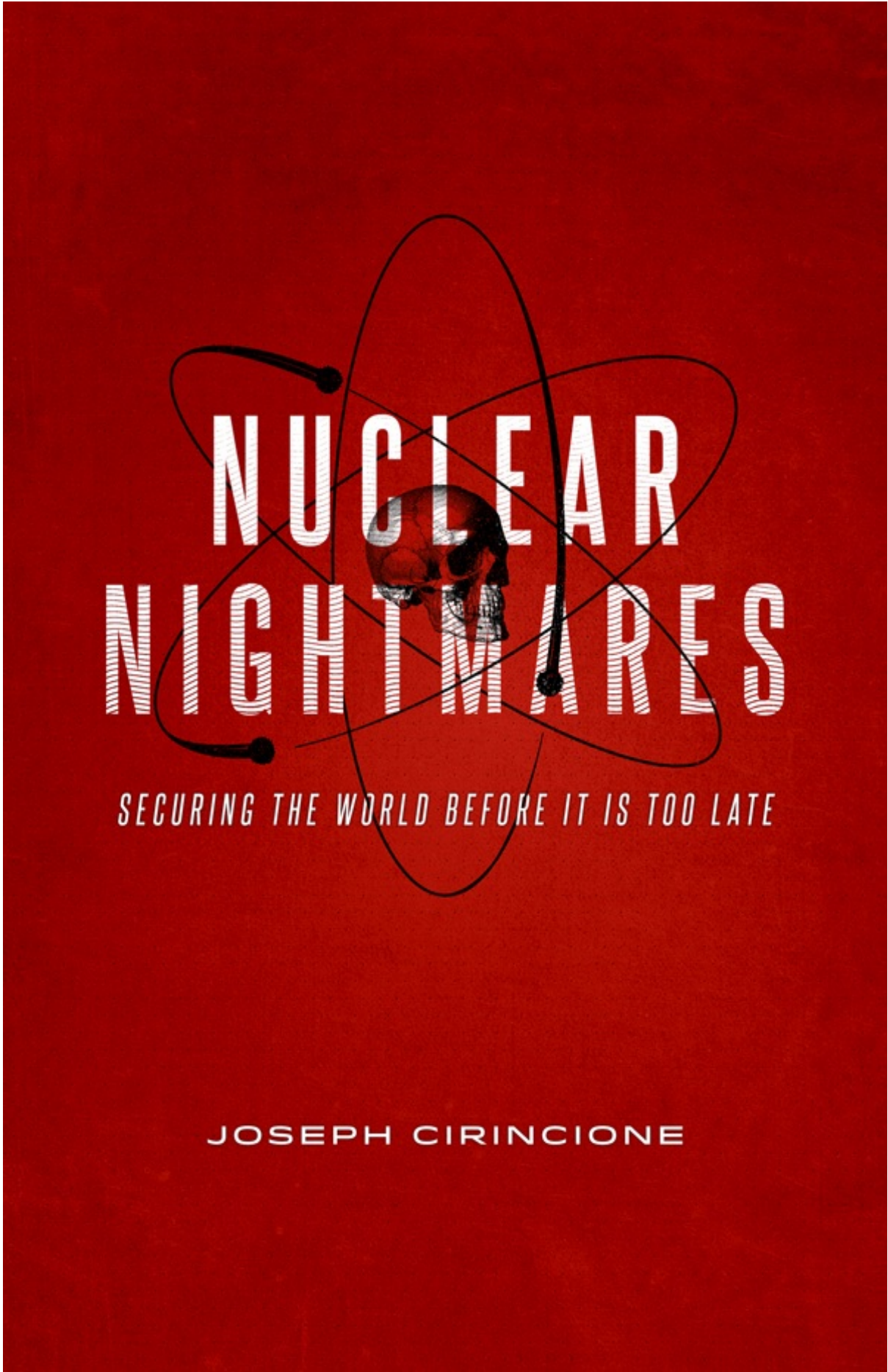


# NUCLEAR NIGHTMARES

*SECURING THE WORLD BEFORE IT IS TOO LATE*

JOSEPH CIRINCIONE





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We simply cannot allow the twenty-first century to be darkened by the worst weapons of the twentieth century.... It took decades—and extraordinary sums of money—to build those arsenals. It's going to take decades—and continued investments—to dismantle them.... It's painstaking work. It rarely makes the headlines. But I want each of you to know ... missile by missile, warhead by warhead, shell by shell, we're putting a bygone era behind us.... We're moving closer to the future we seek. A future where these weapons never threaten our children again. A future where we know the security and peace of a world without nuclear weapons.

PRESIDENT BARACK OBAMA, WASHINGTON, D.C. | DECEMBER 3,  
2012

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# INTRODUCTION

Of all the challenges we face, individually, nationally, and globally, only two threaten catastrophe on a planetary scale: global warming and nuclear weapons. Both threats stem from machines that we have made. Both are preventable, even reversible. But to do so, both require new leadership and new ways of thinking.

This is a book about one of those twin threats: the current global arsenal of 17,000 nuclear weapons and the risk of their use, whether by accident or design. Many people have forgotten about these weapons. They believe that the threat ended with the Cold War or that plans are in place that effectively prevent or contain nuclear dangers. They are wrong. These weapons, held by states large and small, stable and unstable, are an ongoing nightmare. As President John F. Kennedy's national security advisor, McGeorge Bundy, said decades ago: "A decision that would bring even one hydrogen bomb on one city of one's own country would be recognized in advance as a catastrophic blunder; ten bombs on ten cities would be a disaster beyond history; and a hundred bombs on a hundred cities are unthinkable."<sup>1</sup>

This book tries to provide a greater understanding of the current threats these weapons represent and the efforts to reduce and eliminate these dangers. In my previous book, *Bomb Scare: The History and Future of Nuclear Weapons*, I provided a primer on the technology and development of nuclear weapons and explained why countries choose to have nuclear weapons or choose not to. In two editions of *Deadly Arsenals: Nuclear, Biological, and Chemical Threats*, my coauthors and I gave detailed descriptions of the nuclear weapon programs in the nations that had them, past and present.

I try not to repeat myself here. My purpose is to provide some understanding of the spread of nuclear weapons ([chapter 4](#)), the damage they can do ([chapter 5](#)), how much they cost ([chapter 6](#)), who has the most weapons and why ([chapter 7](#)), which national arsenal poses the greatest danger ([chapter 8](#)), the connection between existing arsenals and future arsenals ([chapter 9](#)), and, finally, how we can realize feasible solutions to these threats ([chapters 10 and 11](#)).

This book, however, is in large part a story about the debate surrounding the nuclear policy of the Obama administration. I actively participate in this debate as an analyst and as the president of Ploughshares Fund, a global security foundation focused on nuclear weapons policy. I try to tell the story honestly as I see it unfolding: the promise, the successes, the failures, and the possibilities of moving toward what President Obama termed "the peace and security of a world free of nuclear weapons."

When President Barack Obama assumed office in 2009, he was determined to reboot America's national security strategy, including modernizing an outdated U.S.

nuclear weapons policy. He entered the White House with the most comprehensive, detailed nuclear plan of any president in history, including policies to end the testing of nuclear weapons, end the production of material for weapons, rapidly reduce existing arsenals, and “make the goal of eliminating all nuclear weapons a central element in our nuclear policy.”<sup>2</sup> As a member of his campaign’s nuclear policy team during 2007 and 2008, I played a small role in developing that plan. It was visionary, practical, and tough.

But the secret of the plan was that it was not really *his* plan. The proposals flowed from a nonpartisan consensus that had developed among the core of America’s security elite over the past decade. Many senior strategists—including many former cabinet members and military chiefs who had guided the build-up of the vast nuclear weapons complex—now believed that it was time to reduce that complex. Most believed nuclear weapons represented the greatest threat to our nation and to many other nations. They concluded that the country could be made safer and more secure by moving step-by-step to reduce and ultimately eliminate these arsenals.

The American people feel the same way. Poll after poll reaffirms public support for the elimination of nuclear weapons provided that it is done carefully, mutually with other nations, and verifiably. People are understandably skeptical about the feasibility of actually eliminating all nuclear weapons, but they are overwhelmingly in favor of steps to advance toward that goal. A 2004 poll by the Program on International Policy Attitudes showed that 87 percent of Americans were in favor of a treaty “prohibiting nuclear weapons test explosions worldwide.”<sup>3</sup> A November 2010 poll by the Associated Press and GfK Roper Public Affairs & Media showed that 62 percent of Americans thought no countries should have nuclear weapons—including the United States.<sup>4</sup> A mere 16 percent in that poll supported the position that only the United States and its allies should be allowed to have nuclear weapons—even though that came closest to the *de facto* U.S. position. At the height of a fierce fight in the Senate at the end of 2010 over approval of the New START treaty, 82 percent of the public in a CBS poll favored agreements to limit U.S. and Russian nuclear weapons, even more than the 77 percent who favored the same position when asked by CBS in June of 1979.<sup>5</sup> In a 2012 poll conducted in a joint effort between the Stimson Center and the Center for Public Integrity, when the American public was asked how they would cut Pentagon spending, the number one item that people wanted to cut was nuclear weapons. The general public proposed slashing 27 percent of the nuclear weapons budget, by far the biggest cut they gave to any other part of the military budget.<sup>6</sup>

Previous presidents have wanted to reduce and eliminate nuclear weapons, even during the Cold War. John F. Kennedy warned, “The weapons of war must be abolished before they abolish us.”<sup>7</sup> Ronald Reagan said, “My dream is to see the day when nuclear weapons will be banished from the face of the Earth.”<sup>8</sup> When confronted with the realities of our nuclear war plans, almost every president at some point turned to his advisors and asked “Why do we have so many of these weapons?”

The end of the Cold War and the increase in the threat of catastrophic terrorism swelled the ranks of those who believed that the liabilities now vastly outweighed whatever benefits nuclear weapons may have had in the past. Many of the cabinet officers and ambassadors from previous Republican and Democratic administrations joined together in articles, op-eds, conferences, and reports to craft the ideas President

Obama carried into the White House. Major foundations provided millions of dollars in grants to support these efforts, including Ploughshares Fund.

The emerging consensus was epitomized in part by the 2004 and 2008 presidential campaigns. In the September 2004 debate between President George W. Bush and his challenger, Senator John Kerry, when asked what was the single greatest threat to the United States, both answered “nuclear terrorism,” although they disagreed on the best strategy for confronting that threat.<sup>9</sup> By the 2008 campaign, both candidates agreed on the goal of a world free of nuclear weapons and the need, as Senator John McCain said in May 2008, “to take further measures to reduce dramatically the number of nuclear weapons in the world’s arsenals.... It is my hope to move as rapidly as possible to a significantly smaller force.”<sup>10</sup>

The new president was deeply committed to this issue, as was Vice President Joe Biden and several of their senior national security staff. In April 2009, in Prague, the capital of the Czech Republic, President Obama gave his first foreign policy speech. He chose nuclear policy as his premier issue. The plan the newly inaugurated president unfolded had integrated three key nuclear security initiatives: reduce, prevent, and secure: reduce the U.S. and Russian arsenals; prevent new states from getting nuclear weapons; and secure all loose nuclear materials to block terrorists from building a nuclear bomb.

Obama saw these three components working together; one could not be done without the others. Reductions in existing arsenals would help build the international cooperation that would encourage nations to secure the materials around the world and prevent others from getting weapons. In turn, securing materials and preventing new nuclear-armed states would help create the security conditions that would allow further reductions. These steps, taken together and repeated over time, would decrease risks and increase security.

In April, the same month Obama delivered his Prague speech, he also met in London with then-president of Russia Dmitry Medvedev. They pledged to seek a treaty to immediately reduce the levels of U.S. and Russian strategic offensive forces as a first step toward a follow-on treaty for even deeper reductions. They anticipated that this New START treaty could be reached fairly quickly. After New START, the president and his advisors thought they would consider bringing the 1996 treaty banning all nuclear tests (known as the Comprehensive Test Ban Treaty) up for approval by the Senate.

It did not work out that way. “Everything in war is very simple,” Prussian military expert Karl von Clausewitz warned, “but the simplest thing is difficult.”<sup>11</sup> His “friction” of war is present in politics as well. Or as President Obama told CBS News in July 2012, “In this office, everything takes a little longer than you’d like.”<sup>12</sup>

The Russians used the New START negotiations to air pent-up grievances. Talks dragged on. The Russians seemed to believe the propaganda of the president’s opponents that Obama was weak, naïve, and vainglorious. The Russians may have calculated that Obama would be willing to make concessions on missile defense issues in order to secure a new treaty before he traveled to Oslo in December 2009 to accept the Nobel Peace Prize. They were wrong. The president did not yield. The Russians eventually came around and in April 2010 reached agreement on a new treaty that Obama presented to the Senate. Even though the agreement restored the ability of U.S.

inspectors to examine Russian weapons (and vice versa) and was supported by the Joint Chiefs of Staff and almost every national security official from previous Republican and Democratic administrations, a major fight erupted over what should have been the rapid approval of a modest treaty making small reductions to the nuclear force.

Three sets of treaty opponents emerged. There were those who had genuine concerns about the treaty, asking honest questions that had to be answered. “What does this word mean? Are we covering this, are we not covering that?” There were also ideological opponents who would never agree to any arms-control treaty, although they were a distinct minority. The majority of the opposition was political. The basic calculation for many Republicans was “Why should we give this Democratic president a victory?” It was 2010, an election year for Congress, and it did not serve the interest of the opposition party to facilitate a major victory for the president.<sup>13</sup> The vote was delayed until after the election when, in December 2010, on the last day of the session, the Senate approved the treaty with 12 Republican votes, 71 to 26.

But by then it was too late to implement the rest of the planned agenda. Consideration of a nuclear test ban treaty would have to wait. Immediate reductions in the arsenal and other changes outlined in the administration’s Nuclear Posture Review were put on hold to focus on treaty ratification and then delayed again during the election campaign. Many of the president’s team suffered from what some termed “arms control fatigue.”<sup>14</sup> And the obstacles just got bigger. As I wrote in *Foreign Affairs* in February 2012 summing up the policy problems of 2011:

In the past year, Republican opponents and a resistant nuclear bureaucracy have stymied further progress. Contracts raced ahead of policy. Congress pushed through budgets to develop a new generation of nuclear arms before the president and the Pentagon could agree on the specifics of the new course. Unless this is reversed, in the coming decade Washington may actually spend more on the country’s nuclear weapons programs than it has in the past.<sup>15</sup>

By 2012, the presidential election was in full swing and policy was at a full stop. Every tough issue was put off until after the elections. This was not just avoiding the risk that political opponents would use a policy initiative as part of the attack on the president’s national security acumen (which it would have been). It was also the recognition that international players were hedging their bets. The Russians, the Iranians, and even our allies were waiting for the results of the November election before committing to any new agreements. Thus, the new nuclear guidance developed by the Department of Defense and the Joint Chiefs of Staff—guidance that could reduce the role, numbers, and risks of nuclear weapons—was delayed with other policies until after the elections.

President Obama’s reelection in November 2012 reopened the policy window. Brookings Institution president Strobe Talbott wrote in the weeks after the election that Obama had accomplished a great deal in his first time,

but on two challenges of existential importance, he has come up short: strengthening the global nuclear non-proliferation regime and leading an international effort to slow the process of climate change. Obama had given priority to both goals in his 2008 campaign and first inaugural address but was thwarted on both, largely because of partisan opposition in Washington.<sup>16</sup>

The president would now have the opportunity to complete the policy transformation he envisioned as a senator, campaigned on as a candidate, and began as president. He will need this extra time. Many presidents we now judge as great—Abraham Lincoln, Franklin Roosevelt, Ronald Reagan—would have been considered failures if they had served only one term. It was only in their later terms that they were able to complete what they had started or, in Reagan’s case, to turn from a massive military build-up to the most sweeping nuclear arms reductions in history, a goal he previewed in his second inaugural address. “We are not just discussing limits on a further increase of nuclear weapons,” he said on January 21, 1985. “We seek, instead to reduce their number. We seek the total elimination one day of nuclear weapons from the face of the Earth.”

Can President Obama do the same? Can he, as the *New York Times* implored him to do in February 2013, “follow through with a more sustained commitment” and not “continue to throw money at a bloated nuclear arsenal”?<sup>17</sup> Like all tales of Washington policy, this book can only catch the story in midstream. There is much undecided, much yet to be done. For that reason, we have established a special website, [www.nuclearnightmaresbook.com](http://www.nuclearnightmaresbook.com). We will post policy updates so that you can stay as current on these issues as we are.

I hope you find the story as gripping and as important as I do.



PART I  
**POLICY**

# ONE

## PROMISE

Barack Obama, a most unlikely American president, strode to the podium in Prague, a most unlikely venue, to pledge something that even some of his closest advisors thought impossible. With his speech, the new president would launch a policy initiative that would have to overcome the crises and opponents dominating the political landscape. He was keenly aware of the moment.<sup>1</sup>

A cheering crowd of several thousand people greeted President Obama and First Lady Michelle Obama as they took the stage on this early spring morning, April 5, 2009. At the base of the stage, attendees waved a flurry of small flags. Large Czech, American, and European Union flags hung behind the crowd. Attendees had been gathering since dawn for the late-morning speech. Druhá Tráva, a Czech band, opened the event with a bluegrass set, including a cover of Bob Dylan's "Girl of the North Country"—in Czech. As the audience waited for the president, recorded music from bands like Earth, Wind, and Fire and U2 echoed off the walls of the square.

The presidential podium stood in Prague's Hradcany Square, overlooking the storied, red-roofed city. Above the square towered Prague Castle, a ninth-century fortification that has been the seat of power for kings, the Holy Roman Emperor, and, today, the Czech president. Near the podium stood a statue of Thomas Masaryk, who in 1918 returned to Prague Castle as the first president of the independent Czechoslovak Republic.

In the wings to the left of the president's podium stood his corps of advisors—Press Secretary Robert Gibbs, Senior Advisor David Axelrod, National Security Council Chief of Staff Denis McDonough, and Gary Samore, the National Security Council's coordinator for preventing the proliferation of weapons of mass destruction.

The president and first lady smiled and waved to the enthusiastic crowd. Obama opened his speech by thanking the people of Prague and the Czech Republic. He reminded his audience that fifty years ago, few would have predicted that the United States would elect an African American president who would speak to an audience in Prague, in the heart of a free and united Europe. Obama said, "Those ideas would have been dismissed as dreams. We are here today because enough people ignored the voices who told them that the world could not change." The comments were welcomed with rousing applause, and the president's speech moved through its introduction.

As President Obama thanked Czech president Vaclav Klaus and prime minister Mirek Topolánek, expressing his gratitude for the hospitality of the Czech government,

he knew that beneath the formal hospitality, the Czech government was in political turmoil. The Topolánek government had collapsed amid domestic political infighting the week before President Obama's arrival. The global economic crash of 2008 partially undermined the conservative prime minister's economic positions, and public and parliamentary opposition to his agreement with the Bush administration to base antimissile weapons in the country had undercut his principal foreign policy aims. On March 24, 2009, the Czech parliament had delivered a vote of no confidence to his governing center-right coalition. The following day, the prime minister had called President Obama's plan for economic stimulus "the road to hell." The Czech leaders formally welcomed President Obama's visit. Czech domestic politics did not.

Thanks concluded, the president moved to the substance of his speech, with emotional admiration for the dramatic history of the now-democratic Czech Republic. "Few people would have predicted," he said, "that an American president would one day be permitted to speak to an audience like this in Prague." In 1948, a coup d'état had brought a communist government to power in Czechoslovakia and drawn the country into the Soviet orbit. Czechoslovakia would remain behind the "Iron Curtain" until 1989 when a student-inspired, peaceful uprising—the Velvet Revolution—brought down the communist government and led to a democratic Czech Republic. Obama continued, "Sametová Revoluce—the Velvet Revolution—taught us many things. It showed us that peaceful protest could shake the foundations of an empire, and expose the emptiness of an ideology. It showed us that small countries can play a pivotal role in world events, and that young people can lead the way in overcoming old conflicts. And it proved that moral leadership is more powerful than any weapon."

The cheers in Hradčany Square reflected Czech hopes for a new relationship with the United States. Stiff opposition had grown in the Czech Republic to U.S. plans for the anti-ballistic-missile installation. In July 2008, the Bush administration had secured the permission of governments of Poland and the Czech Republic for the construction of the antimissile weapons systems. The agreements were signed as tensions grew between Russia and Georgia, in the prelude to the Russian invasion later that August.

The Bush administration promoted the weapons as necessary to defend Europe against potential Iranian missiles. But Russia saw the missile defense agreements as a strategic challenge from NATO and the United States. And in the view of some Czech citizens, the proposed radar installation made the Czech Republic a potential Russian military target while giving them little added security. Seventy percent of Czech citizens opposed the deal, and their opinions were vocal. By March 2009, when it became clear the opposition parties could defeat the plan, the Czech prime minister who had endorsed the deal withdrew it from parliament. On the day of Obama's speech, a group of protestors wearing white masks, representing the "invisible" majority of Czechs opposing the new weapons, filled sidewalks around the city. Protestors hung banners from Prague's Charles Bridge that said, "Yes we can—say no to U.S. military base." The Czechs attending were acutely attentive to the president's words on this hot issue.

Obama's speech turned to policy. He had been in office for just over two months. He faced no shortage of pressing international issues, including the wars in Iraq and Afghanistan, a global economic crisis, climate change, and persisting tensions over

crises with Iran and North Korea. Obama reminded the crowd, “None of these challenges can be solved quickly or easily. But all of them demand that we listen to one another and work together; that we focus on our common interests, not on occasional differences; and that we reaffirm our shared values, which are stronger than any force that could drive us apart.”

President Obama shifted to the core of the speech. “Now, one of those issues that I’ll focus on today is fundamental to the security of our nations and to the peace of the world—that’s the future of nuclear weapons in the twenty-first century.”

Aboard *Air Force One* the night before the address, Robert Gibbs, Obama’s press secretary, had talked with reporters about the agenda for the president’s stay in Prague. Gen. James Jones, Obama’s national security advisor, and Denis McDonough had joined the press gaggle. Press attention had been gathering around the Prague speech in the days before the president’s visit. It was billed as a major foreign policy address that would concentrate on nuclear weapons policy. A reporter asked Gibbs for more information on the thrust of the next day’s speech. McDonough responded, “Look, the president has been very focused on these issues of proliferation for many years. So tomorrow I think you’ll hear the president outline in a very comprehensive way many of the things that he’s been talking about and working on for some time.”

Barack Obama’s concern about nuclear dangers went back to his early years. As an undergraduate at Columbia University in 1983, Obama wrote an article for the college paper titled “Breaking the War Mentality.” Obama’s article gave attention to student organizations and their efforts as they rallied support for the nuclear-freeze movement—a movement that drew one million supporters to a rally in New York City’s Central Park. Later, as a U.S. senator, Obama worked with prominent Republican senators Dick Lugar and Chuck Hagel on programs to stop the spread of nuclear weapons and prevent nuclear terrorism by securing and eliminating the global stockpiles of nuclear bomb materials. Early in his presidential campaign, in October 2007, Senator Obama said: “Here’s what I’ll say as president: America seeks a world in which there are no nuclear weapons. We will not pursue unilateral disarmament. As long as nuclear weapons exist, we’ll retain a strong nuclear deterrent. But we’ll keep our commitment under the Nuclear Non-Proliferation Treaty on the long road towards eliminating nuclear weapons.” It was a bold move for a young, relatively unknown senator to come out so far on an issue so early in a presidential campaign. Yet he carried his position on nuclear disarmament through the election. When *Time* interviewed President-elect Obama in December 2008, the reporter asked Obama what issues kept him awake at night. Obama listed nuclear proliferation third—just after the ongoing economic collapse and the wars in Iraq and Afghanistan. Obama repeatedly demonstrated his personal commitment to reducing the threat of nuclear weapons to the United States and other nations and working toward their eventual elimination. But politicians say many things while campaigning for office. The question was whether he could turn his nuclear views into policy once in the White House.

Arms-control experts and advocates anxiously anticipated the Prague speech. The question for these nongovernmental organizations was not if but how the president would say it. The broad policy points of the Obama strategy had already been outlined in the campaign. They expected that the president’s speech would announce a plan to seek a follow-on agreement to the 1991 Strategic Arms Reduction Treaty and a

timeframe for getting the nuclear test ban treaty ratified by the Senate. They knew that the president would have to address the spread of nuclear weapons to North Korea and Iran. What they did not know was how bold the president would be with his speech. Would he offer specific targets for reductions with Russia—perhaps to 1,000 weapons? Could he propose the withdrawal of tactical nuclear weapons from U.S. bases in Europe? Would he redefine the missions of the U.S. nuclear arsenal?

President Obama's moved to a more pressing tone, and he reminded his audiences of the nuclear threats we face:

Today, the Cold War has disappeared but thousands of those weapons have not. In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up. More nations have acquired these weapons. Testing has continued. Black-market trade in nuclear secrets and nuclear materials abound. The technology to build a bomb has spread. Terrorists are determined to buy, build, or steal one. Our efforts to contain these dangers are centered on a global nonproliferation regime, but as more people and nations break the rules, we could reach the point where the center cannot hold.

That very day, the world had been reminded of these threats. At four-thirty a.m. on the morning of Obama's speech, Robert Gibbs woke up the president with word that North Korea had tested a long-range ballistic missile.<sup>2</sup> The North's two-stage missile, theoretically capable of carrying a nuclear weapon, flew over Japan and splashed into the Pacific Ocean after flying 1,300 miles.<sup>3</sup>

Obama continued:

Some argue that the spread of these weapons cannot be stopped, cannot be checked—that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such fatalism is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable.

President Obama then declared:

So today, I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons. I'm not naïve. This goal will not be reached quickly—perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, "Yes, we can."

Presidents from Harry Truman on had said they wanted to eliminate nuclear weapons. But President Obama was linking that goal to a set of near-term objectives, setting out a practical policy agenda that rejected the existing Cold War paradigms.

As long as these weapons existed, he said, the United States would maintain a "safe, secure, and effective arsenal," but the point of his policy would be to "reduce the role of nuclear weapons in our national security strategy and urge others to do the same." The president pledged to negotiate a new arms reduction treaty with the Russians that year, "setting the stage for further cuts, and we will seek to include all nuclear weapons states in this endeavor." He said he would "immediately and aggressively pursue U.S. ratification for the Comprehensive Test Ban Treaty," to achieve a global ban on nuclear testing and cut off the building blocks needed for a bomb by seeking a new treaty to ban the production of the fissile material (plutonium and highly enriched uranium) for nuclear weapons. He would strengthen the barriers to new nations' getting the bomb with "real and immediate consequences for countries

caught breaking the rules.” He would “ensure that terrorists never acquire a nuclear weapon” by “a new international effort to secure all vulnerable nuclear material around the world within four years.”

There was more. Specifics on the creation of an international fuel bank so nations could not creep up to the nuclear threshold by building national uranium-enrichment facilities. He expressed his desire to negotiate in good faith with Iran and to break up the black markets that trade in nuclear technology. It was a long list, but the crowd listened patiently, even eagerly. They wanted the specifics, not just pretty words. But the president did not disappoint rhetorically. He ended with a stirring cry to action.

Now, I know that there are some who will question whether we can act on such a broad agenda. There are those who doubt whether true international cooperation is possible, given inevitable differences among nations. And there are those who hear talk of a world without nuclear weapons and doubt whether it’s worth setting a goal that seems impossible to achieve.

But make no mistake: We know where that road leads. When nations and peoples allow themselves to be defined by their differences, the gulf between them widens. When we fail to pursue peace, then it stays forever beyond our grasp.... That’s how wars begin. That’s where human progress ends....

I know that a call to arms can stir the souls of men and women more than a call to lay them down. But that is why the voices for peace and progress must be raised together....

Let us bridge our divisions, build upon our hopes, accept our responsibility to leave this world more prosperous and more peaceful than we found it. Together we can do it. Thank you very much. Thank you, Prague.

The crowd roared its approval. The music swelled, the president smiled broadly, and, with the first lady at his side, waved, shook hands, and basked in the waves of applause. The struggle for transformation had begun.