nearly 1.3 trillion dollars, roughly one-fifth of GNP.

Missile defense critics insist that such an attack could never happen, based on the expectation that the U.S. would immediately strike back at whomever launched it with an equal fury. They point to the success of the Cold War theory of Mutually Assured Destruction (MAD). But even MAD is premised on the idea that the U.S. would ''absorb'' a nuclear strike, much like we ''absorbed'' the attack of September 11. Afterwards the President, or surviving political leadership, would estimate the losses and then employ our submarines, bombers, and remaining land-based ICBMs to launch a counterattack. This would fulfill the premise of MAD, but it would also almost certainly guarantee additional ballistic missile attacks from elsewhere.

Consider another scenario. What if a president, in order to avoid the complete annihilation of the nation, came to terms with our enemies? What rational leader wouldn't consider such an option, given the unprecedented horror of the alternative? Considering how Americans value human life, would a Bill Clinton or a George Bush order the unthinkable? Would any president launch a retaliatory nuclear strike against a country, even one as small as Iraq, if it meant further massive casualties to American citizens? Should we not agree that an American president ought not to have to make such a decision? President Reagan expressed this simply when he said that it would be better to prevent a nuclear attack than to suffer one and retaliate.

Then there is the blackmail scenario. What if Osama Bin Laden were to obtain a nuclear ballistic missile from Pakistan (which, after all, helped to install the Taliban regime), place it on a ship somewhere off our coast, and demand that the U.S. not intervene in the destruction of Israel? Would we trade Los Angeles or New York for Tel Aviv or Jerusalem? Looked at this way, nuclear blackmail would be as devastating politically as nuclear war would be physically.

ROADBLOCK TO DEFENSE: THE ABM TREATY

Signed by the Soviet Union and the United States in 1972, the Anti-Ballistic Missile Treaty forbids a national missile defense. Article I, Section II reads: ''Each Party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense, and not to deploy ABM systems for defense of an individual region except as provided for in Article III of this Treaty.'' Article III allows each side to build a defense for an individual region that contains an offensive nuclear force. in other words, the ABM Treaty prohibits our government from defending the American people, while allowing it to defend missiles to destroy other peoples.

Although legal scholars believe that this treaty no longer has legal standing, given that the Soviet Union no longer exists, it has been upheld as law by successive administrations—especially the Clinton administration—and by powerful opponents of American missile defense in the U.S. Senate.

As a side note, we now know that the Soviets violated the ABM Treaty almost immediately. Thus the Russians possess today the world's only operable missile defense system. Retired CIA Analyst William Lee, in the ABM Treaty Charade, describes a 9,000-interceptor system around Moscow that is capable of protecting 75 percent of the Russian population. In other words, the Russians did not share the belief of U.S. arms-control experts in the moral superiority of purposefully remaining vulnerable to missile attack.

HOW TO STOP BALLISTIC MISSILES

For all the bad news about the ballistic missile threat to the U.S., there is the good news that missile defense is well within our technological capabilities. As far back as 1962, a test missile fired from the Kwajaleen Atoll was intercepted (within 500 yards) by an anti-ballistic missile launched from Vanderberg Air Force Base. The idea at the time was to use a small nuclear warhead in the upper atmosphere to destroy incoming enemy warheads. But it was deemed politically incorrect—as it is still today—to use a nuclear explosion to destroy a nuclear warhead, even if that warhead is racing toward an American city. (Again, only we seem to be squeamish in this regard: Russia's aforementioned 9,000 interceptors bear nuclear warheads.) So U.S. research since President Reagan reintroduced the idea of missile defense in 1983 has been aimed primarily at developing the means to destroy enemy missiles through direct impact or ''hit-to-kill'' methods.

American missile defense research has included ground-based, sea-based and space-based interceptors, and air-based and space-based lasers. Each of these systems has undergone successful, if limited, testing. The space-based systems are especially effective since they seek to destroy enemy missiles in their first minutes of flight, known also as the boost phase. During this phase, missiles are easily detectible, have yet to deploy any so-called decoys or countermeasures, and are especially vulnerable to space-based interceptors and lasers.

The best near-term option for ballistic missile defense, recommended by former Reagan administration defense strategist Frank Gaffney, is to place a new generation of interceptors, currently in research, aboard U.S. Navy Aegis Cruisers. These ships could then provide at least some missile defense while more effective systems are built. Also under consideration is a ground-based system in the strategically important state of Alaska, at Fort Greely and Kodiak Island. This would represent another key component in a comprehensive ''layered'' missile defense that will include land, sea, air and space.

ARGUMENTS AGAINST MISSILE DEFENSE

Opponents of missile defense present four basic arguments. The first is that ABM systems are technologically unrealistic, since ''hitting bullets with bullets'' leaves no room for error. They point to recent tests of ground-based interceptors that have had mixed results. Two things are important to note about these tests: First, many of the problems stem from the fact that the tests are being conducted under ABM Treaty restrictions on the speed of interceptors, and on their interface with satellites and radar. Second, some recent test failures involve science and technology that the U.S. perfected 30 years ago, such as rocket separation. But putting all this aside, as President Reagan's former science advisor William Graham points out, the difficulty of ''hitting bullets with bullets'' could be simply overcome by placing small nuclear charges on ''hit-to-kill'' vehicles as a ''fail safe'' for when they miss their targets. This would result in small nuclear explosions in space, but that is surely more acceptable than the alternative of enemy warheads detonating over American cities.

The second argument against missile defense is that no enemy would dare launch a missile attack at the U.S., for fear of swift retaliation. But as the CIA pointed out two years ago—and as Secretary of Defense Rumsfeld reiterated recently in Russia—an enemy could launch a ballistic missile from a ship off one of our coasts, scuttle the ship, and leave us wondering, as on September 11, who was responsible.

The third argument is that missile defense can't work against ship-launched missiles. But over a decade ago U.S. nuclear laboratories, with the help of scientists like Greg Canavan and Lowell Wood, conducted successful tests on space-based interceptors that could stop ballistic missiles in their boost phase from whatever location they were launched.

Finally, missile defense opponents argue that building a defense will ignite an expensive arms race. But the production cost of a space-based interceptor is roughly one to two million dollars. A constellation of 5,000 such interceptors might then cost ten billion dollars, a fraction of America's defense budget. By contrast, a single Russian SS–18 costs approximately $100 million, a North Korean Taepo Dong II missile close to $10 million, and an Iraqi Scud B missile about $2 million. In other words, if we get into an arms race, our enemies will go broke. The soviet Union found it could not compete with us in such a race in the 1980s. Nor will the Russians or the Chinese or their proxies be able to compete today.

TIME FOR LEADERSHIP

Building a missile defense is not possible as long as the U.S. remains bound by the ABM Treaty of 1972. President Bush has said that he will give the Russian government notice of our withdrawal from that treaty when his testing program comes into conflict with it. But given the severity of the ballistic missile threat, it is cause for concern that we have not done so already.

Our greatest near-term potential attacker, Iraq, is expected to have ballistic missile capability in the next three years. Only direct military intervention will prevent it from deploying this capability before the U.S. can deploy a missile defense. This should be undertaken as soon as possible.

Our longer-term potential attackers, Russia and China, possess today the means to destroy us. We must work and hope for peaceful relations, but we must also be mindful of the possibility that they have other plans. Secretary Powell has invited Russia and China to join the coalition to defeat terrorism. This is ironic, since both countries have been active supporters of the regimes that sponsor terrorism. And one wonders what they might demand in exchange. Might they ask us to delay building a missile defense? Or to renegotiate the ABM Treaty?

So far the Bush administration has not demonstrated the urgency that the ballistic missile threat warrants. It is also troublesome that the President's newly appointed director of Homeland Security, Pennsylvania Governor Tom Ridge, has consistently opposed missile defense—a fact surely noted with approval in Moscow and Beijing. On the other hand, President Bush has consistently supported missile defense, both in the 2000 campaign and since taking office, and he has the power to carry through with his promises.

Had the September 11 attack been visited by ballistic missiles, resulting in the deaths of three to six million Americans, a massive effort would have immediately been launched to build and deploy a ballistic missile defense. America, thankfully, has a window of opportunity—however narrow—to do so now, before it is too late.

Let us begin in earnest.●

MARGARET MEAD'S 100TH BIRTHDAY

● Mrs. CLINTON. Mr. President, I ask that the following statement, and the excerpt from the Mead Centennial press release, be printed in the RECORD in honor of Margaret Mead's 100th birthday:

On December 16, Margaret Mead would have celebrated her 100th birthday. As one of New York's Senators, I am proud that Margaret Mead called New York home for so many years. New York State has such a rich history of women who have made a difference at home and throughout the world.

As my colleague Senator CHUCK HAGEL stated so well, Margaret Mead ''was an American patriot who dedicated her life to understanding the people and nations of our world. She respected the distinctiveness of various cultures . . . Margaret Mead took her responsibilities of citizenship seriously by sharing her knowledge with those engaged in public service.''

On the occasion of the Margaret Mead centennial, I hope that more of today's youth will be exposed to the lifework of this great woman, and will be inspired to learn about cultures around the world. She devoted her life to studying other cultures, and to encouraging Americans to develop a desire to learn about other cultures.

The following excerpt from a Mead Centennial 2001 press release captures Margaret Mead's accomplishments, and their relevance to our country today:

HAPPY BIRTHDAY, MARGARET MEAD: IN THE 21ST CENTURY HER IDEAS RING TRUE

''How to describe Margaret Mead? Physically, she was short and pudgy, walked with a light, firm step, wore a distinctive cape and carried a tall, forked walking stick. As an American icon, anthropologist, futurologist, environmentalist, feminist, curmudgeon, and 'grandmother to the world,' she stood for many different things in people's mind. Above all she stood for the need for Americans to understand other cultures. Since September 11, it has become clear that this is an idea that urgently needs to be reinforced.

As a young scientist, Mead traveled to Samoa, New Guinea, and Bali in the 1920s and '30s to study more 'primitive' societies, wanting to see what she, as an American and a westerner, could learn from cultures that were so different from our own. Mead's theories about adolescence, sexuality, aggression, gender roles, and education opened up new ways of thinking about our own society. In later years, she studied more contemporary cultures, but always with an eye toward learning about how better to understand ourselves and to interact in what was rapidly becoming a multicultural world. Mead's ideas and thoughts are inextricably interwoven in our fabric today, many decades after her first studies of cultures, and nearly a quarter century after her death. While some still attract lively controversy, many of the concepts we take for granted today in any discussion of cultural difference, community, peace, gender, or human rights—were brought to the forefront by Mead in the '30s, '40s, and '50s.

More than thirty books, dozens of films, and thousands of articles later, her ideas continue to thrive and inspire. Her famous admonition, 'Never doubt that a small group of thoughtful, committed citizens can change the world,' has become the motto of hundreds of community action groups. For the Centennial, more than a dozen of her books have been reissued with new and timely introductions. Many organizations and individuals across this country and around the world are taking time to remember Mead and reacquaint themselves with what she stood for, her work, and its implications for the future. The Institute for Intercultural Studies (IIS), founded by Mead in 1944, continues under the guidance of Mary Catherine Bateson, author, cultural anthropologist and Mead's only child. The Institute's mission, an increasingly important one, is to advance knowledge by creating and funding projects that are likely to affect contemporary intercultural and international relations. The IIS maintains a website, www.mead2001.org.

'If my mother were alive today, I know she would be on-line, using the internet to communicate rapidly, to gather and discuss ideas, to bring people together,' says Bateson. 'It is the continued interchange around her ideas that we hope to foster in commemorating her 100th birthday.' Happy birthday, Margaret Mead—and let intercultural and international understanding reign in this new century.''●

MESSAGES FROM THE PRESIDENT

Messages from the President of the United States were communicated to the Senate by Ms. Evans, one of his secretaries.

EXECUTIVE MESSAGES REFERRED

As in executive session the Presiding Officer laid before the Senate messages from the President of the United States submitting sundry nominations which were referred to the Committee on the Judiciary.

(The nominations received today are printed at the end of the Senate proceedings.)

REPORT ON AERONAUTICS AND SPACE ACTIVITIES FOR FISCAL YEAR 2000—MESSAGE FROM THE PRESIDENT—PM 62

The PRESIDING OFFICER laid before the Senate the following message from the President of the United States, together with an accompanying report; which was referred to the Committee on Commerce, Science, and Transportation.

To the Congress of the United States:

I am pleased to transmit this report on the Nation's achievements in aeronautics and space during Fiscal Year (FY) 2000, as required under section 206 of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2476). Aeronautics and space activities involved 11 contributing departments and agencies of the Federal Government, and the results of their ongoing research and development affect the Nation in many ways.

A wide variety of aeronautics and space developments took place during FY 2000. The National Aeronautics and Space Administration (NASA) successfully completed four Space shuttle flights. In terms of robotic space flights, there were 24 U.S. expendable launch vehicle launches in FY 2000. Five of these launches were NASA-managed missions, nine were Department of Defense (DOD)—managed missions, and eight were FAA-licensed commercial launches. In addition, NASA flew on payload as a secondary payload on one of the FAA licensed commercial launches. This year, two new launch vehicles debuted: the Lockheed Martin Atlas IIIA and the Boeing Delta III, each serving as transition vehicles leading the way for the new generation of evolved expendable launch vehicles.

Scientists also made some dramatic new discoveries in various space-related fields such as space science, Earth science and remote sensing, and life and microgravity science. In aerospace, achievements included the demonstration of technologies that will reduce the environmental impact of aircraft operations, reinvigorate the general aviation industry, improve the safety and efficiency of U.S. commercial airlines and air traffic control system, and reduce the future cost of access to space.

The United States also entered into many new agreements for cooperation with its international partners around the world in many areas of space activity.

Thus, FY 2000 was a very successful one for U.S. aeronautics and space programs. Efforts in their areas have contributed significantly to the Nation's scientific and technical knowledge, international cooperation, a healthier environment, and a more competitive economy.

GEORGE W. BUSH.

THE WHITE HOUSE, *December 19, 2001*.

MESSAGES FROM THE HOUSE

At 11:33 a.m., a message from the House of Representatives, delivered by Ms. Niland, one of its reading clerks, announced that the House has passed the following bills, in which it requests the concurrence of the Senate:

H.R. 107. An act to require that the Secretary of the Interior conduct a study to identify sites and resources, to recommend alternatives for commemorating and interpreting the Cold War, and for other purposes; to the Committee on Energy and Natural Resources.

H.R. 2187. An act to amend title 10, United States Code, to make receipts collected from mineral leasing activities on certain naval oil shale reserves available to cover environmental restoration, waste management, and environmental compliance cots incurred by the United States with respect to the reserves; to the Committee on Armed Services.