

# per Concordiam

*Journal of European Security and Defense Issues*

## ■ EUROPEAN MISSILE SHIELD

Lisbon summit clarifies NATO position

## ■ STOPPING PROLIFERATION

Halting global spread of WMD

## ■ RUSSIA TALKS REFORM

Cooperation with the West grows

## ■ DISMANTLING NUKES

Assisting former Soviet states transfer warheads

## PLUS

Investing in Afghanistan

Liberalizing EU visa process

Kosovo conflict resolution



# UNITING BEHIND NONPROLIFERATION

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The nuclear tension that epitomized the Cold War largely dissipated with the collapse of the Soviet Union in 1991, but the problem of weapons of mass destruction, or WMD, persists. Nations are working to contain the spread of WMD in an increasingly multi-polar world, including at the Nuclear Security Summit held in Washington, in April 2010.



WHITE HOUSE PHOTO

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GEORGE C. MARSHALL  
EUROPEAN CENTER FOR SECURITY STUDIES

Welcome to the fifth issue of *per Concordiam*. This issue marks the start of the second year of the Marshall Center's informative publication initiative. Over the past year, *per Concordiam* has sought to deliver thought-provoking articles on a variety of security concerns, while presenting differing viewpoints in the hope of encouraging useful discourse. A healthy exploration of cooperative solutions to these important issues will contribute to new understanding. This edition continues the tradition by examining the regional and international security challenges of reducing weapons of mass destruction (WMD) inventories and preventing the proliferation of these weapons.

The threat of the use of WMD significantly influences the security environment today and in the foreseeable future. The world is witnessing a renewed momentum to eliminate all chemical and biological weapons, reduce nuclear arsenals and secure nuclear materials. In April 2010, the United States signed the New START treaty with Russia that limits the number of strategic arms and renews U.S.-Russian leadership on nuclear arms reductions. In the same month, world leaders convened at the Nuclear Security Summit in Washington to discuss further ways to secure nuclear materials and prevent acts of nuclear terrorism and trafficking.

While the risk of nations going to war with nuclear weapons has decreased, the risk of nonstate actors obtaining nuclear material and technology remains. The very real possibility of unsecured fissile material being stolen, smuggled and used to build WMD by a technologically savvy and well-financed terrorist cell is a growing concern.

Also, proliferation remains an international concern highlighted by Iran's development of a civilian nuclear program, about which the International Atomic Energy Agency and many individual nations have expressed misgivings. Should Iran's nuclear ambitions change to develop weapons, other nations would be expected to develop their own WMD in response. This trend would reverse recent successes and destabilize global security. We look forward to your feedback on this topic. Your thoughts and input will be included in the next two issues of *per Concordiam*.

Our next two issues are on the themes of cybersecurity and NATO's new Strategic Concept. Your contributions on these topics will allow us to continue the productive exchange of information on the many defense and security issues we face. Please contact us at [editor@perconcordiam.org](mailto:editor@perconcordiam.org)

Sincerely,

Keith W. Dayton  
Director



**Keith W. Dayton**

Director, George C. Marshall European Center for Security Studies

Keith W. Dayton retired as Lieutenant General from the U.S. Army in late 2010 after more than 40 years of service. His last assignment on active duty was as U.S. Security Coordinator to Israel and the Palestinian Authority in Jerusalem. An artillery officer by training, he also has served as politico-military staff officer for the Army in Washington, and U.S. Defense Attaché in Russia. He worked as director of the Iraqi Survey Group for Operation Iraqi Freedom in Iraq. He earned a Senior Service College Fellowship to Harvard University, and served as the Senior Army Fellow on the Council on Foreign Relations in New York. Gen. Dayton has a bachelor's degree in history from the College of William and Mary, a master's degree in history from Cambridge University and another in international relations from the University of Southern California.

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**Dr. Gregory Gleason** is a professor of security studies at the Marshall Center. He is a seminar leader for the center's Program in Advanced Security Studies and teaches course electives on "Central Asian Security" and "Security in the Caucasus." Dr. Gleason is serving at the Marshall Center while on leave from the University of New Mexico, where he has been a professor since 1988.

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**Col. Jeffrey P. Lee** is a career U.S. Army engineer. The veteran referred to in Col. Lee's article is Pvt. Russell M. Lee, his grandfather. Coincidentally, Col. Lee assisted with the removal of American chemical munitions from Europe by upgrading a railway depot in Miesau, Germany, from 1989 to 1990. Today, he serves as the Defense Threat Reduction Agency chair at the Marshall Center and educates hundreds of future leaders from Europe, Eurasia and around the globe on WMD threats and programs to counter those threats.

**Lt. Col. John D. Johnson** is a U.S. Army senior fellow assigned to the Marshall Center. He holds a bachelor's degree from Texas Christian University, a master's degree from Alliant International University, and a master's of military arts and sciences degree from the U.S. Command and General Staff College. He has served in a variety of command and staff positions with the Office of the Secretary of Defense, Department of the Army Staff, U.S. Army Europe, Multi-National Forces-Iraq (Baghdad), III Corps, U.S. Division South-Iraq (Basra), 1st Cavalry Division and 1st Infantry Division.



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# *per* Concordiam

*Journal of European Security  
and Defense Issues*

## Weapons of Mass Destruction

Volume 2, Issue 1

### George C. Marshall European Center for Security Studies LEADERSHIP

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*Director*

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*U.S. Deputy Director*

### MARSHALL CENTER

The George C. Marshall European Center for Security Studies is a German-American partnership founded in 1993. The staff of this security studies institute furthers the vision of the post-World War II Marshall Plan into the 21st century. The center promotes dialogue and understanding between European, Eurasian, North American and other nations. The theme of its resident courses and outreach events: Most 21st century security challenges require international, inter-agency and interdisciplinary response and cooperation.

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*Per Concordiam* is a professional journal published quarterly by the George C. Marshall European Center for Security Studies that addresses defense and security issues in Europe and Eurasia for military and security practitioners and experts. Opinions expressed in this journal do not necessarily represent the policies or points of view of this institution or of any other agency of the German or United States governments. All articles are written by *per Concordiam* staff unless otherwise noted. Opinions expressed in articles written by contributors represent those of the author only. The secretary of defense determined that publication of this journal is necessary for conducting public business as required of the U.S. Department of Defense by law.

The fifth issue of *per Concordiam* explores the modern security challenge of countering the proliferation of weapons of mass destruction, or WMD. Today, world leaders are taking great strides in strengthening cooperative efforts to counter the threat of the use of chemical, biological, radiological and nuclear, or CBRN, weapons by nonstate actors. To understand why preventing nuclear technology and nuclear material from falling into the hands of rogue states is high on the agendas of the United States, Russia and the European Union, one should examine the development of CBRN weapons and the Cold War legacy.

This issue of *per Concordiam* begins by presenting readers with the challenges of countering the proliferation of WMD. Marshall Center alumni Manuela-Simona Micu and Costinel Anuta explain the difficulty of controlling nuclear technology and preventing it from falling into the hands of nonstate actors and rogue states in their article, “Toward a ‘Global Zero’ World.” These difficulties were evident with the arrest and confession of A.Q. Khan, the Pakistani scientist who directly contributed to the development of the nuclear technology black market. The current reaction-oriented solutions including diplomatic pressure, economic sanctions or military strikes are less successful in the case of nonstate actors because there is no history of rational state action, financing is difficult to prevent, and military targets are elusive. As a result, the authors suggest that governments should look at preventive approaches to blocking nonstate actors’ access to nuclear technology and materials. Listed in the article are some of these initiatives targeting the “containment” of proliferation, as well as other bilateral, regional, multilateral and nongovernmental activities.

The second article includes a brief description of the nuclear age from World War II to the collapse of the Soviet Union. The development of nuclear weapons and the means to deliver them forever changed the political landscape of the world following the end of World War II. As the Cold War heated up between the United States and the Soviet Union, the strategic defense policies of both countries revolved around increasing developments in nuclear weapons as the tool to deter a future attack. The policy of nuclear deterrence drove great expenditures in manpower and economic resources in an arms race whose aftermath the world is still dealing with.

The U.S. Defense Threat Reduction Agency’s Anne Marek describes the history of the Nunn-Lugar Global Cooperative Initiative to reduce the threat of WMD in a highly informative contribution, “Dismantling the Cold War.” The initiative’s list of accomplishments illustrates the need to reduce the threat of WMD and shows what is still left to be done.

Marshall Center professor Col. Jeffrey P. Lee’s gives a descriptive World War I account of the dangers of militaries using chemical weapons in his contribution “A Deadly Legacy.” He discusses the status of the Chemical Weapons Convention in Europe and Russia, while briefly mentioning the dangers of a chemical capability in the hands of terrorists.

In his piece “Containing Nuclear Weapons,” Marshall Center professor Dr. Gregory Gleason discusses how to embrace nuclear science while restraining its dangerous applications. Dr. Gleason focuses on Central Asia’s attempt to create a successful nuclear weapon free zone among the five former Soviet republics of the region. He analyzes whether such treaties are sufficient or whether they need additional monitoring mechanisms to be effective.

This issue concludes with an article by Lt. Col. John D. Johnson, an Army Fellow at the Marshall Center. He explains why NATO has adopted the missile defense strategy called the Phased Adaptive Approach and actions required to employ the systems in phases. He addresses possible problems with Russia over the program and makes recommendations on how to proceed in his article, “Missile Shield over Europe.”

In our next issue, *per Concordiam* will explore the emerging need for regional and international cybersecurity policies to protect vital economic and defense networks. We look forward to your contributions to this pressing concern in the information age. Also, please send us your opinion on the New NATO Strategic Concept, the topic of the fall issue of *per Concordiam*.

— *per Concordiam* editorial staff

The aim of *per Concordiam* magazine is to address security issues relevant to Europe and Eurasia and to elicit a response from readers. We hope that the publication of our first four issues did that and that it also helped stimulate debate and an exchange of ideas. We welcome your feedback. Please share your thoughts with us in the form of letters to the editor that we will publish in this section. Please keep your letters as brief as possible, and specifically note the article, author and magazine edition to which you are referring. We reserve the right to edit all letters for language, civility, accuracy, brevity and clarity.

Send feedback via e-mail to:  
[editor@perconcordiam.org](mailto:editor@perconcordiam.org)



THINKSTOCK

## ARTICLE SUBMISSIONS

The intent of *per Concordiam* is to be a moderated journal with the best and brightest submitted articles and papers published each quarter. We welcome articles from readers on security and defense issues in Europe and Eurasia.

First, e-mail your story idea to [editor@perconcordiam.org](mailto:editor@perconcordiam.org) in an outline form or as a short description. If we like the idea, we can offer feedback before you start writing. We accept articles as original contributions. If your article or similar version is under consideration by another publication, or was published elsewhere, tell us when submitting the article to us. If you have a manuscript to submit but are not sure it's right for the quarterly, e-mail us to ask if we're interested.

### As you're writing your article, please remember:

- **Offer fresh ideas.** We are looking for articles with a unique approach from the region. We probably won't publish articles on topics already heavily covered in other security and foreign policy journals.
- **Connect the dots.** We'll publish an article on a single country if the subject is relevant to the region or the world.
- **Do not assume a U.S. audience.** The vast majority of *per Concordiam* readers are from Europe and Eurasia. We're less likely to publish articles that cater to a U.S. audience. Our mission is to generate candid discussion of relevant security and defense topics, not to serve as an echo chamber for U.S. foreign policy.
- **Steer clear of technical language.** Not everyone is a specialist in a certain field. Ideas should be accessible to the widest audience.
- **Provide original research or reporting to support your ideas.** And be prepared to document statements. We fact check everything we publish.
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- **Bio/photo.** When submitting your article, please include a short biography and a high-resolution digital photo of yourself of at least 300 dots per inch (DPI) resolution.

E-mail manuscripts as Microsoft Word attachments to: [editor@perconcordiam.org](mailto:editor@perconcordiam.org)

### Corrections And Clarifications:

The correct spelling of the capital of Moldova is Chisinau on the map on page 58 of V1N3.

Dr. Sharyl Cross' book review of Gordon Hahn's Russia's Islamic Threat on page 65 of V1N4 was first published in January 2009 in the Journal of Slavic Military Studies.

# SEMINAR ON COMBATING WEAPONS OF MASS DESTRUCTION/TERRORISM (SCWMD/T)

The Seminar on Combating Weapons of Mass Destruction/Terrorism provides national security professionals a comprehensive look at the fundamentals of combating weapons of mass destruction and the challenges posed by chemical, biological, radiological and nuclear, or CBRN, threats. The course is presented to civilian and military personnel in mid- and upper-level positions from all over the world.

The two-week seminar examines best practices for ensuring that participating nations have the fundamental knowledge to adhere to

international agreements related to chemical, biological, radiological and nuclear materials; to prevent unsanctioned transfer of WMD materials; and to prepare for management of the consequences of a WMD event. Unsanctioned transfer of material applies to both state and nonstate actors and proliferation of CBRN – including precursors – to terrorists.

After completion of the pilot course in 2011, SCWMD/T will likely be offered bi-annually. The course will be conducted in English only.



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## THE FOCUS

SCWMD/T provides a comprehensive professional development opportunity in one of the most challenging nexus areas of national security – combating weapons of mass destruction and terrorism. By better understanding the breadth of the challenges posed by these elements, the course seeks to improve participants' ability to address leaders at home and across the international community on the imperatives of regional, continental and global cooperation to prevent WMD proliferation and use.





## THE CURRICULUM

The SCWMD/T curriculum, which consists of lectures, seminars, case studies and a field study, is organized into five broad areas:

- Challenges posed by WMD
- Nonproliferation
- Counterproliferation
- Consequence management
- Field study

With this comprehensive framework, participants study a number of key topics:

- Chemical, biological and nuclear issues
- Interdiction and border security
- Treaties and agreements
- United Nations Security Council resolutions
- Selected case studies

During the seminar, participants will discuss the broad definition of CBRN and nonproliferation and counterproliferation of those transnational threats. Participants will also look at the pillars of a comprehensive strategy of combating weapons of mass destruction. The goal of the seminar is to enhance the skill sets of national security professionals to be better prepared to focus on the prevention of WMD proliferation and use.

## HOW TO APPLY

For application and deadline information, contact the Marshall Center Registrar at [registrar@marshallcenter.org](mailto:registrar@marshallcenter.org), your ministry point of contact or the U.S. or German embassy in your capital city.

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## OTHER MARSHALL CENTER PROGRAMS

In addition to the SCWMD/T, the Marshall Center offers five programs that examine complex national, regional and international security issues: Program in Advance Security Studies (PASS), Program in Terrorism and Security Studies (PTSS), Seminar on

Transatlantic Civil Security (STACS), Program on Security, Stability, Transition and Reconstruction (SSTaR), and Senior Executive Seminar (SES). More information on these and other Marshall Center activities is available at [www.marshallcenter.org](http://www.marshallcenter.org)



# TOWARD A “GLOBAL ZERO” WORLD

*Keeping nuclear weapons out of  
dangerous hands requires cooperation*

MANUELA-SIMONA MICU AND COSTINEL ANUTA

**T**he detonation of the first nuclear bomb (July 16, 1945) brought humanity to the Damoclesian nuclear age. Even though the human race witnessed the destructive power of the atom (August 6 and 9, 1945) and found itself on the brink of a nuclear “apocalypse” (October 1962), nuclear weapons were the main deterrent, first in the United States and Soviet Union and then in other states that joined the nuclear “club” (France, the United Kingdom and China).

The attempts to create a control mechanism over nuclear technology in terms of law and practice, starting in 1970 with the enforcement of the Non-Proliferation Treaty, have had limited impact. The 2004 confession of Pakistani A.Q. Khan regarding his contribution to the development of the nuclear technology black market emphasizes the real dimension of the nuclear “problem” in an international environment governed by uncertainty.

In these circumstances, the Prague speech of U.S. President Barack Obama (April 5, 2009) regarding nuclear disarmament and non-proliferation represents the first significant post-Cold War signal toward “peace and security of a world without nuclear weapons” (Global Zero). President Obama’s speech represents the first significant nuclear policy change, owing to the

comprehensiveness of his agenda in the nuclear field in relation to past endeavors.

Moreover, the insertion of the nuclear subject into the agenda of one of the most powerful world leaders brings with it a latent promise to eliminate nuclear weapons. The key to Global Zero rests in preventing nuclear proliferation, which has two key components — one regarding nuclear weapons per se, including means of delivery, and the other focused on preventing the spread of nuclear materials and know-how.

#### **The threat of nonstate actors**

Unfortunately, even though current assessments indicate that the first dimension is less apt to involve nonstate actors, there is evidence of an increase of nonstate actors’ role in both cases. A comprehensive analysis of these two facets, even from the nonstate actors’ perspective, does not imply only the examination of the problem raised by nuclear weapons’ existence and use (both strategic and nonstrategic/tactical). Taking into account the increased demand for nuclear energy, one must consider the security of the fissile material and nuclear know-how that could transform any state or organization into a virtual nuclear power.

Let’s start with nuclear weapons. Even though some states disagree with placing nuclear weapons in strategic



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U.S. President Barack Obama welcomes Russian President Dmitry Medvedev to the Nuclear Security Summit in Washington in April 2010. The summit offered the opportunity for the world to collaborate and cooperate on nuclear security challenges.

the strengthening of the global nuclear nonproliferation regime atop the nuclear agenda; the signing of the New START treaty; the summoning of a nuclear security summit emphasizing the need to protect fissile materials (and the summit's "mirror" version organized by Iran); and finally, results from the 2010 NPT Review Conference concerning the creation of a nuclear weapons-free zone in the Middle East.

Although treaties are reliable accountability instruments facilitating the observation of strategic nuclear weapons, the nonstrategic/tactical nuclear weapons are not properly managed. NSNWs/TNWs constitute a large percentage of the arsenals of the nuclear weapon states. Some of these tactical weapons are located in failing states<sup>3</sup> or conflict areas, a factor that increases the odds they will be acquired or stolen by nonstate actors. A number of analysts agree that the former U.S.S.R. and Pakistan represent the greatest risk of nuclear technology being transferred from state to nonstate actors.

Moreover, as a worst-case scenario, political instability within a failing state possessing nuclear technology could bring organizations with terrorist connections into the position of controlling a nuclear arsenal. Given the dilemma faced by the international community when, in May 2008, the ruling military regime of Burma initially refused to respond to offers of international aid following the catastrophic Cyclone Nargis,<sup>4</sup> it is debatable whether a human security concept such as responsibility to protect<sup>5</sup> could be invoked by the international community against a sovereign state to prevent a regional or global nuclear disaster.

### **The Khan network**

The second facet of nuclear proliferation, regarding fissile materials and nuclear blueprints, has already advanced irreversibly. Its dimensions were revealed by the detection of the Khan nuclear trafficking network, the worst lapse of international and state oversight and control over nuclear technology.

The Khan enterprise's success was mainly due to its innovative approach — to get bits and pieces of enrichment technology and equipment from small high-technology firms in the West dealing with individual components not placed on the "trigger list" of restricted exports.<sup>6</sup> After obtaining the knowledge and materials to build a nuclear bomb for Pakistan, Khan entered the business of exporting fissile material and blueprints mainly to states. Even though there is no indication that

and non-strategic categories, the distinction is necessary to delineate the possible role of nonstate actors. Among the numerous criteria used to define nonstrategic/tactical nuclear weapons (NSNWs/TNWs), two of them are most widely cited: range and yield. According to a majority of the experts, in the case of range, the NSNWs/TNWs are defined as short-range weapons, including land-based missiles with a range of less than 500 kilometers (about 300 miles) and air- and sea-launched weapons with a range of less than 600 kilometers (about 400 miles).<sup>1</sup> In the case of yield, NSNWs/TNWs typically have the explosive power of a fraction of a kiloton, while strategic weapons can produce thousands of kilotons of explosive force.

However, these criteria and the distinctions are not universally accepted. For example, France classifies all of its deployed nuclear weapons as strategic, irrespective of their ranges or yields. Moreover, the latest categorization of nuclear weapons defines nonstrategic/tactical weapons as those not covered by strategic arms control treaties, referred to as definition by exclusion.<sup>2</sup>

In 2010, nuclear-related events offered the image of a nuclear world moving in the right direction, at least at the strategic weapons level. Those events were the release by the U.S. of a Nuclear Posture Review placing



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Pakistani nuclear scientist A.Q. Khan waves outside his home in Islamabad in February 2009. The architect of Pakistan's nuclear program, Khan admitted he operated a network that spread nuclear technology to North Korea, Libya and Iran.

The U.S. Department of Defense shows the components of a B-61 nuclear bomb. Tactical nuclear weapons such as the B-61 are rarely the subject of nuclear arms limitation treaties, although the U.S. and the former Soviet Union have voluntarily reduced stockpiles of such weapons.



Khan supplied fissile materials or nuclear plans to nonstate actors, this is a scenario yet to be considered.

However, the disruption of the Khan network — positioned at some point at the center of the nuclear black market — didn't stop the illegal procurement of fissile materials and nuclear blueprints.<sup>7</sup> Studies have highlighted that these black market networks are hard to detect because of their flexibility and resilience. "They are often small and dispersed within the immense network of global business" and "the legitimate global market in nuclear dual-use goods is enormous."<sup>8</sup> The smuggling networks "typically route their illegal procurements through countries with weak or nonexistent export controls" and are "using trading companies in third countries, intermediary shippers, and complex payment schemes."<sup>9</sup> According to experts, the main goal of nonstate actors, especially terrorist organizations, is acquiring fissile materials or blueprints to build "dirty bombs" or weapons-grade HEU (highly enriched uranium) devices. Even though the term dirty bomb is widely used to describe the potential nuclear threat coming from nonstate actors, a weapons-grade HEU device would have far more destructive effects.

A dirty bomb is a device that disperses a radiological isotope, intending to slowly expose as many people as possible to radiation and prolong their exposure. Most experts emphasized that,

despite the panic associated with a dirty bomb attack, the threat does not have the same implication as the detonation of a nuclear weapon.<sup>10</sup> Meanwhile, a sufficient quantity of weapons-grade HEU<sup>11</sup> could hypothetically fit into a crude gun-type device that could possibly, with a high degree of luck, achieve a yield of a few kilotons.<sup>12</sup>

Even though a dirty bomb or HEU bomb have not been used, one can witness their effects in some accidental misuse of radiological isotopes. For example, in 1987 in Goiania, Brazil, a tiny radiotherapy capsule of cesium was accidentally broken after it was scavenged from an abandoned hospital site and contaminated more than 1,000 people (4 died and 244 were found with significant radioactive material in or on their bodies). The costs of cleanup topped \$100 million.

The most important feature regarding access of nonstate actors to nuclear material is connected to those players' rationality.<sup>13</sup> Despite the fact that even in the case of states one can talk only about bounded rationality, the rationality of nonstate actors in the nuclear game is mostly nonexistent, especially in light of suicide terrorism. Moreover, a "nonstate" equation cannot take into account the balancing function of nuclear deterrence — state actors' nuclear weapons cannot deter an enemy hidden within the civilian population, while the use of nuclear devices by nonstate actors is a terrifying perspective for inherently exposed population centers.

#### **Working alone: Not an option**

Therefore, in the light of the discussion above, it is evident that state involvement is not enough to track, monitor and secure nuclear weapons and fissile materials. Actually, there is a paradox

regarding the role of the state in nuclear affairs — the nuclear market is opening for nonstate actors, and the only way of containing this trend is through a multinational or international framework. Also, reactive solutions such as diplomatic pressure, economic sanctions or military strikes are less successful in the case of nonstate actors planning or carrying out nuclear attacks. There is no rational interlocutor, their financing is ensured through a complex network and there is no fixed military target to strike.

As a result, state actors should look to block nonstate actors' pursuit of nuclear technology and materials. Many initiatives target the containment of proliferation, irrespective of its alleged beneficiaries, state or nonstate: the International Atomic Energy Agency (IAEA), the Nuclear Suppliers Group (NSG), the Proliferation Security Initiative (PSI), the Global Initiative to Combat Nuclear Terrorism (GICNT), the G-8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction, as well as other bilateral, regional, multilateral and nongovernmental activities.

Because all of these initiatives are pieces of a de-synchronized web, the main ingredient of a new approach would be networked information management. For this purpose, the initiatives could rally around the IAEA and the "Work Plan of the Washington Nuclear Security Summit," released April 13, 2010. A functional network built out of these initiatives and having as a center of gravity the IAEA would allow the use of a wide range of instruments to counter proliferation even in the case of nonstate actors, ranging from prevention and monitoring to consequence management actions. On the other hand, the IAEA should consider developing partnerships with transnational and national law enforcement organizations to track individuals or organizations interested in nuclear technology and materials.

Other potential measures envision new mechanisms to manage fissile materials (international fissile fuel banks); the establishment of nuclear weapon-free zones, especially in areas covered by failing or failed states (on the model initiated during the 2010 NPT Review Conference); or intelligence cooperation, even conducting multinational specialized covert intelligence operations. Moreover, irrespective of the global economic crisis, these approaches should be supported financially.

However, bilateral or multilateral agreements among states such as START and NPT envision, at least for the medium-term, a reduction of nuclear arsenals, not the complete abandonment of their use as

a deterrent. Although most countries support the goal of a nuclear-free world, they reiterate the deterrent role of nuclear weapons. We are observing a transition from Nuclear Primacy to Post-Existential Deterrence,<sup>14</sup> a replacement of the logic of "missile deters missile, bomber deters bomber, submarine deters submarine" with the logic "factory would deter factory, blueprint would deter blueprint, equation would deter equation."<sup>15</sup> An extended debate on the role of nuclear energy is taking place. Meanwhile, an extended debate on the role of nuclear energy is also taking place and the solutions such as a nuclear weapon-free zone in the Middle East will have to overcome the "traditional" logic of arms races in the region, a problem highlighted by Iran's nuclear efforts. □

1. Sokov, Nikolai, Tactical Nuclear Weapons (TNW), Center for Nonproliferation Studies, Monterey Institute of International Studies, 2002, [http://www.nti.org/e\\_research/e3\\_10a.html](http://www.nti.org/e_research/e3_10a.html), accessed September 2010.

2. Woolf, Amy F., Nonstrategic Nuclear Weapons, Congressional Research Service's Report for Congress, 2010, <http://www.fas.org/sgp/crs/nuke/RL32572.pdf>, accessed September 2010.

3. Sokov, Nikolai, op.cit.

4. Cyclone Nargis and its tidal surge devastated the Irrawaddy Delta, directly killing more than 130,000 people and putting scores of thousands more at risk from disease, starvation and exposure.

5. From a new approach to intervention on human protection grounds ("The Responsibility to Protect," Report of the International Commission on Intervention and State Sovereignty, 2001), the responsibility to protect became an "emerging" norm, "exercisable by the Security Council authorizing military intervention as a last resort, in the event of genocide and other large scale killing, ethnic cleansing or serious violations of international humanitarian law which sovereign Governments have proved powerless or unwilling to prevent" ("A More Secure World: Our Shared Responsibility," report from the Secretary-General's High-Level Panel on Threats, Challenges and Change, 2004).

6. Clary, Christopher O., The A.Q. Khan network: causes and implications, Naval Postgraduate School Monterey, 2005, <http://www.fas.org/irp/eprint/clary.pdf>, accessed September 2010.

7. According to the IAEA Illicit Trafficking Database, (ITDB) in the period 1993-2008 there were 1,562 confirmed incidents, out of which 336 incidents involved unauthorized possession and related criminal activities, 421 incidents involved reported theft or loss, and 724 incidents involved other unauthorized activities and events (most of them concentrated in the period 2005-2008). In the remaining 81 cases the reported information was not sufficient to determine the category of incident. In 2004-2008, the share of incidents involving theft or loss with unrecovered materials has increased to about 73 percent.

8. Albright, David, Brannan, Paul, Scheel Stricker, Andrea, Detecting and Disrupting Illicit Nuclear Trade after A.Q. Khan, [http://www.twq.com/10april/docs/10apr\\_AlbrightBrannanStricker.pdf](http://www.twq.com/10april/docs/10apr_AlbrightBrannanStricker.pdf), accessed September 2010.

9. Idem.

10. Stewart, Scott, Dirty Bombs Revisited: Combating the Hype, STRATFOR Global Security & Intelligence Report, 2010, [http://www.stratfor.com/weekly/20100421\\_dirty\\_bombs\\_revisited\\_combating\\_hype](http://www.stratfor.com/weekly/20100421_dirty_bombs_revisited_combating_hype), accessed September 2010.

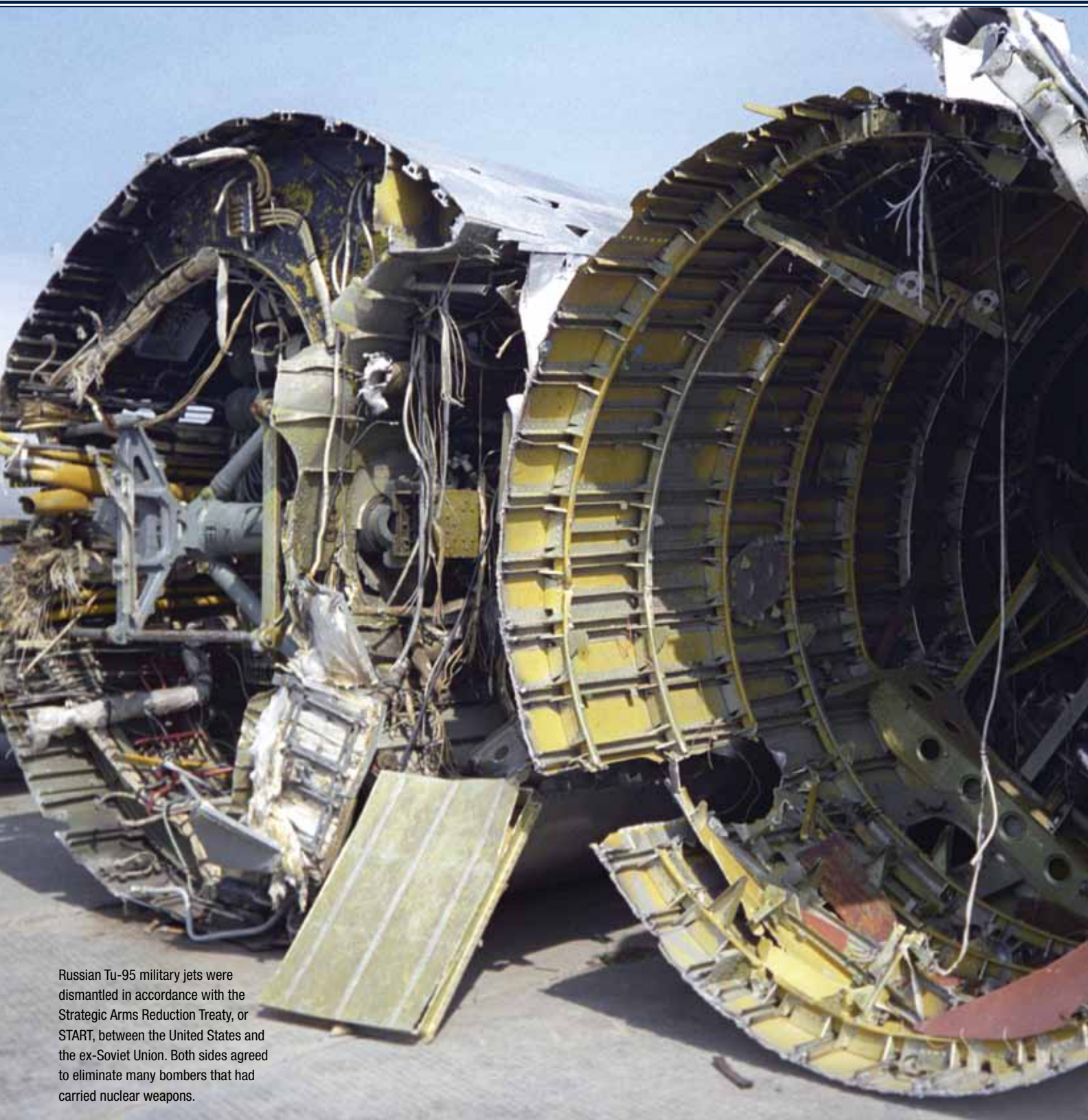
11. Highly Enriched Uranium that contains at least 80 percent of the isotope Uranium 235 and is usable in a nuclear device.

12. Nuclear Weapons: Terrorism and the Nonstate Actor, STRATFOR Analysis, 2008, [http://www.stratfor.com/analysis/nuclear\\_weapons\\_terrorism\\_and\\_nonstate\\_actor](http://www.stratfor.com/analysis/nuclear_weapons_terrorism_and_nonstate_actor), accessed September 2010.

13. "Bounded rationality is a school of thought about decision making that developed from dissatisfaction with the 'comprehensively rational' economic and decision theory models of choice. [...] Like comprehensive rationality, bounded rationality assumed that actors are goal-oriented, but bounded rationality takes into account the cognitive limitations of decision makers in attempting to achieve those goals." (Jones, Bryan D., Bounded Rationality, Annual Review of Political Science 1999, 2:297-321)

14. Sauer, Tom, A Second Nuclear Revolution: From Nuclear Primacy to Post-Existential Deterrence, Journal of Strategic Studies, vol.32, no.5, October 2009, pp.745-766, <http://www.ua.ac.be/download.aspx?c=tom.sauer&n=52713&ct=52296&e=213945>, accessed September 2010.

15. Jonathan Schell, The Abolition, Picador, 1984, pp.119.



Russian Tu-95 military jets were dismantled in accordance with the Strategic Arms Reduction Treaty, or START, between the United States and the ex-Soviet Union. Both sides agreed to eliminate many bombers that had carried nuclear weapons.



AGENCE FRANCE-PRESSE

# *De-Escalation in the* Post-Cold War

*Nonproliferation is key to peace  
as Cold War rivalries fade*

Story by *per* Concordiam Staff

**A**t a time when rogue regimes pursue atomic bombs and nations confront the threat of nuclear proliferation, the former nuclear standoff of the Cold War represents an era of relative stability for many. Even accounting for a dose of Nuclear Age-nostalgia and historical amnesia, there is some truth to the claim that the world was a more predictable place when it was strategically split between two rival superpowers.

For all of the fears it inspired, the doctrine of Mutually Assured Destruction managed to keep the relative peace for decades, most prominently between the United States and the Soviet Union. A world power tempted to launch nuclear weapons had to contend with an almost inevitable response from its adversaries. It was a price no nation was willing to pay. The expansion of Soviet and U.S. nuclear capability in the 1960s and 1970s — when strategic warheads multiplied by the thousands in missile silos and aboard submarines and long-range bombers — raised questions of overkill resulting in the first of several arms control agreements such as Strategic Arms Limitation Treaty I.

But after the collapse of the USSR in 1991, the former bipolar world fragmented. World leaders expressed unease that nuclear stockpiles once safely tucked away inside the Soviet empire would become fodder for international smugglers. Americans and Russians took comfort that their nations had ceased pointing Intercontinental Ballistic Missiles at one another, though they soon recognized the growing threat of nuclear proliferation in the new multipolar world, epitomized by the ambitions of nations such as North Korea and Iran.

The task facing NATO, and the international community at large, is clear but difficult: Rebuild a disarmament and nonproliferation regimen in a world no longer bound by the rules of old U.S.-Soviet conflict. Progress has been steady, if incomplete. Leading by example, the U.S. and Russia have spent 20 years slashing their stockpiles of nuclear weapons. The latest arms control agreement, the New START treaty signed by Russian President Dmitry Medvedev and U.S. President Barack Obama in 2010, mandates a reduction of one category of nuclear weapon — strategic warheads attached mostly to missiles — to 1,550 in each country.

The specter of nuclear material falling into the hands of international terrorists has prompted NATO to refocus on this nontraditional threat. The Alliance's most recent dissertation on the topic appeared with the 2009 publication of the "Comprehensive, Strategic-Level Policy for Preventing the Proliferation of Weapons of Mass Destruction and Defending against Chemical, Biological, Radiological and Nuclear Threats." Two recent nuclear-related incidents — Moldovans trying to smuggle 2 kilograms of processed uranium and an al-Qaida sympathizer suspected of spying within the European Organization for Nuclear Research — suggest the Alliance's emphasis on nonproliferation is well founded.

## Roots of U.S.-Russia Cooperation

Ever since the Soviet Union acquired atomic weapons in the late 1940s, ending the U.S.'s brief monopoly of "the bomb," no disarmament talks could neglect that mutual standoff. When the Soviet system dissolved in 1991, the U.S. and USSR could have destroyed each other many times over. Experts estimated the rivals' nuclear warhead strength at 35,000 for the ex-Soviet Union and 20,000 for the U.S. Unilateral and bilateral deals carried out by U.S. presidents George H.W. Bush and Bill Clinton, on the one hand, and Mikhail Gorbachev and Boris Yeltsin, on the other hand, brought about disarmament on a vast scale. The best known of those treaties was 1991's

Strategic Arms Reduction Treaty, or START. Though the treaty focused on long-range strategic weapons, most of the nuclear bombs deactivated and dismantled in the 1990s were tactical weapons, including low-kiloton nuclear artillery and short- and intermediate-range missiles no longer needed as the threat of land war in Central Europe dissipated. In a largely symbolic gesture, both nations took the step of "de-targeting" each other's cities.

But the fragmentation of the once-tightly controlled Soviet nuclear arsenal provoked fears of proliferation. The splintering of the Soviet Union into independent states required the evacuation of nuclear weapons from new nations such as Kazakhstan, Belarus and the Ukraine, a mission largely completed with the help of NATO members by the late 1990s. As the nearest thing to a successor state to the old USSR, Russia retained much of the old Soviet nuclear force. The September 11, 2001, attacks on the World Trade Center in New York and the Pentagon in Virginia raised awareness of the threat of weapons of mass destruction should they fall into the hands of terrorists. World leaders were quick to recall a 1998 promise by al-Qaida leader Osama bin Laden that it was his Islamic duty to acquire WMDs. Through agreements such as the Nunn-Lugar Cooperative Threat Reduction Program, the U.S. provided billions of dollars in assistance to secure Soviet nuclear weapons, going as far as to buy hundreds of tons of highly-enriched Russian uranium for use in U.S. nuclear power plants. The goal was to dispose of dangerous material that could otherwise arm thousands of nuclear weapons.

In 2002, the Moscow Treaty between presidents George W. Bush and Vladimir Putin, followed by NATO's Rome Summit, attempted to solidify and extend the arms control gains of the preceding decade. After signing the Moscow agreement, Bush spoke of his hopes for a world secure from the scourge of a renewed nuclear arms race: "This is a historic and hopeful day for Russia and the United States, a hopeful day also for the world as a

whole. It liquidates the legacy of the Cold War and the nuclear confrontation of our countries."

## Proliferation Risks

But as the U.S. and Russia made history by recommitting themselves to de-escalation, the threat of proliferation, including the sale of nuclear material on the black market, refused to recede. During the Cold War, the most concrete step to stem the spread of nuclear weapons was the Nuclear Non-Proliferation Treaty of 1968, ultimately signed by 189 nations, including the U.S. and then-USSR. The treaty stresses not only nonproliferation and disarmament but also the peaceful use of nuclear energy under the guidance of the International Atomic Energy Agency. Moscow invoked the peaceful use clause as it assisted Iran's nuclear program, a sticking point left unresolved by the Bush-Putin treaty. NATO continues to offer proof that Iran is a terror-sponsoring regime more interested in building nuclear warheads than nuclear power plants. Saber-rattling speeches from Iranian President Mahmoud Ahmadinejad have done nothing to soothe international concerns.

But even as Iran pursued its nuclear ambitions, NATO and its partners notched one success in the pursuit of nonproliferation: Libya gave up its nuclear weapons program in 2003 and threw open its uranium-enriching operation to international inspectors. An investigation of Libya's nuclear program uncovered an international network of proliferators led by A.Q. Khan, considered the father of Pakistan's nuclear program. Investigators allege Khan helped assemble a nuclear infrastructure not just in Libya but in North Korea and Iran. The elderly Khan was sentenced to a temporary — some say lenient — stint of house arrest in his home country.

Khan's removal from the world stage has not ended nuclear proliferation scares. In 2009, the European Organization for Nuclear Research, or CERN, announced the arrest of a French physicist of Algerian extraction and accused him of spying for al-Qaida in the Islamic Maghreb, a violent



extremist group tied to bin Laden. “His work did not bring him into contact with anything that could be used for terrorism,” the Swiss-based CERN said in an October 2009 statement. “None of our research has potential for military application, and all our results are published openly in the public domain.”

Perhaps more serious, in August 2010 three Moldovans were charged with trying to sell about 2 kilograms of uranium-238 worth an estimated 9 million euros (about \$11 million) on the black market. The uranium was shipped to Germany to analyze its country of origin and enrichment grade, but the Moldovan Interior Ministry said the men were carrying too little fissionable material to build a nuclear explosive or radiation-dispersing “dirty bomb.” Two of the three suspects arrested were former policemen intent on shipping the uranium to buyers in what the media said were “unspecified countries.”

That case harkens back to two well-reported uranium seizures in the Caucasus during the past decade. In separate incidents, Armenian Garik Dadayan and Georgian Tamaz Dimitradze were caught trying to smuggle small quantities of enriched uranium sufficient to supply a bomb. Both men were accused of being couriers for undisclosed buyers or sellers, and the uranium in question, owing to its distinctive chemical signature, likely came from former Soviet stockpiles. Slovakia broke up another nuclear fuel ring in 2007 with seizure of two shells containing 481 grams of enriched uranium powder. Police said the three suspects, from Hungary and the Ukraine, hoped to sell the dirty-bomb-grade uranium for \$1 million.

## NATO Shifts Strategy

In light of the breakup of the USSR and the shock of the 9/11 terrorist attacks, NATO has shifted strategy to place a greater emphasis on nonproliferation of WMD. The need to store nuclear weapons under a responsible central authority has been a topic of discussion within the U.S.-Russia Council, a body formed during the Rome Summit of 2002 to maintain open lines of communication between the former NATO and Eastern Bloc rivals. Both nations recognize the



Russian President Dmitry Medvedev inspects a Topol-M rocket at a nuclear missile launching site in May 2008. The latest disarmament treaty between the U.S. and Russia slashes strategic nuclear weapons in each country to 10 percent of their Cold War peaks.

AGENCE FRANCE-PRESSE

danger should nuclear weapons fall into the hands of anti-NATO and anti-Russian extremists.

In 2007, NATO activated the Joint Chemical Biological Radiological and Nuclear Defense Center of Excellence in Vyškov, Czech Republic. Part of its mission is the development of doctrines and standards to combat the spread of WMD. Ten European nations, including Poland, Germany, Italy and Hungary, jointly operate the center. The Alliance also hosts yearly nonproliferation seminars to which nonmember countries are invited. The last seminar, in Prague, drew 120 senior officials from NATO members and nonmembers from five continents. Summing up the conference, Czech Foreign Minister Jan Kohout stated that it “reaffirmed that the full and effective implementation of the Nuclear Non-Proliferation Treaty and

Defending Against Chemical, Biological and Nuclear Threats.” The document noted that the spread of WMD and their possible procurement by terrorists were “the principal threats to the Alliance over the next 10-15 years.” NATO followed that up by activating its Emerging Security Challenges Division in August 2010. The division, based at Alliance headquarters in Brussels, is tasked with confronting “a growing range of nontraditional risks and challenges,” including the spread of nuclear weapons to terrorists and noncompliant regimes. At their Lisbon summit in November 2010, Alliance members reiterated their opposition to the proliferation of WMD, singling out Iran and North Korea. NATO gave itself until June 2011 to “assess and report” how it can better counter the proliferation of WMD and their means of delivery.

little doubt that by objective standards, our controls on weapons-usable material are far stronger—and consequently we are safer—than ten or fifteen years ago. Moreover, this work will continue, which is all to the good. But, it is not enough. No security system can be perfect, and we have empirical evidence that our control over nuclear material is not absolute.”

Analysts rate the chances of terrorists acquiring or building a Hiroshima style bomb as “remote” at this stage. Regimes with such know-how would hesitate to provide terrorists such a device for fear that the weapon could invite retaliation or be used against the supplying regimes. Perhaps a bigger immediate threat is violent extremists acquiring the material to make a dirty bomb, a radiological device that could contaminate an area using smaller amounts of lower grade uranium “In some senses, the greater danger is the use of radioactive materials that are used to create the dirty bomb,” said Carlton Stoiber, head of the Working Group on Nuclear Security of the International Nuclear Law Association in Brussels.

## Making Progress

Evidence of the former U.S.-Soviet conflict continues to dwindle with the 2010 signing of the New START treaty in Prague. The treaty stipulates that the United States and Russia reduce their strategic nuclear arsenals approximately 90 percent below Cold War peaks. In hard numbers, the treaty would cap strategic nuclear warheads at 1,550 and nuclear-armed bombers and long-range missiles at 700. To ensure compliance, both nations agreed to resume inspections that had lapsed months earlier with the expiration of an earlier START treaty. The agreement leaves each nation in possession of nuclear forces sufficient to deter the other — or any other nuclear state for that matter. But its focus on dismantling old weaponry and converting much of its nuclear fuel to peaceful uses aids the cause of nonproliferation.

The U.S. National Nuclear Security Administration has assembled anti-proliferation partnerships with



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World leaders gather at the Nuclear Security Summit in Washington in April 2010. Nations pledged to eliminate excess nuclear fuel that terrorists seek to acquire to produce bombs.

the regime of nonproliferation in all its aspects has a vital role in promoting international peace and security.” Norway plans to hold this year’s multinational nonproliferation conference.

The Prague seminar was the second NATO nonproliferation event since NATO’s 2009 adoption of the “Comprehensive, Strategic-Level Policy for Preventing the Proliferation of Weapons of Mass Destruction and

The U.S. and its NATO allies continue to support Russia financially in its efforts to catalogue and quarantine nuclear fuel. The U.S. Congress approved \$1.2 billion in such “nonproliferation assistance” in 2009 alone. Analysts contend the money has been well spent. Here’s an assessment from a July 2010 article published by Harvard University’s Belfer Center for Science and International Affairs: “There is



U.S. President Barack Obama and Russian President Dmitri Medvedev answer questions during a news conference at the White House in Washington in June 2010. Two months earlier, Obama and Medvedev reached agreement on New START, a nuclear arms reduction treaty.

REUTERS

countries such as Norway, Finland, the Netherlands and the UK. Norway, for example, has used NNSA funding to set up a program in Kazakhstan called Second Line of Defense. The program uses radiation detecting equipment to counter potential nuclear smuggling at Almaty International Airport. NNSA also contributed \$31 million toward closing Russia's last weapons-grade plutonium reactor.

Nuclear containment was also a key topic at the Nuclear Security Summit, a gathering of representatives of 47 nations held in Washington in April 2010. The summit obtained promises from the Ukraine,

Mexico, Chile, Kazakhstan, Vietnam and Canada to wean some of their nuclear plants off highly enriched uranium, the fuel also used in nuclear bombs. Attempting to lead on the issue, Russian Foreign Minister Sergei Lavrov and U.S. Secretary of State Hillary Clinton signed a pact requiring Russia and the United States each to dispose of 34 metric tons of surplus weapons-grade plutonium. Malaysia, Armenia and Egypt vowed to impose stricter export controls to interrupt nuclear trafficking. Armenia was the country through which Dadayan planned to smuggle uranium, and Malaysia was a transit point in the Khan nuclear network.

But few believe the summit's announced goal of a "nuclear-free" world is immediately achievable. The world contains an estimated 200 sites capable of producing or storing weapons-grade uranium or plutonium. The fraying of the post-Cold War security fabric will continue to present proliferation challenges. Nuclear deterrence, though effective in the context of the United States versus Soviet Union, cannot be relied upon to contain the homicidal impulses of terrorists. When one considers the destructiveness and lethality of even a single World War II-era nuclear device, the margin for error in our multipolar world remains narrow. □

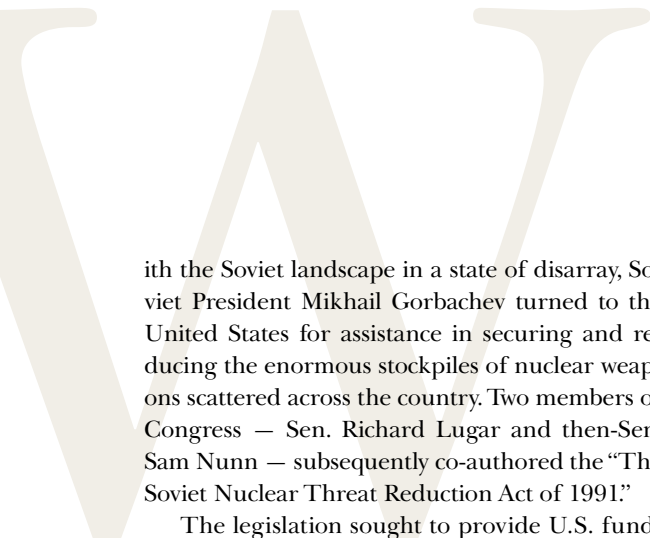
# DISMANTLING the COLD WAR

*Nunn-Lugar program is a triumph of U.S.-Russian cooperation*

ANNE MAREK

In the second half of 1991, people across the world watched in amazement as the Soviet Union collapsed before their eyes. The world rejoiced as the Cold War, which dominated world politics for the second half of the 20th century, was undoubtedly over. But as political, economic and military alliances repositioned around the globe, the dangers of uncertainty quickly became clear. The West's archrival in the Cold War had been dissolved but the Soviet arsenal had not — and while Moscow tried to adjust quickly to new political and economic realities, a half century worth of nuclear, chemical and biological weapons were scattered across four soon-to-be independent nations, many lacking the proper infrastructure or manpower to secure them.





With the Soviet landscape in a state of disarray, Soviet President Mikhail Gorbachev turned to the United States for assistance in securing and reducing the enormous stockpiles of nuclear weapons scattered across the country. Two members of Congress — Sen. Richard Lugar and then-Sen. Sam Nunn — subsequently co-authored the “The Soviet Nuclear Threat Reduction Act of 1991.”

The legislation sought to provide U.S. funding and expertise to help states of the former Soviet Union safeguard and dismantle their nuclear, chemical and biological weapons and their delivery systems. With Congressional support, the act was signed into law and later renamed the Nunn-Lugar Cooperative Threat Reduction (CTR) program, a broad set of initiatives across different agencies, primarily the U.S. Departments of Defense, Energy and State. The Nunn-Lugar program was applied widely across the former Soviet Union and demonstrated unparalleled success in securing, storing and eliminating weapons of mass destruction throughout Eurasia.

Through Nunn-Lugar, the U.S. supported the process to deactivate thousands of nuclear warheads and their delivery systems and contributed to the safe disposal and destruction of thousands of tons of lethal chemical and biological weapons. When the Soviet Union dissolved, individual states retained control over whatever factories, supplies, materials or resources physically remained, from power plants to car factories to nuclear weapons. Overnight, Ukraine, Kazakhstan and Belarus became independent countries and three of the world’s largest nuclear powers. Through the Nunn-Lugar program, these countries, within five years of the fall of the Soviet Union, voluntarily

removed nuclear warheads from delivery vehicles and decommissioned or stockpiled them. Strategic bombers, submarines, missile silos and ground vehicles were destroyed, ripped apart, blown up or otherwise made irreversibly unusable for war. After a half century of Cold War, former foes were working together to reduce the number of weapons that could literally be used to destroy humanity. The world’s greatest military superpowers were willingly standing down and openly reducing their arsenal.

Today, the threat of weapons of mass destruction remains a challenge. The Soviet Union had some of the largest and most advanced WMD programs in history and a significant amount of

Opposite Page:  
Ukrainian workers dismantle a Tupolev Tu-160 strategic bomber at an airbase in Pryluki in 2001. Ukraine promised to destroy all its nuclear strategic bombers under a disarmament deal with the United States.

## Nunn-Lugar Initiative by the Numbers

*\* figures current as of December 2010*

### PERCENT ACHIEVED

- 100%** Nuclear Weapons Storage Site Security Upgrades
- 100%** Nuclear Test Tunnels/Holes Sealed
- 100%** Bombers Eliminated
- 100%** Nuclear Air-To-Surface Missiles Destroyed
- 91.9%** Intercontinental Ballistic Missile (ICBM) Silos Eliminated
- 92.6%** Submarine-Launched Ballistic Missiles (SLBM) Eliminated
- 91.9%** Warheads Deactivated
- 88.9%** Ballistic Missile Submarines (SSBNs) Destroyed
- 90.4%** SLBM Launchers Eliminated
- 81.1%** Nuclear Weapons Transport Train Shipments Secured
- 75.8%** ICBMs Destroyed
- 69.0%** ICBM Mobile Launchers Destroyed
- 46.5%** Biological Threat Reduction Zonal Diagnostic Laboratories Built and Equipped
- 30.7%** Declared Chemical Warfare Agent Destroyed (Metric Tons)

Source: U.S. Department of Defense

these weapons still exist inside Russia. Thousands of former Soviet scientists and engineers specializing in WMD have not found gainful employment and there is concern that some may be willing to sell their expertise to the highest bidder. Iran continues to enrich uranium that could evolve into nuclear weapons. North Korea is expected to deploy a nuclear-tipped missile capable of reaching the U.S. within the next decade and terrorists have vowed to attack Americans with WMD. The continued existence and proliferation of these



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From left: Former U.S. Sen. Sam Nunn, Sen. Richard Lugar and U.S. Ambassador to Russia William Burns meet with Russian Foreign Minister Sergey Lavrov, second from right, in Moscow in August 2007.

weapons allows for the possibility that they might fall into terrorist hands, an event that could have cataclysmic consequences for the U.S. and its allies.

The Nunn-Lugar Cooperative Threat Reduction program has evolved over the past two decades and is now a global initiative that addresses today's most pressing security needs, an effort supported by President Barack Obama that is building momentum in Congress. A key component of the latest Congressional budget is aimed at continuing Nunn-Lugar's success in the former Soviet Union and replicating that success with other weapons programs across the

world. Leading that effort is the Nunn Lugar Global Cooperation Initiative, a collaborative effort to engage a wide range of countries, international organizations and nongovernment partners to prevent, reduce and eliminate WMD threats to U.S. national security and global stability.

The Defense Threat Reduction Agency/U.S. Strategic Command Center for Combating Weapons of Mass Destruction has been responsible for implementing and monitoring all components of the program, working to build global partnerships that address the WMD threat at every level, on every continent. Every day, DTRA/SCC-WMD's experts are working on the ground, across Russia, to help the country scale back its nuclear forces, providing tools and services to deactivate their nuclear warheads and dismantle their missiles, submarines, silos and ground-based launch systems. Through regular safety and security inspections, experts are helping Russia improve the integrity of their security systems at nuclear weapons storage sites and safeguard nuclear and radiological weapons during transportation. Nunn-Lugar program experts are also working to control and eliminate chemical and biological weapons across Eurasia.

From Azerbaijan to Georgia, Kazakhstan to Ukraine, these experts are helping prevent the proliferation of chemical and biological technologies and keeping them out of the hands of terrorists.

## Nunn-Lugar Initiative **TIMELINE**



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- 1991**
  - Boris Yeltsin becomes Russia's first democratically elected leader.
  - Mikhail Gorbachev resigns on Dec. 25 and the Soviet Union collapses.
  - Senators Sam Nunn and Richard Lugar visit the White House on December 9 to brief President George H.W. Bush on Nunn-Lugar. Three days later, the legislation is signed into law.
- 1992**
  - Russia, the world's largest nuclear power, agrees to implement the program.
  - Belarus, having inherited 81 single warhead missiles after the fall of the Soviet Union, agrees to implement the program.
- 1993**
  - Ukraine, the world's third largest nuclear power after the fall of the Soviet Union, agrees to implement the program.
  - Kazakhstan, having acquired 1,400 nuclear weapons from the Soviet Union at the end of the Cold War, agrees to implement the program.
- 1994**
  - All nuclear warheads and 600 kilograms of weapons-grade uranium are removed from Kazakhstan as part of Project Sapphire.
- 1995**
  - Science and Technology Centers open in Russia to help employ former Soviet weapons scientists.
- 1996**
  - U.S. Secretary of Defense William Perry joins Ukraine Ministry of Defense and Russian Ministry of Defense to celebrate Ukraine's completed nuclear weapons arsenal dismantlement.
  - All intercontinental ballistic missiles are removed from Belarus.



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A Ukrainian defense official examines an SS-19 nuclear missile before it is dismantled in the city of Dnipropetrovsk in February 1999. The U.S. has helped fund the dismantling of nuclear weapons infrastructure in Ukraine.

DTRA/SCC-WMD is coordinating with other government agencies, partner governments and internal programs to identify especially dangerous biological pathogens and chemical agents and enhance their capacity to contain these elements into secure national-level laboratories. Nunn-Lugar program experts are working to detect, diagnose, and report terror attacks and potential pandemics, improving the safety and security of chem-bio facilities throughout these countries.

As the world enters a new decade, it is clear that leaders across the international community agree that the Nunn-Lugar model should be applied globally. In April 2010, President Obama and Russian President Dmitry Medvedev signed a historic treaty to reduce long-range nuclear weapons, an agreement that replaced the 1991 Strategic Arms Reduction Treaty (START) that expired in December 2009. The deal marked a renewal of the level of trust and cooperation between the U.S. and Russia, setting limits on both sides' strategic nuclear warheads and reducing the permissible number of strategic launchers. Following the agreement to the New START, the president held a Nuclear Security Summit focused on securing weapons-grade plutonium and uranium to prevent nuclear terrorism. The summit was attended by delegations from 46 governments, marking the largest gathering of heads of state called by a U.S. president since 1945. □



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WHITE HOUSE

## 1999

- President Bill Clinton calls for further expansion of the program. Russia, under the leadership of Boris Yeltsin, agrees to renew its implementation.

## 2001

- New York and Washington are attacked by foreign terrorists. Congress expands the program's funding at the request of President George W. Bush.

## 2004

- Program funds are used for the first time outside the former Soviet Union; Albania becomes the first nation to certify to the Organization for the Prohibition of Chemical Weapons that it completely eliminated its chemical weapons.

## 2005

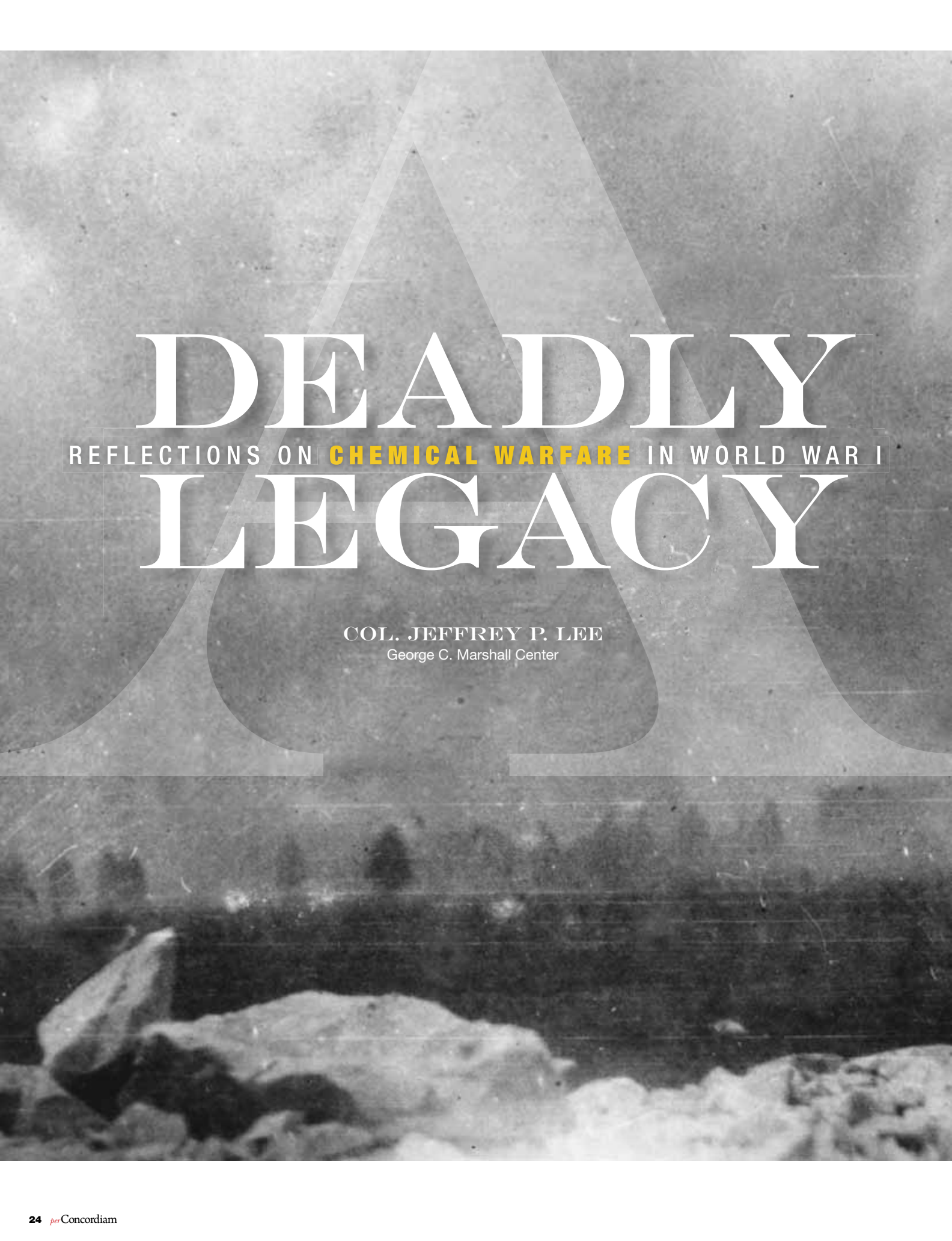
- U.S. and Russia enact Bratislava Nuclear Security Initiative to upgrade 24 nuclear weapons storage sites in Russia, initiating training programs for personnel and enhancing the security of nuclear weapons during transportation. The program becomes one of the largest U.S.-Russian Cooperative Threat Reduction efforts.

## 2009

- The first Chemical Weapons Destruction Facility opens in Shchuch'ye, Russia. The facility is expected to eliminate approximately 2 million chemical weapons containing VX nerve agent and other chemical weapons that have been stored since the Soviet era.

## 2010

- President Barack Obama hosts leaders from 47 governments at the Nuclear Security Summit to find new ways to secure loose fissile material and prevent nuclear terrorism.



# DEADLY REFLECTIONS ON **CHEMICAL WARFARE** IN WORLD WAR I LEGACY

COL. JEFFREY P. LEE  
George C. Marshall Center





British troops advance through a cloud of poison gas during the Battle of Loos in September 1915. An estimated 89,000 Soldiers died from the effects of battlefield gas during World War I.

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A World War I veteran once remarked in his wartime journal about witnessing horse cavalry armed with lances. For those unfamiliar with the lance, it is a 2-meter-long pole weapon tipped with a sharpened blade more associated with medieval warfare than the 20th century battlefields of France.

#### THE VETERAN WROTE:

*I have just been watching a ... Cavalry Division go by, riding at a trot. A long and endless line of men going by four at a time. I wonder when these European nations will find out that Lancers, like bustles, are things of the past. I thought that went out with the [American] Civil War. ... My Dad, who was a lancer in the [American] Civil War, could tell them something about lances. How, for instance, they are continually getting entangled with the horses feet or caught in the branches of a tree ... [and his unit quickly abandoned the lance out of impracticality]. They are picturesque, but so are the catapults of the ancient Greeks.<sup>1</sup>*

The utility, effectiveness, doctrinal use and integration of the lance into early 20th century tactics, specifically WWI, foreshadow the near universal philosophy concerning chemical weapons today. Chemical weapons, for almost all countries, are no longer produced, prescribed for use in military doctrine, nor tested or trained with. They have gone the way of the lance, as a historical throwback for all but a few states that are suspected to have stockpiles or clandestine experimental programs. These states may view them as the “poor man’s weapon of mass destruction.”<sup>2</sup>

Admittedly, in comparison, lances were often seen as popular and “noble” weapons, many times sporting pennants and used in sport for jousting, whereas modern chemical weapons more closely resembled the use of burning pitch or scalding oil. Chemical weapons also have an abhorrent reputation among most societies. Chemical weapons are being destroyed at an ever increasing pace, primarily through incineration, rather than the unfortunate practice after both world wars of dumping large quantities of these munitions directly

into the oceans.<sup>3</sup>

This destruction comes despite the fact that chemical weapons had their most widespread and notorious use during WWI, and most recent use during the Iran-Iraq wars of the 1980s. There are no known armies today that officially prescribe the use of chemical weapons, and even if they were secretly authorized for limited use, armies cannot train with these weapons as part of modern integrated warfare, nor test them openly for fear of discovery and condemnation.

The pristine military cemeteries in France, such as at the Meuse-Argonne and St. Mihiel, and the verdant wheat fields surrounding them, do not adequately reflect the tragedy or horrors of The Great War from some nine decades ago, especially the horrors of chemical warfare. Nor do these battlefields even hint at the difficult attempts to eliminate this category of weapons since their widespread use, by both the Central and Allied Powers during this war.

Although the history of chemical warfare nine decades ago is interesting, a legitimate question is regarding the relevance of gas or chemical warfare today for all states. WWI marked the first widespread use of gas or chemical warfare in modern times. The Germans conducted the first large-scale attack, using chemical weapons at Ypres in April 1915. The British followed suit in September of that same year. An estimated 89,000 Soldiers from all nations died from gas exposure, and an additional 1.24 million suffered as nonfatal casualties.<sup>4</sup> This represents only 2 to 4 percent of the total war casualties out of the staggering figure of more than 9.7 million Soldiers and Sailors who died during the conflict.<sup>5</sup>

It could have been worse. Rapid advances in personal protection and chemical agent detection in the last two years of the war lessened chemical weapons' potential impact. Tactical challenges employing gas, particularly the weather, also reduced chemical weapons' impact. Even using gas against your opponent necessitated extensive precautions to prevent gas from drifting back on one's own forces.<sup>6</sup>

Although the losses and casualties caused by chemical weapons were horrific, it is not widely known that they would have been far worse without expedient measures undertaken during the war. Chemical warfare beleaguered all units, large and small, friend and enemy. A telling example is the case of a company of engineers with the U.S. 1st Infantry Division. Using an American veteran's personal diary of his exploits with Echo Company, 1st Engineers (today the 1st Engineer Battalion, 1st Infantry Division), and using a book long out of print, *A History of the First Engineers*, one can trace many of the tumultuous events of the years 1917 to 1919 for a small but typical group of Americans, as well as apply the same lessons to Soldiers of many nations in the conflict.<sup>7</sup> These references suggest that despite the mutual fear of chemical attacks, "gas" was used frequently, albeit with difficulty, by both sides in an attempt to break the stalemate of trench warfare.<sup>8</sup> There are numerous excellent books on this topic, noteworthy examples being: *The Poisonous Cloud: Chemical Warfare in the First World War* by Ludwig Fritz Haber and *Gas and Flame in Modern Warfare* by Maj. S. J. M. Auld.<sup>9</sup>

The experience of the 1st Engineers is representative of many units during WWI. The unit suffered 817 casualties, including 88 killed in action. More than a third of the casualties were "Gassed In Action," or "G.I.A."<sup>10</sup> The nonfatal injuries from gas exposure were certainly debilitating, and casualties were evacuated to field hospitals in the rear to recuperate, if such evacuations were possible.<sup>11</sup> The 1st Engineers saw extensive service during WWI all the way until November 11, 1918, when the Armistice was signed. Chemical warfare certainly had an impact on operations, but advances in mask design and training by 1918 provided a modicum of protection for these Soldiers as evidenced in personal accounts.<sup>12</sup> An excerpt from this veteran's diary concerning training prior to battle sums the incessant preparation to protect against gas attack:

*One of the things drummed into our minds by our French and*

*British instructors was Gas. In fact so much so, that we all had the impression — one whiff — and you were dead. This mental attitude has become most annoying. One of the duties of the sentries is to give the alarm in case of gas attack. This is done by winding overgrown Klaxon horns and banging on empty brass shell cases. Some of these dugouts and bombproofs are a trifle high in odor on account of their former occupants, so added to our other discomforts is the questionable pleasure of being awakened several times every night*

*by some green sentry smelling somebody's feet and turning in a gas alarm. We then sit up for several hours with our masks on until somebody gets courage enough to take a sniff, our noses half pinched off by the nose clips of our masks. This had become such a nightly occurrence we finally reached the stage where we woke up, took a sniff and went back to sleep again.<sup>13</sup>*

Despite the passage of time, it is important to draw lessons from this relatively small unit, its casualties and current policies with regard to chemical weapons. Developments in protection against chemical weapons today include modern suits and gas masks such as the Joint Service Lightweight Integrated Suit Technology designed to protect up to 24 hours against all known chemical — and biological — agents. In the area of training, even though the experiences highlighted by

the 1st Engineers do mock over-preparation, Soldiers knew how to don their gear and react to an alarm, even if that alarm was false. This training prepared them to conduct military operations despite fear of gas attack.

Today, many nations have militaries capable of operating in a contaminated environment. This aptitude is primarily due to countermeasures adopted during Cold War experimentation with some of the most deadly chemical weapons known. For example, the U.S. Army Chemical Biological Radiological and Nuclear (CBRN) School and the NATO Joint CBRN Defence Centre of Excellence in Vyskov, Czech Republic, are symbolic of the concerted efforts to counter the entire range of CBRN threats and build upon lessons painfully learned nearly a century ago. For example, the Defence Centre hosts a multinational NATO military body sponsored by the Czech Republic, Germany, Greece, Italy, Romania, Slovakia, Slovenia and the United Kingdom,



A worker puts on a protective suit in 2008 at a chemical weapons incinerator in the U.S. that destroyed chemical munitions produced during the Cold War.

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while offering recognized expertise and experience for the benefit of the Alliance. Defense and protection have helped render obsolete the use of chemical weapons. Ironically, even though chemical weapons reached their peak of virulence during the superpower rivalry of the Cold War, nonstate actors using these weapons are now the main potential threat.

Protection and training alone cannot fully address the danger posed by chemical weapons. In WWI, despite rigorous training, the 1st Engineers still suffered a third of their casualties from chemical warfare. Even with the state-of-the-art protective gear available in 1918, chemical warfare still had a dramatic impact on the overall effectiveness and capability of this unit to sustain operations.<sup>14</sup> Dealing with these casualties and sending replacements created huge medical and logistical burdens.<sup>15</sup> A defining lesson from the American experience in World War I is that, ultimately, the U.S. and most of the rest of the world would change doctrine and policy toward the production and use of chemical weapons.

American and international policy evolved over time from a chemical weapon “no first use” policy adopted by signatories of the 1925 Geneva Protocol, to renunciation of the weapons and then agreement for their destruction.<sup>16</sup> Even with the end of WWI and the perceived public outcry against such weapons, countries around the globe built huge stockpiles of chemical weapons. The temptation, regardless of justification, to use chemical weapons has been wrestled with by our senior military and political figures throughout history.

Even the well-admired Gen. George. C. Marshall considered resorting to chemical warfare against the Japanese during the last stages of WWII.<sup>17</sup> U.S. chemical weapons were stockpiled in large quantities in Europe until 1990. Even greater stockpiles of chemical weapons, including the most toxic types such as VX, Sarin and Soman, were housed in places such as Kizner and Shuchye in the Russian Federation. These stockpiles are now being destroyed. The deadly legacy of chemical weapons still haunts us today. Only by eliminating this class of weapon among states has the world become safer.

Great progress toward elimination is evidenced by the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, or CWC. Nearly 190 nations have signed the CWC. Six states (Albania, India, Iraq, Libya, the Russian Federation and the United States) have pledged the destruction of some declared 71,194 metric tons of chemical weapons, including 8.67 million munitions. The largest declared stockpiles are found in Russia and the United States and appear to be on track for verifiable destruction by 2017. It took some 80 years before WWI's deadly legacy was truly confronted by almost all nations. There are a handful of nations that are not yet signatories to the CWC.<sup>18</sup>

Nonsignatories are outlying states such as North Korea and Syria that have yet to understand that these weapons are truly the lance of the last century. They have little practi-

cal military application today except among nonstate actors that ascribe to few if any international laws and conventions. Today, there remains a genuine concern about nonstate actors or terrorists using chemical weapons, but states themselves are well on their way to eliminating them.<sup>19</sup> The lessons of 1918 force us to address the chemical weapons threat with a dual approach: protection and elimination.

The young American Soldier's WWI recollections, and the battlefield experiences of his engineer unit, are emblematic of the pragmatic and determined effort to protect our Soldiers, and now our sovereignty, from chemical weapons use by any other nation. It also remains a tangible goal for almost all states to eliminate the threat of such chemical weapons almost 100 years after our first large-scale experiences with them. Nation states are almost universally committed to the renunciation of these weapons and their destruction, but there will always be a need for protection against potential future use, perhaps by terrorists. And we cannot be as unprepared as those first Soldiers in 1915. □

<sup>1</sup> Pvt. Russell M. Lee, *Unofficial Recollections*, personal diary of his experiences during World War I, 1917-1919, E Co, 1st Engineers (unpublished original source).

<sup>2</sup> A term often cited in reference to biological and chemical weapons such as by Reves, Daniel, in *The Ethics of Chemical and Biological Weapons*, retrieved October 1, 2010, from <http://www.scu.edu/ethics/publications/submitted/reves/weaponry.html>

<sup>3</sup> Defense Ammunition Center, U.S. Army Technical Center for Explosives Safety, *Munitions At Sea*, 2008, 1-11.

<sup>4</sup> Michael Duffy, *Weapons of War — Poison Gas*, August 22, 2009, retrieved October 25, 2009, from <http://www.firstworldwar.com/weaponry/gas.htm>

<sup>5</sup> *Ibid.* The British were the first to take retaliatory action using chlorine gas on September 24, 1915.

<sup>6</sup> Maj. S. J. M. Auld, *Gas and Flame in Modern Warfare* (New York, BiblioLife reprint of 1918 original, 2009), 21-22.

<sup>7</sup> *History of the 1st U. S. Engineers 1st U. S. Division*, Library of Congress Control No. 55053914 (published/created: Coblenz, Germany, 1919).

<sup>8</sup> Tim Cook, *No Place to Run, The Canadian Corps and Gas Warfare in the First World War* (Ottawa, University of British Columbia Press, 2000), 3-6.

<sup>9</sup> Ludwig Fritz Haber, *The Poisonous Cloud: Chemical Warfare in the First World War* (Oxford, Oxford University Press, 1986), and Maj. S. J. M. Auld, *Gas and Flame in Modern Warfare* (New York, BiblioLife reprint of 1918 original, 2009).

<sup>10</sup> *History of the 1st U. S. Engineers 1st U. S. Division*, Library of Congress Control No. 55053914 (published/created: Coblenz, 1919), 162-172. A listing of all 1st Engineers who served in WWI, their hometown and especially if wounded, killed or gassed is found here.

<sup>11</sup> *Outlines of Histories of Divisions, U. S. Army, 1917-1919*, prepared by the Historical Section, the Army War College (on file, Historical Section, the Army War College). *Report of Medical Department activities, 1st Division*, prepared under the direction of division surgeon (also on file, Historical Division, Surgeon General's Office, undated but covers the period 1917-1919).

<sup>12</sup> Maj. S. J. M. Auld, *Gas and Flame in Modern Warfare* (New York, BiblioLife reprint of 1918 original, 2009), 26-42.

<sup>13</sup> Pvt. Russell M. Lee, *Unofficial Recollections*, personal diary of his experiences during World War I, 1917-1919, E Co, 1st Engineers (unpublished original source).

<sup>14</sup> Maj. (P) Charles E. Heller, U.S. Army Reserve, *Chemical Warfare in World War I: The American Experience, 1917 - 1918* (Fort Leavenworth, Kansas, Combat Studies Institute, U.S. Army Command and General Staff College, September 1984), Chapter 5.

<sup>15</sup> Brief Histories of Combat Divisions, the 1st Division, (1) Outlines of Histories of Divisions, U. S. Army, 1917-1919, prepared by the Historical Section, the Army War College (on file, Historical Section, the Army War College).

<sup>16</sup> John Ellis van Courtland Moon, U.S. Chemical Warfare Policy in World War II: A Captive of Coalition Policy?, *The Journal of Military History*, Vol. 60, No. 3, July 1996, 495-511. Biological Weapons Control and Warfare Elimination Act of 1991, Public Law 102-138, 22 USC 5601.

<sup>17</sup> G.C. Marshall, *Marshall Memorandum for Admiral Leahy, June 21, 1945* (GCMRL/G. C. Marshall Papers [Pentagon Office, selected]), and #5-169 *Memorandum for General Hull dated July 3, 1945* (Washington, D.C.), retrieved from <http://www.marshallfoundation.org>

<sup>18</sup> Organization for the Prohibition of Chemical Weapons, *Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction in 2008, Fourteenth Session* (The Hague, Netherlands, July 16, 2009).

<sup>19</sup> Sen. Susan M. Collins, Opening Statement of *World at Risk: A Report from the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism* (Washington, D.C., Committee on Homeland Security and Governmental Affairs, December 11, 2008), 1-6.

# Containing Nuclear Weapons

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NUCLEAR-FREE ZONES ARE AN IMPORTANT NONPROLIFERATION TOOL

When the treaty arrangements of the Central Asian Nuclear-Weapon-Free Zone came into effect in March 2009, U.N. Secretary-General Ban Ki-moon welcomed the new agreement as a significant step in global efforts to control nuclear weapons. In acceding to the treaty, the countries of the region — Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan — pledged to not research, develop, manufacture, stockpile, acquire, possess, or maintain control over nuclear weapons or other nuclear explosive devices. The signatory countries also pledged to refrain from receiving or extending any service to others with respect to nuclear weapon technologies.<sup>1</sup> The U.N. secretary general applauded the agreement for reinforcing other nuclear-free zone agreements in augmenting and buttressing the Nuclear Non-Proliferation Treaty (NPT).<sup>2</sup> The secretary-general noted that the Central Asian Nuclear-Weapon-Free Zone agreement was exceptional in several respects. It was the first regional treaty of its kind in the Northern Hemisphere. It was also the first nuclear zone agreement whose signatories explicitly included the pledge to comply with the Comprehensive Nuclear-Test-Ban Treaty.

What was perhaps even more exceptional about the agreement was that it brought the five Central Asian states together in close cooperation in pursuing the crucial common goal of promoting international security on a regional basis. For countries that had been stymied by disagreements over regional cooperation for the two decades since independence following the dissolution of the Soviet Union, the Central Asian Nuclear-Weapon-Free Zone stands out as a truly exceptional example of state-to-state cooperation. Economic and political differences following the difficult transition from the communist system had bedeviled efforts to achieve common

policies throughout the Central Asian region on trade, customs, currencies and commerce. Disputes over competition between hydroelectric power generation and agricultural water users had split upstream and down-stream neighbors in ways that escalated into intense competition over access to the region's most precious resources.

Like any collective security agreement, the nuclear-free zone treaty is partly based on the collective goal of enhancing security and partly based on the opposite side of the same coin — the concomitant but more urgent goal of averting danger. The Central Asian states, having emerged from the Soviet era as victims of the environmental and social damage caused by the development and testing of weapons of mass destruction, were not responding to a hypothetical threat; they were responding on the basis of bitterly learned lessons from the past. When Kazakhstani President Nursultan Nazarbayev took office in 1991, his very first official decree closed the nuclear weapons testing range in his country.

Only a few years ago, strategists regarded Central Asia as being on the periphery of security affairs. Following the collapse of the Soviet Union and the retreat of Cold War animosities, the U.S.-Russian nuclear balance shifted from confrontation to cooperation. Both countries ended nearly 50 years of expansion of nuclear armaments. The two countries embarked on measured and coordinated deceleration and dismantlement with a new focus on cooperative nuclear materials protection and accounting programs. In these circumstances, the Central Asian countries managed to wrest at least implicit assurances that the relaxation in the Cold War conditions offered the protection of what was regarded as a "security umbrella." The threat of the use of nuclear weapons in the Central Asian region began to seem unlikely, even remote. Soviet and U.S. arsenals began

to shrink, and neighboring China's arsenal, since the country's first nuclear test explosion in 1964, remained small.

The revelation that Pakistan was carrying out nuclear tests in May 1998 was a bombshell that shook international security in Central and South Asia. Pakistan's nuclear arsenal was designed as a deterrent against neighboring India's nuclear arsenal, but Pakistan's entry into the ranks of nuclear powers changed the security complexion of the region. Al-Qaida's terrorist attack on the U.S. in September 2001 refocused international attention on deteriorating security in South and Central Asia. The U.S.-led military campaign against terrorism in Afghanistan and the subsequent actions of the NATO-led International Security Assistance Force, refocused attention on Central Asia.

The urgency of maintaining strategic stability throughout Central Asia was dramatically compounded by recent developments in Iran. It has become clear that Iran has embarked on efforts to develop an independent nuclear capacity outside of the verification and monitoring infrastructure of the international community. Iran's uranium enrichment program is portrayed as a peaceful program, yet it creates nuclear technology that could be shifted to weapons application, threatening a fundamental shift in the strategic balance in the Middle East, South Asia and Central Asia. The Central Asian "security umbrella" of the past has evaporated. In its place a new threat has emerged. Central Asian states are surrounded by towering nuclear powers with strategic intentions not easily constrained by traditional deterrence policies. The influence of Central Asia's "nuclear neighbors" has profound implications not only for the region's nuclear-free zone, but for how those states interact in the forthcoming efforts to strengthen international security, the nonproliferation regime, and the stabilization of Afghanistan and Southwest Asia.

### NONPROLIFERATION AND THE NUCLEAR-FREE ZONE

The idea of a nuclear-free zone is not new, but features of the Central Asian Nuclear-Weapon-Free Zone, or CANWFZ, are unique. Other treaties have created zones through banning the acquisition, development, manufacture, possession, stockpiling



Kazakhstani President Nursultan Nazarbayev stands near a monument to a nuclear explosion in Semipalatinsk in eastern Kazakhstan. The area was once a nuclear test site for the Soviet Union.

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and deployment of nuclear explosive devices and technologies. These zones include Africa (Treaty of Pelindaba); Latin America and Caribbean nations (Treaty of Tlatelolco); the South Pacific (Treaty of Rarotonga); Southeast Asia (Treaty of Bangkok); and Antarctica (Antarctic Treaty). These treaties forbid parties to assist or encourage testing of nuclear weapons, to dump radioactive waste, or to deploy or station nuclear weapons on their territory for themselves or for other states. The entire Southern Hemisphere is covered by nuclear-free zones. Jurisdiction of the zones affects only terrestrial space and air traffic; it does not control maritime traffic, which is subject to the doctrine of “open seas” (*mares liberum*).

Nuclear-free zones operate in the context of the nonproliferation treaty. The NPT was negotiated during the late 1960s and entered into force in March 1970. The treaty was designed to achieve three goals: 1) to assure that peaceful use of nuclear energy as the common heritage of mankind was open to all; 2) to stem the proliferation of nuclear weapons; and 3) to facilitate universal nuclear disarmament. The treaty distinguished between states possessing nuclear weapons and those not possessing nuclear weapons, seeking to legally prohibit the proliferation of weapons through the acquisition or transfer to non-nuclear states and the disarmament of the nuclear states.

The NPT provides for the establishment of nuclear-free zones, on the condition that nuclear powers endorse the

establishment of the agreement. The U.N. in general is a strong proponent of expanding such zones to incrementally expand the area outside of the likely range of nuclear weapons use in the event of failed nuclear deterrence. Cordoning off weapons-free areas, proponents assert, can build a “peace in parts” that cumulatively leads to conditions in which nuclear weapons are not useful instruments for deterrence, protection or the achievement of aggressive goals, thus rendering them “impotent and obsolete.”

At the time NPT went into effect, the five nuclear-weapon states were China, France, the Soviet Union, the United Kingdom and the United States. These states were also the five permanent members of the United Nations Security Council. Following the dissolution of the U.S.S.R., the country’s nuclear weapons passed to the control of the Russian Federation. Currently, 189 states are party to the NPT.

The “teeth” of the NPT is the safeguards framework under the auspices of the International Atomic Energy Agency (IAEA). These safeguards are designed to curb the dispersion of nuclear explosive materials and technologies through monitoring and observing facilities using nuclear materials that are or could be related to weapons technologies. When the NPT was adopted, supporters assumed IAEA oversight would be sufficient to monitor nuclear development and deter countries from conducting unsanctioned nuclear weapons development programs. However, following the 1991 Gulf War, it was discovered that Saddam Hussein

had a vigorous but clandestine nuclear weapons research and development program.<sup>3</sup> The danger of “breakaway technology” being more easily concealed than in the past brought the IAEA to the realization that a more robust set of monitoring conditions must be adopted. In 1995, the IAEA began adopting more exacting oversight procedures. In 1997, the IAEA adopted additional measures under the heading of the “additional safeguards protocol.”<sup>4</sup> These measures provide for enhanced, and in some cases invasive, oversight. About 170 countries have safeguard agreements and 139 have additional protocol agreements with the IAEA.<sup>5</sup>

The major powers have been supportive of nuclear-free zones in principle, but are wary in practice as to how the zones are established and maintained. For instance, the U.S. position has been that nuclear-free zones should be designed in such a way that they provide actual security guarantees and do not simply create the impression of security — perhaps leading to a false sense of security. The general conditions that the U.S. has identified include: 1) The initiative must come from the states in the region; 2.) All important states must participate in the zone; 3) Compliance provisions must be adequately verified; 4) No existing security arrangements should be disturbed; 5) Zones should effectively prohibit the development or possession of any nuclear device; 6) Zones should not affect existing rights under international law and 7) Zones should not impose restrictions on the high seas freedom of navigation.<sup>6</sup>

Kazakhstan’s leadership has taken a courageous and bold path in nonproliferation in general and in calling for specific efforts to prevent proliferation. Kazakhstan has a well-established record as a world leader in nonproliferation efforts. Aside from President Nazarbaev’s closure of the country’s nuclear testing range, Kazakhstan signed the Lisbon Protocol to the START I Treaty in May 1992. In December 1993, Kazakhstan ratified the NPT. A year later, Kazakhstan removed more than 600 kilograms of highly enriched uranium from the Ulba metallurgical plant in Ostkamen, transferring it to the U.S. On April 21, 1995, Kazakhstan announced that the country had transferred to Russia all the nuclear warheads that it had inherited from the Soviet period. A month later, the U.S. Senate unanimously passed Resolution 122, commending Kazakhstan for its historic decisions in advancing the goal of nonproliferation. In July 2006, speaking to the French newspaper *Le Monde*, Nazarbayev appealed to Iranian leaders to abandon nuclear ambitions and follow Kazakhstan’s development strategy.<sup>7</sup>

Technological and political changes have begun to fray the fabric of the nuclear nonproliferation agreement as many developing countries that previously had been willing to forswear nuclear ambitions have changed course, either developing nuclear weapons themselves or surreptitiously beginning scientific programs that put the world’s most dangerous weapons within reach. In September 2006, Kazakhstan hosted an international meeting at which the Central Asian nuclear-free zone was established. Nazarbayev told the U.N. General Assembly in 2007 that the lack of

international consensus is leading to a dramatic weakening of the collective security system and “the international community is running out of legitimate levers capable of stopping the spread of weapons of mass destruction.”<sup>8</sup>

## URANIUM ENRICHMENT AND NUCLEAR AMBITIONS

Iran is openly conducting an ambitious and expensive program to enrich uranium, in defiance of international pressure. The IAEA has continuously and strenuously monitored Iran’s actions since the first alarm was raised in 2003 that Iran was attempting to violate provisions enforced by the IAEA. Iran’s leaders have insisted that their actions do not violate legitimate international rights. Indeed, NPT and its accompanying international agreements do not ban uranium enrichment for bona fide commercial and scientific purposes. However, these agreements also do not provide sufficient means to prevent peaceful nuclear applications from being used to cloak weapons development programs. Iran’s nuclear ambitions imply that it is time to reassess the practical meaning of the “Atoms for Peace” idea in present circumstances.

On the basis of documented violations of international fissile materials safeguards and responding to warnings that Iran was attempting to develop a surreptitious nuclear weapons program, the U.N. Security Council has passed a series of resolutions directing Iran to halt uranium enrichment.<sup>9</sup> The timeline includes:

- In July 2006, the security council issued a resolution (UNSCR 1696) demanding that Iran suspend uranium enrichment and charged the IAEA with monitoring and oversight of Iran’s enrichment.
- In December 2006, the security council issued a second, more pointed resolution (UNSCR 1737) demanding that Iran suspend all uranium enrichment and imposed sanctions pending cessation.
- A few months later, the IAEA reported that Iran had failed to comply with a number of measures, including the demand to stop uranium enrichment.
- In March 2007, the security council issued yet another resolution (UNSCR 1747) demanding cessation of uranium enrichment and imposing even stiffer sanctions. Iranian Foreign Minister Manouchehr Mottaki rejected the resolution as “illegitimate,” claiming that Iran’s nuclear program was peaceful and therefore outside the U.N.’s jurisdiction.
- In March 2008, the security council adopted yet another resolution (UNSCR 1803) reaffirming resolution 1737 in calling for Iran to suspend enrichment and imposing more extensive economic sanctions.
- A month later, President Mahmoud Ahmadinejad announced that Iran had begun expanding uranium enrichment and was installing 6,000 new centrifuges in the enrichment cascade.<sup>10</sup>
- In June 2010, the security council adopted the most extensive resolution (UNSCR 1929), repeating its demands on Iran.

Iran's insistence on uranium enrichment challenges the very basis of the concept of "peaceful use of nuclear science." The basic idea of the "Atoms for Peace" program crafted by President Dwight Eisenhower was to contain nuclear proliferation while making the benefits of nuclear science available to all. Announcing his plan at the U.N. in December 1953, Eisenhower strongly distinguished between scientific and weapons-related uses of nuclear science. He wanted to foster scientific advances and commerce while diligently controlling nuclear armaments. Eisenhower imagined the U.N. would create an international watchdog agency that, if conditions matured, could eventually have custodial powers over fissionable materials.

The NPT, enacted in 1970, proceeded from the spirit of "Atoms for Peace," claiming that the "benefits of peaceful applications of nuclear technology ... should be available for peaceful purposes to all Parties to the Treaty." But does "Atoms for Peace" imply today that every country has the right to enrich uranium? The pledge of international cooperation implied one set of policies given the technology of 1953 but may imply other policies given the technology of today. In 1953, uranium enrichment was a highly visible and relatively easily monitored process. The U.S. enriched uranium at very large, energy-intensive facilities such as Oak Ridge's Y-12 electromagnetic plant and the K-25 gaseous diffusion plant. At the time, the K-25 facility was built, it occupied the largest building in the world. Now technology has changed. Centrifuge enrichment technology is more easily concealed than the more traditional gaseous diffusion technology. Newly emerging laser enrichment technology may be even more easily concealed.

A country need not enrich uranium domestically to secure the benefits of nuclear power. If any country, including Iran, wants to use sub-weapons-grade enriched uranium for peaceful purposes, suppliers from France, Russia and the U.S. can provide that service with IAEA oversight. But uranium enrichment in today's circumstances is not something that is easily monitored from afar. If a country — or some rogue entity — is surreptitiously enriching uranium, the IAEA cannot be confident that diversion for weapons applications is not taking place. A country capable of its own enrichment of U235 to 3 percent to 5 percent, for use in light-water reactors or research reactors, can also enrich its own to the level of 95 percent for weapons.

The world is witnessing a sea change in the distribution of power associated with nuclear technology. Some veteran diplomats have concluded that the world is now facing a critical opportunity to turn events around to work toward "a world free of nuclear weapons."<sup>11</sup> At the same time, a number of additional countries have announced plans to acquire large nuclear reactors. Some observers speculate that most of these countries "are interested in developing a nuclear program capable of more than merely boiling water to run turbines that generate electricity. At least four have made it clear that they are interested in hedging their security bets with a nuclear weapons option. For these states, developing purportedly peaceful nuclear energy is the weapon of choice."<sup>12</sup>

Some observers speculate that nuclear powers have even begun to perceive disunity and horizontal proliferation as beneficial. As one observer put it, "Russia is accepting the Iranian regional status because it doesn't see Iran as a threat but as a partner in balancing the presence of [the] U.S. and Turkey in [the] Middle East, and most important, Central Asia."<sup>13</sup> Whatever the speculation, this is not the official Russian position. Russians insist they are opposed to Iranian nuclear weapons and to the unmonitored enrichment of uranium by Iran. As Russian Foreign Minister Sergei Lavrov summed it up: "We think that there is no economic rationale for Iran to continue with a program of uranium enrichment. We will convince the Iranians that the cessation of that program will be valuable to Iran itself because it will bring them to the negotiating table."<sup>14</sup>

### FORCE OF LAW

The question is how to make possible the benefits of nuclear science while restraining dangerous applications. Many believe the force of law is the most important mechanism and that nuclear weapons-free zones bring the technology under the control of legal regulation. For this reason, the CANWFZ agreement was applauded by international organizations and jurists. In general, purposive and internally consistent international agreements are commonly regarded by international jurists as beneficial because they bring international behavior under the auspices of a transparent and stable regulatory framework.

International law, while typically regarded as different in character from national, domestic law, is based on legal principles first articulated by Hugo Grotius in the early 17th century. Grotius stressed that states are entitled to national sovereignty and to equality before the law. They're also entitled to territorial integrity, political independence and freedom from foreign intervention, domination or interference in domestic affairs. These principles continue to be the foundation of laws and practices among states. An international treaty is regarded as a legitimate mechanism to cooperate in mutually advantageous ways. It legally binds the state. But the question remains: Does it constrain the state in practice? Even more importantly, does it constrain a nonstate actor or a renegade entity that may be acting on the territory of a state that does not have the capacity to contain the actor?

### SELF-ENFORCING COMMITMENTS

The fundamental question is whether nuclear weapon-free zones add to international security or detract from it. The ancient legal principle that "there is no right without a remedy" is cited to underscore that when an international system contains no single, central, legitimate and authoritative entity that ultimately decides all unresolved questions of international affairs, there are only instrumental means for adjudicating matters of right and law. In the best of all worlds, international treaties and international organizations fulfill these functions based on trust, voluntary compliance and the panoply of sanctions they wield.





An abandoned Soviet nuclear weapons testing site is shown near Semipalatinsk, Kazakhstan. The site was closed by President Nursultan Nazarbayev after Kazakhstan gained independence in 1991.

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But there are reasons to be skeptical of assurances based on good faith alone. When the stakes are as high as decisions regarding the most dangerous weapons, skepticism may be prudent. Good faith alone may not be enough. For instance, North Korea denied repeated IAEA requests for information and access and ultimately expelled IAEA inspectors. Libya, Iran and North Korea secretly acquired centrifuge enrichment technology in a covert marketing scheme masterminded by Pakistani engineer A.Q. Khan. These activities were intended to build facilities capable of producing fissile material for nuclear weapons. Yet these countries deliberately ignored IAEA requests and obligations for information.

Two key issues should be addressed. First, self-enforcing treaty arrangements typically specify the conduct of monitoring, observation, and verification through an activity or entity. The absence of a mutually agreed upon procedure or an entity capable of conducting independent monitoring suggests that the treaty is not self-enforcing. The CANWFZ treaty provides for consultative meetings but does not establish an organization to independently monitor, observe and verify. Second, the CANWFZ treaty explicitly forbids the manufacture, possession or receipt of nuclear weapons but the treaty is ambiguous regarding the transportation of nuclear weapons under the control of other states. The presence of nuclear weapons on the territory of any of the Central Asian signatory states might be a violation of national law, but this does not constitute a violation of the CANWFZ treaty.

The IAEA oversees issues of monitoring, verification and recommendation. It is an agency with the capacity to analyze with authoritative technical capacity. But the IAEA is not a police agency. It does not have the capacity to enforce law

and impose sanctions directly by itself. In such circumstances, the general rule is that security agreements are valuable providing that they constrain and guide, but only if they do so in a way that is essentially self-enforcing. □

<sup>1</sup> An English language version of the CANWFZ treaty may be found at the website of the James Martin Center for Nonproliferation Studies. See <http://cns.miis.edu/inventory/pdfs/apcanwz.pdf>

<sup>2</sup> Statement issued by the Spokesperson for U.N. Secretary-General Ban Ki-moon <http://www.un.org/News/Press/docs/2009/sgsm12143.doc.htm>

<sup>3</sup> See David Albright and Mark Hibbs. 1991. "Iraq's Nuclear Hide-And-Seek," *The Bulletin of the Atomic Scientists*, September 1991, Vol. 47, No. 7. <http://www.thebulletin.org/issues/1991/s91/s91albright.html>.

<sup>4</sup> Since that time credible accounts have since emerged about how the Iraqi nuclear weapons development program was conducted specifically so as to elude IAEA safeguards. See Mahdi Obeidi and Kurt Pitzer, *The Bomb in My Garden: The Secrets of Saddam's Nuclear Mastermind* (Hoboken, NJ: John Wiley & Sons, 2004).

<sup>5</sup> For the current status of safeguard agreements, see the IAEA Status List. [http://www.iaea.org/OurWork/SV/Safeguards/sir\\_table.pdf](http://www.iaea.org/OurWork/SV/Safeguards/sir_table.pdf)

<sup>6</sup> See Scott Parrish, "Prospects for the Establishment of a Central Asian Nuclear-Free-Zone," *The Nonproliferation Review* (Spring 2001), p. 148, footnote 12.

<sup>7</sup> Nursultan Nazarbayev, "My Advice to Iran," *Le Monde* (July 13, 2006). Reprinted in the *Kazakhstan News Bulletin* 6, No. 28 (July 2006) <http://www.kazakhembus.com/newsbulletin.html>

<sup>8</sup> Statement by H.E. Mr. Nursultan A. Nazarbayev, President of the Republic of Kazakhstan, during the general debate at the Sixty-second Session of the United Nations General Assembly New York, 25 September, 2007, p. 2. <http://www.un.org/webcast/ga/62/2007/pdfs/kazakhstan-en.pdf>

<sup>9</sup> The UN Security Council resolutions cited here are freely available. See [http://www.un.org/Docs/sc/unsc\\_resolutions08.htm](http://www.un.org/Docs/sc/unsc_resolutions08.htm)

<sup>10</sup> Nazila Fathi and William J. Broad, "Iran Says It's Installing New Centrifuges," *The New York Times* (April 9, 2008).

<sup>11</sup> George P. Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn, "A World Free of Nuclear Weapons," *The Wall Street Journal* (January 4, 2007), p. A15.

<sup>12</sup> Falling Behind: International Scrutiny of the Peaceful Atom, A Report of the Nonproliferation Policy Education Center On the International Atomic Energy Agency's Nuclear Safeguards System Final Updated Report (September 2007) Available at <http://www.npec-web.org>

<sup>13</sup> Luciano Zaccara, "The Nuclear Question and the Regional Leadership in Middle East and Central Asia." To appear in *Conceptions and approaches to the regional security: experience, problems and prospects of interaction in Central Asia: Proceedings the Fifth Annual Conference on Security* (Almaty, June 7, 2006) (Almaty: Kazakhstan Institute for Strategic Studies, 2006). Available at <http://www.kisi.kz/site.html?id=956>

<sup>14</sup> See Sergei Lavrov, "My prizvali k chestnomy razgovoru," [We called for candid discussion]. *Vremya*. (December 26, 2007). <http://www.vremya.ru/2007/238/5/194983.html>

# MISSILE SHIELD OVER EUROPE

Countering the future missile threat could bring NATO and Russia together

By Lt. Col. John D. Johnson, George C. Marshall Center

The threats posed by the proliferation of ballistic missiles and the potential nexus of ballistic missiles and nuclear programs are of great concern to the United States, NATO, Russia and the international community. For example, Iran claims its ballistic missiles are defensive in nature and its nuclear program is for peaceful purposes. However, insufficient cooperation and the lack of transparency on Iran's part leave these claims open to serious debate. Meanwhile, the international community has gone to great lengths to engage Iran diplomatically. Additionally, the U.S., NATO and Middle Eastern countries have engaged in threat mitigation activities that include nonproliferation efforts, economic sanctions and the deployment of missile defense systems.

Regarding missile defense, in September 2009, President Barack Obama announced a new U.S. missile defense policy for Europe called the Phased Adaptive Approach, or PAA. At the Lisbon Summit in November 2010, NATO also considered the ballistic missile threat and decided to develop the capability to defend Alliance "populations and territories against [a] ballistic missile attack."<sup>1</sup> This article reviews NATO and U.S. missile defense policy for Europe, concludes with several analytical findings and argues that missile defense presents an excellent opportunity for cooperation between NATO and Russia.<sup>2</sup>

## NATO MISSILE DEFENSE POLICY

There are three components of NATO's missile defense policy. First, the Active Layered Theater Ballistic Missile Defense program, or ALTBMD, established in September 2005, is aimed at protecting deployed Alliance forces (i.e., Theater Missile Defense, or TMD) from short- and medium-range ballistic missiles. The ALTBMD has been focused on integrating NATO's command and control systems and communication network to enable the exchange of information between NATO and national-level missile defense systems. Second, in November 2010, Allies "decided that the scope of NATO's current ALTBMD programme's command, control and communications capabilities will be expanded beyond the protection of NATO deployed forces to also protect NATO European

populations, territory and forces."<sup>3</sup> Third, under the auspices of the NATO-Russia Council, or NRC, NATO is engaged in TMD and, more recently, missile defense cooperation with Russia. Of significance, at the November 2010 NRC meeting, NATO and Russia agreed on a joint ballistic missile threat assessment, agreed to resume TMD cooperation, and "tasked the NRC to develop a comprehensive Joint Analysis of the future framework for missile defense cooperation."<sup>4</sup>

As background, several documents provide the framework for NATO's current policy and activities related to TMD and missile defense. NATO's 1999 Strategic Concept initially recognized the need for TMD, citing "the risks and potential threats of the proliferation of NBC [nuclear, biological and chemical] weapons and their means of delivery."<sup>5</sup> At that time, NATO's focus was on TMD, which is intended to protect troops operating in the field. After the U.S. withdrew in 2002 from the Anti-Ballistic Missile Treaty, or ABM Treaty, which limited U.S. missile defense to a single site, the U.S. and NATO started to consider the feasibility for missile defense of NATO territory.<sup>6</sup> The shift in 2002 toward a possible NATO missile defense mission represented a considerable expansion to the protection previously envisioned under the TMD concept.

In 2002 at the Prague Summit, Allies "initiated a new NATO Missile Defence Feasibility Study to examine options for protecting Alliance territory, forces and population centres against the full range of missile threats."<sup>7</sup> In November 2006 at the Riga Summit, NATO concluded that missile defense is technically feasible and directed that additional work be done to determine the political and military implications of missile defense and also directed that a threat assessment be updated.<sup>8</sup> In April 2008, NATO's Bucharest Summit Declaration acknowledged that ballistic missile proliferation posed an increasing threat to the Allies' forces, territory and populations and specifically referenced Iran's ballistic missile program; recognized the planned deployment of U.S. missile defense assets to Europe; and emphasized the importance of NATO-Russia missile defense cooperation.<sup>9</sup> In April 2009, Allies reaffirmed many previously agreed-to



Two Standard Missile 2 interceptors, part of the Aegis Ballistic Missile Defense Program, are successfully tested in the Pacific. NATO plans to station ships carrying the interceptors in the Mediterranean Sea to defend against threats.

missile defense conclusions and directed that work be done to look at options for possibly expanding the role of NATO's ALTBMDD beyond protecting deployed forces to include the protection of NATO territory.<sup>10</sup>

In December 2009, the Allies welcomed the U.S. PAA for missile defense in Europe and said that if NATO decides to take on missile defense of NATO territory as a mission, then the PAA would be a valuable national contribution to NATO's capability and to Alliance security.<sup>11</sup> Finally, as mentioned previously, in November 2010 NATO agreed to develop a missile defense capability to protect Alliance territory.

#### "PHASED, ADAPTIVE APPROACH"

In September 2009, President Obama announced a new U.S. missile defense policy for Europe. The new U.S. policy is guided by two main factors. First, it is based on an updated threat assessment, which emphasizes the threat posed by short-range ballistic missiles, or SRBM, and medium-range ballistic missiles, or MRBM, rather than the threat from intercontinental ballistic missiles, or ICBM. Second, it is based on advances in missile defense technology, particularly sea- and land-based interceptors and the sensors that support them. The PAA missile defense policy for Europe calls for the following:

- **Phase One (in the 2011 timeframe)** — Deploy current and proven missile defense systems available in the next two years, including the sea-based Aegis Weapon System, the SM-3 interceptor (Block IA), and sensors such as the forward-based Army Navy/Transportable Radar Surveillance system (AN/TPY-2), to address regional ballistic missile threats to Europe and our deployed personnel and their families.
- **Phase Two (in the 2015 timeframe)** — After appropriate testing, deploy a more capable version of the SM-3 interceptor (Block IB) in both sea- and land-based configurations and more advanced sensors to expand the defended area against short- and medium-range missile threats.
- **Phase Three (in the 2018 timeframe)** — After development and testing are complete, deploy the more advanced SM-3 Block IIA variant currently under development to counter short-, medium- and intermediate-range missile threats.
- **Phase Four (in the 2020 timeframe)** — After development and testing are complete, deploy the SM-3 Block IIB to help better cope with medium- and intermediate-range missiles and the potential future ICBM threat to the U.S.<sup>12</sup>

In announcing the PAA, the president emphasized that the new approach is consistent with NATO missile defense efforts and said that he would welcome Russian cooperation to bring their missile defense capabilities into a broader defense of common interests. The president also alluded to the adaptable nature of the PAA, saying, "Going forward ... we will rigorously evaluate both the threat posed by ballistic missiles and the technology that we are developing to counter it."<sup>13</sup>

#### COUNTERING MEDIUM-RANGE BALLISTIC MISSILES

From a technical capabilities standpoint, in the present and for the next two to three years, the greatest ballistic missile threat to Europe is from MRBM with a range of approximately 2,000 kilometers. Theoretically, if launched from the Persian Gulf region, MRBM could reach southeastern Europe, including parts of NATO members Turkey, Greece, Bulgaria and Romania.

If deployed in sufficient numbers, the sea-based Aegis Weapon System, the SM-3 interceptor (Block IA) and associated sensors called for in Phase One (2011) of the PAA are sufficient to defend against an MRBM attack. A combination of Aegis patrols in the Mediterranean and Black seas would provide optimal Aegis Ballistic Missile Defense, or BMD, coverage for southeastern Europe. Operationally, however, a U.S. BMD employment strategy that relies on the Black Sea could meet with Russian opposition, due in part to the presence of Russia's Black Sea Fleet and its base in Sevastopol. Russia views the Black Sea as being within its sphere of influence. A sub-optimal but acceptable Aegis BMD deployment would be patrols based solely in the Mediterranean Sea.

Phases Two and Three of the PAA call for the deployment of the more capable land-based SM-3 interceptors in Eastern Europe (likely in Romania and Poland). Of significance, the land-based SM-3 capabilities planned for Phase Two (in the 2015 timeframe) will render unnecessary the potentially contentious Black Sea Aegis BMD patrols.

#### RUSSIAN INVOLVEMENT

The previous U.S. administration's missile defense plan for Europe caused great concern in Russia because it called for the deployment of a radar capability in Eastern Europe that would have had the capability to monitor Russian ICBM. Russia also felt the previous plan was announced unilaterally rather than in a coordinated, bilateral or multilateral way. Further, Russia viewed the previous plan as an initial



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NATO Secretary General Anders Fogh Rasmussen visits Bucharest, Romania, in May 2010 as part of a mission to explain the proliferation threat.



U.S. NAVY

The U.S. Navy launches a medium-range ballistic missile over the Pacific Ocean; minutes later, the missile was intercepted by the Aegis combat system. The U.S. and its NATO partners plan to deploy such an anti-missile defense system to protect Europe.

capability that would have paved the way for further U.S. expansion of missile assets in Eastern Europe and worldwide.

Taken together, U.S. missile defense plans for Eastern Europe, NATO expansion into Eastern Europe and the Baltic Region, and the U.S. withdrawal from the ABM

Treaty, among other factors, have all contributed to Russian threat perceptions as articulated in Russia's 2010 Military Doctrine, which paints NATO enlargement as an "external military danger."<sup>14</sup>

President Obama's decision to abandon previous missile defense plans for Eastern Europe was a positive step from Russia's perspective. Russia seems slightly more at ease with the new PAA for Europe. The PAA's approach is different

from the previous plan in that it focuses initially on the threat posed by short- and medium-range ballistic missiles. Not until Phase Four would the PAA counter ICBM. However, recent U.S. agreements with Poland, Romania and the Czech Republic to place PAA missile defense capabilities in their countries in future PAA phases will likely eventually create additional tension with Russia. This point of tension probably will occur at some point in the future but prior to the actual deployment of these capabilities.

Despite these challenges, the November 2010 NATO-Russia Council agreement on missile defense cooperation was a positive step and is an area of enormous potential in terms of NATO-Russia cooperation. However, it remains to be seen whether NATO and Russia can use missile defense cooperation to move beyond paper agreements and speeches marking "historic breakthroughs" to truly achieve greater cooperation, transparency and security.

Although NATO and Russia share many common interests (e.g., Afghanistan, Iran, North Korea, terrorism, missile defense, nuclear and missile nonproliferation, and countering drugs), missile defense presents a real opportunity for NATO to take policy steps that chart a positive course vis-à-vis Russia. Therefore, the U.S. and NATO should intensify efforts to increase cooperation with Russia on missile defense.

Rather than seeking a quantum leap in NATO-Russia cooperation, policymakers should look for areas in which incremental confidence-building steps can be taken over time. In fact, regarding Iran in general, the analysis suggests that U.S. and NATO engagement with Russia is the key to a true breakthrough with Iran because Russia's political, security and especially economic ties with Iran give it leverage. □

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## Transforming Conflict in Kosovo

Institutions must be enlisted to end ethnic dispute

By Elhami Shaqiri

**The suffering of the recent war continues to influence relations between communities in Kosovo. Moving forward while remembering the past is a challenge that communities in Kosovo are facing.**

Ethnic relations continue to be influenced by the violence of the 1990s. Those experiences do not belong to the past but remain an open wound, making reconciliation difficult. Hence, it is important to analyze thoroughly the root causes of the conflict between the Serbian and Albanian communities and then to reflect on them rationally with the aim of finding a resolution. It is important that members of the communities take an open-minded view of the future so that their past perceptions of each other change positively.

For the most part, transforming negative memories is about transforming negative perceptions, which unfortunately has been a major cause of conflict in the first place. Perhaps at this point the Franco-German case could serve as a model of moving forward. "Charles de Gaulle and Konrad Adenauer officially put an end to the calls for mutual destruction that had poisoned the existence of their countries for several decades, if not centuries. This change did not occur in the twinkling of an eye, of course. It required, among other things, profound modifications in the attitudes held by each country vis-à-vis the other." (Rosoux 2004, p.165) It is now 12 years since the war ended in Kosovo and perhaps it is time that both communities start a rapprochement. According to Rosoux, in the Franco-German case, "the authorities of the two states have systematically tried to avoid being locked into memories that are strictly national." (Rosoux 2004, p.165) Therefore, it is of great

importance that the Serbian and Albanian communities should learn from the Franco-German rapprochement and avoid being locked into memories of their past.

Establishing positive relations between the conflicting communities in Kosovo still remains very challenging. "The shift from negative to positive feelings cannot be accomplished without a transition; in order to discover reasons why they can work together, the parties first have to get over the reasons why they fought each other." (Zartman 2005, p. 298) In this regard, considering that 11 years have now passed since the war ended, the transition period is probably reaching its end. Projects such as becoming members of the European Union and NATO could be an incentive for working together. Trade and economic cooperation is an important incentive to work together because it will result in gains for both communities.

To create future prosperity for all the communities in Kosovo, additional elements should also be considered. In regard to the past, it is crucial to separate facts from distortions. Those facts should be communicated

Left: A Kosovar girl celebrates the declaration of Kosovo's independence from Serbia in Pristina on February 17, 2008. Serbia has disputed the legality of Kosovo's independence declaration.

Right: Kosovo Serbs in the ethnically divided town of Kosovska Mitrovica march in protest of Kosovo's independence in February 2008. The protesters claim international support for Kosovo's independence violates U.N. Resolution 1244.

to the public so that people become aware of the truth. It is essential that political leaders from both communities agree to deal constructively with past issues, which in turn would enable communities to move forward and let residents get on with their lives.

Moreover, regional cooperation is a mechanism for building positive relations between countries of the region. All Balkan countries are multiethnic societies. Minority communities in one country are majority communities in another. For example, in Kosovo the Serbian community is a minority community, whereas in Serbia the Albanian community is a minority. In this context, the Ahtisaari Settlement indeed places great importance on economic cooperation between Kosovo and Serbia. The Ahtisaari Settlement states clearly that “Kosovo and the Republic of Serbia shall further develop economic ties between them.” (Ahtisaari 2007, p.6) The same scenario occurs with Macedonia, Albania and Montenegro: Multiethnic societies should trade with one another and regard their minority communities as added value and important elements of economic cooperation.

In the Balkans, regional geopolitical dynamics unfortunately have created generally negative outcomes, which in turn have influenced relations even more negatively between countries. During the last decade, regional political dynamics reached their lowest level with the breakup of the former Yugoslavia, followed by wars in Slovenia, Croatia, Bosnia and Herzegovina, and Kosovo. For the most part, nationalism and rooted ethnic hatred provoked these regional wars, which in turn impacted even more negatively those same national dynamics. This vicious cycle continued for a long time in the Balkans because of political leaders who constantly breached international law and generally ignored diplomacy in dealing with political issues.

The EU is giving Balkan countries a clear signal on the prospect of future European integration. The EU has stated on many occasions that the future of the Balkans lies within the EU. This process depends on progress regarding EU accession requirements. Kosovo’s status is certainly of great concern for the region as well as for the international community. In working out Kosovo’s final status settlement, the international community has taken into account the historical perspective in the solution to end the cycle of violence between the communities in Kosovo and the region in general. The region is looking to the future and searching for a new vision based on security, stability and cooperation.

Furthermore, it is important to realize that regional doubts about the creation of “greater Kosovo” are ending as this issue is resolved by the Ahtisaari Settlement, which states that “Kosovo shall have no territorial claims against, and shall seek no union with, any State or part of any State.” Now that Kosovo’s status is largely settled, countries in the region should prioritize economic development and regional trade, as well as pursue an EU agenda evidently



supported by the majority of the region’s citizens. Indeed, a long-term settlement in Kosovo will bring even more peace, stability and economic development.

It is important to realize that to achieve sustainable peace and stability in Kosovo, it is essential to preserve its unity and to promote integration between the communities. This, of course, takes time. But if Kosovo wants to be a stable and prosperous country, then it should move forward with conflict transformation. The people of Kosovo need to tackle the root cause of their ethnic conflicts to enable a peaceful and prosperous coexistence. Putting an end to long-lasting ethnic hatred and establishing a long-lasting peace requires political will and determination by both parties to the conflict. It is essential to establish respected institutions capable of facilitating conflict transformation. The accession of Kosovo and the region to the EU is an essential incentive to cooperation and conflict transformation. This is a common objective for all, an objective that will lead to a better future for all. □

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## Russia Looks West

New era of cooperation promised

**“We have changed,” Russian President Dmitry Medvedev said in a keynote address at the June 2010 St. Petersburg International Economic Forum. Medvedev was speaking about plans to refocus the Russian economy on innovation and technology rather than energy and natural resource production. While the change is apparent in Russia’s newly cooperative approach to the European Union, for NATO and neighboring states of the former Soviet Union, the question remains: Is the change authentic? And, if so, how deep does it run in Russian policy?**

Medvedev’s push to transform the Russian economy is primarily a movement for modernization. It includes plans to build a center for technology, engineering and business education in Skolkovo, modeled on the Silicon Valley, that would establish relationships with top U.S. universities and technology companies. If Russia is to grow into the high-tech power envisaged by Medvedev, it will need help from the West.

To that end, Russia is pursuing a course of cooperation, eschewing the confrontation that sometimes characterized Russian foreign policy under the administration of former President Vladimir Putin. The new “de-ideologized” foreign policy is “characterized by pragmatic consideration of Russia’s national interest,” Anders Åslund of the Peterson Institute for International Economics wrote in an op-ed for *The Moscow Times*.

### Low point

Post-Soviet relations between Russia and the West reached a diplomatic low point with the August 2008 Russian invasion of Western-oriented NATO aspirant Georgia. Some in the West accused Russia of having neo-colonial ambitions. The Russia-NATO Council, established in 2002 for consultation and consensus-building, suspended activities as accusations were exchanged over who was responsible for the war. Russia’s image as a reliable Western partner was not improved by the January 2009 dispute with Ukraine over payments for natural gas. Russia halted gas shipments through Ukraine, causing shortages in many European countries.

The BBC wrote: “Critics say that Russia is using its energy resources as a political weapon to pressure European and former Soviet countries to adopt favorable stances towards Moscow.” In doing so, Russia had isolated itself not only from the West, but from its closest neighbors. Russia “tried to impose itself upon the former Soviet republics,” Åslund said. “The fundamental problem is that everybody is suspicious of Russia’s real intentions.”

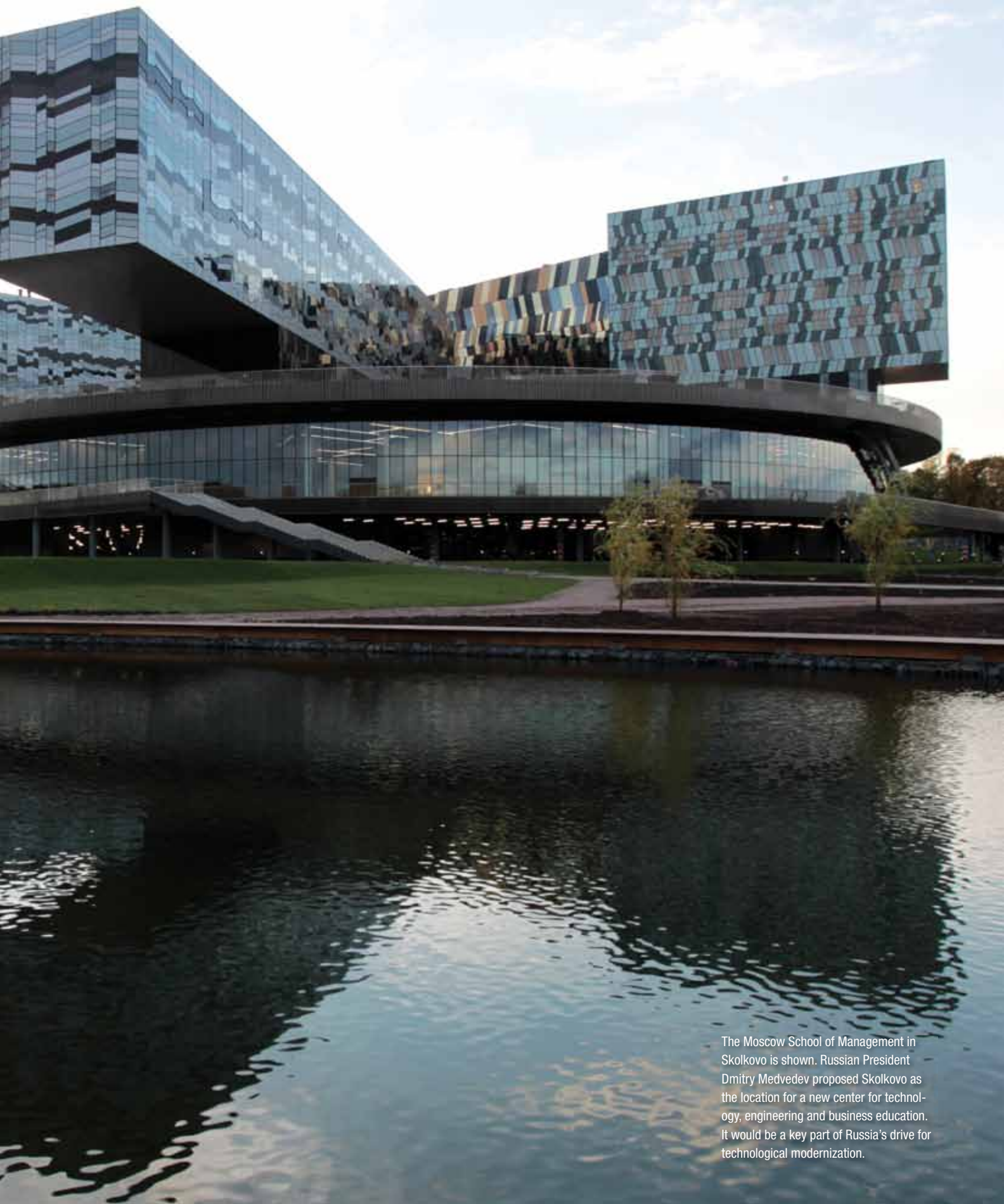
### Better relations

But relations with Russia started to improve as both the West and Russia took a more conciliatory approach. The Russia-NATO Council resumed meeting, despite misgivings by some members. As former NATO Secretary-General Jaap de Hoop Scheffer argued at the time: “Russia is an important global player, and this means that not talking to them is not an option.” After his election in 2008, U.S. President Barack Obama promised to “reset” relations and delayed deployment of



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The Moscow School of Management in Skolkovo is shown. Russian President Dmitry Medvedev proposed Skolkovo as the location for a new center for technology, engineering and business education. It would be a key part of Russia's drive for technological modernization.

elements of a ballistic missile intercept system in the former Warsaw Pact countries Poland and the Czech Republic. NATO also put accession of former Soviet republics Ukraine and Georgia on hold indefinitely. These two policy changes appeared to alleviate Russian security concerns and gave Moscow confidence to pursue a more cooperative approach. As a result of the international economic downturn and financial crisis, Russia's economy shrank by more than 8 percent in 2009. Russian leaders realized that relying on profits from high energy prices was an unreliable economic model, according to Adnan Vatansever of the Carnegie Endowment for International Peace.

Åslund added: "Russia's new policy is grounded in the need to modernize and attract foreign investment." For Russia, confrontation seems to have lost its appeal.

Russia's refocused foreign policy is evident in its relations with former Soviet and Warsaw Pact neighbors. After years of acrimony, cordial dialogue between historical rivals Russia and Poland has begun. Medvedev visited Poland in December 2010, which Russian Foreign Minister Sergei Lavrov called "a landmark event" in moving forward with bilateral relations. The former Soviet Baltic states of Estonia, Latvia and Lithuania, where the Soviet years are widely considered a military occupation, have softened opposition to Russia. In Latvia, a political party of mostly ethnic Russians came in second in 2010 national elections. And Russia resolved a 40-year

maritime border dispute with Norway, signing a treaty in September 2010 delineating territorial rights in the energy-rich Barents Sea. Relations with Ukraine improved the most with the election of pro-Russian Victor Yanukovich, after years of tension with the pro-Western "Orange Revolution" government. And in Kyrgyzstan, where the government was overthrown by a popular uprising, Moscow appears to be maintaining a hands-off approach. Though tensions remain with Georgia just two years after the war, even there the chance of renewed armed conflict seems to have receded. "Russia's policy in the region has genuinely changed for the simple reason that the Kremlin realizes the old aggressive policy has completely failed," Åslund wrote.

### "We have changed"

Much can be gained by the integration of Russia into European and international institutions. Since the end of the Cold War, Russia and the EU have built extensive economic ties. Demand from Russia's growing middle class makes it a primary export market for European consumer and technology goods, and about half of Russia's exports go to the EU. Eurostat data from 2009 indicated that one-third of EU gas imports originated in Russia. Improved economic ties, characterized by liberalized trade policies and standardized regulatory rules, would benefit all parties and would also improve regional stability. BBC News reports: "The two sides have been negotiating a new agreement, the 'Partnership for Modernisation,'

**Left:** People gather at an anti-corruption rally in Moscow in October 2009. Russia's ability to tame corruption is important for its plans for greater European integration.

**Right:** Russian shoppers taste imported Japanese grapes at a supermarket in Vladivostok in October 2010. It was the first time such fruit was exported to the Russian Far East, highlighting growing trade ties.



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aimed at increasing foreign investment, boosting trade and integrating markets.”

Analysts think that admission into the World Trade Organization, or WTO, is the most important step for Russia. Russia’s accession to the WTO, which President Medvedev has made a foreign policy priority, has been in the works for 17 years, *Bloomberg Businessweek* said. The primary obstacles have been agricultural trade disputes with the U.S. and a Russian trade embargo on WTO member Georgia. Nevertheless, in October 2010, Lawrence Summers, then-director of the U.S. National Economic Council, claimed that contentious issues have been overcome and Russia, as the largest economy outside the WTO, is expected to join by the end of 2011.

Better diplomacy leads to better security. Russia, the EU and the United States share vital interests in combating transnational organized crime, narcotics trafficking and terrorism stemming from militant Islamic extremism. Those vital interests overlap especially in Central Asia and Afghanistan. According to Dmitri Trenin and Alexei Malashenko of Carnegie, Russia worries that a victorious Taliban in Afghanistan could resume its pre-2001 support for Central Asian Islamists and Chechen rebels, creating “a rise in Islamist radicalism across the region and a revival of rebel activity in Uzbekistan and Kyrgyzstan.” Russia has cooperated with NATO in Afghanistan from the beginning of the war to displace the Taliban and destroy al-Qaida, sharing intelligence, providing arms and supplies to the Afghan government and allowing transit of non-lethal NATO military equipment and personnel. Moscow also wants a stable Afghanistan to restrict the flow of heroin that is feeding an epidemic of addiction in Russia.

In May 2010, Russia and the EU agreed to strengthen cooperation against organized crime and terrorism and “reach an operational agreement between Europol and Russia as soon as possible,” according to *The Sofia Echo* newspaper. In June 2010, as a sign of increased cooperation with the West, Russia supported U.N. Security Council Resolution 1929 imposing tougher sanctions on Iran over its nuclear program, but balked at stronger sanctions and criticized the EU, U.S. and Japan when they took stronger measures beyond what the U.N. had done. Russia has maintained cordial relations with Iran, and the West hopes Moscow, once further integrated into Western economic and security structures, could act as an intermediary in persuading Iran to abandon its nuclear program.



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### How far reform?

Some question whether Russia is serious about changing. Sergei Aleksashenko, economist with the Carnegie Moscow Center, remarked that “a lot of experts have agreed that in order to modernize Russia there is a need to start with the political organization, the modernization of the political system.” Aleksashenko noted that Medvedev has hedged his words by suggesting that “modernization is only a technical process” and won’t lead to comprehensive modernization of the entire country. He also notes that Medvedev and Putin have more recently replaced the word “modernization” with “innovation.” Said Aleksashenko: “It’s not a huge secret that there are three principal obstacles for foreign investment in Russia: rule of law, corruption and intellectual property rights.” He is skeptical about Russia’s readiness to fully reform its political, legal and economic systems. Iana Dreyer of the European Centre for International Political Economy agrees and points out that Organisation for Economic Co-operation and Development indexes show Russia to have one of the most restrictive climates for foreign investment. Dreyer says Russia needs to move away from “protectionism and using energy as a foreign policy tool.”

Åslund is especially critical of the role of Prime Minister Putin in blocking reform and integration, but nevertheless believes that Russia’s overtures provide “a good opportunity for the West to engage anew with Russia.”

“Russia has the human and financial capital as well as technology for a modern innovation economy,” Åslund said. “But it lacks the necessary freedom of enterprise and communication.” □

A Russian armored column leaves South Ossetia in August 2008. Russia’s brief war with Georgia brought Russian relations with NATO and the EU to a low point.

## Europe Responds to Disasters

EU and NATO provide international reach

**In October 2010, toxic red sludge from a Hungarian alumina plant spilled chemicals into the Raba and Mosoni-Danube rivers. Hungary activated the European Union Civil Protection Mechanism for urgent international assistance in response to pollution caused by the breakdown of a sludge depository in the city of Ajka. The Hungarian authorities identified an immediate need for non-Hungarian experts. A team of five hand-selected experts and one liaison officer from the EU Civil Protection Monitoring and Information Centre, or MIC, deployed to the area within days of the accident.**



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When a toxic red sludge flooded the Hungarian towns of Devecser and Kolontar in October 2010, experts from the EU Civil Protection Monitoring and Information Centre were tapped to help.

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The chemical spill in Hungary is a recent example of a coordinated response to a potential chemical, biological, radiological or nuclear disaster, or CBRN disaster. The EU and NATO both possess agencies capable of leveraging national and international teams to help out in such emergencies.

The European Union's Community Mechanism for Civil Protection is one such organization. Its main role is to provide assistance in major emergencies when a national government desires or requires the pooled expertise of other member states. The EU illustrated this coordination capability in August 2010, when Pakistan's government requested assistance from the international community to deal with monsoon floods. When it arrived in Islamabad, the EU Civil Protection team coordinated aid and personnel arriving from 18 participating states.

The MIC is an important branch of the EU's Community Mechanism for Civil Protection. It operates 24 hours a day under the guidance of the Directorate-General of the Environment of the European Commission. The MIC acts as a hub serving the affected country, participating states and experts dispatched to the emergency site. It provides daily updates on the emergency, using the Common Emergency Communication and Information System. CECIS was created

to provide Web-based notifications to facilitate emergency communication among participating states.

The EU conducts training to improve coordination of civil protection assistance between intervention teams from the participating states and the country in distress. The training includes coursework, joint exercises and exchanges of experts.

NATO also has an organization to coordinate disaster assistance. The Euro-Atlantic Disaster Response Coordination Centre is a clearinghouse of disaster relief efforts among NATO members and partner countries. The EADRCC has managed more than 45 emergencies, including floods, forest fires and earthquakes. It is also tasked with dealing with the consequences of CBRN incidents, including terrorist attacks.

Similar to the EU's Community Mechanism for Civil Protection, the EADRCC functions as a coordination center for NATO and partner countries. It sponsors large-scale disaster response exercises. In recent years, scenarios have included a terrorist attack using chemical agents.

These two organizations are part of the coordinated effort of Europe to leverage the unique capabilities of its partner states to assist in responding to natural and technological disasters. □

# New Weapons: Keyboard and Mouse

Cybersecurity cooperation is key to defeating hackers

**The Internet continues to grow as an essential, daily tool for billions of people in personal, corporate and government arenas. Protection of confidential online information, also known as cybersecurity, therefore also grows in importance. Cybersecurity defends against illegal use of the Internet, corruption or disruption of computer networks and software, hacking and espionage. The global, borderless nature of the Internet calls for legal, political and private cooperation around the world, as cyber attacks are rising in frequency and severity, with hundreds of thousands of attacks launched daily at the cost of billions of euros. Our growing dependence on cyberspace makes cyber security a high priority that's appearing atop policymaker agendas.**

Cyber threats and espionage are two of the most pressing issues in the world today. Cybercrime is one of the fastest growing and most lucrative aspects of illegal Internet use. Proceeds from identity theft have even outpaced those from illegal drugs, according to Deutsche Welle.

One of the most well-known cyber attacks took place in Estonia in 2007, resulting in denial of service on all government and banking sites for three weeks. Customers received error messages when attempting to make a transaction. As one of the most wired countries in Europe, this small Baltic nation was particularly disrupted, as Estonians conduct 90 percent of their banking online. They pioneered development in paperless e-government and pay for parking with cell phone Internet hookups. After this attack, NATO and the European Union rushed information technology specialists to Estonia to assist in the recovery.

As countries further embrace Internet use, the risk of attacks increases. Task forces, summits and conferences on this subject have proliferated since the Estonia attack. Pooling resources, more than a dozen European organizations have enacted policies or held discussions, including the European Commission, NATO and the U.N. However, despite the efforts of highly intelligent security professionals working to secure networks in government, military and private industry, it is difficult to defeat these hackers that work obsessively to destroy computer networks.

Cyber hacking attracts extremists and spies because it can be done anonymously, safely and cheaply. Attacks vary from stealthy thefts on the Internet to advanced, persistent threats. Infected memory sticks allow criminals to steal documents and e-mails from computers. Traditional spies risk their lives to smuggle documents, but those who attempt theft in the cyber world face far less serious penalties. Current cybercrime laws do not appear to deter criminals.

For example, NATO headquarters is attacked at least 100 times a day, NATO Secretary General Anders Fogh Rasmussen has said. The Center for Strategic & International Studies mentions several international hurdles to defeating cybercrime: "Disagreement over what constitutes a crime; inadequate, uneven or absent authorities for governments to investigate and prosecute cybercrime; and procedures for international cooperation more attuned to the age of sail than to the Internet."

Despite preventative efforts, some fear what the mass disruption resulting from a substantial cyber attack might entail. The *EUobserver* describes it this way: "The EU's 27 countries would wake up to find electricity power stations shut down; communication by phone and Internet disabled; air, rail and road transport impossible; stock exchanges and day-to-day bank transactions frozen; crucial data in government and financial institutions scrambled and military units at home and abroad cut off from central command or sent fake orders." Economic damage and data loss could, therefore, last for years.

## Countries attacking countries

*The Guardian* reported in May 2010 that "[cyber] attacks launched by countries against other countries are causing the greatest concern." Recent examples include:

- In June 2010, China was accused of wholesale espionage, attacking computers used by U.S. defense contractors and stealing classified details of an F-35 fighter, the BBC reported. In addition, in 2009, the Chinese targeted Google and another handful of information technology, or IT, companies.
- North Korea was blamed for a massive cyber attack on the United States and South Korea in July 2009, according to Reuters. More than two dozen Internet sites were attacked, including those affiliated with the NASDAQ stock exchange; the White House;



Melissa Hathaway, acting senior director for cyberspace for the U.S. National Security and Homeland Security Councils, speaks at a conference in Estonia in June 2010. The conference tackled the issue of cyber conflict.

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the State, Treasury and Transportation departments; the Secret Service; and the Federal Trade Commission. Internet service providers in South Korea distributed a computer vaccine to combat the virus. In addition, a newspaper and two major lender sites in South Korea were affected, according to a *Telegraph* article in July 2009.

- In 2008, the Georgian government accused Russia of orchestrating “denial of service” assaults against Georgian websites starting just one day before the Georgian and Russian militaries began fighting over South Ossetia.

Reports suggest China continues to invest in its network operations and represents a cyber espionage threat. “The fact that so much vital

personal and organizational information, as well as financial transactions and operating systems are now placed in the cyber domain means a number of highly valuable targets are available for a range of state and non-state actors;” *Jane’s* intelligence clearinghouse said. In January 2010, Google announced that persistent cyber attacks emanating possibly from China may force the company to discontinue its Chinese search engine, google.cn.

#### **Cooperation is critical**

Cooperation and information sharing are critical to prevent further attacks. The United States, Russia and China, along with 15 other nations, agreed for the first time in July 2010 to work on



Flowers adorn a Google logo in front of the company's China headquarters. Google, the world's most popular search engine, threatened to shut down its Chinese-language google.cn search engine in 2010 over censorship and attacks from China.





A suspected North Korean cyber attack shut down the home pages of the South Korean president and Defense Ministry in July 2009.

reducing the threat of attacks on each other's networks. One of the recommendations resulting from this agreement was that the "U.N. create norms of accepted behavior in cyberspace, exchange information on national legislation and cybersecurity strategies, and strengthen the capacity of less developed countries to protect their computer systems," *The Washington Post* reported. Other nations participating in the agreement are Britain, France, Germany, Estonia, Belarus, Brazil, India, Italy, Israel, Qatar, South Korea and South Africa.

NATO addressed cyber attacks in its Strategic Concept adopted by member nations in November 2010. The Strategic Concept affirms that cyber attacks are an increasing, eminent threat. "Cyber attacks are becoming more frequent, more organized and more costly in the damage that they inflict on government administrations, businesses, economies and potentially also transportation and supply networks and other critical infrastructure; they can reach a threshold that threatens national and Euro-Atlantic prosperity, security and stability," the document states. It further acknowledges that "foreign militaries and intelligence services, organized criminals, terrorist and/or extremist groups can each be the source of such attacks." Responding to cybersecurity threats is not optional for NATO, Ashley J. Tellis of the international think tank Carnegie Europe argued in a debate involv-

ing NATO, Carnegie Europe and government officials. She contends that cyber threats, as well as climate change, terrorism, and proliferation of WMD "are at the core of fulfilling its obligations to the security of its

member states." NATO also announced the creation of an Emerging Security Challenges Division, which includes cyber defense as one of its initiatives.

Experts agree that the private sector must participate in cybersecurity at the same level as government and militaries in order to create comprehensive effective cyber protection. "Private businesses already are investing in this area simply to protect themselves, therefore partnering with them is a good idea and pools resources," *Jane's* reported in January 2010.

A unified policy will benefit the world, but creates a steep road ahead. This policy will need to include: jurisdiction; a universal definition of cybercrime; determining the level of cyber attack (e.g., monetary damages, deaths, length of disruption); extradition; language barriers; public education; and education of police, legal and judicial officials on technical subject matter.

The Internet is a prime example of how new opportunities can create new challenges. Looking to the future, cyber attacks are not likely to cease, but the response needs to improve, according to IT security experts. Preventing attacks will be critical: The world must combine resources to address cyber attacks and prevent exciting technologies from becoming liabilities.

The next issue of *per Concordiam*, due out in the summer of 2011, will address the theme of cybersecurity in greater detail. □

## Conversion to Terror

European converts to radical Islam pose security threat

**Countries in the European Union face a sobering reality: Cities, infrastructure and, most importantly, people are being targeted by radical Islamic terrorists. This is not a revelation — Over the past several years, Europeans have been the victims of numerous terrorist attacks in the name of violent jihad. Increasingly, however, EU citizens are threatened by violent Islamic extremists among their own countrymen.**

This realization was reinforced in October 2010 when the EU issued terror alerts triggered by intelligence warnings of an al-Qaida plot to conduct “Mumbai-style” attacks on European cities. A few days later, five Taliban militants with German citizenship were reported killed in a NATO attack on a militant hideout in Pakistan, which BBC News analysts speculated were connected to the attack warning. Then, over two days, French police arrested 12 people in antiterrorism raids, while Bulgarian police raided an Islamic organization that *The Sofia Echo* reported had “propaganda material preaching religious hatred and the overthrow of Bulgaria’s constitutional order.”

A growing threat in Europe is violent Islamic extremism stemming from domestic radicalization. “Islam is widely considered Europe’s fastest growing religion, with immigration and above average birth rates leading to a rapid increase in the Muslim population,” the BBC said. Data compiled by the BBC place an estimated 5 million to 6 million Muslims in France and more than 3 million in Germany — the highest numbers in the EU. Other nations with large Muslim populations include the United Kingdom, Spain, the Netherlands and Italy. Balkan countries such as Albania and Bosnia-Herzegovina also have substantial Muslim populations. Outside the EU, an estimated 20 million Muslims live in Russia, where Islamic separatist movements in the North Caucasus republics have spawned dozens of terrorist attacks over the past two decades, killing thousands. The November 2008 EU report “Radicalisation, Recruitment and the EU Counter-radicalisation Strategy” states: “The vast majority of Europeans, irrespective of belief, do not accept extremist ideology, and that amongst the small number that do, only a few turn to terrorism.” However, European governments are concerned about the threat posed by domestic radicalization. As recent terrorist attacks in London, Madrid and Moscow have shown, when sufficiently radicalized, small numbers of people are capable of producing great death and destruction.



A German court convicted (from top left) Fritz Gelowicz, Adem Yilmaz, Daniel Schneider and Atilla Selek for plotting terrorist attacks against U.S. interests in Germany. The case gained widespread attention because Gelowicz and Schneider are ethnic German converts to Islam and Yilmaz is a German citizen.

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A French Soldier patrols at the Eiffel Tower as part of the national security alert system Vigipirate. France increased the terrorism threat level in September 2010 in response to intelligence warnings of a plot to attack European cities.



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### From convert to terrorist

Western European Islamic extremists have largely come from backgrounds of Islamic heritage, either as recent legal immigrants or second- and third-generation descendants of immigrants. For example, three of the four London train bombers were British-born men of Pakistani descent, while members of the cell that carried out the Madrid bombing were primarily Moroccan immigrants. More recently, a British suspect born in Somalia was arrested in the Netherlands in September 2010, and three Germans were recently charged with supporting terrorism. According to the *Irish Examiner*, information provided by Ahmad Wali Siddiqui, a German citizen of Afghan origin captured by NATO forces in Afghanistan was responsible for the late 2010 terror alerts in Europe.

The radicalization of ethnic European converts to Islam has grabbed the attention of European law enforcement and security officials. Michael Taarnby, a terrorism expert from the Danish Institute for International Studies, told *The Washington Post*: “The number of converts, it seems, is definitely on the rise. We’ve reached a point where I think al-Qaida and other groups recognize the value of converts, not just from an operational viewpoint but from a cultural one as well.” Converts are tactically important to terrorist organizations because of their deep cultural knowledge of the target countries. Their physical appearance allows them to go undetected more easily. Security officials have also uncovered radicalized converts to Islam who were planning or attempting terrorist attacks

in the West. Richard Reid, the infamous “shoe bomber,” is British, as are Andrew Ibrahim, who planned to bomb a shopping center, and Nicky Reilly, who attempted to set off a suicide bomb in a crowded restaurant. One of the London metro bombers, Germaine Lindsey, was Jamaican-born. French converts Lionel Dumont and brothers David and Jerome Coutaille have been convicted of planning or aiding terrorist plots directed at Europe. And in March 2010, in what *Der Spiegel* called “the largest terrorist trial to take place in Germany since the times of the Red Army Faction,” a German court sentenced converts Fritz Gelowicz and Daniel Schneider to 12 years in prison for their roles in a plot to kill U.S. Soldiers and civilians.

In Russia, “investigators probing terrorism cases in the North Caucasus have noted a growing number of ethnic Slavs among the perpetrators,” Radio Free Europe/Radio Liberty reported. *Komsomolskaya Pravda* reported in 2006 that more than half the members of a radical Islamist terrorist group broken up by police were ethnic Russians and Ukrainians, including former soldiers and a senior policeman. This group was responsible for the 2004 Moscow metro bombing.

Also of note is a wave of European women converting to radical Islam, one of whom, Belgian Muriel Degauque, committed a suicide attack against American troops in Iraq in 2005. French domestic intelligence chief Pascal Mailhos told *Le Monde*, “The phenomenon is booming, and it worries us.”

Security experts are concerned that police are not as alert to the potential threat from an ethnic European woman as they might be to that from a young man of Middle Eastern appearance. Female suicide bombers have been used extensively in Russia by Islamic terrorists from the North Caucasus, including the 2004 metro attack mentioned previously and subsequent Moscow metro attacks in March 2010. Bavarian Interior Minister Guenther Beckstein told *The Washington Post* that many converts, whether as contrition for past sins or to prove their devotion to the new religion, may be more easily led into extremism.

### Radicalization: a process

In order to understand and prevent radicalization, there has been extensive discussion about the causes. Anger about a perceived Western war against Islam and feelings of alienation among Muslims living in the West are frequently cited as contributing factors. Kenan Malik, a British author and journalist, blames failed multiculturalism for the sense of alienation: “Multiculturalism as a political ideology has helped create a tribal Britain with no political or moral center. Today many young British Muslims identify more with Islam than

Britain primarily because there no longer seems much that is compelling about being British,” he wrote in an essay for *The Times*. German Chancellor Angela Merkel agreed, saying that multiculturalism, as a policy, “has failed totally” in reference to the widespread lack of integration by mostly Muslim immigrants. A study conducted by John Venhaus of the U.S. Institute of Peace found that a common trait of these foreign fighters is “an unfulfilled need to define themselves” and identified them as belonging to one of four groups: revenge seekers, status seekers, identity seekers or thrill seekers.

Many Western nations are also looking at the menace of prison radicalization. According to James Brandon of the Quilliam Foundation: “There is increasing evidence that prisons in the West are now starting to play a similar role [as incubators of jihadist thought] — particularly in the United Kingdom, which has seen more ‘homegrown’ terrorist plots than any other Western country.” Brandon points out that violent extremists recognize prisons as ideal recruiting grounds. “Prisons are places where disaffected, often violent individuals are concentrated to be punished by the state,” he wrote in the *CTC Sentinel*. “Such individuals are naturally receptive to an ideology that glorifies anti-social and anti-state



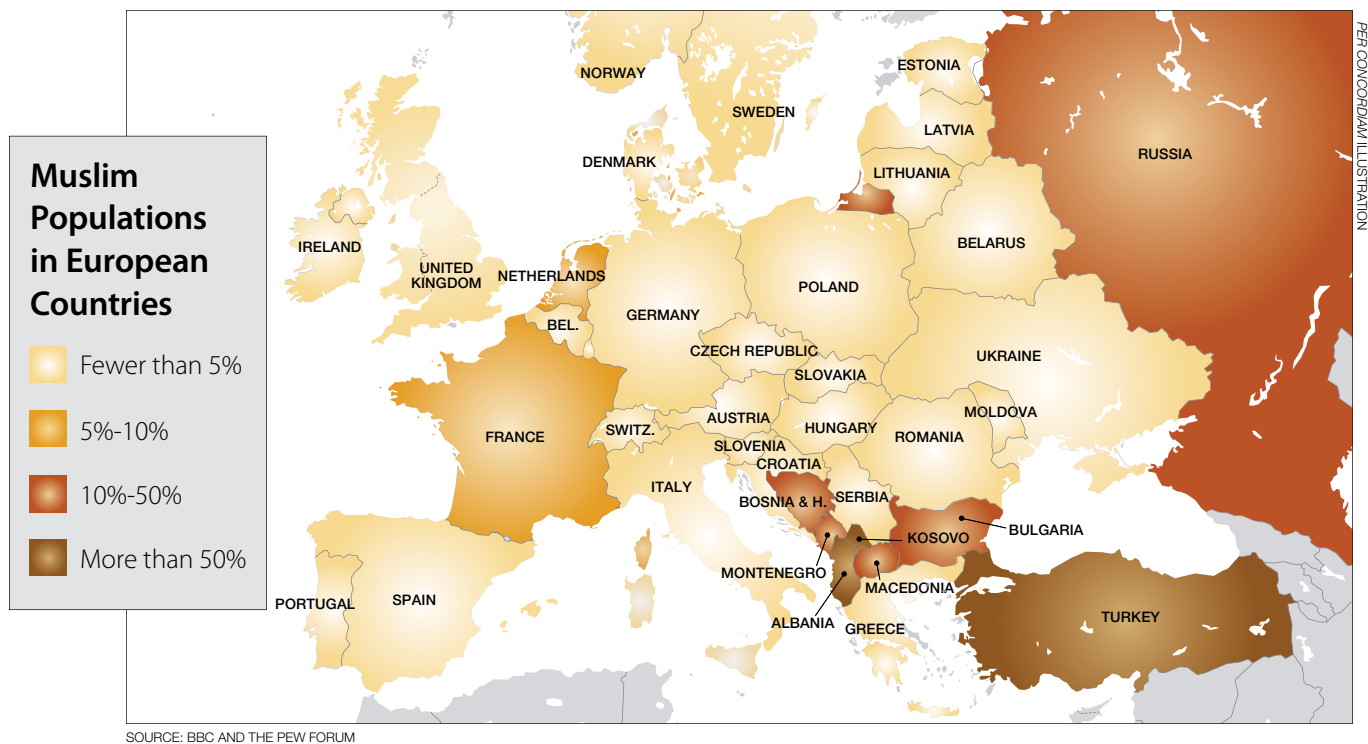
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Moscow commuters leave flowers at the Park Kultury metro station to honor victims of a terrorist attack in March 2010. Female suicide bombers affiliated with a North Caucasus terrorist group carried out the attack.



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French Foreign Legionnaires patrol a Paris train station. France increased the terrorism threat level in September 2010 in response to intelligence warnings of a plot to attack European cities.



violence and that appears to offer clear, albeit intolerant, solutions to complex problems of identity and belonging.”

A report for the New York City Police Department titled “Radicalization in the West: The Homegrown Threat,” examines 10 successful and unsuccessful terrorist plots (six in North America, three in Europe and one in Australia) and delineates common features in the radicalization process, including four distinct phases: Pre-radicalization, self-identification, indoctrination and “Jihadization.” The report concludes that radicalization in the West differs greatly from that in the Muslim world: “The transformation of a Western-based individual to a terrorist is not triggered by oppression, suffering, revenge, or desperation, rather, it is a phenomenon that occurs because the individual is looking for an identity and a cause and unfortunately, often finds them in the extremist Islam.”

The EU Counter-radicalization Strategy recognizes the need for authorities to identify those most vulnerable in order to develop effective policies to counter radicalization. It looks to the results of a 2006 Institute for Migration and Ethnic Studies report that recommends the following steps: 1) increase societal trust; 2) increase political confidence; 3) increase religious defensibility; and 4) find ways of contacting radical youngsters. Venhaus agrees with this approach and recommends a range of programs to connect with those at risk.

Russian history and culture differ from those of Western Europe, contributing to a somewhat different path toward radicalization. In his book *Russia After Putin*, Mikhail

Delyagin, director of the Institute of Globalization, opined that ethnic Slavs may be attracted to radical Islam because Islam occupies the place voided by the collapse of Marxism, offering young people “the sense that they were contributing to a universal ideal,” and “provides a feeling of transcendence over everyday life.” Ali Polosin, a former Russian Orthodox priest who converted to Islam, explained to *Komsomolskaya Pravda* how Islam can be distorted to justify terrorism: “Islam is a religion of revolutionaries. Revolutionary ideas can be easily transformed into terrorist ideas. It is enough to slightly change the interpretation.”

### Whole-of-government approach

As the EU Counter-radicalization Strategy points out, “radicalization is a complex phenomenon that can only be caused by a combination of factors.” As such, a comprehensive approach is required to combat radicalization and mitigate its damage. A whole-of-government approach implies the cooperation and engagement of various levels of government, including law enforcement, intelligence, and community and social services. Different agencies should address the problems from their respective strengths, while communicating among themselves to facilitate policies and programs that are mutually beneficial. Not doing so increases the risk that agencies will work at cross-purposes. Cooperation and coordination among and within governments, international organizations, nongovernmental organizations and religious institutions can more efficiently address these complex radicalization and violent extremism issues. □

## Clearing Minefields

Albania and Greece are declared “landmine-free”

**Among the toughest barriers to post-war reconciliation and reconstruction throughout much of Southeast Europe, the Caucasus and Central Asia are the millions of landmines that have turned field and forest into no man’s land. Even as warfare has fled countries such as Bosnia and Herzegovina, Croatia, Albania and Azerbaijan, buried explosives in the ground, able to sever limbs and shorten lives, have disrupted attempts to bring these societies to full peacetime footing. In the case of Bosnia, close to 4 percent of its territory harbored hundreds of thousands of landmines as of early 2010, remnants of a war that ended 15 years earlier. Bosnia represents the worst-case scenario in the Balkans but is dwarfed by the problem in Afghanistan, where conflicts since the 1970s have left the landscape strewn with millions of explosives.**

Fortunately, international teams with bomb-sniffing dogs, advanced robotics and modern metal detectors are achieving victories in the fight against abandoned landmines. Good news arrived in December 2009: Two European nations, Albania and Greece, announced at the Cartagena Summit on a Mine-Free World that their terrain was effectively “mine-free” following multimillion-dollar ordnance removal efforts. “The combined results of this nearly decade-long effort saw the return to safe use of over 16 million square meters of land and the destruction of over 12,500 mines and nearly 5,000 items of unexploded ordnance,” the U.S. State Department said of Albania in July 2010.

After coming into widespread use in the early 20th century, mines have become the chief post-war hazards in scores of countries. Hundreds of varieties exist, including tiny anti-personnel mines designed to injure, but not kill, passing Soldiers; “leaping” mines that scatter hundreds of bits of lethal shrapnel; and high explosive mines that target tanks and other vehicles. Most attention has focused on the direct human dimension, the estimated 10,000 civilians mines kill or injure each year. But the problem of “mine contamination” transcends lost lives and limbs, international aid organizations say.

“Mines destroy national infrastructures and impede economic development and reconstruction efforts.

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An Afghan deminer in 2008 searches for unexploded ordnance.

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A mine clearing vehicle operated by Slovakian Soldiers clears a minefield at the ISAF's airport in Kabul, Afghanistan. The battalion has destroyed hundreds of mines in what is one of the most heavily mined countries in the world.



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Greek Soldiers search for landmines near the town of Soufli at the Greek-Turkish border in 2006. Greece recently announced it was “mine free” after a multiyear clearance effort.



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An Afghan displays an anti-personnel mine, a variety terrorists had tried to smuggle into the capital of Kabul.

Transportation networks, power lines and water resources are damaged and inaccessible,” the Canadian Landmine Foundation noted. “The production and distribution of fundamental goods and services is disrupted. Tourism markets, an important source of income in many countries, suffer greatly. In addition, mine clearance programs divert financial resources from critical development and reconstruction projects.”

### **Afghan example**

As a poor nation dependent on herding and crop cultivation, Afghanistan suffers disproportionately from the tens of thousands of unexploded mines littered across roads, irrigation ditches and pastures. A report by the U.N. Department of Humanitarian Affairs places the number of landmines in the country at close to 10 million, many left over from the Soviet era of the 1970s and 1980s. Twenty anti-mine organizations, employing more than 8,000 people, have worked in Afghanistan. One of them, the Mine Action Programme of Afghanistan, partly financed through the U.N. Voluntary Trust Fund, has cleared close to 20,000 explosives so far. Even where landmines have been deemed a battlefield necessity, troops have stepped up use of degradable explosives that automatically deactivate after a designated number of months or years, reducing the need for later clearance.

Though less contaminated by landmines than Afghanistan, neighboring Tajikistan has been making progress in de-mining the country following its civil war in the 1990s. According to the U.N. Mine Action Service, Tajikistan has managed to open up three-quarters of its mine-affected land, a process that included the removal of 12,400 landmines. Tajik landmine casualties have decreased by half, the U.N. said. Efforts continue under the auspices of the Organization for Security and Co-operation in

Europe and U.S. Central Command. Munitions experts from Germany, Spain, Switzerland, Belgium, Austria and France have added their expertise. The U.N. has high hopes of duplicating Tajikistan’s relative success in Afghanistan. Its strategy calls for removing nearly every anti-personnel mine in Afghanistan by 2013.

### **Further progress**

In what landmine clearance proponents dubbed a huge success, more than 120 countries were represented at the Cartagena landmine summit in late 2009. Though financial contributions to mine clearance vary, tens of millions of dollars are spent annually. In Azerbaijan, for example, donations helped purchase several remote-controlled “mini-flail” machines. They run on tank-like treads and use rotating flails to sift soil for mines. Azerbaijan’s mines stem mostly from its conflict with neighboring Armenia over Nagorno-Karabakh from 1988 to 1994.

The largest financial contribution toward landmine clearance, about 1.5 billion euros since 1997, has come from European Union member states. The United States has contributed a similar amount over the years. Still, the U.N.’s Portfolio of Mine Action Projects for 2010 cites a “record shortfall” in financing 277 projects worldwide, costing \$589 million. The largest single request for aid came from Afghanistan.

“Some of the beneficiary countries included in the portfolio have well-advanced mine action programmes, while others have begun tackling landmines and explosive remnants of war only recently,” U.N. Under-Secretary-General Alain LeRoy wrote in the introduction to the 2010 portfolio. “Regardless of the stage of development, each of them requires sustained support from governments and donors alike, in order for all of us to move forward and succeed.” □

## Afghans Boost Trade and Investment

Economy and security are inseparable

For centuries, Afghanistan's relatively primitive economy has focused on local production for local needs: goat herding, brick making, hand weaving and subsistence agriculture. The big exception has been opium, a product whose illicit international success has been a source of woe.



A fruit seller packages some of Afghanistan's large apple crop for sale. In pursuit of foreign earnings, the country has approved a transit deal with Pakistan that promises to increase sales of agricultural produce to India and beyond.





AGENCE FRANCE-PRESSE

But even in the face of corruption and insecurity, the country is pressing forward with attempts to link itself productively to the international economy, playing off its strengths as an affordable source of agricultural produce, valuable minerals and semi-skilled labor.

The recently concluded Afghanistan-Pakistan Transit Trade Agreement allows landlocked Afghanistan to ship products through Pakistani and Indian ports largely closed to the nation previously. Trucks and airplanes carrying shipments of apples, pomegranates and pistachios have already crossed the border on their way to international buyers. Tentative free trade agreements being negotiated with the European Union and the United States would drop duties on mostly cotton textiles produced in economically depressed sections of Afghanistan and the borderlands of Pakistan. A fledgling banking system in the form of the Kabul Bank has expanded to 60 branches with more than 714 million euros (\$1 billion) in deposits. And in perhaps the largest deal of all, Afghanistan's prospective mineral wealth has enticed a Chinese company to start a multibillion-dollar copper mining and smelting operation south of Kabul.

No one is predicting overnight success for what is one of the world's poorest countries, but economists recognize Afghanistan's need for free market alternatives to opium poppy cultivation and foreign aid. Members of the International Security Assistance Force realize that a big attraction of the Taliban insurgency is the higher-than-average pay violent extremists offer their mostly impoverished recruits. "Everything is connected," NATO Secretary-General Anders Fogh Rasmussen said in an April 2010 speech outlining Afghanistan policy. "In

Afghanistan, there can be no development without security. But equally, there can be no lasting security without development."

Large-scale enterprises such as the copper mine complement the smaller-scale work of multinational Provincial Reconstruction Teams and other aid workers dedicated to rebuilding Afghan provinces wrecked by decades of war. Two successful enterprises that started small but promise to grow big are the Badam Bagh experimental farm and the Omaid Bahar fruit processing plant, both working to capture a market for pomegranate juice, which is in high demand internationally. Britain's *Independent* newspaper dubbed Omaid Bahar a "beacon of hope" for as many as 50,000 Afghan farmers who could sell produce to the factory.

But without physical access to international markets — markets easier to reach thanks to the Pakistani transit agreement — some of the Afghan agricultural output might literally rot on the branch. Dr. Gulshan Sachdeva, an Indian professor who has assisted the Afghan Ministry of Foreign Affairs, called the Afghan-Pakistani trading agreement a "huge step forward for Afghan exporters." "India has been the number one export market for Afghan products since 2005. The main exports to India are edible fruits, nuts and asafetida. Obviously, this deal will for the first time provide an opportunity for Afghan producers of fruits, dry fruits, carpets and marble to ship their goods across Pakistani territory to the vast consumer market of India and beyond," Sachdeva wrote in a September 2010 report for the Central Asia-Caucasus Institute.

Free trade agreements that would cover Afghan-manufactured goods, expanding upon the well-established cotton-based textile industry of neighboring Pakistan, have



A Pakistani textile worker weaves cloth at a mill in Lahore in 2009. Pakistan and Afghanistan are lobbying the European Union to lower tariffs on textiles produced in their countries, including the creation of tax-free Reconstruction Opportunity Zones in economically distressed areas.

been under discussion since at least 2006. The creation of Reconstruction Opportunity Zones, or ROZs, would allow tariff-free importation of some Afghan and Pakistani textiles into the U.S. and possibly the EU. The EU relented in the case of Pakistan after devastating floods in 2010, but a commitment to Afghanistan remains elusive, the resistance due in part to opposition by European labor groups.

**Infrastructure and security issues**

Some critics of ROZs support the concept but object to placing these opportunity zones too far on the periphery, where security and infrastructure are scarce. In the rugged terrain of Afghanistan, it's often easier to bring labor to the factories than factories to the labor, they argue. "If gas, water, electricity, telephone and Internet are not provided, the ROZ will turn out to be nonstarter. And even if all of these are made available, projects like these would take a very long time to start producing and exporting," Aamir Butt, director with a large Pakistani textile company, told an Indian trade publication.

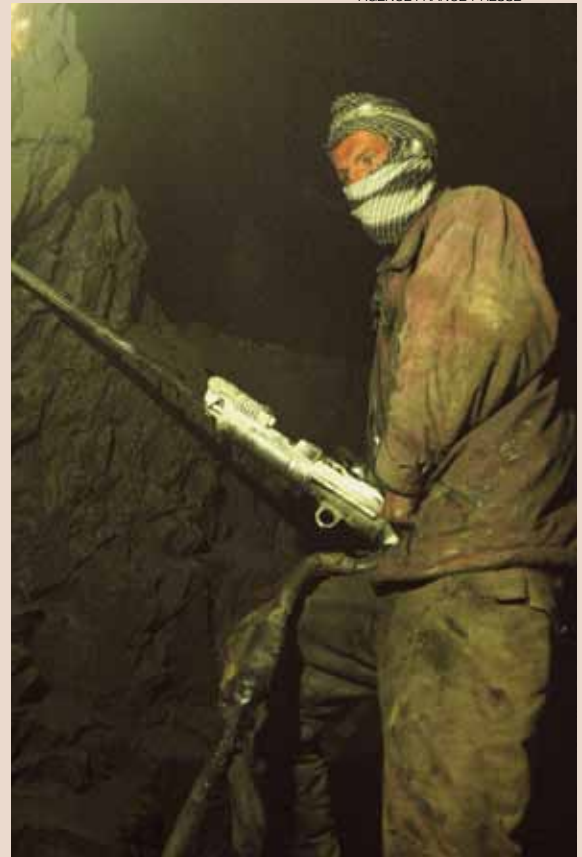
Infrastructure is also key to the success of the most highly praised of the country's economic development projects, the Aynak copper mines in Logar province. A

Chinese company won the right to mine what scientists say could be the second-largest accessible copper reserves in the world, after those at Mount Toromocho in Peru. At 2.1 billion euros (\$3 billion), the investment would be the largest in Afghanistan's history. The deal comes with a promise by the Chinese government to jump-start an Afghan national railroad by building a line from the border to the mines. Other contributions include a 358 million-euro (\$500 million) power plant, hospitals, schools and worker housing. The Afghan government predicts the copper mining operation will create at least 10,000 direct jobs and thousands more indirectly. "When you have men who don't have jobs, you can't bring peace," Abdel Rahman Ashraf, a geologist who serves as the country's top mining and energy advisor, told McClatchy Newspapers.

Not content with selling copper alone, the Afghan government is pressing ahead with plans to lease Afghanistan's Hagigak iron ore mines to international companies. The country is also richly endowed with lithium, a mineral that the world needs to make billions of rechargeable batteries. "When we have a little security here, this will be a paradise to come and mine," Ashraf told McClatchy. "We are near the markets. Those markets are China and India. The transportation is not difficult."



Traditional crafts such as brick making, shown here just outside Kabul, continue to dominate Afghanistan's economy, but foreign trade and investment are expected to improve the country's standard of living.



Afghan miners work at an emerald mine in the Panjshir Valley. Geologists say Afghanistan sits atop a vast wealth of minerals. One of the latest operations is a multibillion-dollar investment to excavate and process the Aynak copper reserves near Kabul.

### Combating corruption

Corruption is another problem inseparable from doing business in Afghanistan. Although Kabul Bank has provided critical financial footing to a country that just a few years ago possessed not a single modern bank, accusations of cronyism and fraud have reduced confidence in the institution. In one case, bank executives improperly invested millions of euros in Dubai real estate that subsequently depreciated, harming the bank's balance sheets. Aid workers fear money intended for relief of the poor has also been secreted out of the country. "It is clear that much more money is making its way out of Afghanistan through Kabul's airport than is being officially declared and logged. For example, important politicians and businesspeople can often board planes from the airport's special VIP area without being searched," *Der Spiegel* reported in May 2010. The International Monetary Fund expressed willingness to help Afghanistan financially as long as the Afghan government resolves to fix its banking crisis. In early 2011, the Afghan finance ministry issued a statement recognizing unethical and fraudulent behavior among bank executives and failures of oversight from Da Afghanistan Bank, the country's central bank. But Afghan officials also tried to blame "ineffective international

technical assistance and supervision," Agence France-Presse said.

On the other hand, much of the financial corruption in an undeveloped country happens outside modern banking channels, in Afghanistan's case through a traditional Islamic lending network known as *hawala*. When it comes to security, even an imperfect bank with modern tracking methods marks an improvement over *hawala*. "For the recovery of this war-dominated land, a functioning banking sector is essential," *Der Spiegel* reported in September 2010, calling *hawala* "an informal exchange system that made business easier for drug traffickers and kept terrorists one step ahead of prosecution."

Despite the pains inherent in the country's growth phase, few doubt that international investment will bring benefits to a country whose illicit economy has long dwarfed its open economy. Agricultural exports, semi-skilled manufacturing and large-scale mining all provide building blocks toward greater national wealth. As Afghan diplomat M. Ashraf Haidari wrote in the *New York Daily News*: "If we are to emerge as a strong and independent democracy, the campaign for Afghanistan's economy must stand on equal footing with the counterinsurgency campaign. In fact, they are one and the same." □

## Broadening the Borders

Expansion of the Schengen area would encourage free movement

**In 1985, the governments of Belgium, France, Germany, Luxembourg and the Netherlands signed a cooperative agreement in a small border town called Schengen that eliminated border checks among those countries. Taking the name of the Luxembourg town where the agreement was signed, the Schengen area lets participating countries' citizens travel freely without having to show a visa or passport. Schengen's goal is to ensure free movement of people, goods, services, labor and capital. From those beginnings 26 years ago, 25 countries, nearly all of the members of the European Union, have joined the Schengen area.**



Serbian travelers hand over their passports at the border with Hungary in December 2009. As of that month, Serbia, Macedonia and Montenegro were allowed to travel visa-free across Europe.

But in building this passport-free zone, Europe has striven to protect external borders against organized crime, drugs, terrorism and illegal immigration. If a criminal or terrorist slips across one Schengen country's border, that country's mistake becomes everyone's mistake. The challenge for Europe is how to expand the Schengen zone in the spirit of welcoming immigrants and visitors, yet still maintain security.

In April 2010, the EU simplified entry into its passport-free zone with a revised visa policy. The Schengen visa policy overhaul reduces long lines, simplifies the completion of forms, cuts costs, institutes appeals for denials and reduces trips to consulates for visa applicants. Border simplification, such as Schengen, offers travel flexibility for tourists, journalists, students, families and medical patients. Border porosity also means a smoother flow of goods and labor, which provides huge benefits for countries suffering worker shortages as a result of declining birthrates.

To help EU countries attract highly skilled workers, officials initiated in 2008 an EU Blue Card immigration plan similar to the U.S. green card system. Cardholders would be treated as EU nationals regarding tax benefits, social assistance, payment of pensions, access to public housing and study grants. The EU hopes the Blue Card will help the countries compete for educated migrants, as Europe grows older and a shortage of skilled professionals results. A 2006 report by the Danish Institute for International Studies affirms that the expansion of the EU into new countries – countries that subsequently earn membership in Schengen – has been hugely successful.

“The main objective of the enlargement policy, however, has not been to increase the Union's political weight, but to extend the area of security beyond its borders, progressively including those countries seeking stability and economic prosperity,” the publication said. Before new EU members

# Schengen and EU Countries



## SCHENGEN BUT NOT EU STATE

- 1. Iceland
- 2. Norway
- 3. Switzerland

## NON-SCHENGEN BUT IN EU

- 4. Bulgaria
- 5. Cyprus
- 6. Ireland
- 7. Romania
- 8. United Kingdom

## BOTH EU AND SCHENGEN STATE

- 9. Austria
- 10. Belgium
- 11. Czech Republic
- 12. Denmark
- 13. Estonia
- 14. Finland
- 15. France
- 16. Germany
- 17. Greece
- 18. Hungary
- 19. Italy
- 20. Latvia
- 21. Lithuania
- 22. Luxembourg
- 23. Malta
- 24. Netherlands
- 25. Poland
- 26. Portugal
- 27. Slovakia
- 28. Slovenia
- 29. Spain
- 30. Sweden

join Schengen fully, they must prove they can police their borders effectively using computerized tracking systems.

### Making travel easier

The new streamlined Schengen visa process is “faster and fairer,” the European Commission announced in April 2010. The wait has been shortened to two weeks, during which time a country’s representative must interview the visa candidate. Visa denials must come with an explanation for the denial. In the old system, applicants never learned why they were rejected, breeding frustration. “I think we should admit that in the past sometimes the visa process was not always customer friendly. There were very long waiting lines; sometimes you had to wait for two months before you could apply for your visa,” Jan de Ceuster, head of the EC’s visa issuance department, told the Deutsche Welle in May 2010.

The waiting list grows for countries desiring visa-free travel, and Russia has been pressing for such status since at least 2005. At the last EU-Russia summit in May 2010, EU officials raised new demands of Russia, and it appears that visa-free travel between the two will not be anytime soon. Russian Prime Minister Vladimir Putin vowed it would eventually happen, predicting “visa-free travel to football fans if Russia wins its bid to host the 2018 or 2022 World Cup,” *The Moscow Times* reported in September 2010. Russia was chosen in December 2010 to be the host of the 2018 tournament by world soccer body FIFA. This win may serve as a powerful incentive for Russia to complete Schengen requirements.

Some EU members are less optimistic. German Chancellor Angela Merkel told reporters in September 2010 that “there’s yet a long way to go.” Lithuanian President Dalia Grybauskaitė added that the EU had other priorities, namely Ukraine, and it was too early to talk about Russian membership. Various European government officials agree that a group of six former Soviet republics — Azerbaijan, Armenia, Belarus, Georgia, Moldova and Ukraine — should be allowed visa-free travel before Russia. George Schoepflin, an EU parliamentarian from Hungary, said it may be a burden for Russia to wait for Azerbaijan to catch up to Schengen border standards, but he hopes negotiations are completed by 2014.

### Visa precautions necessary

Some European officials worry that looser borders with Russia will attract crime and wonder whether the EU would be able to deport Russian citizens who overstay their visas. Growth in trade between Germany and Russia has sparked more interest in border crossing. In July 2010, Germany and Russia signed nearly two dozen deals between companies, including Siemens and Russian Railways, adding up to billions of dollars. “Germany is Russia’s major trading partner with trade between the two countries topping \$15 billion [more than 10 billion euros] in the first quarter of the year,” *The Associated Press* reported.

Economic cooperation and the visa-free regime were discussed at a meeting in July 2010 between Russian President Dmitry Medvedev and German President Christian

# Immigration Dilemmas

Although troubles persist, Europe has made progress

Fewer job opportunities and stronger deterrence curbed the number of illegal immigrants crossing into the European Union by 33 percent in 2009, Frontex, the EU's border management agency, reported. Experts anticipate this number to rebound when the job market improves and new weak spots along borders are exposed.

The Frontex 2010 Annual Risk Analysis praised two bilateral agreements that helped control illegal immigrant crossings on the so-called Central Mediterranean route — Libya to Italy — and the Western African route — Senegal and Mauritania to Spain. In 2009, Libya and Italy signed an agreement for Libya to repatriate most of the migrants rescued in the Mediterranean. Malta has indirectly benefited from the agreement, and as of mid-year 2010, only a single group of 27 illegal immigrants had reached Malta, the *Times of Malta* reported. “Although the [European] Commission prefers a European rather than a bilateral agreement, this bilateral agreement between Italy and Libya had proved to be efficient because illegal migration had been stopped,” Stefano Manservigi, director general for development of the European Commission, told the *Times of Malta* in July 2010.

In 2007, Spain signed collaborative agreements with Senegal and Mauritania for a Spanish labor plan that offers legal passage and one-year work permits. The hope is that a legal migration option will dissuade young Africans from dangerous attempts to enter illegally. “It's advanced thinking in terms of migration policy,” Peter Sutherland, the United Nations special representative for migration, said in an interview with *The New York Times* in 2007. “It's trailblazing.”

## Border troubles remain

In contrast, Greece continues to struggle with border control and remains a choice route among those desiring entry into the EU. Border corruption persists in the Balkans. “Greece has found itself on the sharp end of Europe's illegal-immigration problem largely because its ‘competitors’ have found ways of stemming the flow,” *The Economist* wrote in February 2010. Significant traffic into Greece pours across its 125-mile land border with Turkey. According to Frontex, 90 percent of Europe's illegal immigrants enter through Greece. Determined to fight the unwanted flux, the Greek government announced in December 2010 that it plans to build a wall along its land border with Turkey to keep out unwanted migrants. In October 2010, Turkish Prime Minister Recep Tayyip Erdogan promised closer cooperation with Greece to fight illegal immigration into Europe in exchange for Greek assistance in helping loosen visa rules for Turks, *The Associated Press* reported. Poorly monitored borders hurt the economy and security. In April 2010, a deputy commander of Tajikistan's border guard troops was caught accepting a bribe of 10,600 euros, paid in dollars, and was additionally suspected of drug trafficking, the Russian news agency Ria Novosti reported. Heroin from Afghanistan flows partly through Tajikistan to

Russia and the rest of Europe. Britain recently strengthened its borders, making it more difficult for Afghan refugees to immigrate, after combating floods of refugees over the past decade.

## Spain embraces immigrants

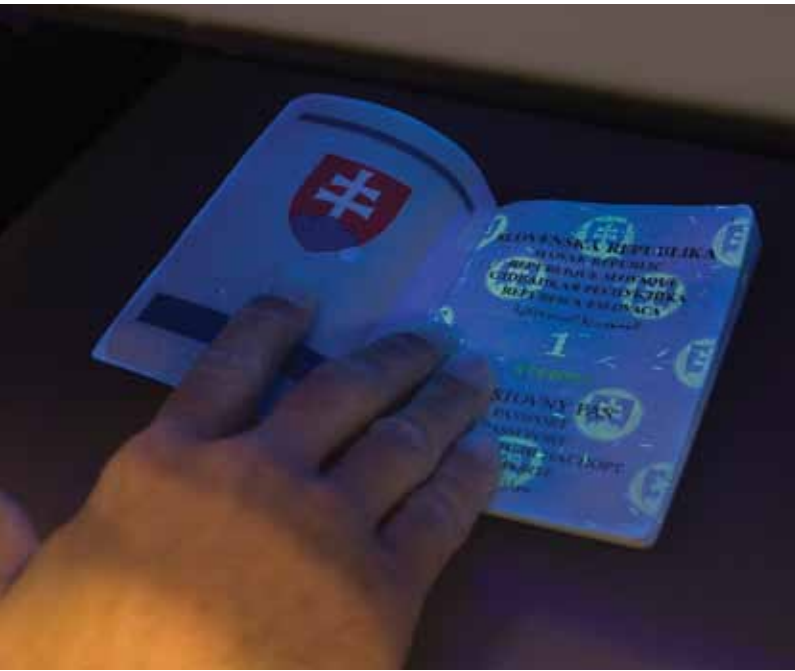
On the other hand, Spain has pioneered a more open immigration policy. Over the past decade, it has absorbed more than 3 million foreigners from Romania, Morocco and South America. “In 1999, Spain was a country with barely any immigrants at all. Today, they make up 12 percent of the population,” the *Guardian* reported in October 2010. Jobs are a big draw for immigrants. Many of the millions of jobs created in Spain over the past few years were in construction, the hospitality industry and health care.

However, not even Spain is immune to the worldwide economic crisis. Spain's unemployment reached 19 percent in 2010, almost twice the EU average, with a record 4 million people out of work. Some economists say Spain's approach to immigration, nonetheless, is a model for growth in Western Europe and elsewhere. “If you make your labor market more open and flexible, in a world where populations are more mobile and economies are globalizing, you attract people who want to work,” economist Eric Chaney told *Bloomberg Businessweek*. Turmoil in North Africa in the winter and spring of 2011 forced rulers there to disregard their once successful immigration policy with Italy. Thousands of North African refugees arrived in Italy, mostly from Libya. Before January 2011, Spain and Italy shared agreements with North African countries that hindered migrants from sailing the Mediterranean Sea to Italy. Italy would donate \$5 billion over 20 years if Libya blocked immigrants from leaving. A recent article by the European Union Institute for Security Studies suggests members step up diplomacy and work “towards a more harmonious European asylum and migration policy.”

## Attracting skilled immigrants

The numbers do not lie: EU economies would benefit from immigrant labor and purchasing power. “European countries where women have fewer than two children, on average, have to keep bringing in non-Europeans to maintain their populations, living standards, and pensions,” Andre Sapir, economics professor at the Universite Libre de Bruxelles, told *Bloomberg Businessweek*. Letting in educated workers with the use of an EU Blue Card may prove to be effective.

Different countries offer different approaches to illegal immigration, based on culture and international relations. Immigrants have made tremendous contributions to Europe. A statement made by Kofi Annan, former secretary-general of the United Nations, in a speech in 2004 still holds true: “An open Europe will be a fairer, richer, stronger, younger Europe — provided Europe manages immigration well.”



REUTERS

A Swiss customs officer checks a passport at a crossing near Geneva on the Swiss-French border. Switzerland joined the Schengen zone in December 2008.

Wulff. Wulff said he welcomes a visa-free proposal but that it should happen when all member states are ready. European leaders agree that removing visa requirements “is a reward for progress toward democracy and the rule of law and thus a powerful carrot in Europe’s relationship with Russia,” the Carnegie Endowment for International Peace wrote in May 2010. Eager to boost tourism and ease their nation’s financial distress, Greek officials are also working with Russia to create a simplified visa regime between the two nations.

Bulgaria and Romania, despite belonging to the EU, have also met roadblocks in becoming Schengen members. In September 2010, EU European affairs ministers decided to delay the admission of those countries, citing the countries’ inadequate judicial systems and failure to curb corruption, according to the website EurActiv. The proposed admission in 2011 of Bulgaria and Romania is uncertain. An EU assistance program called the Cooperation and Verification Mechanism is helping those countries reach their Schengen goals.

A handful of other countries are also moving forward. Visa requirements for citizens of Albania and Bosnia and Herzegovina were dropped in December 2010. To enter the Schengen area, Bosnians and Albanians require only biometric passports. This development came after they improved passport security and border control and fought organized crime and corruption. Countries on the waiting list for visa-free travel are Croatia, Kosovo, Georgia, Taiwan and Turkey.

### Lessons learned

Mixed emotions about Schengen enlargement exist. The visa-free regime of the EU can be rigid and exclude

countries outside the Union. This can stimulate the need for bilateral, separate agreements between EU members and non-EU members. One example of this is Poland, an EU member, and Ukraine, a non-member. The EU visa-free regime unintentionally undercut previously established social and economic ties between the former Warsaw Pact members.

Corruption and crime also find a way of entering the Schengen zone, and this can increase costs for all EU countries. Switzerland experienced a flood of beggars on streets, bridges, buses and trams. Swiss citizens complained of increased litter. Corrupt border guards and inconsistent application of asylum policies have been considerable problems.

Germany experienced an increased number of car thefts near the border, but also increased business from cross-border commerce. West European states, however, retain the right to block immigration at least for the next five years.

Some fear that border freedom means migrants will take their jobs. Sentiment against immigration appears to be rising in Europe, as witnessed in complaints about the proverbial Polish plumber “stealing” jobs and the success of anti-immigration parties in Sweden and the Netherlands. “There is little evidence,” said Vladimír Špidla, EU commissioner for employment, social affairs and equal opportunities, “that workers from the new member states have displaced local workers or driven down their wages in a serious way, even in those countries where the inflows have been greatest, although there have been some temporary adjustment problems in specific areas.”

### Travel freedom reflects relationships

*The Economist* recently reported that British citizens enjoy the fewest visa restrictions of nearly 200 countries, with Denmark coming in second, and France, Germany and Italy tied for third. The article asserts that the number of visa restrictions that a country imposes on visitors from outside of the Schengen is an indicator of a country’s international alliances and relations. “Generally, citizens of rich countries and trade-based economies have more freedom to travel than those of countries suffering from war or repression.” Afghanistan, Iraq and North Korea impose the largest number of restrictions on their citizens’ travel, according to the article.

On the whole, although Schengen itself did not greatly change European immigration policy, it is an influential factor that continues to encourage harmonization on issues such as the management of visa policy, both legal and illegal immigration policy, asylum, as well as greater cooperation on security issues. “The aim of the new EU visa code is to coordinate the practices in all the Schengen countries, making it easier for the millions of applicants all over the world asking for a Schengen visa,” European Justice Commissioner Cecilia Malmstroem told the *Deutsche Welle* in May 2010. Slowly becoming part of the EU promotes a more democratic way of life, assists countries to solve their problems and promotes neighborly cooperation. □



David E. Hoffman

## THE DEAD HAND: The Untold Story of the Cold War Arms Race and Its Dangerous Legacy

By David E. Hoffman  
New York: Doubleday, 2009; 575 pages

Reviewed by Col. Jeffrey P. Lee  
George C. Marshall European Center for Security Studies

**This book highlights the sobering account of how shockingly close the United States and Soviet Union came to incidents involving the use of weapons of mass destruction. And the accounts are much broader than the Cuban Missile Crisis.**

Admittedly, I am biased. During my early military career in Germany, in 1990, I assisted with upgrades to the Miesau Army Depot to enable the removal of all U.S. chemical weapons stockpiled in Europe. That was one small step back from the precipice described so eloquently in the recent Pulitzer Prize-winning book *The Dead Hand* by renowned author and *Washington Post* contributing editor David E. Hoffman. Magnificently researched and written in a style reminiscent of a spy-thriller, this important work reveals many secrets and harrowing incidents involving some of the most catastrophic and deadly weapons developed during the Cold War.

For nearly 50 years, the Cold War was the central security dilemma for the superpowers. It was the defining reason for the establishment of NATO and the Warsaw Pact. This period was defined by a notion of deterrence, even if through concepts such as Mutually Assured Destruction from nuclear weapons, to the experimentation and development of some of the most deadly chemical and biological weapons in history. This period was also marked by errors in judgment about, some say gross miscalculations of, each other's intent, making the potential use of these weapons a real danger. Spies for both alliances certainly worked to sustain and at times foment these frightening strategies. *The Dead Hand* details this period, then takes the reader through what the author calls "a great unraveling" as the Soviet Union imploded, before touching briefly on the mid-1990s, when both sides were left to deal with the consequences of this "arms race and its dangerous legacy."

The book is divided in three parts, the first part dealing with these terrible weapons and "war scare" incidents. Part two goes in-depth about the bold steps toward arms control by Presidents Ronald Reagan and Mikhail Gorbachev and of nonproliferation efforts, such as the Nunn-Lugar Cooperative Threat Reduction Program. This part also details the many miscalculations and tragic results during this period, including a lengthy account of the downing of Korean Airlines Flight 007. Scientists' stories and their ethical dilemmas are described in vivid detail alongside the role spies played in this dangerous era. Part three culminates with a description of the end of the Cold War, the dissolution of the Soviet Union, and the Cold War's deadly legacies that include insecure weapons and pathogens, their associated facilities, and the people who developed them.

Hoffman is thoroughly qualified to describe these incidents and the subsequent difficult steps taken to bring the U.S. and U.S.S.R. back from the brink. He has interviewed the chief actors and woven rich details from personal accounts and from newly discovered archives concerning the Cold War arms race.

The prologue builds tension by immediately describing an epidemic outbreak in which an estimated 60 Soviet citizens mysteriously die from "pneumonia-like" symptoms in Sverdlovsk — revealed later in the book as an accidental release of militarized anthrax. One also reads about the vast complex in Stepnogorsk, where literally tons of anthrax could be made in the event of conflict. Understanding that a few micron-sized anthrax spores are enough to



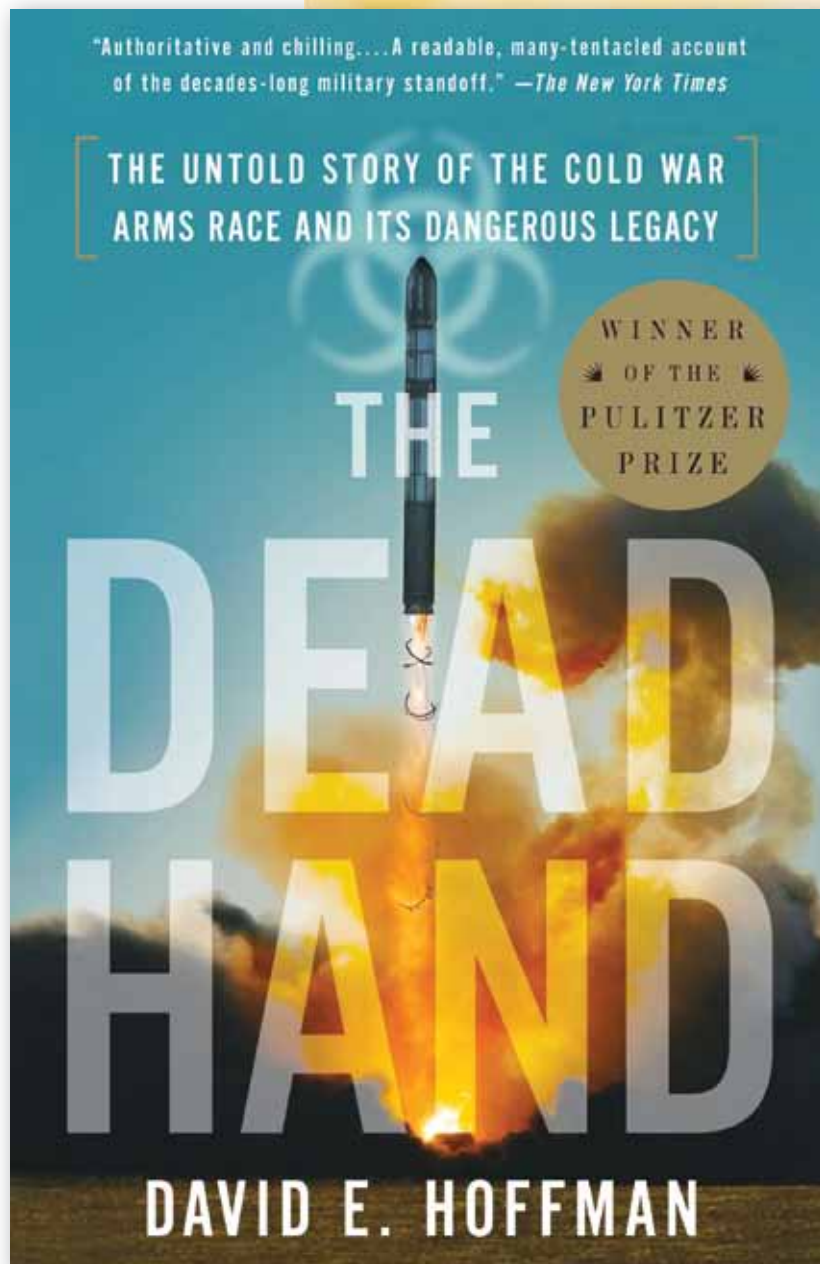
kill a human, the reader is startled by the magnitude of this facility. The first few pages detail yet another chilling tale in which a Soviet early-warning station received indications that a U.S. missile attack was in progress, indications deemed later to be “another” false alarm within the few crucial minutes necessary to launch nuclear counterstrikes.

For admirers of Reagan and Gorbachev (who turned out to be the last General Secretary of the Communist Party), their memoirs and personal accounts help explain their rationale for such controversies as the Strategic Defense Initiative and how ineptly the former Soviet Union dealt with ending the Biopreparat Program, hiding a vast germ warfare complex even after signing the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons (commonly known as the BWTC). There is a detailed explanation of the miscalculation and response to the shooting down of the Korean airliner and both leaders’ reactions to the tragedy.

*The Dead Hand* reveals that 600 kilograms of highly enriched uranium (HEU), enough to provide the basic material for perhaps six nuclear weapons, was discovered stored and secured in Kazakhstan in a manner even young vandals would find undaunting. The weapons-grade HEU’s subsequent secret removal during an operation called Project Sapphire in 1994 will both thrill the reader about the early successes of Cooperative Threat Reduction and chill them when they consider the lingering threat of “loose radiological materials.” The author cites this U.S. legislation and CTR program as one of many valiant efforts to secure and dismantle weapons of mass destruction and their associated infrastructure in the former Soviet Union.

The book is thoroughly researched and complete with endnotes with further explanation and attribution. Forty black-and-white photographs and a map noting key *Dead Hand* sites also make this book a truly important contribution for serious scholars, students of security studies and those just wanting to learn more about the Cold War.

This book is on the U.S. Defense Threat Reduction Agency director’s recommended reading list, as well it should be. It is certainly a new full account of how the Cold War arms race ended and how many subsequently struggled to keep these terrible weapons out of the hands of terrorists and rogue states. □



DOUBLEDAY

# Resident Courses

Democratia per fidem et concordiam  
*Democracy through trust and friendship*



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(Nominations due May 13, 2011)



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### STACS 11-8

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(Nominations due April 15, 2011)



### SES 11-9

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"Meeting the Threat of Cyberwar"



### PASS 11-10

September 23-  
 December 16, 2011

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This contest is open to current students and Marshall Center alumni. The essay should identify the paramount task to be accomplished as NATO moves toward 2020. Contest participants should discuss the challenges and opportunities that lie ahead for NATO and its partners as the organization adapts to an evolving and complex world, identifying the critical task to be addressed to ensure success.

**OFFICIAL RULES**

- **Eligibility:** Entrants must be current students or alumni of the Marshall Center.
- **Format:** Entries must be presented in the format of a persuasive essay (Associated Press style), between 1,000 and 3,000 words using a 12-point font with double spacing, and include notes and bibliography (not included in the word count).
- **Topic:** Security Challenges for 2020: What Will NATO Do?
- **Research:** Please cite library resources, Web URLs with access dates and interviews with professionals. Please use the notes and bibliography style of citation in the Chicago Manual of Style.
- **Entries:** Must be submitted to [editor@perconcordiam.org](mailto:editor@perconcordiam.org)

- **Evaluation Procedure:** Three winning essays will be selected on the following criteria: originality and creativity; logical presentation of supporting arguments; factual/historical accuracy; scope of research.
- Final judging and selection of three winning essays will be conducted by a committee of Marshall Center faculty. Results will be announced at [www.marshallcenter.org](http://www.marshallcenter.org) on June 1, 2011.
- **Awards:** Each winner will receive prizes as follows:
  - **First Place** – A monogrammed George C. Marshall Center polo shirt, a coffee mug bearing the Marshall Center seal, and the publication of the essay and author's profile in the fall 2011 issue of *per Concordiam*
  - **Second Place** – A Marshall Center coffee mug and honorable mention in the fall 2011 issue of *per Concordiam*
  - **Third Place** – A Marshall Center coffee mug and honorable mention in the fall 2011 issue of *per Concordiam*
- Winning essays will also be featured on the Marshall Center's website.
- Entries will not be acknowledged or returned, and contributors will retain their copyrighted work. However, submitting a paper implies the author grants license to *per Concordiam* to publish the work.

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