulation of dead canaries about its feet. In part because of his son's accident—and perhaps in part because of George Bush's overwhelming popularity in the polls after Desert Storm—Al Gore decided to sit out the 1992 campaign. Instead of Gore for President, the public has his book, which is itself an act of leadership. ■

TELEVISION

Graduating With Honors

SHOW: *THE COSBY SHOW*

TIME: THURSDAY, APRIL 30, 8 P.M. EDT, NBC, FOR THE LAST TIME

THE BOTTOM LINE: *The most successful sitcom of the '80s makes a graceful exit.*

By RICHARD ZOGLIN

NOTHING ON TV AGES FASTER than a family show. The regulars at the *Cheers* bar or the *M*A*S*H* unit can stick around for years, with only occasional cast changes to accommodate stars who want to get into movies. But kids have a bad habit of growing up. Anyone tuning in after a few years' absence to this week's final episode of *The Cosby Show* may get a shock. Theo (Malcolm-Jamal Warner), a junior-high student when the series began, is graduating from college. Vanessa (Tempestt Bledsoe), once a pudgy preteen, is in college too, and has weathered a broken engagement. Cute little Rudy (Keshia Knight Pulliam) has ceded the spotlight to a passel of even cuter, littler kids: Olivia, 6, step-daughter of No. 2 daughter Denise (who



Gore at home near Washington: his travels took him to the Aral Sea, now dead, and other disasters

CYNTHIA JOHNSON FOR TIME

Sound Environment, Sound Economy

BY AL GORE

Special to The National Law Journal

THE AMERICAN people are being asked to choose between protecting our environment and strengthening our economy. That's the choice President George Bush and Vice President Dan Quayle are asking us to make. It is not just short-sighted, it is irresponsible. And it is just plain wrong.

Fortunately, the American people are getting a second opinion before accepting this false choice as true. They're willing to work for a strong economy. And because they care about protecting the environment they will leave their children, they're willing to work to clean it up.

The simple truth is that protecting our environment means new business and increasing profits. Protecting our environment ensures that the United States will remain competitive in the international marketplace in the future. It means strengthening our economy. It means meeting the challenge from our competitors, such as Germany and Japan and others already moving to secure their place and their profits from these growing markets.

If we fail to act, we lose. We lose jobs, we lose opportunities, we lose our natural resources and the brighter future every parent hopes to offer their child.

For example, during negotiations on a climate convention signed at the June international Earth Summit in Rio de Janeiro, Brazil, the administra-

tion argued that the United States could not afford to stabilize emissions of carbon dioxide, the major cause of global warming, at 1990 levels by the year 2000. That argument ignored the administration's own data and analyses showing that we can not only afford to stabilize emissions through voluntary energy conservation and other measures, but we can do it at a profit. We can enhance business profits and protect our environment *at the same time*.

What was once called too expensive is now called a bargain too good to pass up.

We have had a difficult time in the past coming to grips with the fantastic new powers we've gained from the

Continued on page 18

A Clean World Is Good for Business

Continued from page 17

technologies that drive our industrial society. Just as nuclear weapons transformed the consequences of all-out warfare, so thousands of new technologies that magnify our ability to exploit the earth have transformed our relationship with the earth.

At the dawning of the nuclear age, Albert Einstein said, "Everything has changed, except our way of thinking." During the last few decades, human beings have tried to come to grips with a new way of thinking about warfare. We have not fully acknowledged the debt that all humankind owes to Brazil and Argentina and other nations in South America that had the courage to abandon this technology of nuclear weapons and make a pact to stop the march that other nations began toward nuclear weaponry. If such progress can be made in the area of war technology, we can certainly move forward together to improve our management of industrial technology.

So now we face the necessity of arriving at a new way of thinking about our relationship to technologies for exploiting the earth. Our successful start in dealing with CFCs, or chlorofluorocarbons, give us cause for hope because agreements have been reached by most nations of the world that will eventually result in their phaseout. We must build on that success by developing a new partnership between North

and South, industrial countries and developing countries, that will work to counter global warming; to preserve our dwindling forest resources and other critical ecosystems; and to clean our air, our fresh-water resources and our oceans.

Here at home, we must accelerate the development of new technologies that foster economic progress without environmental destruction. We must commit to using and promoting renewable energy technologies and work to move these programs from the bottom of the list of priorities to the top. We can start by taking advantage of the wealth of expertise and talent in our national labs and other federal facilities, bringing them together with the private sector to produce these new technologies.

New Technologies

Policies, technologies and processes that prevent or stop pollution at its source rather than clean it up later offer unprecedented business opportunities. Last year, Northern Telecom Ltd., which has its American headquarters in Nashville, Tenn., became the first major electronics company to eliminate the cleaning solvent CFC-113 from its manufacturing operations. The company used available technology, working with its customers and vendors to create alternatives to the CFC solvent. Northern Telecom estimates that the use of the alternative

process will prevent nearly 9,000 tons of CFCs from being released over the next eight years, while generating savings of \$50 million.

Companies with the best environmental strategies will lead business in the 21st century. They are among the most competitive and profitable. Japan has already recognized and seized upon this economic opportunity through energy efficiency and also by investing in the future.

For example, Japan's Ministry of International Trade & Industry began work in 1990 to create the Research Institute of Innovative Technology for the Earth, intended to develop environmental technologies. In addition to \$80 million in seed money from the ministry, Japanese industry invested \$45 million in the first year of operation. Japanese companies have recognized that huge profits can be made by developing and using environmental technology.

The American people know, too, that we can both save the environment and strengthen the economy. They know we do not have to sacrifice economic stability and jobs to protect the world around us. It can and must be done.

The American people want from their leaders vision and courage, understanding, compassion and real commitment on these issues. They expect and deserve leaders who will amplify their voices, not overpower them.

Green giant

Looking at Al Gore's legislative record, one would hardly judge him an "environmental extremist," the label the White House has tried to pin on him. Though he has been a vocal and effective critic of the Bush Administration's environmental failures, and though greens support him enthusiastically, his ecological voting record puts him well into the middle of the pack of Democratic senators. Indeed, Gore's lifetime grade from the League of Conservation Voters, a consortium of mainstream environmental groups, is a middling seventy-seven out of a possible 100. Early in his congressional career, in fact, Gore failed one of the environmentalists' litmus test issues of the late '70s by voting against protecting the endangered snail darter in favor of constructing the Tellico dam in his home state of Tennessee.

Critics in the Bush Administration want it both ways. While branding Gore an extremist, they accuse him of not being an effective legislator on the issues. "Quite frankly, there is not much there," said Michael Deland, chairman of the White House Council on Environmental Quality. "There has been a lot of rhetoric but not much in the way of performance." Administration officials point out that Gore was not a major player on many of the most important environmental bills taken up by recent Congresses. These include the Clean Air Act amendments of 1990, the 1990 farm bill, the national energy strategy, the highway bill, the elevation of the EPA to cabinet level, the oil pollution act, nuclear liability legislation, and others. Indeed, even some environmental lobbyists say Gore has been less influential than he could be because he does not serve on the Senate Environment and Public Works Committee or any other key committee concerned with environmental matters.

In fact, Gore's record is substantial. He was the author of several major

amendments of the 1990 Clean Air Act re-authorization, including requiring the phaseout of ozone-depleting hydrochlorofluorocarbons. His proposal for a "strategic environmental research and development program" to bring the research resources of the Defense Department to bear on global environmental problems was adopted in 1990. He was the author of a resolution calling for the protection of Antarctica from mining and other development. He was also a leader of the successful effort to bar oil development from the Arctic National Wildlife Refuge. He has been particularly active in promoting environmentally sound technology to help restore the nation's competitiveness in international markets, successfully pushing, for example, for the creation of a new national network of high-speed information "super-highways" that would link powerful computers with schools and research centers. Since his vote on the snail darter, Gore "has worked strongly for the protection for species and habitat," according to the League of Conservation Voters. And as a member of the House in the late '70s, Gore presided over a landmark investigation that disclosed the magnitude of the nation's hazardous waste problem. Shortly thereafter, he co-sponsored the Superfund bill to clean up toxic waste sites.

Gore is not a member of "The Club," the coterie of influential senators who cut deals over legislation. But despite his lack of insider status, he is without question the most prominent environmental activist in the United States Congress. His leadership stems from his demonstrated ability to recognize, master, and articulate emerging issues. He has been well ahead of the curve on issues from hazardous waste in the '70s to global warming, destruction of the earth's protective ozone layer, and the disappearance of species in the '80s and '90s. *Earth in the Balance*, Gore's best-selling book on the global environment, is a meticulously researched, careful analysis of some of the most important geopolitical issues of our

time. What is more, the book offers a long-range strategy for asserting American leadership in a new system of collective security built around the "central organizing principle" of environmentally sustainable economic development.

The Bush-Quayle campaign has used the book as exhibit A for its charges that Gore is an extremist. Quayle has called it the Democratic "manifesto" and said that following its recommendations would require sharp increases in taxes and lose thousands of jobs. The Republicans are particularly shrill about Gore's suggestions on the use of carbon taxes to encourage the reduced consumption of fossil fuels, hoping once again to stimulate a knee-jerk reaction to the word "tax." The Clinton campaign has handled the book rather gingerly, particularly the carbon tax idea, which it has described as only a suggestion for study. In fact, Gore's own words unmistakably show that he thinks it would be a good idea. But he also states unequivocally that he is not advocating a tax increase. Under the plan, other taxes would be lowered commensurately. As for the idea of building a new system of collective security around sustainable development, it was embraced by almost all governments at the Earth Summit in Rio. If Gore is an extremist for proposing it, so are the leaders of Germany, Japan, and other industrialized democracies.

The good news for Gore is that the extremist tag does not appear to be sticking, even within the Administration. Gore "cares a lot and knows a lot about the issues," EPA administrator William K. Reilly said in a recent television interview, adding, "I don't think he's an environmental extremist." Of course, within the administration, Reilly's a bit of a fringe figure himself.

PHILIP SHABECOFF

Philip Shabecoff's book on the environmental movement, *A Fierce Green Fire*, will be published in January by Hill & Wang.

THE ECOLOGY OF SURVIVAL

By Al Gore

Theories about history are built on sand. Yet millions have died believing in their ultimate truth. It's because we have paid such a high price for historical theorizing that we can ill afford to lose our perspective now, or to stop thinking about where we've been and what it tells us about where we're going. To paraphrase Santayana, those who cannot remember the past ought to be condemned to reread it.

Seventy-five years, the measure of one magazine, is now the measure of one human lifetime—the number of years an American child born today can expect to live. Looking back 75 years, we can accept or ignore any number of political, cultural, or strategic lessons. Looking ahead into the life of that child, however, we see two indisputable patterns. With the invention of nuclear weapons we changed the character of warfare in ways that must preclude any conflict on the scale of the one that began in 1914. That lesson is widely understood, and we have some basis for hoping that it will guide our future affairs. The second dramatic change has not yet been so widely accepted. Humankind has suddenly entered into a new relationship with the planet Earth. Our survival depends upon our capacity to grasp, and quickly, the extent to which the current pattern of world civilization threatens the ecological system that sustains life as we know it.

From this side of the Atlantic, at least, the future looked better in 1914. Back then America didn't need a coup in Panama; that year we opened the Canal. Productivity growth in the United States was almost too fast to measure. In the fall of 1913 a Model T came off the assembly line at Henry Ford's new Highland Park plant every 12 hours. By the spring of 1914 that plant was producing one car every hour. The world environment was as untrampled as the poppies in Flanders Fields. The biggest threat to the rain forest was Tarzan, created that year by Edgar Rice Burroughs.

From politics to art, the world was breaking loose from the old order. The acceleration of history was already well under way. Einstein's theory of relativity had jolted science. Cubism was fracturing the way artists interpreted the world. Ancient dynasties and im-

mense empires began to die with the Archduke Ferdinand. The World War hardly made the world safe for democracy, but it did put the foes of democracy on notice. The period since then represents a succession of struggles between democratic powers and tyranny in all its guises. In 1914, as Europe descended into carnage, by far the greater number of the world's peoples lived under tyrannies. But of the major nations that went to war in Europe, only the established democracies survived with their political systems intact. The interwar years were marked by philosophical as well as geopolitical struggles on a global scale, with the ideologies of fascism, communism, and democracy in contention. In World War II, not only was fascism defeated; its exemplars underwent apparently permanent societal conversions, from which they emerged as democracies themselves. Now we appear to be experiencing the rapid dissolution of Communist tyranny. The process is advancing in Europe and perhaps gathering strength in Asia, the result of irresistible internal forces that can be set back but not permanently stopped.

In the developing worlds of Latin America, Africa, and Asia, the battle between democratic and tyrannical forms of government has been less decisive. Nevertheless, over the last decade the trend has been toward democratic forms, from Argentina and Brazil to the Philippines. Looking at this pattern, some conclude that humankind is maturing out of tutelage, throwing off submission to the arbitrary rule of those who claim legitimacy by divine right or historical "law" and embracing instead the self-rule that derives its legitimacy from the will of the electorate. Perhaps so. But experience ought to make us wary of premature declarations of victory, and we should certainly reject the idea that we have arrived at the end of political history. The human imagination is much too fertile for that, and the human capacity for inventing systems of political belief has not exhausted itself. We can expect that "isms" will continue to appear, displacing others in the hearts and minds of millions, over cycles of time that may run from decades to centuries and even to millennia.

Yet because of the events and accomplishments of the last 75 years, there are indeed critical, and permanent, new factors in the life of humanity. These relate to the physical world, whose constants are beyond the

AL GORE is a U.S. Sena: from Tennessee.

power of ideological manipulation. We have, in the course of a single life span, managed to grasp the levers of our own destruction: first, in the form of nuclear weapons; and second, in the form of the industrial destruction of the biosphere, which has begun to move ahead at geometric rates of increase. When you consider the relationship of the human species to the planet Earth, not much change is visible in a single year, in a single nation. Yet if you look at the entire pattern of that relationship from the beginning of the modern era in 1914 until today, the contrast is starkly clear.

In 422 years, from the time of Christopher Columbus until 1914, world population tripled, to 1.6 billion. In the last 75 years it has tripled again, to 5.2 billion. We are told that in the next 75 years it will double and perhaps even triple once more. Nearly every index of the impact of modern industrial society follows the same pattern of sudden, unprecedented acceleration. Americans consumed around 40 billion kilowatt-hours of electricity in 1914. Last year we used 60 times that much. U.S. production of synthetic organic chemicals (from PCBs to pesticides to plastics) has gone from almost nothing to 225 billion pounds per year—half a ton for every American. The world's fossil fuel use has increased ten times over, and with it, carbon dioxide has flooded the Earth's atmosphere. Other greenhouse gases have soared upward at similar rates: U.S. nitrogen oxide emissions are up 800 percent since 1914; methane concentrations have nearly doubled; and the world's emissions of chlorofluorocarbons, which had not yet been invented in 1914, have increased by 80 times since World War II, and are still doubling every decade, posing a deadly threat to the Earth's protective ozone shield.

The hole in the ozone layer is only the most widely accepted manifestation of a much broader challenge to the Earth's environment. We are destroying forest land at the rate of one acre per second; we are poisoning our rivers, lakes, groundwater, and oceans; we are causing living species to be destroyed at a rate 1,000

times greater than at any time in the last 65 million years; we are filling the atmosphere with gaseous wastes that threaten changes to the climatic system in the next 75 years as large as those that accompanied the ice ages over hundreds of thousands of years. These dramatic changes are taking place not only because the human population is surging and our standard of living has increased, but because we tolerate environmental vandalism on a global scale.

For 75 years the price we would have to pay for our actions has seemed impossibly remote. Only now are we beginning to see, in Ivan Ilych's phrase, "the

shadow our future throws." Whether we look forward in hopes of glimpsing what the future holds or gaze backward at the events that have dominated the world since 1914, we see something that resembles one of those artist's depictions of relativity theory, with time and space curved like a checkerboard grid painted by Salvador Dali. Our political awareness of the world is shaped and bent by events. Vast calamities such as the world wars exert a powerful gravitational pull on every idea we have about the world around us. And, just as in Einstein's theory, future events can exert the same gravitational pull on our thinking as events in the past. The political will to slow down the nuclear arms race came from the

feeling that we were being pulled toward a future we had never seen but didn't want. Now, as we are being drawn toward the brink of ecological collapse, we must be willing to consider drastic ecological action.

There is no way for humanity to forget its skills for self-destruction, by war upon each other or by war upon the environment. In an exchange of Promethean proportions, we have acquired deadly knowledge that we can never lose but must learn to keep under control forever. That is the new and permanent point of departure for political wisdom. And if we are to succeed in keeping civilization intact, it is clear that oneism must be revived and renewed: globalism—by which I mean not some kind of world order prescribed and imposed

Thorstein Veblen Reconsidered *George Charney*

THE NEW REPUBLIC

A Journal of Politics and the Arts - January 22, 1972, 50 cents

How Clean Is Clean?

The Editors on Water Pollution

Moving to the Suburbs - Robert Cassidy

Shooting at Henry - John Osborne

War Powers - Alexander M. Bickel

The Old Decency - Reed Whittemore

Populist Ruminations - Peter Barnes

COVER, JANUARY 22, 1972

from above, but rather a sense of responsibility for the good order of the world, rising upward from all of its peoples, and ultimately manifesting itself in the behavior of their governments, both domestically and in international relations.

A new globalism cannot be based on some transformation of human nature, by which people will be endowed with new virtues of foresight and restraint. In the last 75 years we have had enough of efforts to create the New Man in one image or another. Jefferson's educated citizenry will have to suffice. The globalism we need can develop out of roots already universally present. It will be an enlightened, informed extension of our desire to survive, and of our often even more intense desire to provide for the survival and well-being of our children and grandchildren. Globalism will be marked by the sense that if our affairs are conducted on the basis of an unlimited struggle for supremacy—whether among nations or over nature—the result will be an increasingly high risk of almost immeasurable loss for all. It will be marked also by a sense that at some level, cooperation secures for all of us what strife cannot.

Mikhail Gorbachev now speaks as an advocate of a globalist approach based on mutual consent, rather than hegemony. It is certainly a revolution of sorts to hear such things from a Soviet leader. But it is well to remember that Gorbachev has at best caught up with the doctrine of collective security as propounded by Woodrow Wilson in 1918 and again by Franklin Roosevelt in 1945.

The essence of the doctrine of collective security is that security is indivisible and mutual: it must be provided for all, by actions to which all must contribute, or it exists for no one. That is certainly the lesson we must apply as we struggle to redefine our security relationship in military terms. Reductions of strategic and conventional weapons are desirable, but not in the abstract. They must seek a result in which the residual forces are perceived by all concerned parties to be stable, in the sense of lacking the capacity for decisive surprise. And reductions must be carried out in a political context that buttresses the expectation of peace and justifies diminished preparation for war.

But the notion of mutual security must now move from an exclusive concern with security as an issue of peace or war to a definition of security that includes the global environment. With that in mind, I have proposed a Strategic Environment Initiative (SEI). Let's face it: the Strategic Defense Initiative can't assure our survival for the next 75 years. A Strategic Environment Initiative might. I am no admirer of SDI, but one doesn't have to be an admirer to recognize that it drew together previously scattered facilities and resources and that it attracted a generous share of the government's budget for research and development. We need to approach the technological challenge of environmental protection and economic growth with at least the same intensity—and with comparable or greater levels of funding.

If we continue our current pattern of technology and production, we will be able to achieve economic growth in the near term only at the cost of massive environmen-

tal disorder in the not so distant future. For the developing world, the problems of reconciling economic growth and environmental protection are compounded by high rates of population growth and a massive debt burden. Yet the cooperation of Third World nations is crucial to controlling problems as vast as global warming. Their share of greenhouse gas emissions from fossil fuels could grow from about 20 percent today to as much as 60 percent by 2050. A Strategic Environment Initiative would promote environmentally sustainable development by identifying and spreading new technologies to developing countries, where 95 percent of world population growth will take place during the next century. Here in the United States, the Strategic Environment Initiative must modernize technologies and practices in every economic sector, from more fuel-efficient cars and energy-efficient appliances to manufacturing that relies on recycled material, to a second green revolution requiring fewer fertilizers and pesticides. The emerging consensus for environmental protection is opening the door to solutions once considered politically impossible.

It will not be enough, however, to change our laws, policies, and programs. We must also change the way we think about ourselves, our children, and our future. For a very long time, we have seen ourselves as separate from the world around us. At least since the beginning of the scientific method, and probably since Aristotle, we have seen nature as the object of our experiments, exploitation, and dominion. As scientists reflected on Einstein's revolution, they discovered that the act of observing alters what is observed. Heisenberg established that "uncertainty principle" in 1923. But its philosophical application is not limited to the subatomic world he described. In a kind of Heisenberg Principle writ large, we have altered—without realizing it—our relationship to nature itself. We must now create a new pattern of thinking in which we once again see ourselves as a part of the ecological system in which we live. We have lost, so to speak, our eco-librium.

How can we gain sufficient distance from ourselves to see a pattern that contains us in a larger context? My own religious faith teaches me that while we are given dominion over the Earth, we also are required to be good stewards of the Earth. If our actions cause the destruction of half the living species God put on this Earth during our lifetimes, we will have failed in the responsibility of stewardship. Are those actions, because of their result, "evil"? The answer depends not upon the everyday nature of the actions, but upon our knowledge of their consequences. For the individual actions that collectively produce the world's environmental evil are indeed banal when they are looked at one by one: the cutting of a tree, the flicking on of an air conditioner, the dumping of some inconvenient waste.

"Evil" and "good" are terms not used frequently by politicians. Yet I do not see how this problem can be solved without reference to spiritual values found in every faith. For many scientists on the edge of new discov-

eries in cosmology and quantum physics, the reconciliation of science and religion sometimes now seems near at hand. It is a reconciliation not unlike the one we seek between humankind and nature. But even without defining the problem in religious terms, it is possible to conclude that the solutions we seek will be found in a new

faith in the future of life on Earth after our own, a faith in the future that justifies sacrifices in the present, a new moral courage to choose higher values in the conduct of human affairs, and a new reverence for absolute principles that can serve as stars by which to map the future course of our species and our place within creation.

To Skeptics on Global Warming . . .

By Al Gore Jr.

WASHINGTON — When environmental and financial experts from around the world gathered in Washington this week for a White House-sponsored conference on global warming, they expected a serious discussion. Instead, they were surprised and angered to hear President Bush wholeheartedly endorse delay and inaction.

Global climate change is real. It is the single most serious manifestation of a larger problem: the collision course between industrial civilization and the ecological system that supports life as we know it.

The purpose of Earth Day is to alert people around the world to that impending collision. And yet the Bush administration, according to a leaked memo, is advising its policymakers that "a better approach is to raise the many uncertainties," and argue with the skeptics that nothing should be done until unresolved questions are definitively answered.

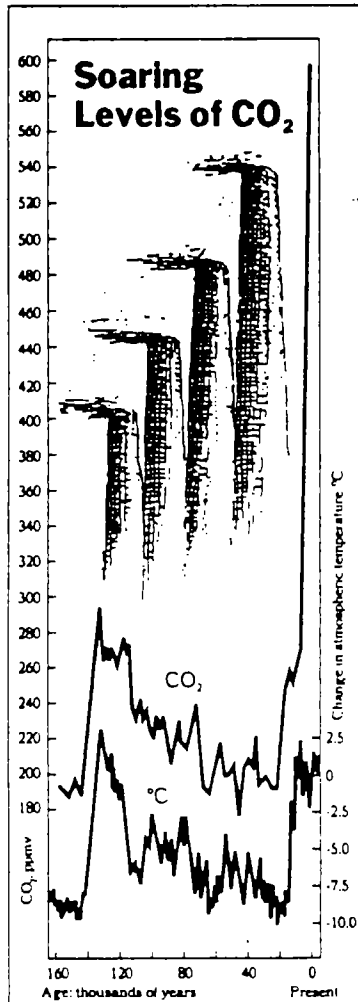
What are the skeptics' questions? There are several of the most prominent. None of them stands up under scrutiny.

Q: Aren't the dire predictions about global warming based on unreliable computer models? How do we know that there is any correlation between increased levels of carbon dioxide in the atmosphere and changes in temperature?

A: The most compelling evidence comes from careful studies of tiny air bubbles in Antarctic ice. These show that has actually happened to the earth's climate during the last 50,000 years. As illustrated by the accompanying graph, carbon dioxide and temperature have gone up and down in lockstep for as far back as scientists can measure.

Through the last two ice ages and the period of great warming in between, levels of carbon dioxide have fluctuated between 200 and 300 parts per million. Even the skeptics agree that concentrations of carbon dioxide will be pushed to levels of 600 parts per million within the next 35 to 45 years. It is irresponsible to assume that after moving in tandem with carbon dioxide for 160,000 years, temperatures will not be affected by these dramatic increases.

Q: Do we know enough to act? Shouldn't we study the problem until



The New York Times, Illustration by Janusz Kapusta

we eliminate the uncertainties?

A: That was the Administration's excuse last year, when it asked a distinguished United Nations-sponsored group of scientists to answer that question. A draft of the scientists' long-awaited report, leaked to the press this week, concludes that we must act now. The scientists say there's still a chance that the problem won't be as bad as they fear, but there's an equal chance that it will be much worse than predicted.

Q: Come on, isn't this really a little far-fetched? After all, the Earth is a big place and probably has some kind of natural "thermostat" to maintain the present climate. Don't some scientists say that clouds or the oceans or sunspots will offset any effect caused by human activity?

A: While the Earth is indeed vast in size, the atmosphere surrounding it is less than one one-thousandth the

thickness of the Earth's diameter, a thin blue line around the crust of the Earth. Unprecedented population growth and new technologies for burning fuels, clearing forests and manufacturing chemicals have given humankind the ability to alter the composition of the atmosphere.

Everywhere on Earth, for example, each lungful of air now contains 600 percent more chlorine atoms than it did 40 years ago — or 3 billion years ago, for that matter. That chlorine is responsible for burning a hole in the stratospheric ozone layer. Similar increases in methane, nitrous oxide and other polluting gases add to the seriousness of global warming.

Q: But how can we trust scientists on this issue when some of them say global climate change is real and some of them say it's not?

A: Five hundred years ago, most scientists said the world was flat. Most people believed them because the Earth did indeed look flat. The new "model" of a round Earth was based on mathematical calculations that they could neither touch nor understand. Similarly, Galileo was punished for his then-novel view that the Earth orbited the sun, instead of the other way around.

In the last 20 years, eminent scientists continued to ridicule the theory of continental drift. The theory of global climate change used to be ridiculed, too. But in the last few years, the overwhelming majority of scientists who have examined the evidence have agreed that the problem is real.

Q: Didn't NASA just report that new measurements of the Earth's temperature in the last 10 years showed no evidence of warming?

A: That was the impression some people got. What NASA actually reported was that "nothing could be said" about a warming trend one way or another "due to the relatively short satellite data record." Temperatures naturally fluctuate so much from year to year that a single decade is not a long enough yardstick for a long-term trend. The decade as a whole, according to several other studies, was the hottest since temperatures have been recorded. The six hottest years on record occurred in the 1980's.

Q: O.K., suppose temperatures do rise by a few degrees. So what?

A: Even small changes in the average global temperature can have dramatic consequences. The last time there was a change as big as the one some now predict, temperatures dropped several degrees and what is now New York City was covered by ice one kilometer thick.

But this isn't about temperatures

alone. It's about drastically changing climatic patterns that affect the distribution of rainfall, the intensity of storms and droughts and the directions of prevailing winds and ocean currents, which in turn dramatically affect our weather and climate. Some scientists say the first effects will be erratic weather patterns with extremes of heat and cold.

Q: Isn't it easier to adapt to these changes than to prevent them?

A: The changes could occur so swiftly that effective adaptation might become virtually impossible. The longer we wait, the more unpleasant our choices become.

We are in fact conducting a massive, unprecedented — some say unethical — experiment with consequences for all future generations. As

... You're wrong on facts and reasoning.

you make your choice, bear in mind that you're choosing not only for your own generation but for your grandchildren as well. And remember too that our abuse of the environment could lead to the extinction of more than half of all species within the lifetimes of our children.

Q: Isn't the cost of preventing this problem too high?

A: Many of the solutions, such as eliminating subsidies for clear-cutting forests, actually save money. In any event, the costs of inaction are much higher, even if the skeptics refuse to measure them.

Q: The changes you say are needed are too sweeping to be politically possible.

A: What if I had asked you six months ago to assess the possibility that people in every country in Eastern Europe would abandon Communism, sing "We Shall Overcome" and embrace democracy within 90 days? Would you have called that "unlikely?" We all would have. But it happened because people changed their way of thinking about Communism.

People are changing their thinking about the importance of protecting the global environment. We too are showing our willingness to act. The obstacles may seem immovable, but so did the Berlin wall. With bold leadership and a new political "ecolibrism," we too shall overcome. □

POSTCARD ANTARCTICA

UNBEARABLE WHITENESS

I'M TRYING TO remember what I thought about Antarctica before I came here. For the most part, I didn't think about it at all. It is just plain remote. From the other side of the world, in Christchurch, New Zealand, it is another eight hours due south by plane to the main U.S. base, McMurdo, and then another three hours from there to the South Pole.

I came to the coldest place on Earth to hunt for information about global warming, but I was unprepared for the continent itself. For example, I didn't know that the land area is half again as large as the entire United States. Or that 90 percent of all the ice in the world is here—which means, among other things, that there is really no comparison between this place and the Arctic. Antarctica is larger, more isolated, more important in the global ecosystem—and much colder.

You don't expect a continent at the "bottom" of the world to have an altitude three times higher than any other continent. When I stepped out of the ski plane at the Pole, my awareness was divided between the 56-degree-below-zero weather and the dizziness of being at almost 10,000 feet. The altitude of the enormous polar plateau is due primarily to ice that is almost two miles thick. Although its ice and snow contain 70 percent of all the fresh water on Earth, Antarctica gets so little precipitation that it is classified as the world's largest desert. And while the continent goes dark for six months in winter, it still receives more sunlight during its six-month-long summer day than the equatorial regions receive in an entire year. Yet all that light creates virtually no surface heat, because most of it is reflected right back up into space. For anyone caught in that crossfire of whiteness, sunglasses are a medical necessity.

The ice shelf expands in winter to seven times its summer maximum. The small population of human beings sent here by 22 nations expands in summer and contracts in winter by proportions almost precisely inverse to those of the ice.

WHILE MOST of Antarctica is the cleanest, most pristine area on Earth, the waters immediately adjacent to the American base are among the most polluted in the world. PCBs and "we don't know what else," dumped years ago, have killed every vestige of life in a small area of McMurdo Sound. The nuclear power plant that leaked in 1962 was dismantled and returned to the United States. But even today the base dumps "diluted" raw sewage directly into the sound and burns its solid waste in an open pit.

In the last few years, several other developments have brought new attention to Antarctica. In 1985 an emergency expedition confirmed the existence of a large and growing polar hole in the stratospheric ozone layer (which protects humans from deadly ultraviolet-B radiation). The same team found incontrovertible evidence

that man-made chemicals called chlorofluorocarbons (CFCs) were responsible.

A new international agreement was signed this year to reduce CFC production a little, though not enough. Meanwhile, the world's fossil fuels are being burned at such a rapid rate that the resulting carbon dioxide, along with other "greenhouse gases," may have already triggered the long-predicted global warming. At least some scientists said this summer that they are finally convinced.

The air is clearer and crisper in Antarctica than anywhere I've ever been, and visibility is remarkable over great distances. But that can suddenly change, as I learned firsthand, during something known as a "whiteout." The winds of a sudden storm saturate the air so thoroughly with snow that first the horizon, then closer landmarks, and then even the hood of your vehicle can disappear in a shroud of whiteness. Travelers lose their orientation and perspective. Some tell stories of seeing a building in the distance only to find that it was a pack of cigarettes a few feet away. Having just lived through a general election campaign in which Willie Horton was a more prominent political landmark than the budget or trade deficit, I had the feeling I had gone from one whiteout to another.

I CAME HERE because Antarctica is now the frontier of the global ecological crisis. High in the Transantarctic Mountains, a badly sunburned scientist talked about the ice cores he and his team were pulling from a deep hole drilled into the glacier on which we stood. He interpreted the annual layers of ice and snow the way woodsmen read tree rings. "Here is where the U.S. Congress passed the Clean Air Act," he said, pointing to the beginning of the 1970s. Moving down the ice core, back to the early 1960s, he added, "And here is where the world stopped atmospheric nuclear testing." These and other ice cores contain highly accurate information about the makeup of the Earth's atmosphere year by year for tens of thousands of years. From such cores, we know, for example, that there were dramatically lower levels of carbon dioxide in the atmosphere at the peak of the last Ice Age, 20,000 years ago, when the island of Manhattan was under one kilometer of ice. By contrast, the ice and snow laid down in the 1980s show levels of carbon dioxide, methane, CFCs, nitrous oxide, and other gases responsible for the greenhouse effect higher than they have been in at least 160,000 years (as far back as the ice cores measure). CFCs are receiving particular attention because they cause not only 20 percent of the greenhouse effect but virtually all of the destruction of the ozone layer.

Something else is different about the ice layers from the 1980s—they *look* different to the naked eye because of thick, alternating layers of "hoar" ice, apparently caused by partial melting and recrystallization into larger granules. The scientists are as yet cautiously withholding judgment on whether this is the clear signal of Antarctic warming that many have anticipated.

When I say Antarctica is the frontier of the ecological crisis, I don't mean only that pollution can now be found at the remotest point on Earth. Antarctica is also the place

where both ozone destruction and global warming have their first and most dramatic impacts. It is also increasingly apparent that Antarctica plays a far more significant role than any other part of the Earth in the global climate system. For one thing, the cold waters surrounding the continent absorb more carbon dioxide from the atmosphere than all the rain forests, and create the nutrient-rich "bottom water" for most of the world ocean of which Antarctica is the epicenter. Also, aside from the sun and the rotation of the Earth, Antarctica is the single most powerful engine driving the world's weather, redistributing its massive coldness through the winds of the air and the currents of the sea. As greenhouse gases trap more heat in the Earth's atmosphere and temperatures climb, they are expected to climb fastest of all here in Antarctica, because any melting at the edge of the ice shelf is accompanied by a dramatic change in the albedo—reflectivity—of the surface exposed to sunlight. The increased absorption of the sun's rays by the ocean then magnifies the local warming trend, melting more ice at the margin and absorbing yet more radiation from the sun.

THERE ARE three potential catastrophes that scientists fear could eventually be caused by the warming of Antarctica. First, a dramatic rise in sea level. This would come not from the melting of sea ice, which is already floating in the ocean, but from a rapid breakup of the massive West Antarctic ice shelf, which scientists believe could then plop into the ocean, raising the sea level 15 to 20 feet, wiping out low-lying coastal cities and nations like Bangladesh. But this is further off than most greenhouse impacts, perhaps 200 years.

Second, something that some scientists worry could occur much sooner is a change in the ability of the Antarctic seas to absorb carbon dioxide as they get warmer. Partly because it is so cold, the southern ocean now absorbs between one-third and one-half of all carbon dioxide emissions from industrial nations. Since carbon dioxide is by far the most important greenhouse gas, we must concern ourselves not only with the rate at which our civilization produces it but also the rate at which the Earth absorbs it.

The Earth has two lungs—the forests and the southern ocean. Unfortunately, we are destroying our forests at the rate of one football field every second, an area the size of Tennessee every year. Since the oceans of the world contain 50 times as much carbon dioxide as the atmosphere, even small changes in the temperature-sensitive mechanisms by which carbon dioxide is transferred back and forth between the oceans and the air can have profound implications.

Third, scientists fear that if their predictions are correct, and temperatures at the poles increase far more rapidly than at the equator, then the very pattern of the world weather system might change. This is because the difference between temperatures at the equator and at the poles has been relatively constant for a long time. As a result, the

redistribution of heat from the equator to the poles and cold from the poles to the equator has been accomplished through an essentially constant pattern of wind and ocean

currents. If temperatures rise disproportionately in Antarctica, the equilibrium could change, creating new patterns that would redistribute less cold and more heat. Something like this once happened on a small scale in Greenland. The so-called "little ice age" beginning 500 years ago abruptly covered the southern and western agricultural areas that gave Greenland its name with the ice and snow that now make people wonder where the name came from.

Similar though larger and anthropogenic global weather changes now thought to be under way are expected to cause widespread droughts and heat waves within our children's lifetimes. Indeed, some argue they have already begun.

In spite of these enormous stakes and in spite of the central role played by Antarctica, an international scientific conference in Tasmania this fall concluded, "There is no established strategy either for early detection of climate change in Antarctica or understanding and prediction of the probable effect of climate warming on atmospheric and oceanic circulation, ice-sheet volume, and sea level."

Even at that, the scientists are further along than the politicians. Why are we waiting to act?

Perhaps partly because of the unprecedented nature of the crisis. It is simply beyond our experience and outside of what we call common sense. So we put it in the place in our minds where Antarctica exists and tag it with the same mental labels—remote, alien, hopelessly distorted by the maps of the world we inhabit, too hard to get to and too unforgiving for us to stay very long.

The real question is whether the world's political system can find a new equilibrium before the world's climate system loses its current one. Even now, the winds of change are approaching hurricane force. It took a million years for the population of the world to reach two billion. Now, in the course of a single human lifetime—mine—it is rocketing toward ten billion (and is already halfway there). Startling graphs showing the loss of forest land, topsoil, stratospheric ozone, and species all follow the same pattern of sudden, unprecedented acceleration in the latter half of the 20th century. And yet, so far, the pattern of our politics remains remarkably unchanged.

When it does come, the change will involve a new set of global goals, and a new way of thinking about ourselves, our children, and our whole world—even Antarctica.

AL GORE

Al Gore is U.S. senator from Tennessee



The Green Factor

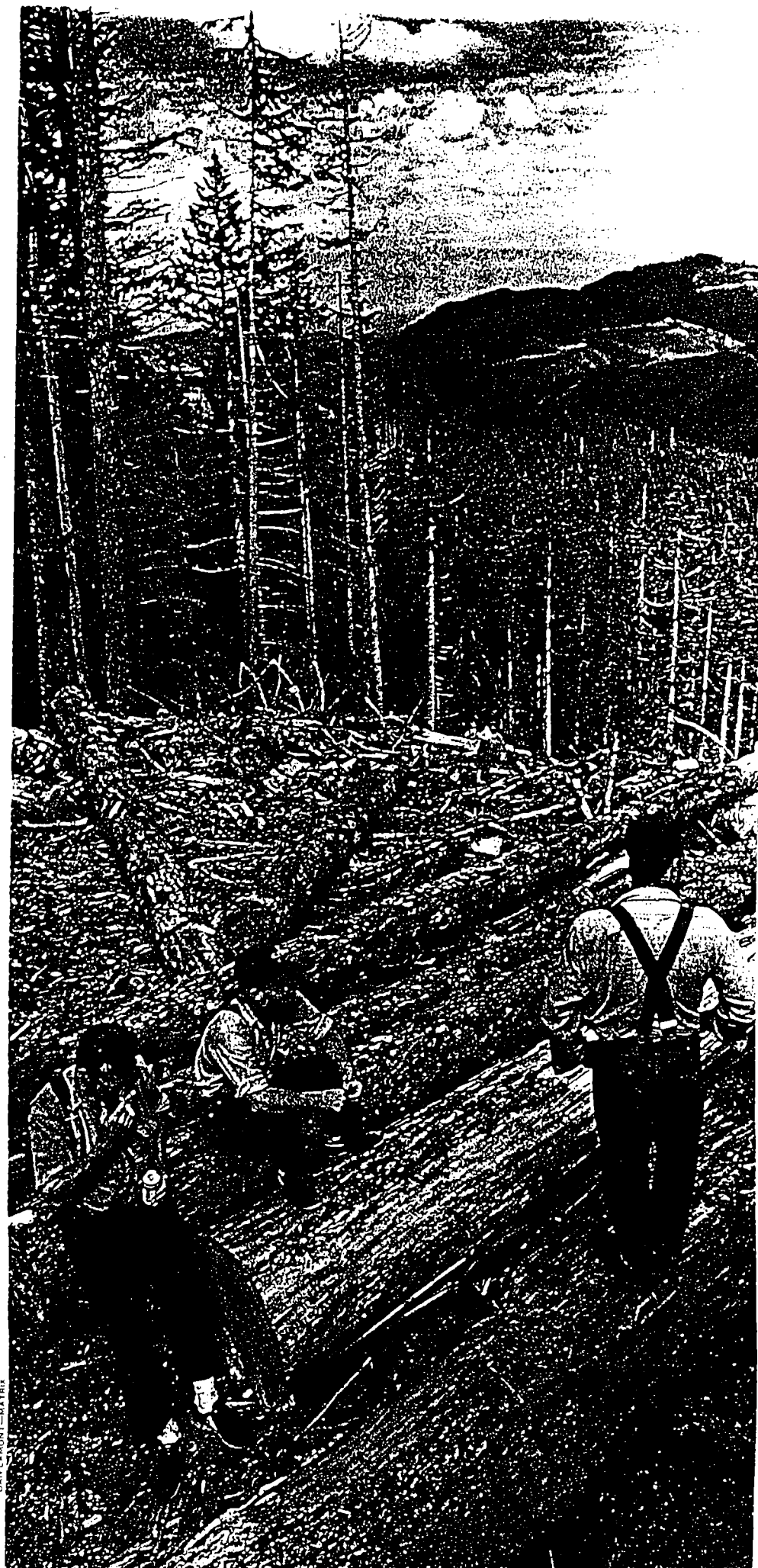
Does protecting the planet destroy jobs? Bush says yes, Clinton says no, and their running mates fight it out on the stump

By EUGENE LINDEN

WHAT HAPPENED TO THE "ENVIRONMENTAL President"? In 1988 Vice President Bush vowed to combat the greenhouse effect with the "White House effect," and mercilessly attacked Michael Dukakis for his failure to clean up Boston Harbor. But last June, President Bush played Scrooge at the Earth Summit in Brazil. In September he visited timber country in the Pacific Northwest, where he promised to lift a court-imposed injunction that has halted logging in federally owned ancient forests. His Interior Department is planning to open national forests to private strip mining. What happened between 1988 and 1992? Politics happened.

While the Administration has not entirely abandoned its green appeal—White House officials claim that Bush has done more for the environment than any other President since Teddy Roosevelt—the reelection team is betting that U.S. voters will put their anxiety over the economy ahead of their worries about the planet. Thus the Bush campaign is attempting to paint Bill Clinton as a hostage to environmental extremists who would sacrifice American jobs to mollify the tree huggers. Point man in this assault: Vice President Dan Quayle. His main target: Clinton's running mate, Al Gore.

Clinton, for his part, is betting that concern for the environment is more than



MAN VS. NATURE: loggers clear-cut a stretch of forest in Washington State

DAN LAMONT—NATURE

a fad. He has assigned Gore the mission of delivering the message that working to preserve the biosphere can create rather than cost jobs. Clinton and Gore contend that sound environmental policies can be an engine of growth that will help the American economy compete with Germany and Japan in the 1990s.

The different ways the two camps use environmental issues reflect their divergent visions about the forces that will shape America's future. The Democrats argue that environmental decisions should be an integral part of economic planning. The Republicans seem to be saying the country should address environmental problems only when it can afford to. Nowhere do these differences emerge more sharply than in the attitudes of the vice-presidential contenders.

Senator Gore, who led the congressional delegation that attended the Earth Summit in Rio, is the Senate's most committed and knowledgeable environmentalist. Last spring Houghton Mifflin published Gore's best-selling *Earth in the Balance: Ecology and the Human Spirit*, a call for Americans to take urgent action in the face of a global ecological crisis.

Vice President Quayle, by contrast, argues that existing programs to improve the environment are more than adequate, that the state of America's air, water and forests is getting better, and that further improvements will come at the expense of jobs. Quayle plays a major policymaking role in this area as chairman of the President's Council on Competitiveness, an eight-member panel that, in the name of reducing government impediments to business, has worked to loosen environmental regulations on everything from wetlands to air pollution. The council was influential in persuading President Bush, virtually alone among world leaders, not to sign a treaty to protect endangered species at the Rio conference. The Administration's argument: that the treaty would harm the U.S. biotechnology industry.

In taking aim at the Democrats' environmental policies, Quayle ridicules Gore's book as "their manifesto." As described by the Vice President, *Earth in the Balance* is a collection of lunatic proposals that calls for a \$100 billion giveaway to the Third World, recommends new taxes that would put millions out of work, compares

capitalists to Nazis and calls for the elimination of the internal-combustion engine. "It's all pretty bizarre stuff," said Quayle in a speech in Grand Rapids, Michigan, last August. "This is a view detached from reality and devoid of common sense."

In his book, Gore does call for new taxes—but only to replace old ones. The idea

is to tax ordinary workers less while making polluting industries pay the true costs of their activities. The \$100 billion figure is not a suggested giveaway but merely a computation of what the post-World War II Marshall Plan to reconstruct Europe would cost in today's dollars. The reference to Nazis is a greatly stretched interpretation of Gore's comment in the book that the failure in the past to heed the distress signals coming from the planet is analogous to the failure of the outside world to realize the seriousness of the German threat after Nazis destroyed Jewish homes and synagogues during the Kristallnacht rampage in 1936.

Gore also argues that during the next 25 years the U.S. should develop a more efficient alternative to the internal-combustion engine. It is hard to see why this is any more bizarre than sanctifying a 19th century technology as the core of American prosperity. "If Bush and Quayle want to pretend that 25 years from now our global competitors will be using the same technology on automobile engines that we are using today, they are kidding themselves," says Gore.

In Grand Rapids, Quayle attacked Gore for supporting congressional efforts to raise average fuel economy from 27 to 40 m.p.g., a move, Quayle argued, that would cost 300,000 jobs nationwide. This figure, taken from a study by the Motor Vehicle Manufacturers Association, is based on the unrealistic assumption that everyone now making a car that gets less than 40 m.p.g. would be put out of work. In contrast, a study to be released this week by the American Council for an Energy-Efficient Economy contends that improving fuel economy to 40 m.p.g. would lead to a net gain of 70,000 jobs by the year 2000. Howard Geller, executive director of the council, says fuel economy creates jobs by spurring the development of efficient new technologies for automobiles and putting money from gasoline savings into the hands of consumers. These gains, adds Geller, will more

than offset job losses in the oil business.

Gore says the jobs-vs.-environment argument is based on the same flawed logic that caused American businesses to disregard business guru W. Edwards Deming's seminal ideas on quality in past decades. "American manufacturers assumed that market forces had already perfectly balanced quality against cost and that any improvements would hurt the bottom line," says Gore. "Deming took his ideas to the Japanese, who proved that you could simultaneously improve quality and profits and proceeded to steal markets from American companies." Gore argues that Bush is now making the same mistake with pollution. The Japanese, already more energy efficient than the U.S., recognize that excessive pollution is a sign of inefficiency and that reducing pollution can help make industry more competitive. For Gore the real job of a competitiveness council would be to foster similar efforts to develop efficient technologies in the U.S.

PRESIDENT BUSH ALSO HAS ATTACKED Gore on the jobs-vs.-environment issue. During a visit to Colville, Washington, last month, he chastised the Senator for advocating protection of the spotted owl, which is endangered because 90% of its old-growth forest habitat has been cut. "It's time to put people ahead of owls," he said, and mockingly challenged Clinton to endorse Gore's book.

Though that message was obviously meant to appeal to Western voters, Bush may have miscalculated its effect. While he was applauded by the region's timber workers, many other Westerners realize that the issue of preserving the remaining fragments of old-growth forest is more complex than owls vs. lumberjacks. George Atiyeh, a former timberman and fourth-generation Oregonian, left the business after watching what clear-cuts have done to the Oregon landscape. "Either my eyes were lying, or I was kidding myself about logging being sustainable," he says. From the air, Oregon's national forests look far worse than the rain forests of Rondônia, Brazil, which has become a symbol of the wanton destruction of the Amazon. Atiyeh argues that automation and exports have cost far more jobs than the protection of endangered species has. Between 1980 and '88 the amount of timber cut in western Oregon increased 19% while timber employment fell 14%. The Administration's hard line on the environment does not appear to be winning many votes—and may even be hurting the Republicans. In a TIME/CNN poll of likely voters taken in late September, half the respondents said the loss of jobs because of environmental regulations was a "big problem." Yet when asked to choose between protecting the environment and protecting jobs, 48% chose the environ-

Is the quality of the environment getting better?

Yes 30%

No 62%

Will the government's current environmental regulations weaken or strengthen the economy in the long run?

Weaken 23%

Strengthen 27%

No effect 36%

Was Bush's statement that he would be the "environmental President" a lie?

Yes 60%

No 28%

From a telephone poll of 1,403 adult Americans taken for TIME/CNN Sept. 22-24 by Tarkenton Quincy Shuman. Sampling error is ± 2.5.

ment while 36% chose jobs. Forty percent of those questioned said they would be less likely to vote for a candidate if they disagreed with his environmental position even if they agreed on other major issues.

That could spell trouble for the President, whose credibility on the issue is not high. When asked whether they felt Bush lied when he said he would be the "environmental President," 60% said yes. The figures were larger among baby boomers (62%) and independents (63%). Even

among Republicans, 40% of those polled said he lied about his intentions. Ironically, the more Bush hammers at the jobs-vs.-environment issue, the more he seems to convince voters that he never meant to carry out his earlier promise.

Bush's advisers may have begun to weigh the political risks of their hard-line stance on environment. Last week White House chief of staff James Baker vetoed a proposal by Quayle's Competitiveness Council that would have allowed business-

es to use town dumps as disposal sites for certain hazardous wastes. Administration spokesmen have also begun to back away from another Competitiveness Council proposal that would vastly decrease the acreage now protected by wetlands legislation. The timing of all this could be coincidental. But it may be that, in the final stretch of his re-election campaign, Bush has concluded that one endangered species he would like to protect is his own presidency. ■

Preserving the 'Web of Life'

U.S. Sen. Al Gore, 43, is one of the most active defenders of the environment in Washington and is the author of a new book "Earth in the Balance." Recently he met with NEWSWEEK's Mary Hager to discuss his concerns about the global environment and what changes he believes are needed to preserve it. Excerpts:

HAGER: You saw the environment as an issue long before it was the popular thing to do. Why were you such an early convert?

GORE: I had a professor, Roger Revelle, who was the first person to measure CO₂ in the global atmosphere. I had tremendous respect for his mind and I believed him, not his critics. That was the initial seed. The issue itself pulled me deeper into an effort to understand it. Now, every time I pause to do a reality check about how serious this really is, the answer is, it is even more serious than we thought. It is a real challenge to our civilization to realize the enormity of what we're doing and then to imagine and organize an effective response. I'm reminded of the old parable of the blind man and the elephant. We see the problems of ozone depletion, global climate change, destruction of tropical rain forests, loss of biological species and ecological catastrophes like the Aral Sea, but it takes a little time to realize they are all part of the same underlying crisis.

What is that "same underlying crisis"?

A collision between industrial civilization as we presently organize it and the ecological system of the earth. Basically, three factors have led to this. The first is population, with a staggering increase in our lifetime. Second, the scientific and technological revolution has magnified our ability to affect the environment and changed the consequences of exploiting the earth as profoundly as nuclear weapons changed warfare. Third, and most important, a change in our way of thinking which began with the scientific revolution 350 years ago but was basically benign until our greater numbers and ecological power made it dangerous to the earth. That change was based on the assumption that we are separate from the earth. In fact, we are part of the web of life and we are recklessly endangering ourselves as we go about this process of destroying the ecological balance of the earth.

Al Gore



JOHN FICARA—NEWSWEEK

A leading U.S. senator says the environment will become a defining political issue around the world

Are you a voice in the wilderness, or are others beginning to see and say the same things?

The new way of thinking about our responsibility to the global environment is gaining momentum rapidly. Young people think this is the No. 1 issue facing the world. Europe has already modified its political equilibrium to take these issues into account, [and] Japan is moving so much more rapidly than we are. It is only a matter of time before our political system shifts and takes this into account. I think this must and will become the central organizing principle for the post-cold-war world.

How will that come about?

In most counties in my home state of Tennessee, the hottest single issue is where to put the new landfill or the new incinerator. The reason people get so intimately involved is they think it involves their backyard, and that overrides economic concerns. What is in the process of changing politically is the definition of "backyard." Young people under-

stand the global environment is part of their backyard. When the connection between the devastation of the global environment and our backyard is made emotionally, not intellectually, then the same intensity you see with local landfill issues will be brought to global environmental issues.

What role should governments play?

Affirmative measures by the nations of the world to address specific points will be necessary. I propose a global Marshall Plan, with Japanese and European capital helping to lead the way, to address those factors which cause the demographic transition, to make possible the development and dissemination of new technologies to substitute for the ones that are so harmful. A lot of these changes are ones we need to make for other reasons anyway. Pollution is waste. It is economic waste. It is environmental waste. Eliminate one, you eliminate the other. When enough people are committed, the transformation is going to be a lot easier than people think.

How close are we to that critical mass?

I think within a very few years—much closer than most people believe. The political equilibrium is about to shift.

Why did you write "Earth in the Balance"?

In hopes of hastening the arrival of that shift. I think we are in a race. I don't think we have that much time before we do irreparable damage to the ecological balance. The rate of loss of living species is now 1,000 times greater than any time in the last 65 million years. The accumulation of greenhouse gases is proceeding at a reckless pace. It is crazy to keep this up. We have to change the pattern of our political system before the earth's ecological system loses its current pattern. Civilization has prospered for the last 9,000 years within a global climate balance that has remained essentially unchanged. Civilization is carefully configured to that climate balance. If we change it suddenly, the consequences will be devastating and extremely difficult to cope with. The amount of suffering, loss of life, disruption in civilization's ability to move forward will be unimaginable. Some change is already built into the system, but the worst of it can be avoided.