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I. The nuclear age – the first 60 years

On Veterans Day in 1948 – at the dawn of the nuclear age after the devastation of Hiroshima and Nagasaki--General Omar Bradley said in a speech:

“The world has achieved brilliance without wisdom, power without conscience. Ours is a world of nuclear giants and ethical infants. We know more about war than we know about peace, more about killing than we know about living.”

It might surprise General Bradley, if he were alive today, to know that we have made it sixty years without a nuclear catastrophe. Thousands of men and women thought deeply and worked diligently on both sides of the Iron Curtain to prevent nuclear war, to avoid overreacting to false warnings and to provide safety mechanisms and joint understanding to reduce risk.

We were good, we were diligent, but we were also very lucky. We had more than a few close calls, including: the Cuban Missile Crisis of 1962; the 1979 scare when a technician at Omaha accidentally loaded a simulated attack into our warning system; the 1983 Soviet warning glitch which falsely showed 5 nuclear missiles launched against it by the U.S. India and Pakistan have already had more than one close call – and their nuclear age has just begun.

II. The nuclear age today – the tipping point

Making it through 60 years without a nuclear attack should not make us complacent. In the future, it won't be enough to be lucky once or twice. If we're to avoid a catastrophe, all nuclear powers will have to be highly capable, careful, competent, rational, and lucky – every single time.

We do have important preventive efforts underway and some successes -- including the Nunn-Lugar Cooperative Threat Reduction program, the Global Threat Reduction Initiative, the Global Initiative to Combat Nuclear Terrorism, the Proliferation Security Initiative, the rollback of Libya's nuclear program and UN Resolution 1540.

These all mark progress and potential, but from my perspective, the risk of a nuclear weapon being used today is growing, not receding. The storm clouds are gathering:

- Terrorists are seeking nuclear weapons and there can be little doubt that if they acquire a weapon that they will use it.
- There are nuclear weapons materials in more than 40 countries, some secured by nothing more than a chain link fence, and, at the current pace, it will be several decades before this material is adequately secured or eliminated globally.
- The know-how and expertise to build nuclear weapons is far more available today because of an explosion of information and commerce throughout the world.
- The number of nuclear weapons states is increasing. Iran and North Korea's nuclear programs threaten to spark a nuclear arms race in the Middle East and Asia.
- A world with 12 or 20 nuclear weapons states will be immeasurably more dangerous than today's world and make it more likely that weapons or materials to make them will fall into the hands of terrorists.
- Our worst nightmare -- the spread of nuclear capability to terrorist groups, with no return address and little way of being deterred -- will become more likely.
- With the growing interest in nuclear energy, a number of countries are considering developing the capacity to enrich uranium ostensibly to use as fuel for nuclear energy, but this would also give them the capacity to move quickly to a nuclear weapons program if they chose to do so. *The New York Times* recently reported that roughly a dozen states in the Middle East have recently turned to the IAEA for help in starting their own nuclear programs.
- Meanwhile, the nuclear giants, the United States and Russia, continue to deploy thousands of nuclear weapons on ballistic missiles that can hit their targets in less than 30 minutes -- a short warning time, prompt launch capability that carries with it an increasingly unacceptable risk of an accidental, mistaken or unauthorized launch.

The bottom line: the accelerating spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point. The world is heading in a very dangerous direction.

III. The need for a new direction

The greatest dangers of the Cold War we addressed primarily by *confrontation* with Moscow. The greatest threats we face today: catastrophic terrorism, a rise in the

number of nuclear weapons states, increasing danger of mistaken, accidental or unauthorized nuclear launch – we can prevent only in *cooperation* with Moscow, Beijing and many other capitals.

We must change direction. The good news is that I believe the security and economic interests of the great powers – the U.S., Russia, China, Europe, Japan, India – have never been more aligned. As Henry Kissinger says – “the great powers have nothing to gain by military conflict with each other. They are all dependent on the global economic system.” Old rivalries should not keep us from seeing common interests.

Both leaders and citizens here and abroad must reflect on what is at stake.

If Al Qaeda had hit the trade towers with a small crude nuclear weapon instead of two airplanes, a fireball would have vaporized everything in the vicinity. Lower Manhattan and the financial district would be ash and rubble. Tens of thousands of people would have been killed instantly. Those who survived would have been left with no shelter, no clean water, no safe food, no medical attention. Telecommunications, utilities, transportation, and rescue services would be thrown into chaos.

That would have been just the *physical* impact. If you were trying to draw a circle to mark the overall impact of the blast – in social, economic, and security terms -- the circle would be the equator itself. No part of the planet would escape the impact. People everywhere would fear another blast. Travel, international trade, capital flows, commerce would initially stop, and many freedoms we have come to take for granted would quickly be eroded in the name of security. The confidence of America and the world would be shaken to the core.

From my perspective, we are in a race between cooperation and catastrophe.

IV. The Vision of Ending This Threat to the World

With these growing dangers and stakes in mind, George Shultz, Bill Perry, Henry Kissinger and I published an article in January in *The Wall Street Journal* that called for a different direction for our global nuclear policy with both vision and steps.

We said that U.S. leadership will be required to take the world to the next stage – to a solid consensus for reversing reliance on nuclear weapons globally. We see that as a vital contribution to preventing their proliferation into potentially dangerous hands, and ultimately ending them as a threat to the world. We underscored the importance of intensive work with leaders of the countries in possession of nuclear weapons to turn the goal of a world without nuclear weapons into a joint enterprise.

We made the point that terrorist groups are “conceptually outside the bounds of a deterrent strategy” and even among states – “unless urgent new actions are taken,” the U.S. will find itself in a nuclear era “more precarious, psychologically disorienting, and economically even more costly than was Cold War deterrence.”

The four of us and the many other former security leaders who joined us are keenly aware that the quest for a nuclear weapons free world is fraught with practical and political challenges. As *The Economist* magazine wisely said last year: “By simply demanding the goal of a world without nuclear weapons without a readiness to tackle the practical problems raised by it ensures that it will never happen.”

We have taken aim at the “practical problems” by laying out a series of steps that we believe constitute the ‘urgent new actions’ for reducing the nuclear dangers and lay the groundwork for building a world free of the nuclear threat.

The specific steps are as follows:

1. The United States and Russia should move to change the Cold War posture of their deployed nuclear weapons to greatly increase warning time in both countries and ease our fingers away from the nuclear trigger.
2. Nuclear forces should be reduced substantially in all states that possess them.
3. We must eliminate short-range “tactical” nuclear weapons, the bombs most likely to be targeted for theft or purchase by terrorists – beginning with accountability and transparency between the United States and Russia.
4. We must work to bring the Comprehensive Test Ban Treaty into force – in the United States and in other key states.
5. We must secure nuclear weapons and materials around the world to the highest standards.
6. We must get control of the uranium enrichment process for civil nuclear fuel production, phase out the use of highly enriched uranium in civil commerce, and halt the production of fissile material for weapons.
7. We must redouble efforts to resolve the regional confrontations that increase demand for nuclear weapons.
8. We must enhance our verification capabilities. President Reagan’s credo “trust, but verify” has been largely forgotten. We must make at least as much effort in building verification procedures and technology as we are now making in missile defense technology.

Each step will help reverse the spread of nuclear weapons. Each step is valuable not only for its ability to inspire greater cooperation, but for its own sake. Each step represents a move in the right direction. Each step reduces the risk of nuclear use.

V. No Security Without Cooperation; No Cooperation Without Non-nuclear Vision -- The Core Argument

None of these steps can be taken by the United States alone. Strategic cooperation must become the cornerstone of our national defense against nuclear weapons. This is not because cooperation gives us a warm feeling of community, but because every other method will fail.

I have concluded that we cannot defend America without taking these steps; we cannot take these steps without the cooperation of other nations; we cannot get the cooperation of other nations without the vision and hope of a world that will someday end these weapons of mass destruction as a threat to the world.

The vision and action must go together. Without the bold vision, the actions will not be perceived as fair or urgent. Without the actions, the vision will not be perceived as realistic or possible.

This cannot happen overnight. It will be a long process, done in stages. The United States must keep our nuclear weapons as long as other nations do. But we will be safer, and the world will be safer, if we are working toward the goal of deemphasizing nuclear weapons and ultimately ridding our world of them.

VI. The vision of a world without nuclear weapons – a long and distinguished history

The vision of a nuclear-free world is not new. In his memoirs, President Reagan wrote: “For the eight years I was president, I never let my dream of a nuclear-free world fade from my mind.”

In the 1960s, at an earlier tipping point in the nuclear age, it was the vision of a nuclear weapons free world that pulled us back from the edge. It came in the form of the Nuclear Non-Proliferation Treaty. It was the grand bargain of the nuclear age, designed to limit the number of nuclear weapons-states in the world. The Treaty was built on three promises:

- The Article VI commitment of nuclear weapons states to move toward nuclear disarmament;
- The commitment of non-nuclear weapons states to forego nuclear weapons;
- The commitment that all nations should have access to nuclear technology for peaceful purposes.

This Treaty – and its vision of a world free of nuclear weapons – has been successful in keeping the number of nuclear weapons states below what almost anyone in the 1960s expected by the turn of the 20th century. But today, the Treaty is in trouble. In the eyes of its critics, the Treaty has served to enshrine the nuclear weapons

inequalities that existed the day it was signed. As they see it, those who had nuclear weapons on that day continue to keep them; those who didn't – tough luck. There can be endless argument about exactly what the Article VI commitment means and the timetable, but it must mean at least this: Nuclear weapons nations must visibly and steadily reduce their reliance on nuclear weapons. Today the world believes they are not – and that belief has a clear and increasingly negative impact on our efforts to prevent the spread and use of nuclear weapons. As IAEA Director ElBaradei recently said: “It's hard to tell people not to smoke when you have a cigarette dangling from your mouth.”

VII. The First Steps in the Ascent

Recently, former President Gorbachev endorsed the views expressed in our opinion piece, and stated: “The members of the nuclear club should formally reiterate their commitment to reducing and ultimately eliminating nuclear weapons. As a token of their serious intent, they should without delay take two crucial steps: ratify the comprehensive test ban treaty and make changes in their military doctrines, removing nuclear weapons from the Cold War-era high alert status.” I believe the world should take up President Gorbachev's challenge.

We should ask ourselves a long overdue question: “Sixteen years after the Cold War, is it in the United States' national security interest for the President of Russia to have only a few minutes to decide whether to fire his nuclear weapons or lose them in response to what could be a false warning?” How can anyone think this is in our security interest? I would hope that this question would be asked in reverse in Russia and that we would begin to ask it together.

If both the United States and Russia altered their Cold War alert postures and significantly increased warning and decision time, we could dramatically reduce the chance of an accidental, mistaken, or unauthorized launch.

The benefits of working with Russia to remove our weapons from hair trigger alert would have benefits beyond reducing the risk we pose one another. If we remove our nuclear missiles from hair-trigger – and at the same time reduce our numbers of nuclear weapons — it will strengthen our fight against the spread of nuclear weapons.

This is not because our example will inspire Iran, North Korea or al Qaeda to say “we have seen the light,” but because many more nations will be willing to join us in a firm and vigorous approach to stop the proliferation of nuclear weapons and materials and prevent catastrophic terrorism.

The power of this kind of international pressure is crucial. If a strong coalition of nations bands together, it can exert powerful economic, diplomatic and military pressure to prevent new nuclear weapons states and make it much less likely that terrorists can get the materials they need to build a nuclear weapon.

VIII. The Mountaintop

The reaction of many people to the vision and steps to eliminate the nuclear threat comes in two parts – on the one hand they say “that would be great.” And their second thought is: “we can never get there.”

To me, the goal of a world free of nuclear weapons is like the top of a very tall mountain. It is tempting and easy to say: “We can’t get there from here.” It is true that today in our troubled world we can’t see the top of the mountain.

But we can see that we are heading down -- not up. We can see that we must turn around, that we must take paths leading to higher ground and that we must get others to move with us. We can see that there are trails leading upward:

1. We can work with the Russians to remove weapons from hair trigger alert and increase warning and decision time for both Russia and the United States.
2. We can work with other nations to reduce the number of nuclear weapons in the world.
3. We can work harder and faster to secure and eliminate nuclear weapons materials that could be bought or stolen by terrorists.
4. We can agree on transparency accountability and near-term elimination of short range battlefield nuclear weapons – a terrorist’s dream.
5. We can greatly strengthen our verification capabilities.
6. We can redouble our efforts to ease regional confrontations which greatly increase the demand side of the nuclear equation.

Tough steps yes, but doable. Once we get to higher ground there will remain serious obstacles between us and the top. We must develop ironclad verification procedures and assurances for monitoring and enforcing a prohibition on nuclear weapons. We must be able to respond quickly and decisively to any attempt to cheat. Today it is very apparent that our capability in this regard needs considerable strengthening.

Both the good and bad news is that, given the big steps required to move upward, we have time to work on the transition from higher ground to the top. It is not too soon to begin.

IX. A Parable of Hope

Let me close with a parable of hope. After the collapse of the Soviet Union, when the United States began funding Russia’s work to dismantle Soviet nuclear missiles and

warheads, our countries struck a deal called the U.S. – Russian Highly Enriched Uranium Agreement.

Under this agreement which was signed in 1993, 500 tons of highly enriched uranium from former Soviet nuclear weapons is being blended down to low enriched uranium, and then used as fuel for nuclear power plants in the United States. Shipments began in 1995 and will continue through 2013. When you calculate that 20% of all electricity in the US comes from nuclear power plants, and 50% of the nuclear fuel used in the US comes from Russia through the HEU Agreement – you have an interesting fact: roughly speaking – one out of every ten light bulbs in America today is powered by material that was in Soviet nuclear warheads pointed at us a few years ago.

From swords to ploughshares. Who would have thought this possible in the 1950s, 1960s, 1970s, or 1980s? It would have certainly been seen as a mountain too high to climb.

Nearly 20 years ago, President Reagan asked his audience to imagine that “all of us discovered that we were threatened by a power from outer space—from another planet.” The President then asked: “Wouldn’t we come together to fight that particular threat?” After letting that image sink in for a moment, President Reagan came to his point: “We now have a weapon that can destroy the world -- why don’t we recognize that threat more clearly and then come together with one aim in mind: How safely, sanely, and quickly can we rid the world of this threat to our civilization and our existence.”

If we want our children and grandchildren to ever see the mountaintop, our generation must begin to answer this question.