

CHAPTER 15
AMERICA, GLOBAL DOMINATION, GLOBAL
DISARMAMENT

Pervez Hoodbhoy and Zia Mian

If proof is needed that the growth of technology has far outstripped the capacities of the institutions we have to govern human society, we need look no further than the continued existence of nuclear weapons. There are over 25,000 nuclear weapons in the world today. The United States and Russia have almost 20,000 nuclear weapons between them and maintain components and nuclear materials to make many more, while the other seven nuclear-armed countries have at most a few hundred weapons each, and material stockpiled for more.

Throughout the sixty-five years since the first nuclear weapons were created and used there have been efforts to end the nuclear danger. The most visible new international campaign is called Global Zero. Over 400,000 people from around the world have signed on to the Global Zero declaration that:¹ to protect our children, our grandchildren and our civilization from the threat of nuclear catastrophe, we must eliminate all nuclear weapons globally. We therefore commit to working for a legally binding verifiable agreement, including all nations, to eliminate nuclear weapons by a date certain.

Global Zero hopes to move the nuclear-armed states to reduce their arsenals and then to eliminate all nuclear weapons by 2030. At its first meeting in December 2008, Global Zero drew over a hundred political, military, academic, business, and civic leaders from around the world. In February 2010 in Paris, the Second Global Zero Summit convened two-hundred leaders from around the world. United States' President Barack Obama, Russian President Dmitri

Medvedev and the U.N. Secretary General Ban Ki-moon sent strong statements of support. President Obama declared that Global Zero 'will always have a partner in me and my administration.'²

Can humanity finally be free of nuclear weapons? It may seem easy given that the President of the United States says he supports this goal. But therein may lie the problem. The United States now has the most powerful military forces in the world and is developing a new generation of highly sophisticated conventional weapons. This means it may not need nuclear weapons to threaten other countries. As a corollary, it is in the American interest that other countries not have nuclear weapons. But it will be difficult to convince countries that fear the United States, or a more powerful neighbour, that nuclear abolition is in their interest. For these countries, the enormous power of nuclear weapons makes them strategic equalizers against more powerful adversaries, including the United States. To abolish nuclear weapons will require addressing these concerns and will entail the United States to give up its overwhelming military superiority and its pursuit of continued global dominance.

THE AMERICAN BOMB

After the American atomic bombing of the Japanese city of Hiroshima on 6 August 1945, President Harry Truman claimed the new weapon as a fundamental breakthrough in military capability and a uniquely American achievement. The Hiroshima bomb, he said, was 'more than two thousand times the blast power of . . . the largest bomb ever yet used in the history of warfare.' The bomb was made possible, Truman announced, only because 'the United States had available the large number of scientists of distinction in the many needed areas of knowledge. It had the tremendous industrial and financial resources necessary for the project. . . . It is doubtful if such another combination could be got together in the world.' Armed with what it believed was a 'winning weapon', America set out to dominate the world.

There were voices of caution, however. Robert Oppenheimer, who had led the American atomic bomb project during World War II,

warned in November 1945 that the only hope lay in America giving up its nuclear monopoly otherwise more countries would surely follow and the nuclear danger would worsen:

I think the advent of the atomic bomb and the facts which will get around that they are not too hard to make—that they will be universal if people wish to make them universal, that they will not constitute a real drain on the economy of any strong nation, and that their power of destruction will grow.³

The newly formed United Nations embraced the goal of nuclear disarmament as its most urgent priority. The first resolution passed by the U.N. General Assembly in January 1946, was a call for plans ‘for the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction.’ But America would not give up its new weapon and Oppenheimer’s apprehensions were soon proven correct. Nuclear weapons programs sprang up in other countries. The Soviet Union tested its first bomb in 1949, Britain in 1952, and France in 1960. The destructive power of weapons increased very soon, as the atom bomb gave way to the hydrogen bomb. In 1954, the U.S. tested a hydrogen bomb with a yield which was about a thousand times larger than the atom bomb dropped on Hiroshima. The Soviet Union soon exploded a bomb that was larger still.

In 1964, China carried out its first nuclear explosion, showing that nuclear weapons were an option even for countries lacking extensive scientific, industrial or financial resources. Since then, other poor developing countries have built nuclear weapons: India, Pakistan and North Korea—overturning a common view that nuclear weapons are expensive. Making the first nuclear weapon is indeed expensive for any country as immense resources are needed to set up a nuclear establishment that prepares fissile materials, to design and fabricate a warhead, create a means of delivery such as a ballistic missile, and set up a system for command and control. But, as in industrial production, once the *n*th warhead has been put into place, the *n+1*th one costs less.

History shows that not only can poor states afford the cost, but many of their people will support paying for it. Pakistan is perhaps the classic case of how a state successfully used nationalism to convince its people that neither costs nor moral concerns about mass destruction should matter when the country feels its existence, sovereignty, or honour is at stake.

Nuclear nationalism has not carried the day, however. Progressive political movements around the world have struggled for the total elimination of nuclear weapons. They won popular support from time to time because of the fear of nuclear war and moral concerns about countries arming themselves with weapons of mass destruction. The historian of the international nuclear disarmament movement, Lawrence Wittner, has documented the great struggles against the bomb waged in the U.S. and Western Europe, the places where nuclear war was believed to be most likely and where democracy allowed political organizing.

The majority of countries have always supported the goal of nuclear abolition—they have not tried to build nuclear weapons and condemned those that would use them. In 1961 the U.N. General Assembly declared for instance that, ‘any state using nuclear and thermo-nuclear weapons is to be considered as violating the Charter of the United Nations, as acting contrary to the laws of humanity and as committing a crime against mankind and civilization.’ Similar resolutions continue to be passed each year with overwhelming support.

Faced with domestic and international demands to ban the bomb, from time to time, American leaders and those in other nuclear-armed states have offered a vision of a world without nuclear weapons. Most famously, in October 1986, President Ronald Reagan agreed with the Soviet leader Mikhail Gorbachev on the need to eliminate all nuclear weapons. Each time however these crashed on the rocks of the superpower Cold War.

Hopes for nuclear disarmament and a more peaceful world revived in the 1990s with the end of the Cold War and the collapse of the Soviet Union.

THE END OF THE COLD WAR

With the end of the Cold War and the disintegration of the Soviet Union, United States lost what had been the cornerstone of its foreign policy for almost fifty years. How was the United States going to confront this new world?

A 1992 draft Defense Planning Guidance prepared for U.S. Defense Secretary Dick Cheney by Paul Wolfowitz, then Under-Secretary of Defense for Policy, was leaked to the press. It argued: 'Our first objective is to prevent the re-emergence of a new rival. This is a dominant consideration underlying the new regional defense strategy and requires that we endeavour to prevent any hostile power from dominating a region whose resources would, under consolidated control, be sufficient to generate global power . . . we must maintain the mechanisms for deterring potential competitors from even aspiring to a larger regional or global role.'

In other words, the geopolitical order must be stabilized and the United States must maintain its relative superiority in all the different regions of the world. From the viewpoint of the White House, the Pentagon and the Congress, American military power was a critical asset in winning the Cold War. This force included thousands of bombers, fighter aircraft, missiles, and ships. There was also a global network of military bases, and agreements for basing rights in over forty countries across the world. It was important to maintain and use this power if the U.S. was to stay the world's sole superpower.

But the militarists in the United States establishment could not find a clear focus for the threats that would justify their approach. The Project for the New American Century (PNAC), a Washington-based neo-conservative think-tank founded in 1997 and supported by Dick Cheney, Donald Rumsfeld, and Paul Wolfowitz among others, who went on to serve as senior officials under President George W. Bush, called for unilateral military intervention to protect against threats to America's status as the lone global superpower. In an article in 2000 in the journal *Foreign Affairs*, Condoleezza Rice, soon-to-be Secretary of State for President George Bush, displayed

a degree of frustration and uncertainty: 'The United States has found it exceedingly difficult to define its 'national interest' in the absence of Soviet power.'⁴ She explained that foreign policy in a future Republican administration would focus the country on 'building a military ready to ensure American power, coping with rogue regimes, and managing Beijing and Moscow.'

The transformative moment for the Bush-Cheney-Rice-Rumsfeld-Wolfowitz team came in September 2001 with Al Qaeda's attack on New York's twin towers of the World Trade Centre and on the Pentagon. America went to war in Afghanistan and then Iraq. These wars however exposed the limits of American military might. The promise of a high-tech war of 'shock and awe' is now all but forgotten. The abiding images of the Iraq war, even in America, are not cruise missiles over Baghdad but torture at Abu Ghraib and the massacre at Fallujah. In Afghanistan, all anyone will remember is a brutal counter-insurgency and a corrupt and inept puppet government led by Hamid Karzai.

Today, America's failure in Iraq and Afghanistan has dampened the ardour for managing and shaping the world. Barack Obama was elected President in 2008 in part because of his opposition to the Iraq war. The blood and treasure expended in the Bush wars has taken a toll on the American economy and on America's standing in the world. A 2011 analysis by researchers at Brown University found that the wars have cost 2.3 to 2.8 trillion dollars so far.⁵ Interest payments on the debt incurred for paying for these wars will add another one trillion dollars by 2020. This military spending had helped drive the American economy into its worst recession in eighty years.

In August 2011, as a consequence of the American economic crisis, Standard & Poors downgraded the U.S. credit rating by one notch from 'triple A' to 'double A plus'. This contentious and historic move highlighted the weakened fiscal stature of the world's most powerful country. The manufacturing capacity of the U.S. has also seen a sharp fall. While it remains a top producer of advanced technology, the earlier dominance has eroded. The trade surplus in

advanced technology manufactured goods of the previous decade has turned into an \$81 billion annual trade deficit. Competition from China, Europe and India—countries that used to make only inexpensive goods at low cost—has caused manufacturing jobs to migrate overseas.

The loss of U.S. economic strength will translate into an ever more costly effort to maintain its military strength. It remains an open question as to whether the United States can learn to fade quietly by reducing its military power or whether U.S. leaders will resist their country's gradual decline and unleash instability and crisis in their effort to stem change in the world order.

For some U.S. leaders, nuclear abolition may offer a way to maintain American power in a changing world. The clearest example of the new logic is the argument laid out by Henry Kissinger, Secretary of State under U.S. President Richard Nixon; former Secretary of State George Shultz; ex-Secretary of Defense William Perry; and Sam Nunn, the former Chairman of the Senate Armed Services Committee (together known as the Four Horsemen), in a 2007 article in the conservative American newspaper, *The Wall Street Journal*. They argued that: 'North Korea's recent nuclear test and Iran's refusal to stop its program to enrich uranium—potentially to weapons grade—highlight the fact that the world is now on the precipice of a new and dangerous nuclear era. Most alarmingly, the likelihood that non-state terrorists will get their hands on nuclear weaponry is increasing. In today's war waged on world order by terrorists, nuclear weapons are the ultimate means of mass devastation . . . unless urgent new actions are taken, the U.S. soon will be compelled to enter a new nuclear era that will be more precarious, psychologically disorienting, and economically even more costly than was the Cold War.'

It was an astonishing turnaround. Kissinger, in particular, is renowned as a realist and arch cold-warrior with hawkish views on nuclear weapons; he had proposed using them in Vietnam. Although he is regarded as a senior statesman in the U.S., in several countries he is wanted for crimes against humanity, engineering U.S.-backed

coups and intrigues, and authorizing death squads. He continues to evade legal summons by investigators in France, Chile, and Argentina who seek to question him regarding his role in the disappearances of numerous citizens of the U.S. and other nations.

While advocating the 'the vision of a world without nuclear weapons,' Kissinger, Shultz, Perry, and Nunn urge that significant new investments are needed in the U.S. nuclear weapons complex 'to undo the adverse consequences of deep reductions over the past five years in the laboratories' budgets for the science, technology and engineering programs that support and underwrite the nation's nuclear deterrent.⁶ Rather than use the withering of the U.S. nuclear weapon capability to drive faster toward the goal of abolition, the 'Four Horsemen' want the United States to modernize its nuclear weapons.

Since then, the United States has committed to the modernization of its nuclear weapon complex and arsenal. The Obama administration has announced plans to spend \$175 billion on the U.S. nuclear weapon complex in the next two decades, with another \$100 billion to be spent on nuclear weapon delivery systems, including new bombers, ballistic missiles, and submarines.

It should come as no surprise that Russia has launched its own effort to maintain its arsenal for a further fifty years. Britain is considering a plan to replace its nuclear-armed submarines. China is moving to greater reliance on more modern solid-fueled road-mobile missiles and submarine-launched missiles. France has been developing a new ballistic missile and a new nuclear warhead. Israel is believed to have moved to nuclear-armed cruise missiles on its submarines. India, Pakistan, and North Korea are still developing their nuclear forces. Seeing that nuclear weapons may be around for many more decades, other countries may decide it is finally time to build their own.

PREPARING FOR THE NEXT WAR

In many ways, nuclear and conventional weapons policies under Barack Obama have continued the initiatives that emerged under

George Bush. Writing about American military power, Obama, who many hoped would pave the way to a new era in American politics, sounds just like George Bush. In a July 2007 essay, Obama wrote:

To renew American leadership in the world, we must immediately begin working to revitalize our military. A strong military is, more than anything, necessary to sustain peace. . . . We must retain the capacity to swiftly defeat any conventional threat to our country and our vital interests. . . . I will not hesitate to use force, unilaterally if necessary. . . . We must also consider using military force in circumstances beyond self-defense in order to provide for the common security that underpins global stability.⁷

This approach has been carried forward in policy. In spring 2011, Obama proposed limiting the increase in U.S. military spending over the next decade. At the same time, however, non-military spending especially on issues such as assistance to the poor would be cut. As a result, the military share of the budget will actually increase in coming years.

A similar story can be told about nuclear weapons. In 2002, the Bush administration issued a Nuclear Posture Review that identified the nuclear threats to the U.S. as coming from other nuclear-armed states, 'rogue states', and terrorists armed with weapons of mass destruction. To counter these, they argued that the U.S. needed nuclear weapons and existing conventional weapons, and to develop new conventional weapons that are able to attack a target anywhere in the world in less than 30 minutes. This capability was dubbed 'Prompt Global Strike'.

In his 2009 Prague speech President Obama echoed the language of President George Bush and of Henry Kissinger, George Schultz, William Perry and Sam Nunn in describing the nuclear threat.

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.

The Obama 2010 Nuclear Posture Review adopted the Bush goal of Prompt Global Strike. Robert Gates, who served as Secretary of Defense both for Bush and Obama observed that Prompt Global Strike really hadn't gone anywhere in the Bush administration but was being embraced by the Obama administration.

For the U.S., Prompt Global Strike is seen as enabling progress in disarmament, since precision guided conventional weapons can destroy some targets that nuclear weapons were previously to be used for. This approach is seen as having the added benefit of avoiding the high political price of using nuclear weapons.

Substituting nuclear arms with precision-guided conventional arms—which may be more useable and perhaps just as effective—carries its own costs, however. In particular, other countries which cannot match U.S. conventional weapons capabilities see them as a new threat. Even major powers like Russia and China see Prompt Global Strike and missile defense capabilities as threatening the strategic balance these countries feel they are currently maintaining with the United States.

According to a Eugene Miasnikov, a Russian defense analyst, Russian military experts see numerous threats to survivability of the strategic forces in future: missile defenses, high precision conventional arms, Anti-Submarine Warfare (ASW), etc. Their concerns grow as the United States are shifting the missions formerly assigned to nuclear weapons to conventional weapons instead of abandoning such missions altogether. Significant U.S. investments in development of conventional counterforce capabilities also do not help diminishing Moscow's concerns.⁸

China also worries about U.S. plans for advanced conventional weapons and how these may threaten its much smaller nuclear arsenal. Lora Saalman has noted that in China, U.S. conventional Prompt Global Strike, along with anti-satellite weapons, and missile defenses 'are all cited by academic, military, and scientific experts as posing long-term challenges . . . [and experts] cite the potential

that the goal of a world free of nuclear weapons may open the door to the resumption of a large-scale conventional war.’⁹

Meanwhile, China is advancing its own conventional weapons. It has recently developed a sophisticated anti-ship ballistic missile, is working on an embryonic aircraft carrier program, and made a prototype stealth fighter jet. This may serve only to spur a conventional arms race that adds further instability into the system.

NUCLEAR EQUALIZERS?

United States planners claim Prompt Global Strike is not aimed at Russia or China but to address ‘newly emerging regional threats.’ This is code for the spread of nuclear weapons to third world countries.

The U.S. has long worried that the spread of nuclear weapons would limit its freedom of action and its power to intervene in key parts of the world. Between 1945 and 2000 the U.S. fought twenty-eight major, and countless minor wars. Korea, Guatemala, Congo, Laos, Peru, Vietnam, Cambodia, El Salvador, Nicaragua, Yugoslavia, Iraq, Afghanistan and Pakistan are only some of the countries which the U.S. has invaded or bombed. The United States would have been more constrained if it had feared that nuclear weapons might be used against invading U.S. forces or against the U.S. bases that were the launch pads of these interventions. In 2003, a Bush administration official summed up this American understanding, declaring that a nuclear weapon ‘is a real equalizer if you’re a pissant little country with no hope of matching the U.S. militarily.’¹⁰

To prevent the spread of nuclear weapons, the U.S. drafted and promoted the 1970 Nuclear Non-Proliferation Treaty (NPT). Non-proliferation has had limited success in achieving its goal however. Since 1970, four countries have acquired nuclear weapons—India, Pakistan, North Korea and South Africa (which later gave them up). Several others (Iraq, Libya and perhaps Syria) have tried to acquire them and Iran may be trying to do so. This failure is one of the spurs for the new demand among some American policy makers for nuclear abolition in the United States. For them, abolishing nuclear

weapons is the price to be paid for maintaining a capacity to intervene around the world.

But for some states that have developed nuclear weapons, the attraction of these weapons is that they offer a way to balance the greater military capabilities of a foe. North Korea's government believes that its nuclear weapon protect the regime from American attack and give it bargaining power. After the 2003 U.S. invasion of Iraq, North Korea argued that 'disarmament . . . does not help avert a war, but rather sparks it' and only 'a tremendous military deterrent force' can restrain the United States.¹¹ At the same time, North Korea has agreed to give up its nuclear weapons program in exchange for U.S. diplomatic recognition, a peace treaty and economic aid.

Pakistan offers another example. It argues that nuclear weapons help the country balance both India's nuclear forces and larger conventional forces. This suggests it perceives nuclear weapons in purely defensive terms. In fact, Pakistan has used its nuclear weapons as shield from behind which it can launch attacks against India as hostilities escalate. In 1999, a secret incursion of Pakistani troops across the Line of Control (LoC) in Kashmir near Kargil caused a limited outbreak of hostilities between Pakistan and India. Thousands were killed. India was restrained from an all-out response such as an attack across the international border. It was a war that would not have happened but for nuclear weapons.

But this brief war also exposed the limitations of nuclear weapons. Once the war started, Pakistan had to back off. The cost involved in continuing the conflict was estimated to be far too great. International opinion came down decisively against Pakistan, and Pakistan lacked the economic and military resources to fight an extended war. Pakistan faced the same bitter truth that the United States confronted in Vietnam in the 1960s and 1970s, and the Soviet Union in Afghanistan in the 1980s—nuclear weapons could not prevent defeat.

Some believe that nuclear weapons can protect against the collapse of a regime. Former U.S. Vice-President Dick Cheney has

suggested that the downfall of Libya's Colonel Qaddafi offers an example of this. Cheney, who was promoting his memoirs on a television show and justifying the Iraq invasion, claimed that the invasion of Iraq and defeat of Saddam Hussein had frightened Qaddafi into giving up Libya's quest for nuclear weapons. Cheney claimed: 'If Qaddafi still had nuclear weapons last week, do you think he would have fled? I doubt it.'¹²

History tells another story, however. Libya tried to normalize its relations with the West through the 1990s and, according to U.S. officials, in 2002 Libya made clear to the United States that it wanted to settle its 'differences'.¹³ In early March 2003, well before the U.S. announced the invasion of Iraq, Libya began secret talks with the West about ending the Libyan nuclear weapons program. Moreover, even if Qaddafi had succeeded in making nuclear weapons, how would he have used them in what was a civil war—would the Libyan regime have dropped a nuclear bomb on one of its own cities? If so, would this not have surely brought down Qaddafi's regime?

Iran now poses the most visible challenge to nuclear non-proliferation. It was encouraged to acquire an expansive nuclear program by the U.S. while the Shah of Iran, Mohammad Raza Pahalavi was ruling Iran in the 1970s. The country now has two facilities for enriching uranium using gas centrifuges. One of these facilities, at Fordo, near Qom, is producing close to 20 per cent enriched uranium; for comparison highly enriched uranium in nuclear weapons is typically over 90 per cent enriched. These facilities are under international inspection since Iran is a signatory of the Non-Proliferation Treaty. The United States has claimed that Iran may have had a nuclear weapons program before 2003, but it may not have made a decision to acquire such weapons. The 2007 U.S. National Intelligence Estimate, a consensus view of its intelligence agencies, said: 'We judge with high confidence that in fall 2003, Tehran halted its nuclear weapons program.'¹⁴ This judgment was upheld in the 2010 National Intelligence Estimate, and as of 2012 remained the consensus view of U.S. intelligence agencies.¹⁵ The International Atomic Energy Agency has raised

questions about possible military dimensions of Iran's program and the United Nations Security Council has passed resolutions calling on Iran to suspend its enrichment program until it has resolved the questions from the IAEA (International Atomic Energy Agency). The Security Council has imposed sanctions on Iran for refusing to comply, as has the United States, the European Union and a number of other countries.

In a May 2012 interview, Seyyed Hossein Mousavian, former head of the Foreign Relations Committee of the Supreme National Security Council of Iran, argued that despite Western pressures, 'there is already a consensus that Iran does not need a nuclear weapon and that pursuit or possession of a nuclear weapon will compromise rather than strengthen Iranian national security. This consensus is firmly grounded in numerous *fatwas* (Islamic edicts) issued by the most senior religious authorities in the country, by the ongoing commitment to the NPT framework and numerous other strategic considerations.'¹⁶ The *fatwa*, issued in 2010 by Iran's supreme leader Ayatollah Khamenei, bans the production and use of weapons of mass destruction and was subsequently reaffirmed.¹⁷

As Mousavian details in his 2012 memoir, efforts by the Iranian government under President Khatami to negotiate with the West after the start of the crisis over Iran's nuclear program in 2002 were frustrated by the U.S. government.¹⁸ Similarly, Ambassador James Dobbins, the Bush administration's special envoy for Afghanistan, Kosovo, Bosnia, Haiti, and Somalia, has observed that:

The Khatami government had made substantial overtures of cooperation to Washington twice, first after the U.S. victory in Afghanistan, and again after the U.S. invasion of Iraq . . . encompassing offers of cooperation on nuclear technology, Iraq, terrorism, and Middle East peace as well as Afghanistan. This proposal, like its predecessor, was never seriously considered in Washington and once again the Iranians never received a response. . . . U.S. officials have never explained in any detail why they ignored the Iranian overtures of 2002 and 2003.¹⁹

Nonetheless, in 2012, against a background of tightening sanctions which limit Iran's exports of oil and undermine its domestic economy, Iran continues to negotiate with the five permanent members of the U.N. Security Council plus Germany (known as P5+1) over the status and future of the Iranian nuclear program. As part of these talks, Iran continues to insist on 'its commitments under the NPT and its opposition to nuclear weapons based on the Supreme Leader's *fatwa* against such weapons.'²⁰ What is less clear is whether the *fatwa* bans research on nuclear weapons, or if it might be revised in case of an attack on Iran by Israel and/or the United States.

NUCLEAR TERRORISM

A new twist to the nuclear danger is the possibility that violent extremists may somehow succeed in making or obtaining nuclear weapons. This is perhaps the most important new argument in favour of eliminating nuclear weapons everywhere, including those in the possession of nation states.

The United States has perhaps the most to fear. *The New York Times* reported that before September 11 the U.S. had intercepted an Al Qaeda message that Osama bin Laden was planning a 'Hiroshima' against America.²¹ In a later taped message, released just before the U.S. attack on Afghanistan, bin Laden called up the image of the bombing of Japan, claiming: 'When people at the ends of the earth, Japan, were killed by their hundreds of thousands, young and old, it was not considered a war crime; it is something that has justification. Millions of children in Iraq is something that has justification.'²²

It is not only Islamist groups that may be a threat. The Norway massacre perpetrated by Anders Behring Breivik in July 2011 is an indication of the fact that terrorism can spring from multiple ideologies. And, it is not only the U.S. that needs to fear the terrorist bomb. Religious extremists often view their co-religionists as deserving of death. Pakistan can bear witness to this. Attacks on

mosques and shrines across the country have become all too common.

The technical possibilities for nuclear attack by extremists are many. They are not limited to a bomb stolen from the arsenal of a nuclear state. The making of atomic weapons—especially crude ones—has become vastly simpler than it was at the time of the Manhattan Project. The key challenge is access to the fissile material, the highly enriched uranium or plutonium that is the key ingredient in a nuclear weapon.

Nuclear weapon materials can of course be found in the nuclear weapon states. They are also present in some non-weapon states because highly enriched uranium is used as fuel in some kinds of nuclear research reactors and a few countries produce plutonium for use as fuel in nuclear power reactors.

The risk of nuclear terrorism can be sharply reduced by ending new fissile material production, strong policing of existing stocks, and programs to reduce and eliminate nuclear weapons and fissile material stockpiles.²³ Assuring that the end of nuclear weapons is as irreversible as possible will require the end of nuclear energy.

CONCLUSION

There is great enthusiasm around the world for the goal of abolishing of nuclear weapons, and rightly so. But if the nine nuclear-armed nations are to give up their weapons and others to be dissuaded from building their own arsenals, then there must be powerful reasons which appeal both to universal principles and to narrow self-interest.

The first principle for abolition must be security for all states. Abolition of nuclear weapons cannot be built on a foundation of conventional military dominance by one or even a handful of states over all others. In particular, the United States cannot hope for both: to develop its advanced conventional Prompt Global Strike capabilities to quickly destroy targets anywhere in the world; and to have other nuclear armed states that lack such capabilities agree to eliminate their nuclear weapons.

In the long run, one must recognize that other nations can be prevented from going nuclear only if there is some semblance of equality. Efforts to stop the spread of nuclear weapons must treat all countries alike. There can be special cases, no exemptions.

The only sure way to prevent a terrorist nuclear bomb from becoming a reality is that nation states get rid of nuclear weapons and end their nuclear power programs. Some people say that even with all these measures, nuclear weapons cannot be 'dis-invented'. Hence getting rid of them is no solution because they could always be reinvented. However, in a world where states agree not to commit resources to acquire or maintain nuclear weapons, theoretical knowledge of nuclear weapons would survive but capacities to make them would atrophy. As sociologist Donald MacKenzie has noted: 'Outside of the human, intellectual, and material networks that give them life and force, technologies cease to exist. We cannot reverse the invention of the motorcar, perhaps, but imagine a world in which there were no car factories . . . where no one alive had ever driven, and there was satisfaction with whatever alternative forms of transportation existed. The libraries might still contain pictures of automobiles and texts on motor mechanics, but there would be a sense in which that was a world in which the motor car had been uninvented.'²⁴

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